

## ATTACHMENT 2 CROSS-REFERENCE WITH THE FINAL TERMS OF REFERENCE

Table A2.1 Cross-reference with the EIS terms of reference

ToR Section	ToR Title and Details	EIS cross-reference
<b>ES</b>	<b><i>Executive Summary</i></b>	
	The executive summary conveys the project's most important aspects and options.	Executive Summary.
	Use Plain English and avoid jargon and obscure terms.	Executive Summary.
	The Structure of the Executive Summary should follow that of the EIS, and focus strongly on the key issues.	Executive Summary.
	The executive summary should convey a clear understanding of the project, its potential adverse and beneficial environmental, social and economic impacts and measures to be implemented to avoid, minimise and mitigate adverse impacts.	Executive Summary.
<b>Glossary</b>	<b><i>Glossary of Terms</i></b>	
	Provide a glossary of technical terms, acronyms and abbreviations before the main text of the EIS.	Chapter 30, Glossary.
<b>1</b>	<b><i>Introduction</i></b>	
	In the introduction 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. 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.	Chapter 1, Introduction.
<b>1.1</b>	<b><i>Project Proponent</i></b>	
	List details of the project proponents, including details of any joint venture partners.	Section 1.1, Project Proponent.
	Describe experience of the project proponent, including nature and extent of business activities, experience and qualifications, role and responsibilities and environmental record, including the proponent's environmental policy.	Chapter 1, Introduction. Section 1.3.2, Corporate Environmental Policy.

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
<b>1.2</b>	<b><i>Project Description</i></b>	
	Provide brief description of the key elements of the project.	Section 1.2, The Project. Section 1.2.1, Location. Section 1.2.3, Project Phasing. Section 1.2.4, Project Considerations.
	Provide summary of major associated infrastructure requirements.	Section 1.2.3, Project Phasing. Section 1.2.2, Scope.
	Provide detailed descriptions of the project in section 3.	Section 1.6 of the TOR 'Project approvals' was expanded into a separate chapter (Chapter 2, Project Approvals), as was Section 2 of the TOR 'Project need and alternatives' (which became Chapter 3, Project Need). Subsequently, the full, detailed project description is presented in Chapter 5, Project Description.
	Provide description of how the project relates to other relevant existing or proposed projects, and any interdependency between these projects.	Section 1.4, Relationship to Other Projects.
<b>1.3</b>	<b><i>Project Objectives and Scope</i></b>	
	Outline objectives that have led to the project's development.	Section 1.2.2, Scope. Section 1.3, Project Objectives. Section 1.2.3, Project Phasing.
	Outline briefly events leading up to the project's formulation.	Section 5.2, Major Infrastructure Components.
	...(alternatives...	Chapter 8, Environmental Framework, includes a site-selection process which will enable Arrow to consider alternative sites for each facility. Concept select, which was underway at the time of writing, also considers a range of options for the project design. One aspect, power supply, is presented in Section 5.8, Technical Alternatives. Other options being considered through ongoing concept select, have not formed part of the EIS project description.
	...envisaged time scale for implementation and project life...	Section 5.3, Conceptual Development Sequence and Infrastructure Location.
...anticipated establishment costs...	Section 5.2, Major Infrastructure Components.	

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
1.3	...actions already undertaken within the project area).	Section 1.4.3, Actions Already Undertaken in the Project Development Area.
	Describe the current status of the project.	Section 1.2.4, Project Considerations.
	Outline the relationship of the project to other developments or actions that may relate to whether or not they have been approved.	Section 1.4.1, Arrow LNG Project. Section 1.4.2, Dalby Expansion Project. Section 1.4.3, Actions Already Undertaken in the Project Development Area. Chapter 28, Cumulative Impacts.
	Outline consequences of not proceeding with the project.	Section 3.4, Environmental and Social Impacts of Not Proceeding.
1.4	<b>The EIS Process</b>	
	Clarify the methodology and objectives of the EIS under the relevant legislation.	Section 1.5.1, Objective of the EIS. Section 1.5.2, Steps of the EIS Process. Section 2.2, EIS Process.
1.4.1	<b>Methodology of the EIS</b>	
	Describe the EIS process steps, timing and decisions to be made for relevant stages of the project.	Section 1.5.3, Method of the EIS. Section 2.2, EIS Process.
	Briefly describe studies or surveys undertaken to help develop the project and prepare the EIS (refer to relevant previous baseline studies or investigations).	Section 1.5.4, Structure of the EIS.
	Show how the consultation process integrates with other components of the impact assessment (stages, timing and mechanisms for public input and participation).	Section 1.5.5, Viewing the EIS. Section 1.5.6, Obtaining Copies of the EIS. Section 1.5.8, Submissions. Section 6.2, Consultation Program. Section 6.4.1, Consultation Sessions. Appendix B, Consultation Report.
	The information in this section is required to ensure: <ul style="list-style-type: none"> <li>• Relevant legislation is addressed.</li> <li>• Readers are informed of the process to be followed.</li> <li>• Stakeholders are aware of any opportunities for input and participation.</li> </ul>	As referenced above.

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
<b>1.4.2</b>	<b><i>Objectives of the EIS</i></b>	
	Provide a succinct statement of the EIS objectives.	Section 1.5.1, Objective of the EIS.
	Provide an outline of EIS structure (explanation of how EIS meets objectives).	Section 1.5.3, Method of the EIS. Section 1.5.4, Structure of the EIS.
	Describe unforeseen matters not addressed in the Terms of Reference.	Land use encompasses agriculture; however, given the importance of agriculture to the region, a separate study was commissioned to understand agriculture in the region, specific aspects that underlie its viability and potential impacts on farming activities and farm development: Chapter 13, Agriculture and Appendix F, Agricultural Report.
	Set out acceptable standards and levels of impacts (both beneficial and adverse) on environmental values.	Method for defining these is explained in Chapter 7, Impact Assessment Method, and specific values are detailed in the impact assessment chapters 9 to 28 as well as in Attachment 5, Environmental Management Plan.
	Demonstrate how environmental impacts can be managed through protecting and enhancing environmental values.	Chapter 8, Environmental Framework, explains how environmental protection commitments will be implemented through Arrow's HSEMS and specific environmental protection commitments are detailed in the impact assessment chapters 9 to 29 and Attachment 5, Environmental Management Plan.
	Define the EIS as a public document.	Section 1.5.5, Viewing the EIS.
	Provide the public information with on the need for and likely effects of the project to set out acceptable standards and levels of impacts on environmental values.	Section 1.5.1, Objective of the EIS.
	Discuss the role of the EIS in providing the project's draft environmental management (EM) plan.	Section 1.5.1, Objective of the EIS.
<b>1.4.3</b>	<b><i>Submissions</i></b>	
	Inform the reader how and when public submissions on the draft EIS can be made, and how they will be addressed and taken into account in the decision-making process.	Section 1.5.8, Submissions.

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

<b>ToR Section</b>	<b>ToR Title and Details</b>	<b>EIS cross-reference</b>
<b>1.5</b>	<b><i>Public Consultation Process</i></b>	
	Outline methodology adopted to identify baseline socioeconomic conditions and identify and address public and stakeholder concerns about the potential impacts of the project.	Chapter 22, Social, as the main reference, and also the following: Chapter 6, Public and Stakeholder Consultation. Section 1.5.6, Obtaining Copies of the EIS. Section 1.6, Public Consultation. Section 21.2, Economic Assessment Methods.
	Provide information about consultation that has already taken place and its results.	Chapter 6, Public and Stakeholder Consultation.
	Provide a list of affected persons and interested persons, as well as a statement of how the proponent proposes to consult with those persons (statutory requirement of the EIS process).	Section 1.6, Public Consultation. Section 6.3, Stakeholders and Focal Audiences.
<b>1.6</b>	<b><i>Project Approvals</i></b>	
<b>1.6.1</b>	<b><i>Relevant Legislation and Policy Requirements</i></b>	
	Explain the legislation and policies controlling the approvals process.	Section 2.1 Principal Approvals. Section 2.2 EIS Process.
	Refer to the Queensland Environmental Protection Act 1994, Sustainable Planning Act 2009 and other potentially relevant Queensland laws.	Section 2.4, Relevant Policies and Guidelines. Section 2.3, Additional Key Permits and Approvals.
	Identify all environmentally relevant activities.	Section 2.1.5, Environmental Authority.
	If potentially relevant legislation does not apply, explain why.	Section 2.1, Principal Approvals. Section 2.5.1, Planning Framework.
	Describe local government planning controls, local laws and policies applying to the development.	Section 2.5, Planning Processes and Standards. Legislation relevant to each environmental aspect also described in each of the impact assessment chapters 9 to 26. Appendix A, Planning Assessment.

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

<b>ToR Section</b>	<b>ToR Title and Details</b>	<b>EIS cross-reference</b>
1.6.1	Provide list of approvals required for the project and the expected program for approval of applications.	Section 2.1, Principal Approvals. Section 2.2, EIS Process. Section 2.1.5, Environmental Authority. Legislation relevant to each environmental aspect also described in each of the impact assessment chapters 9 to 26. Attachment 4, Project Relevant Legislation. Appendix A, Planning Assessment.
1.6.2	<b><i>Planning Processes and Standards</i></b>  Discuss project's consistency with existing land uses or long-term policy framework for the project area, with legislation, standards, codes or guidelines available to monitor and control these operations on site.  Refer to all relevant state and regional planning policies.	Section 2.5, Planning Processes and Standards. Appendix A, Planning Assessment.  Section 2.5, Planning Processes and Standards Section 3.3, Policy Framework.  In addition, each impact assessment chapter (chapters 9 to 26) details the legislative context relevant to the specific environmental values, which includes any state and/or regional planning policies.
1.7	<b><i>Accredited Process for Controlled Actions under Commonwealth Legislation</i></b>  Given that the project is a 'controlled action' (2010/5344), identify the following matters of national environmental significance (NES) in the 'controlling provisions': <ul style="list-style-type: none"> <li>• Listed threatened species and communities (sections 18 and 18A).</li> <li>• Listed migratory species (sections 20 and 20A).</li> </ul> Provide separate discussions under subheadings in the relevant sections that describe the values and address the potential impacts on NES matters (subheadings should be shown in the TOC).  Address additional matters of NES identified prior to completion of the EIS.	Attachment 3, Matters of National Environmental Significance. Section 23.3.2, Registration of Indigenous Cultural Heritage on Government Heritage Databases. Section 24.3.1, International, National and State-Listed Sites.

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
2	<b><i>Project Need and Justification</i></b>	
2.1	<b><i>Project Justification</i></b>	
	Describe the justification for the project with particular reference to the economic and social benefits, including employment and spin-off business development that the project may provide.	Chapter 3, Project Need.
	Discuss status of the project in a regional, state and national context.	Chapter 3, Project Need. Chapter 21, Economics.
2.2	<b><i>Alternatives to the Project</i></b>	
	Describe feasible alternatives, including conceptual, technological and locality alternatives to the project.	Chapter 8, Environmental Framework, includes a site-selection process which will enable Arrow to consider alternative sites for each facility. Concept select, which is underway at the time of writing, is assessing a range of options for the project design. One aspect, power supply, is presented in Section 5.8, Alternative Power Distribution. Other options being considered through ongoing concept select, have not formed part of the EIS project description.
	Discuss the consequences of not proceeding with the project.	Section 3.4, Environmental and Social Impacts of Not Proceeding.
	Explain interdependencies of the project components, particularly how each of any industrial developments, or various combinations of industrial developments, and any infrastructure requirements relate to the viability of the project.	Section 1.4, Relationship to Other Projects.
	Should water supply, power, transport and/or storage infrastructure be included as part of the project, include a description of, and rationale for, such infrastructure.	Section 5.2.7, Supporting Infrastructure and Logistics.
	Provide reasons for selecting the preferred options (technical, commercial, social and natural environment aspects). Include principles of ecologically sustainable development (ESD) and sustainable development.	Attachment 7, Ecologically Sustainable Development, discusses principles of ESD and sustainable development and regarding the selection of preferred options. These will be determined through the ongoing process of concept select which is currently underway.
	Describe relationship of options chosen for managing waste and any emissions produced.	Section 5.6.4, Coal Seam Gas Water and Brine Management. Chapter 26, Waste Management. Section 26.6, Avoidance, Mitigation and Management Measures.

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

<b>ToR Section</b>	<b>ToR Title and Details</b>	<b>EIS cross-reference</b>
<b>3</b>	<b><i>Description of the Project</i></b>	
<b>3.1</b>	<b><i>Location</i></b>	
	Describe the project throughout its lifetime: planning, construction and operation to decommissioning and rehabilitation.	Section 5.3, Conceptual Development Sequence and Infrastructure Location..
	Show on maps or figures the position of features or boundaries using latitude and longitudes on the GDA94 datum. Latitudes and longitudes should also be used in text to describe the locations of any features that may be relevant to subsequent approvals.	As required for all figures throughout EIS.
	Recognise the uncertainty associated with timing of the development of the project and the nature and location of the project activities.	Section 5.3, Conceptual Development Sequence and Infrastructure Location.. Chapter 8, Environmental Framework.
<b>3.1.1</b>	<b><i>Regional Context</i></b>	
	Describe the regional context of the project, and illustrate on maps at suitable scales. Maps should show the project in relation to:	Section 4.1, Physical and Natural Environment. Section 4.1.1, Landscape. Section 4.1.3, Water Resource. Section 4.2.1, Community Infrastructure and Services.
	<ul style="list-style-type: none"> <li>• Major infrastructure including road and rail networks.</li> </ul>	Figure 4.9, Major road and rail networks linking the project development area with the east coast. Figure 19.2, Maximum project annual average daily traffic (peak year for individual links).
	<ul style="list-style-type: none"> <li>• Towns, sensitive receptors, etc.</li> </ul>	Section 7.1, Environmental Values. Figure 7.2a, Sensitive receptors (northern project development area) Map 1 of 3. Figure 7.2b, Sensitive receptors (central project development area) Map 2 of 3. Figure 7.2c, Sensitive receptors (southern project development area) Map 3 of 3. Figure 2.2, Communities and councils of the Darling Downs Region.
	<ul style="list-style-type: none"> <li>• Major watercourses and surface water bodies.</li> </ul>	Figure 4.1, Major watercourses and drainage divisions within the project development area.
	<ul style="list-style-type: none"> <li>• General topography.</li> </ul>	Figure 15.3, Location of project development area in relation to surrounding subcatchments.

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

<b>ToR Section</b>	<b>ToR Title and Details</b>	<b>EIS cross-reference</b>
<b>3.1.2</b>	<p><b>Local Context</b></p> <p>Describe local context of the project including cadastral information for properties within, and adjacent to, the project area. Provide maps at suitable scales (not smaller than 1:50,000) and with an air photo base showing the location of the project area in relation to the land and petroleum tenures and natural and built features of the area, and in particular:</p> <ul style="list-style-type: none"> <li>• The location and boundaries of land tenures, in place or proposed, to which the project area is, or will be, subject.</li> <li>• Potential areas for works and infrastructure associated with the project.</li> <li>• The location and boundaries of the project area.</li> <li>• Major transport corridors (including rail and road).</li> </ul>	<p>Chapter 4, Environmental, Social and Economic Context.</p> <p>As the facility and infrastructure locations are not yet known, maps at a scale of 1:50,000 would show only topography and land tenure without any relation to project site locations. As such, these maps have not been prepared at this time.</p> <p>Figure 1.1, Surat Gas Project development area (including petroleum authorities).</p> <p>Figure 4.13, Petroleum tenures in the region surrounding the project development area.</p> <p>Figure 4.14, Mining tenures in the region surrounding the project development area.</p>
<b>3.1.3</b>	<p><b>Relationship to Other Projects</b></p> <p>Describe how the project relates to, or integrates with, other relevant existing or proposed projects, including gas field developments, pipeline and LNG projects that are not subject to this EIS process.</p>	<p>Section 1.4, Relationship to Other Projects.</p>
<b>3.2</b>	<p><b>Life Cycle of the Project</b></p> <p>Describe life of the Surat Gas Project: exploration, construction, operation and decommissioning/rehabilitation phases may progress concurrently at different locations within the project area.</p>	<p>Section 5.3, Conceptual Development Sequence and Infrastructure Location..</p>
<b>3.2.1</b>	<p><b>Tenements and Tenures</b></p> <p>Describe and illustrate existing mining tenements, petroleum, geothermal and greenhouse gas tenures and licences overlying and adjacent to the project site, and proposed applications required for this project.</p>	<p>Section 4.3.3, Major Projects.</p>
<b>3.2.2</b>	<p><b>Resource Base, Reserve Life and Extraction Sequencing</b></p> <p>Summarise results of studies and surveys undertaken to identify gas resources (location, volume, tonnage, quality). Specifically:</p> <ul style="list-style-type: none"> <li>• Proposed progression of development across the project development area.</li> <li>• Proposed life of fields and planned recovery of resources.</li> </ul>	<p>Section 3.2.3, Use of the Project Development Area Resource.</p> <p>Section 5.3, Conceptual Development Sequence and Infrastructure Location..</p>

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

<b>ToR Section</b>	<b>ToR Title and Details</b>	<b>EIS cross-reference</b>
3.2.2	<ul style="list-style-type: none"> <li>Locations of resources sterilised by planned activities.</li> </ul>	Site selection (as described in Chapter 8, Environmental Framework), will have regard to other resources.
	<ul style="list-style-type: none"> <li>Quantity of resources annually extracted (including ramping of production and staging of development).</li> </ul>	Section 3.2.1, Australian Gas Resources. Section 3.2.2, Production Capacity of the Project Development Area.
	<ul style="list-style-type: none"> <li>Proposed sequence and timing of extraction.</li> </ul>	Section 5.3, Conceptual Development Sequence and Infrastructure Location..
	<ul style="list-style-type: none"> <li>Areas of disturbance at each major project stage.</li> </ul>	Section 5.3.1, Sequence and Rate of Development. Figure 5.12, Sequence of development.
3.2.3	<b>Ongoing Evaluation and Exploration Activities</b>	
	Describe the extent and nature of ongoing exploration or geological/geotechnical evaluation within the project area over the life of the project.	Section 3.2.2, Production Capacity of the Project Development Area. Section 5.4.1, Exploration.
3.2.4	<b>Gas Field and Facility Development</b>	
	Provide specific details (referring to, and complemented by, figures, design drawings, photos and maps) about:	
	<ul style="list-style-type: none"> <li>Equipment and methods to be used to access the gas resource (drilling and well installation, etc.).</li> </ul>	Section 5.2, Major Infrastructure Components (Production Wells). Section 5.5, Construction (Production Wells). Section 5.6, Operations and Maintenance (Production Wells). Section 5.7, Decommissioning and Rehabilitation (Production Wells).
	<ul style="list-style-type: none"> <li>Equipment and processes for extracting the gas resource (dewatering wells and gas extraction).</li> </ul>	Section 5.2, Major Infrastructure (Production Wells). Section 5.2.4, Water Treatment and Storage Facilities. Section 5.5, Construction (Production Wells). Section 5.5.1, Production Wells. Section 5.6, Operations and Maintenance (Production Wells). Section 5.7, Decommissioning and Rehabilitation (Production Wells).
<ul style="list-style-type: none"> <li>Equipment and processes for taking the gas from the well head to gas and water gathering systems (gas/water separation, piping and compression).</li> </ul>	Section 5.2, Major Infrastructure (Gas and Water Gathering Systems). Section 5.5, Construction (Gas and Water Gathering Systems). Section 5.6, Operations and Maintenance (Gas and Water Gathering Systems). Section 5.7, Decommissioning and Rehabilitation (Gas and Water Gathering Systems).	

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
3.2.4	<ul style="list-style-type: none"> <li>Gas gathering and main transmission lines as well as link lines to main distribution mains including any equipment needed for maintenance such as pipe-cleaning facilities.</li> </ul>	<p>Section 5.2, Major Infrastructure (Gas and Water Gathering Systems) (High-pressure Gas Pipelines). Section 5.5, Construction (Gas and Water Gathering Systems) (High-pressure Gas Pipelines). Section 5.6, Operations and Maintenance (Gas and Water Gathering Systems) (High-pressure Gas Pipelines). Section 5.7, Decommissioning and Rehabilitation (Gas and Water Gathering Systems) (High-pressure Gas Pipelines).</p>
	<ul style="list-style-type: none"> <li>Details of major transport corridors (rail and road) crossed by gas gathering links and main transmission pipelines as identified in points 3 and 4.</li> </ul>	<p>Site selection (as described in Chapter 8, Environmental Framework) will have regard to major transport corridors.</p>
	<ul style="list-style-type: none"> <li>Chemicals to be used during drilling or extraction operations.</li> </ul>	<p>Section 5.5.1, Production Wells.</p>
	<ul style="list-style-type: none"> <li>Details of gas processing facilities (design of gas compression, dehydration and flaring/venting).</li> </ul>	<p>Section 5.2, Major Infrastructure (Production Facilities). Section 5.5, Construction (Production Facilities). Section 5.6, Operations and Maintenance (Production Facilities). Section 5.7, Decommissioning and Rehabilitation (Production Facilities).</p>
	<ul style="list-style-type: none"> <li>Details of associated water management including storage, treatment and disposal.</li> </ul>	<p>Section 5.2, Major Infrastructure Components (Water Treatment and Storage Facilities). Section 5.5, Construction (Water Treatment and Storage Facilities). Section 5.6, Operations and Maintenance (Water Treatment and Storage Facilities). Section 5.7, Decommissioning and Rehabilitation (Water Treatment and Storage Facilities).</p>
	<ul style="list-style-type: none"> <li>Details of power generation facilities to provide electricity to the compression, water treatment and wellhead facilities.</li> </ul>	<p>Section 5.2, Major Infrastructure Components (Power Generation Facilities). Section 5.5, Construction (Power Generation Facilities). Section 5.6, Operations and Maintenance (Power Generation Facilities). Section 5.7, Decommissioning and Rehabilitation (Power Generation Facilities).</p>

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

<b>ToR Section</b>	<b>ToR Title and Details</b>	<b>EIS cross-reference</b>
<b>3.2.5</b>	<b><i>Construction Methods and Equipment</i></b>	
	Describe the extent and nature of the project's construction activities, including:	
	<ul style="list-style-type: none"> <li>• Any requirements for early works.</li> </ul>	Early works per se, are not required, given that Arrow's operations for the Surat Gas Project will be developed as a continuation of existing operations.
	<ul style="list-style-type: none"> <li>• Proposed phasing of construction activities across the project area.</li> </ul>	Section 5.3, Conceptual Development Sequence and Infrastructure Location..
	<ul style="list-style-type: none"> <li>• The type and methods of construction of facilities and associated infrastructure.</li> </ul>	Section 5.5, Construction.
	<ul style="list-style-type: none"> <li>• The construction equipment to be used.</li> </ul>	Section 5.5, Construction.
	<ul style="list-style-type: none"> <li>• Methods and standards for crossing under rail and road corridors.</li> </ul>	Section 5.5.6, High-pressure Pipeline (Pipeline Crossing Construction Methods).
<b>3.2.6</b>	<b><i>Typical Infrastructure Requirements</i></b>	
	Describe typical infrastructure requirements to support the entire life cycle of the project (in addition to those described in section 3.2.4), including concept and layout plans (if available).	Section 5.2, Major Infrastructure Components.
	Include roads, rail, bridges, tracks and pathways, dams and weirs, bore fields, power lines and other cables, wireless technology (such as microwave telecommunications), and pipelines for any services (whether underground or above).	Section 5.2, Major Infrastructure Components.
	Identify sources of the construction materials and their associated haulage routes.	Due to the fact that site locations are unknown it would be highly speculative as to where materials might be sourced from; however, the intent is that materials will be sourced as close as possible.
<b>3.2.7</b>	<b><i>Workforce</i></b>	
	Provide information about the workforce employed throughout the life of the project.	Section 5.2, Major Infrastructure Components (Workforce). Section 5.5, Construction (Construction Workforce and Accommodation). Section 5.6, Operations and Maintenance (Operations Workforce and Accommodation). Section 5.7, Decommissioning and Rehabilitation (Decommissioning Workforce and Accommodation).

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

<b>ToR Section</b>	<b>ToR Title and Details</b>	<b>EIS cross-reference</b>
3.2.7	Provide indicative workforce numbers and composition for the various phases and activities that will be undertaken (number of drillers, construction workers, operations and maintenance personnel required to install and operate production wells, gas compression and water treatment facilities).	Section 5.2, Major Infrastructure Components (Workforce). Section 5.5, Construction (Construction Workforce and Accommodation). Section 5.6, Operations and Maintenance (Operations Workforce and Accommodation). Section 5.7, Decommissioning and Rehabilitation (Decommissioning Workforce and Accommodation).
	Describe where employees will be recruited from and accommodation and/or transport to construction or operating sites. Comment on the anticipated basis of employment (whether permanent, contract, etc.).	Section 5.2, Major Infrastructure Components (Workforce). Section 5.5, Construction (Construction Workforce and Accommodation). Section 5.6, Operations and Maintenance (Operations Workforce and Accommodation). Section 5.7, Decommissioning and Rehabilitation (Decommissioning Workforce and Accommodation).
3.2.8	<b>Procession and Products</b> Describe the quantities and characteristics of the products produced from various project activities annually, including data on products, waste and recycling streams (gas resource covered under section 3.2.2).	Section 26.6.7, Waste Stream Management Measures.
3.2.9	<b>Operations and Maintenance Activities</b> Describe typical operations and maintenance activities. Operational issues to be addressed should include, but may not be limited to: <ul style="list-style-type: none"> <li>• A description of plant and equipment to be used.</li> <li>• Capacity of plant and equipment.</li> <li>• Process flows for core products and by-products.</li> <li>• Details of materials to be handled, including the storage and stockpiling of raw materials and chemicals to be used.</li> </ul>	Section 5.6, Operations and Maintenance.
	Support descriptions with figures (engineering drawings, concept and layout plans, photos, artist's impressions, etc.).	Noted.

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
3.2.10	<b>Transport – Road/Rail/Air/Ship</b>	
	Provide an overview of the arrangements for the transport of plant, equipment, products, wastes and personnel over the full life cycle of the project. The description should cover the use of existing facilities and all requirements for the construction, upgrading or relocation of any transport-related infrastructure.	An overview of the conceptual road routes that may be travelled through each phase of the project is presented in: <ul style="list-style-type: none"> <li>• Section 19.2.3, Strategic Traffic Modelling.</li> <li>• Section 19.2.4, Alternate Modes of Transport.</li> <li>• Section 19.3.2, Traffic Growth and Volumes.</li> </ul>
3.2.11	<b>Energy</b>	
	Describe all energy requirements, including electricity, natural gas, and/or solid and liquid fuel requirements for the full life cycle of the project. Energy efficiency and conservation should be briefly described in the context of any Commonwealth, Queensland and local government policies.	Section 5.2.5, Power Generation Facilities. Section 5.5.5, Power Generation Facilities. Section 5.6.5, Power Generation Facilities. Section 5.7.5, Power Generation Facilities. Section 10.1.3, Australian Legislation and Policies. Section 10.1.4, Queensland Strategies and Schemes. Section 10.4.1, Emission Sources.
3.2.12	<b>Water Supply and Storage</b>	
	Provide information on water usage by the project. Determination of potable water demand should be made for the project, including the temporary demands during construction. The use of existing town water supply, onsite water storage and treatment for use by site workers should be described. Note this section does not address extracting and managing water produced as a by-product of coal seam gas extraction.	Section 5.2.7, Supporting Infrastructure and Logistics (Potable Water).
3.2.13	<b>Telecommunications</b>	
	Describe impacts on existing telecommunications infrastructure (such as optical cables, microwave towers, etc.) and identify the owners of that infrastructure.	Section 5.2.7, Supporting Infrastructure and Logistics (Telecommunications).

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
3.2.14	<p><b><i>Accommodation and Other Infrastructure</i></b></p> <p>Describe other developments directly related to the project not described in other sections, such as:</p> <ul style="list-style-type: none"> <li>• Camps, townships or residential developments.</li> <li>• Fuel storage areas.</li> <li>• Equipment hardstands and maintenance areas.</li> <li>• Technical workshops and laboratories.</li> <li>• Depots or offices.</li> </ul>	Section 5.2.7, Supporting Infrastructure and Logistics.
3.2.15	<p><b><i>Decommissioning and Rehabilitation</i></b></p> <p>Detail the strategic approach and typical measures for:</p> <ul style="list-style-type: none"> <li>• Decommissioning wells that are proved not viable or from which gas supplies are exhausted.</li> <li>• Rehabilitating drilling sites and well sites (in part after drilling and fully after cessation of production).</li> <li>• Rehabilitating and decommissioning gas pipelines used for gathering and transferring gas from the production fields to distribution mains.</li> <li>• Rehabilitating areas of associated infrastructure (flowlines, access tracks, utility lines).</li> <li>• Decommissioning and rehabilitating gas processing/compression facility sites.</li> <li>• Decommissioning and rehabilitating water treatment facility sites.</li> <li>• Decommissioning and rehabilitating raw water, treated water, and wastewater dams.</li> </ul> <p>Develop a preferred rehabilitation strategy with a view to minimising the amount of land disturbed for petroleum activity at any one time.</p> <p>Strategies and methods should have the following objectives:</p> <ul style="list-style-type: none"> <li>• Natural resource rehabilitation should aim to create a landform with the same or similar capabilities and/or suitability it had prior to the disturbance, unless other beneficial land uses are predetermined and agreed upon (such as with the landholder).</li> </ul>	<p>Section 5.7.1, Production Wells.</p> <p>Section 5.7.1, Production Wells.</p> <p>Section 5.7.2, Gas and Water Gathering Systems.</p> <p>Section 5.7.2, Gas and Water Gathering Systems. Section 5.7.7, Supporting Infrastructure.</p> <p>Section 5.7.3, Production Facilities.</p> <p>Section 5.7.4, Water Treatment and Storage Facilities.</p> <p>Section 5.7.4, Water Treatment and Storage Facilities.</p> <p>Section 5.7, Decommissioning and Rehabilitation. Attachment 5 (Chapter 5, Decommissioning and Rehabilitation).</p> <p>Section 5.7, Decommissioning and Rehabilitation. Attachment 5, (Chapter 5, Decommissioning and Rehabilitation). Section 13.6, Avoidance, Mitigation and Management Measures.</p>

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
3.2.15	<ul style="list-style-type: none"> <li>Wastes and disturbed land should be rehabilitated to a condition that is self-sustaining or to a condition where the maintenance requirements are consistent with an agreed post-disturbance land use.</li> </ul>	Section 26.6.7, Waste Stream Management Measures. Section 5.7, Decommissioning and Rehabilitation. Attachment 5 (Chapter 5, Decommissioning and Rehabilitation).
	<ul style="list-style-type: none"> <li>The means of decommissioning different types of petroleum activities, in terms of removing plant, equipment, structures and buildings, should be described along with the methods proposed for stabilising the affected areas. Information should be provided on decommissioning and rehabilitating petroleum activity sites, removing processing plant, rehabilitating concrete footings and foundations, hardstand areas and storage tanks (including any potential for reuse of these facilities). Options and methods for disposing of wastes from the demolition of plant and buildings should include details on feasibility and suitability.</li> </ul>	Section 5.7, Decommissioning and Rehabilitation. Attachment 5 (Chapter 5, Decommissioning and Rehabilitation).
	<p>Discuss detail of the impacts of the preferred rehabilitation strategy in the appropriate subsections of section 4 (environmental values and management of impacts), particularly with regard to such issues as final landform stability (section 4.2.2) and rehabilitation of flora and habitat (section 4.9.2).</p> <p>Also address implications for the long-term use and fate of petroleum activity sites, particularly with regard to the onsite disposal of waste and the site's inclusion on the Environmental Management Register or Contaminated Land Register (if applicable).</p>	Mitigation measures to achieve the rehabilitation strategy objectives associated with each environmental aspect are provided in the impact assessment chapters 9 to 29.
	<p>Discuss details of the strategy to continue monitoring of any decommissioned works for an appropriate period depending on the risk on environmental harm.</p>	Section 5.7, Decommissioning and Rehabilitation. Attachment 5, (Chapter 5, Decommissioning and Rehabilitation).
3.3	<p><b>Waste Management</b></p>	
	<p>Provide an inventory of all waste streams to be generated, and identify reuse options over the full life cycle of the project (gaseous, liquid and solid) and describe according to the different types of petroleum activities.</p>	Section 26.6.7, Waste Stream Management Measures.
	<p>Support with diagrams, schematic drawings and/or tabulated data.</p>	Section 26.6.7, Waste Stream Management Measures. Figure 26.1, Offsite waste disposal facilities.
	<p>Cross-reference the potential impacts and mitigation measures of the EIS.</p>	Chapter 26, Waste (introductory paragraph). Section 26.4, Issues and Potential Impacts.

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
3.3	Provide physical and chemical characteristics of waste material.	Section 25.4.2, Issues Identified Through Qualitative Risk Assessment. Section 26.6.7, Waste Stream Management Measures.
	Having regard for best practice waste management strategies and the Environmental Protection (Waste) Policy (EPP), describe the proposals for waste avoidance, reuse, recycling, treatment and disposal in the appropriate subsection below.	Noted.
3.3.1	<b><i>Air Emissions</i></b>	Section 9.4, Issues and Potential Impacts.
	Describe in detail the quantity and quality of all air emissions (including particulates, fumes and odours) from the project during construction and operation. Particulate emissions include those that would be produced by any industrial process, or disturbance by wind action on stockpiles and conveyors, or by transportation equipment (including trucks or trains, either by entrainment from the load or by travel on unsealed roads). This is addressed under section 4.6, which requires an air emission inventory.	
3.3.2	<b><i>Excavated Waste</i></b>	Section 5.5, Construction. Section 26.6.7, Waste Stream Management Measures. Section 12.6.2, Land Degradation. Section 12.7, Residual Impacts. Section 5.5, Construction. Section 26.6, Avoidance, Mitigation and Management Measures. Section 26.6, Avoidance, Mitigation and Management Measures. Section 25.4.2, Issues Identified Through Qualitative Risk Assessment.
	The main wastes of concern are:	
	<ul style="list-style-type: none"> <li>• Cuttings generated during drilling of exploration wells and installing production wells.</li> </ul>	
	<ul style="list-style-type: none"> <li>• Topsoil generated while preparing well sites, roads and facility sites.</li> </ul>	
	<ul style="list-style-type: none"> <li>• Waste cut/fill materials generated during construction of raw water, treated water and waste water dams.</li> </ul>	
Describe the likely volumes, chemical and physical properties, and strategies for each of these excavated wastes (and any other excavated waste).		

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
3.3.3	<p><b><i>Solid Waste Disposal</i></b></p> <p>Describe the typical quantity and quality of solid wastes generated over the full life cycle of the project, at each project location (other than waste rock and subsoil addressed in other sections) and the proposed methods of their disposal. Show the proposed location, site suitability, approvals required, dimensions and volume of landfill, including its method of construction and management.</p>	<p>Section 5.5, Construction.</p> <p>Section 5.6, Operations and Maintenance (makes reference to waste streams and disposal options for each of the respective project phases).</p> <p>Section 5.7, Decommissioning and Rehabilitation (makes reference to waste streams and disposal options for each of the respective project phases).</p> <p>Section 26.6.4, Waste Disposal.</p> <p>Section 26.6, Avoidance, Mitigation and Management Measures.</p> <p>Project locations not defined; site suitability, dimensions and volumes of landfills not detailed.</p>
3.3.4	<p><b><i>Liquid Waste</i></b></p> <p>Describe the origin, quality and quantity of wastewater and any immiscible liquid wastes generated over the lifecycle of the project. Give particular attention to the capacity of wastes to generate acid, and saline or sodic wastewater. The EIS may need to consider the following effects:</p> <ul style="list-style-type: none"> <li>• Groundwater from excavations.</li> <li>• Rainfall directly onto disturbed surface areas.</li> <li>• Run-off from roads, plant and industrial areas, chemical storage areas.</li> <li>• Drainage (run-off plus any seepage or leakage).</li> </ul>	<p>Section 5.2.4, Water Treatment and Storage Facilities.</p> <p>Section 5.6.4, Coal Seam Gas Water and Brine Management.</p> <p>Chapter 14, Groundwater.</p> <p>Chapter 12, Geology, Landform and Soils.</p> <p>Section 26.6, Avoidance, Mitigation and Management Measures.</p> <p>Attachment 5 (Section 4.8, Coal Seam Gas Water).</p> <p>Section 12.7, Residual Impacts.</p> <p>Section 15.7.4, Summary of Residual Impacts.</p> <p>Section 26.6.6, Spill Containment and Remediation.</p> <p>Section 25.7, Residual Impacts.</p> <p>Section 15.7.4, Summary of Residual Impacts.</p> <p>Section 26.6.6, Spill Containment and Remediation.</p> <p>Section 25.7, Residual Impacts.</p> <p>Section 15.7.4, Summary of Residual Impacts.</p>

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
3.3.4	<ul style="list-style-type: none"> <li>Seepage from other waste storages.</li> </ul>	Section 26.6.6, Spill Containment and Remediation. Section 25.7, Residual Impacts. Section 15.7.4, Summary of Residual Impacts.
	<ul style="list-style-type: none"> <li>Water usage for:               <ul style="list-style-type: none"> <li>Process use.</li> <li>Dust suppression.</li> <li>Domestic purposes.</li> </ul> </li> </ul>	Section 26.6.7, Waste Stream Management Measures. Attachment 5 (Section 4.8, Coal Seam Gas Water).
	<ul style="list-style-type: none"> <li>Evaporation.</li> </ul>	Figure 5.17, Conceptual coal seam gas water management overview. Section 11.4.1, Rainfall, Evaporation and Drought. Appendix G, Groundwater Impact Assessment.
	<ul style="list-style-type: none"> <li>Domestic sewage treatment (disposal of liquid effluent and sludge).</li> </ul>	Section 26.6.4, Waste Disposal.
	<ul style="list-style-type: none"> <li>Water supply treatment plant waste disposal.</li> </ul>	Section 5.2.4, Water Treatment and Storage Facilities. Section 26.6.4, Waste Disposal.
3.4	<b><i>Associated Water Management</i></b>	
	Detail the strategy for management of associated water produced as a by-product of extracting coal seam gas. The following should be specifically addressed:	
	<ul style="list-style-type: none"> <li>Chemical and physical properties of associated water.</li> </ul>	Section 5.2.4, Water Treatment and Storage Facilities.
	<ul style="list-style-type: none"> <li>Likely volumes/rates and areas of production of coal seam gas water.</li> </ul>	Section 5.2.4, Water Treatment and Storage Facilities. Figure 5.8, Estimated cumulative annual average production of associated water for the Surat Gas Project. Section 5.3.1, Sequence and Rate of Development. Figure 5.12, Sequence of development. Section 5.3, Conceptual Development Sequence and Infrastructure Location..
<ul style="list-style-type: none"> <li>Producing coal seam gas water over the full life cycle of the project.</li> </ul>	Figure 5.7, Typical gas and water production curve. Section 5.2.4, Water Treatment and Storage Facilities. Figure 5.8, Estimated cumulative annual average production of associated water for the Surat Gas Project.	

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

<b>ToR Section</b>	<b>ToR Title and Details</b>	<b>EIS cross-reference</b>
3.4	<ul style="list-style-type: none"> <li>Storage of raw water.</li> </ul>	Section 5.2, Major Infrastructure Components. Section 5.2.1, Production Wells. Figure 5.4, Gas and water production and treatment. Section 5.2.4, Water Treatment and Storage Facilities. Figure 5.6, Typical integrated processing facility arrangement. Figure 5.7, Typical gas and water production curve. Figure 5.8, Estimated cumulative annual average production of associated water for the Surat Gas Project. Section 5.6.4, Coal Seam Gas Water and Brine Management. Figure 5.17, Conceptual coal seam gas water management overview.
	<ul style="list-style-type: none"> <li>Methods for treatment of water.</li> </ul>	Section 5.2.4, Water Treatment and Storage Facilities.
	<ul style="list-style-type: none"> <li>Physical and chemical properties of water after treatment.</li> </ul>	Section 5.2.4, Water Treatment and Storage Facilities (water will be treated to meet the end user requirements and the conditions of the environmental authority).
	<ul style="list-style-type: none"> <li>Proposed use of the treated water and factors that may influence this use.</li> </ul>	Section 5.6.4, Seam Gas Water and Brine Management. Section 5.8.2, Transmission Lines. Figure 5.17, Conceptual coal seam gas water management overview.
	<ul style="list-style-type: none"> <li>Managing any contaminants/associated waste arising from treatment of water.</li> </ul>	Section 26.6, Avoidance, Mitigation and Management Measures. Section 26.6.7, Waste Stream Management Measures. Section 26.7, Inspection and Monitoring.
	<ul style="list-style-type: none"> <li>Managing saline waste products.</li> </ul>	Section 26.6, Avoidance, Mitigation and Management Measures. Section 26.6.10, Waste Stream Management Measures. Section 26.8, Inspection and Monitoring.
	<p>With strategies for the management of associated water, take account the cumulative impacts of the production, storage and use of associated water that will be produced by all CSG activities within each field (including adjacent tenements) so that the associated water can be managed in an environmentally sustainable manner.</p>	Chapter 28, Cumulative Impacts.
	<p>Provide details on the proposed monitoring of storages used for raw water or saline waste products.</p>	Section 14.6, Mitigation, Monitoring and Management Measures. Attachment 5 (Section 4.9, Dams).

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
4	<b><i>Environmental Values and Management of Impacts</i></b>	
	Describe the existing environmental values and the potential adverse and beneficial impacts of the project on the identified environmental values.	Impact assessment chapters for each environmental aspect: 9 to 26.
	Describe the cumulative impacts on the environmental values caused by the project, either in isolation or by a combination with other known existing or planned development or sources of contamination.	Chapter 28, Cumulative Impacts.
	Propose environmental protection objectives, and provide commitments to avoid or mitigate potential impacts.	Impact assessment chapters for each environmental aspect: 9 to 26. Attachment 5, Environmental Management Plan.
	Examine alternative strategies for managing impacts, and environmental protection measures to be used in the planning, construction, operations, rehabilitation and decommissioning stages of the project and any associated works. Identify and describe preferred measures.	The EIS will feed into concept select, which will identify options for achievement of the objectives and mitigations set out in this EIS.
	Describe inputs, assumptions, limitations, sensitivities, accuracy and precisions of any computational model.	Impact assessment chapters for each environmental aspect: 9 to 26.
	In this section 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. The following should be considered:	Elements of the environment assessed included the following environmental aspects: <ul style="list-style-type: none"> <li>• Chapter 9, Air Quality.</li> <li>• Chapter 10, Greenhouse Gas Emissions.</li> <li>• Chapter 11, Climatic Adaptation.</li> <li>• Chapter 12, Geology, Landform and Soils.</li> <li>• Chapter 13, Agriculture.</li> <li>• Chapter 14, Groundwater.</li> <li>• Chapter 15, Surface Water.</li> <li>• Chapter 16, Aquatic Ecology.</li> <li>• Chapter 17, Terrestrial Ecology.</li> <li>• Chapter 18, Landscape and Visual Amenity.</li> <li>• Chapter 19, Roads and Transport.</li> <li>• Chapter 20, Noise and Vibration.</li> <li>• Chapter 21, Economics.</li> <li>• Chapter 22, Social.</li> </ul>

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
4	<ul style="list-style-type: none"> <li>• Environmental values affected.</li> <li>• Impact on environmental values.</li> <li>• Cumulative impacts.</li> <li>• Environmental protection objectives.</li> <li>• Control strategies to achieve objectives.</li> <li>• Environmental offsets.</li> <li>• Monitoring programs.</li> <li>• Auditing programs.</li> <li>• Management strategies.</li> </ul>	<ul style="list-style-type: none"> <li>• Chapter 23, Indigenous Cultural Heritage.</li> <li>• Chapter 24, Non-Indigenous Cultural Heritage.</li> <li>• Chapter 25, Preliminary Hazard and Risk.</li> <li>• Chapter 26, Waste Management.</li> </ul> <p>Impact assessment chapters for each environmental aspect: 9 to 26.</p> <p>Impact assessment chapters for each environmental aspect: 9 to 26.</p> <p>Chapter 28, Cumulative Impacts.</p> <p>Impact assessment chapters for each environmental aspect: 9 to 26.</p> <p>Impact assessment chapters for each environmental aspect: 9 to 26.</p> <p>Chapter 17, Terrestrial Ecology.</p> <p>Impact assessment chapters for each environmental aspect: 9 to 26.</p> <p>Attachment 5, Environmental Management Plan.</p> <p>Impact assessment chapters for each environmental aspect: 9 to 26.</p>
4.1	<p><b>Climate</b></p> <p>Describe the rainfall patterns (including magnitude and seasonal variability of rainfall), air temperatures, humidity, wind (direction and speed) and any other special factors (such as temperature inversions) that may affect management of the project including air quality within the region of the project.</p> <p>Discuss extremes of climate (droughts, floods, cyclones, etc), with particular reference to water management at the project site.</p> <p>Address the vulnerability of the area to natural or induced hazards, such as floods and bushfires.</p>	<p>Section 4.1.2, Climate. Figure 4.4, Wind roses for the project development area. Section 9.3.1, Climate and Meteorology. Section 11.3.1, Climate.</p> <p>Section 11.3.2, Extreme Climatic Events. Figure 11.1, Tropical cyclones within 200 km of Dalby from 1906 to 2006. Section 11.6, Avoidance, Mitigation and Management Measures.</p> <p>Section 4.1.2, Climate. Section 11.4, Issues and Potential Impacts. Figure 4.5, Bushfire hazard areas in the project development area. Figure 4.6, Extent of flooding from 1956 to 1988. Figure 4.7, Extent of flooding on 31 December 2010. Section 15.3.6, Flooding.</p>

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
4.1	Consider the relative frequency and magnitude of these events, together with the risk they pose to managing the project.	Section 11.3.2, Extreme Climatic Events. Section 11.4, Issues and Potential Impacts.
4.2	<b>Land</b>	
4.2.1.1	<b>Topography/Geomorphology</b>	
	Detail the topography of the project area and any other potentially impacted area with contours at suitable increments, shown with respect to Australian Height Datum (AHD) and drafted to the Geocentric Datum of Australia (GDA) 94 datum. Include significant features of the locality on the maps. Such features include any locations subsequently referred to in the EIS (including the nearest noise-sensitive locations).	Section 7.1, Environmental and Social Values. Figure 7.2a, Sensitive receptors (northern project development area). Figure 7.2b, Sensitive receptors (central project development area). Figure 7.2c, Sensitive receptors (southern project development area). Section 12.3.2, Landform. Figure 12.1, Ground investigation locations. Section 18.3, Existing Environment and Environmental Values. Figure 18.2, Topography. Figure 4.3, Project development area elevation.
4.2.1.2	<b>Geology</b>	
	Provide a description, map and a series of cross-sections of the geology of the project area, with particular reference to the physical and chemical properties of surface and subsurface materials and geological structures within the proposed areas of disturbance, including areas outside the project site that could be influenced by the project's activities (such as by dewatering).	Section 12.3.1, Geology. Figure 5.3, Project development area stratigraphic profile. Figure 12.2, Surface geology of the project development area and environs. Figure 14.4, Groundwater resources accessed by registered bores within the project development area. Appendix E, Geology, Landform and Soils Impact Assessment (Section 3.3.6, Soil Field Investigation Findings, and Section 4.1, Terrain Unit Mapping and Environmental Values).
	Describe 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 project.	Section 12.3.1, Geology.
	Address the potential for significant finds in locations where the age and type of geology is such that significant fossil specimens (such as of dinosaurs or their tracks) may be uncovered during construction or operations.	Section 12.3.5, Specific Sites of Geoheritage Environmental Significance. Section 12.7, Residual Impacts.

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
4.2.1.3	<p><b>Resources and Reserves</b></p> <p>Describe the location, quantity and quality of the resources and reserves within the project area as indicated below and include the modifying factors and assumptions made in arriving at the estimates. Estimate and report the gas resources in accordance with the 2007 Petroleum Resources Management System approved by the Society of Petroleum Engineers (SPE-PRMS) and World Petroleum Council (WPC), American Association of Petroleum Geologists (AAPG) and Society of Petroleum Evaluation Engineers (SPEE).</p> <p>In addition, provide maps (at appropriate scales) showing the general location of the project area, and in particular:</p> <ul style="list-style-type: none"> <li>• The location and areal extent of the gas resources to be developed.</li> <li>• The location and boundaries of petroleum tenures, granted or proposed, to which the project area is, or will be, subject.</li> <li>• The location and boundaries of any project sites.</li> <li>• The location and boundaries of any other features that will result from the proposed production, including water storage facilities and other infrastructure.</li> <li>• The location of any proposed buffers, surrounding the working areas.</li> <li>• Any part of the resource not intended to be produced and any part of the resource that may be sterilised by the proposed production operations or infrastructure.</li> </ul> <p>Include any known occurrences of economic mineralisation and extractive resources, petroleum and gas deposits within the project area and the potential impact of the project on these operations and associated tenements.</p>	<p>Section 3.2, Gas Resource. Section 5.1, Description of the Gas Resource.</p> <p>Attachment 10, Preliminary Constraints Maps. Figure 5.2, Surat Basin location. Figure 1.1, Project development area (including petroleum authorities). Figure 5.4, Gas and water production/treatment. Figure 5.11, Conceptual location of production facilities. Figure 17.2, Environmentally sensitive areas within the project development area. Figure 17.7, Areas identified with a sensitivity ranking of extremely high. Figure 17.8, Areas identified with a sensitivity ranking of high.</p> <p>Figure 1.5, Existing field development, August 2011. Figure 3.3, Australian gas resources by basin, May 2011. Figure 4.15, Major projects underway or under construction in the Darling Downs. Figure 4.14, Mining tenures in the region surrounding the project development area. Figure 4.13, Petroleum tenures in the region surrounding the project development area.</p>

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
4.2.1.4	<p><b>Soils</b></p> <p>Conduct a soil survey of the proposed sites affected by the project at a suitable scale. Refer to physical and chemical properties of the materials that will influence erosion potential, storm water run-off quality, rehabilitation and agricultural productivity of the land.</p> <p>Provide information on soil stability and suitability for the various types of petroleum activities to be undertaken.</p> <p>Carry out an assessment of the need for acid sulphate soil investigations. If investigations and/or management of acid sulphate soils are required, carry these out according to Acid Sulphate Soils Management Advisory Committee (ASSMAC) guidelines, the State Planning Policy 1/00: Planning and Management of Coastal Development Involving Acid Sulphate Also address soils, including identification, management and format of environmental management plans.</p> <p>Map soil profiles at a suitable scale and describe according to the Australian Soil and Land Survey Field Handbook (National Committee on Soil and Terrain, 2009) and Australian Soil Classification (Isbell, 2002). Conduct detailed on-ground surveys and laboratory analyses to provide physical and chemical analysis of soil types (to at least the depth of excavation). Assess soils information against the Planning Guideline: the Identification of Good Quality Agricultural Land (DPI, DLGP 1993), the State Planning Policy 1/92: Development and the Conservation of Agricultural Land. Also give consideration to the draft Strategic Cropping Land policy.</p>	<p>Section 12.2.1, Geology, Landform and Soils. Section 12.3.3, Soils. Section 12.3.6, Terrain Unit Mapping. Section 12.3.8, Environmental Values. Appendix E, Geology, Landform and Soils Impact Assessment (Section 3.3.6, Soil Field Investigation Findings).</p> <p>Section 12.3.6, Terrain Unit Mapping. Section 12.3.8, Environmental Values.</p> <p>Section 12.3.3, Soils.</p> <p>Section 12.1, Legislative Context. Section 12.2.1, Geology, Landform and Soils. Section 12.3.3, Soils. Figure 12.4, Terrain units of the project development area and environs.</p>

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
4.2.1.5	<p><b>Land Use</b></p> <p>Describe current land tenures and land uses, including native title issues, with particular mention of land with special purposes. Show the location and owner/custodians of native title in the area and details of native title claims, with maps identifying areas of conservation.</p>	<p>Chapter 4, Environmental, Social and Economic Context.            Figure 4.2, Conservation reserves and national parks in the region.            Figure 4.8, Native title applications over and adjacent to the project development area.            Figure 4.10, Good-quality agricultural land within and surrounding the project development area.            Figure 4.11, Potential strategic cropping land within and surrounding the project development area.            Figure 4.13, Petroleum tenures in the region surrounding the project development area.            Figure 4.14, Mining tenures in the region surrounding the project development area.            Figure 4.15, Major projects underway or under construction in the Darling Downs.            Section 23.3.1, Currently Identified Aboriginal Parties.</p>
	<p>Describe the land use suitability of the affected area in terms of the physical and economic attributes. In the assessment set out soil and landform subclasses assigned to soil mapping units in order to derive land suitability classes.</p>	<p>Section 12.3.6, Terrain unit Mapping.            Section 12.3.8, Environmental Values.</p>
	<p>Provide a land suitability map of the proposed and adjacent area, and setting out land suitability and current land uses, such as for grazing of native and improved pastures and horticulture. Show land that is classified as good quality agricultural land in DERM's land classification system in accordance with the planning guideline, The Identification of Good Quality Agricultural Land, which supports State Planning Policy 1/92.</p>	<p>Figure 4.10, Good-quality agricultural land within and surrounding the project development area.            Figure 4.11, Potential strategic cropping land within and surrounding the project development area.            Figure 12.4, Terrain units of the project development area and environs.</p>

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

<b>ToR Section</b>	<b>ToR Title and Details</b>	<b>EIS cross-reference</b>
<b>4.2.1.6</b>	<p><b>Infrastructure</b></p> <p>Show on maps of a suitable scale the location and owner/custodians of all existing tenures, reserves, roads and road reserves, railways, rail level crossings to be used and rail reserves, stock routes, etc., covering the project area. Indicate locations of proposed gas and water pipelines, power lines and any other easements.</p>	<p>Chapter 4, Environmental, Social and Economic Context. Figure 4.9, Major roads and rail networks linking the project development area with the east coast. Section 2.4.3, Community Infrastructure and Services. Section 2.4.4, Transport Infrastructure. Chapter 4, Environmental, Social and Economic Context. Figure 4.13, Petroleum tenures in the region surrounding the project development area. Chapter 4, Environmental, Social and Economic Context. Figure 4.14, Mining tenures in the region surrounding the project development area. Chapter 19, Roads and Transport. Figure 19.2, Functional Road Type in the Project Development Area. Attachment 10, Project Development Area 1:50,000 Cadastral Map Series.</p>
<b>4.2.1.7</b>	<p><b>Sensitive Environmental Areas</b></p> <p>Show on a map of suitable scale the proximity of the project to any environmentally sensitive areas. Identify whether any of those environmentally sensitive areas could be affected, directly and indirectly, by the project.</p>	<p>Figure 4.10, Good-quality agricultural land surrounding the project development area. Figure 17.8, Areas identified with a sensitivity ranking of high. Section 2.3, Environmental Protection and Biodiversity Conservation Act. Section 16.3.2, Environmentally Sensitive Areas. Section 17.3.2, Environmentally Sensitive Areas. Figure 16.1, Aquatic ecology field survey sites and study area. Figure 17.2, Environmentally sensitive areas within the project development area.</p>

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
4.2.1.7	Indicate whether the land affected by the project 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, wetlands, biodiversity corridors, declared fish habitat areas, wilderness areas, aquatic reserves, heritage/historic areas or items, national estates, World Heritage listings and sites covered by international treaties or agreements (including Ramsar, Australia and Japan (JAMBA), Australia and China (CAMBA), or Australia and the Republic of Korea (ROKAMBA)) and areas of cultural significance and scientific reserves (see section 4.9 for further guidance on sensitive areas).	Chapter 16, Aquatic Ecology. Chapter 17, Terrestrial Ecology. Chapter 23, Indigenous Cultural Heritage. Chapter 24, Non-Indigenous Cultural Heritage.
	Address the Commonwealth's Environment Protection and Biodiversity Conservation Act 1999 and determine whether there are national environmentally significant matters relevant to this section that should be described.	Chapter 16, Aquatic Ecology. Chapter 17, Terrestrial Ecology. Attachment 3, Matters of National Environmental Significance.
4.2.1.8	<b>Landscape Character</b>	
	Describe in general terms the existing character of the landscape that will be affected by the project, including the general impression of the landscape that would be obtained while travelling through and around it. Also include any particular features or characteristics considered to contribute to the 'sense of place'. The visual amenity section addresses potential impacts on likely viewers, such as panoramas from constructed lookouts, designated scenic routes.	Chapter 4, Environmental, Social and Economic Context. Section 18.3, Existing Environment and Environmental Values. Figure 18.2, Topography. Figure 18.3, Landscape character types and area.
4.2.1.9	<b>Visual Amenity</b>	
	Describe the existing visual resource, including 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. Use maps, sections, elevations and photographs as appropriate, particularly where addressing the following issues:	Section 18.3, Existing Environment and Environmental Values. Figure 18.1, Representative viewpoints. Figure 18.4, Sensitive visual receptors.
	<ul style="list-style-type: none"> <li>Identifying elements within the project and surrounding area that contribute to the image of the town/city or landscape as discussed in the any local government strategic plan – within city image and townscape/landscape objectives and associated maps.</li> </ul>	Section 18.3, Existing Environment and Environmental Values. Figure 18.4, Sensitive visual receptors.
	<ul style="list-style-type: none"> <li>Important views, view sheds, existing viewing outlooks, ridgelines and other features contributing to the scenic amenity of the area.</li> </ul>	Section 18.3, Existing Environment and Environmental Values. Figure 18.1, Representative viewpoints.
<ul style="list-style-type: none"> <li>High-level consideration of representative views, from private residences likely to be affected by the project focal points, landmarks (built form or topography), gateways associated with project site and immediate surrounding areas, waterways, and other features contributing to the existing visual quality of the area and the project site.</li> </ul>	Section 18.3, Existing Environment and Environmental Values. Figure 18.1, Representative viewpoints.	

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
4.2.1.9	<ul style="list-style-type: none"> <li>Character of the local and surrounding areas including character of settlement (pattern, scale, built form materials and colours) and landscape (natural and cultural vegetation) and land use.</li> </ul>	Section 18.3, Existing Environment and Environmental Values. Figure 18.1, Representative viewpoints.
	<ul style="list-style-type: none"> <li>Identifying areas of the project that have the capacity to absorb land use changes without detriment to the existing visual quality and landscape character.</li> </ul>	Section 18.6.1, Planning and Design. Section 18.6.2, Construction.
	<ul style="list-style-type: none"> <li>High-level consideration of visual function of existing vegetation including use as a visual screen.</li> </ul>	Section 18.6.1, Planning and Design.
4.2.2	<p><b><i>Potential Impacts and Mitigation Measures</i></b></p> <p>Define and describe the objectives and practical measures to protect or enhance the land-based environmental values identified through the studies outlined in the previous section. Describe how nominated quantitative standards and indicators may be achieved, and how the achievement of the objectives will be monitored, audited and managed.</p>	<p>Section 12.5, Environmental Protection Objectives. Section 12.6, Avoidance, Mitigation and Management Measures. Section 12.8, Inspection and Monitoring. Section 16.5, Environmental Protection Objectives. Section 16.6, Avoidance, Mitigation and Management Measures. Section 16.8, Inspection and Monitoring. Section 17.5, Environmental Protection Objectives. Section 17.6, Avoidance, Mitigation and Management Measures. Section 17.7.5, Monitoring and Inspection and Monitoring. Section 18.5, Environmental and Social Protection Objectives. Section 18.6, Avoidance, Mitigation and Management Measures. Section 18.8, Inspection and Monitoring.</p> <p>Auditing is performed as a component of Arrow's standard HSEMS (in addition to external checks) and will inform the environmental management plan:</p> <ul style="list-style-type: none"> <li>Attachment 5 (Section 4.2, Geology, Landform and Soils).</li> <li>Attachment 5 (Section 4.3, Landscape and Visual Amenities).</li> <li>Attachment 5 (Section 4.4, Terrestrial Ecology).</li> <li>Attachment 5 (Section 4.7, Aquatic Ecology).</li> </ul>

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
4.2.2.1	<b>Land Use Suitability</b>	
	Detail the potential for the project's construction and operation to change existing and potential land uses of the project area, including post-operations land-use options showing suitability of the area to be used for primary production, industry, or nature conservation. Give the factors favouring or limiting the establishment of those options in the context of land-use suitability prior to the project and minimising potential liabilities for long-term management.	Section 13.7, Residual Impacts. Chapter 5, Project Description.
	Describe the potential environmental harm caused by the project on areas currently used for agriculture, urban development, recreation, tourism, other business and the implications of the project for future developments in the project area, including constraints on surrounding land uses. Propose mitigation measures for any potentially adverse impacts on stock route operations during the construction and operational phases of the development. If the development adjoins or potentially impacts on good quality agricultural land, then an assessment of the potential for land use conflict is required. Investigations should follow the procedures set out in the planning guideline, The Identification of Good Quality Agricultural Land, which supports State Planning Policy 1/92.	Section 13.4, Issues and Potential Impacts. Section 13.4.7, Extent of Disturbance to Good-quality Agricultural Land and Potential Strategic Cropping Land. Section 19.6.2, Efficiency, Safety and Amenity of Regional Connecting, Rural Connecting and Rural Access Roads (Stock Routes).
	Identify implications of the Government's Protecting Queensland's Strategic Cropping Land: A Policy Framework (Department of Environment and Resource Management) 2010, and identify any mitigation and management measures to be implemented, if required.	Section 13.1, Legislative Context. Section 13.6.1, General Measures. Section 13.6.2, Reduced Productivity and Increased Costs.
	Outline and identify incompatible land uses, whether existing or potential, on and 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. Define measures to avoid unacceptable impacts.	The intent of the environmental framework is to separate petroleum activities from sensitive receptors. Sensitive receptors identified are described in Chapter 7, Impact Assessment Method and separation distances calculated are defined in the following chapters: <ul style="list-style-type: none"> <li>• Chapter 9, Air Quality.</li> <li>• Chapter 20, Noise.</li> <li>• Chapter 25, Preliminary Hazard and Risk.</li> </ul>
4.2.2.2	<b>Land Disturbance</b>	
	Develop a strategy that will minimise the amount of land disturbed at any one time. Describe the strategic approach to progressively rehabilitating landforms and final decommissioning, with particular regard to the impacts in the short, medium and long timeframes. Describe the methods to be used for the project, including backfilling, covering, re-contouring, topsoil handling and revegetation.	Section 12.6.1, General Measures. Section 12.6.2, Land Degradation.

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

<b>ToR Section</b>	<b>ToR Title and Details</b>	<b>EIS cross-reference</b>
<b>4.2.2.2</b>	Describe first in this section any proposals to disturb land that would impede or divert overland flow or waterways, and any subsequent reinstatement, during construction or operations. However, the potential impacts of interfering with flow on the quantity and quality of water resources should be assessed in section 4.5. Also describe the final drainage and seepage control systems and any long-term monitoring plans.	Section 12.6.2, Land Degradation. Section 12.4.1, Construction. Section 12.8, Inspection and Monitoring.
	In addition to assessing the operational phase of land disturbance, address the ultimate changes following implementation of the decommissioning and rehabilitation plan described in section 3.2.15. Detail the proposed long-term changes that will occur to the land after petroleum activities cease compared to the situation before activities commenced. Illustrate those changes on maps at a suitable scale and with contours at intervals sufficient to assess the likely drainage pattern for ground and surface waters (though the assessment of the impacts on drainage and water quality should be provided in the water resources section of the EIS). Assess the mitigation measures for land disturbance to be used during decommissioning in sufficient detail to decide their feasibility. In particular, address the long-term stability of disturbed sites, safety of access to sites and the residual risks that will be transferred to the subsequent landholder.	Section 5.7, Decommissioning and Rehabilitation. Section 15.6, Avoidance, Mitigation and Management Measures. Section 15.7, Residual Impacts.
	Propose rehabilitation success criteria for land disturbance in this section. Rehabilitation success criteria for revegetation should be proposed in the section on nature conservation. If geological conditions are conducive, consider the possibility that significant fossil specimens (such as of dinosaurs or their tracks) may be uncovered during construction or operations and propose strategies to protect the specimens and alert the Queensland Museum to the find.	Section 12.4, Issues and Potential Impacts. Section 12.6.4, Disturbance or Accidental Damage of Fossils. Performance criteria in Attachment 5, Environmental Management Plan. Attachment 5 (Section 4.2.3, Geology, Landform and Soils Management).
<b>4.2.2.3</b>	<b><i>Land Contamination</i></b>  Provide the following information:  <ul style="list-style-type: none"> <li>• A description of the nature and extent of any contamination likely to occur in the project area.</li> <li>• A remediation plan (including validation sampling) to be undertaken prior to land disturbance if project works are proposed within a contaminated site.</li> </ul>	Section 12.3.8, Environmental Values.  Section 12.6.3, Land Contamination.

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

<b>ToR Section</b>	<b>ToR Title and Details</b>	<b>EIS cross-reference</b>
<b>4.2.2.4</b>	<p><b><i>Erosion and Stability</i></b></p> <p>For each soil type identified, outline erosion potential (wind and water) and erosion management techniques. An erosion-monitoring program, including rehabilitation measures for erosion problems identified during monitoring, should also be outlined. Develop mitigation strategies to achieve acceptable soil loss rates, levels of sediment in rainfall runoff and wind-generated dust concentrations.</p> <p>Include an assessment of likely erosion and stability effects for all disturbed areas such as:</p> <ul style="list-style-type: none"> <li>• Areas cleared of vegetation.</li> <li>• Dams, banks and creek crossings.</li> <li>• The plant site, including buildings.</li> <li>• Access roads or other transport corridors.</li> <li>• Bores.</li> <li>• Pipelines for gas or water.</li> <li>• Electricity transmission corridors.</li> </ul> <p>Erosion control measures should be developed into an erosion and sediment control plan for inclusion in the EM plan.</p>	<p>Section 12.3.6, Terrain Unit Mapping. Section 12.3.8, Environmental Values. Section 12.6.1, General Measures. Section 12.6.2, Land Degradation. Section 12.8, Inspection and Monitoring.</p> <p>In relation to geology, landform and soils, this is discussed as per terrain units in:</p> <ul style="list-style-type: none"> <li>• Section 12.3.6, Terrain Unit Mapping.</li> <li>• Section 12.3.8, Environmental Values.</li> </ul> <p>From a surface water perspective, this is discussed in:</p> <ul style="list-style-type: none"> <li>• Section 15.4, Issues and Potential Impacts.</li> </ul> <p>Attachment 5, Environmental Management Plan.</p>
<b>4.2.2.5</b>	<p><b><i>Landscape Character</i></b></p> <p>Describe the potential impacts of the project upon the landscape character of the development area and the surrounding area.</p> <p>Make particular mention of any changes to the broad-scale topography and vegetation character of the area, such as due to broad-scale clearing.</p> <p>Provided details of measures to be undertaken to mitigate or avoid the identified impacts.</p>	<p>Section 18.4, Issues and Potential Impacts. Figure 18.3, Landscape character types and area.</p> <p>Section 18.4.1, Construction.</p> <p>Section 18.6, Avoidance, Mitigation and Management Measures.</p>
<b>4.2.2.6</b>	<p><b><i>Visual Amenity</i></b></p> <p>Analyse and discuss the visual impact of the project on views and visual amenity. Describe the extent and significance of the changes to the view as experienced. Such views should be representative of public and private viewpoints, including places of residence, work, and recreation, from road, cycle and walkways from the air and other known vantage points day and night and during all stages of the project as it relates to the surrounding landscape.</p>	<p>Section 18.4, Issues and Potential Impacts. Section 18.7.4, Summary of Residual Impacts. Figure 18.4, Sensitive visual receptors. Figure 18.1, Representative viewpoints.</p>

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

<b>ToR Section</b>	<b>ToR Title and Details</b>	<b>EIS cross-reference</b>
<b>4.2.2.6</b>	<p>Address the visual impacts of the project structures and associated infrastructure, using appropriate simulation. Use sketches, diagrams, computer imaging and photos where possible to portray the near views and far views of the completed structures and their surroundings from visually sensitive locations, including public roads, public thoroughfares, and places of residence or work, which are within the line of sight of the project.</p> <p>Provide detail of all management options to be implemented and how these may mitigate, will mitigate or avoid the identified impacts.</p>	<p>Section 18.4, Issues and Potential Impacts. Section 18.6.5, Visualisations. Plates 18.1 to 18.10 show unmitigated and mitigated scenarios of project facilities in the different landscape character types.</p> <p>Section 18.6, Avoidance, Mitigation and Management Measures.</p>
<b>4.2.2.7</b>	<p><b>Lighting</b></p> <p>Assess the potential impacts of lighting during all stages of the project particularly regarding:</p> <ul style="list-style-type: none"> <li>• The visual impact at night.</li> <li>• Night operations/maintenance and effects of lighting on fauna and residents.</li> <li>• The potential impact of increased vehicular traffic.</li> <li>• Changed habitat conditions for nocturnal fauna and associated impacts.</li> </ul>	<p>Section 17.4.5, Project Activities with Potential to Impact Terrestrial Ecology Environmental Values.</p> <p>Lighting-related impacts are addressed as a nocturnal impact. No impact is expected from light emissions during daylight hours. Section 17.4.5, Project Activities with Potential to Impact Terrestrial Ecology Environmental Values.</p> <p>Section 17.4.5, Project Activities with Potential to Impact Terrestrial Ecology Environmental Values. Section 17.6, Avoidance, Mitigation and Management Measures. Section 18.6, Avoidance, Mitigation and Management Measures.</p> <p>Section 17.4.5, Project Activities with Potential to Impact Terrestrial Ecology Environmental Values. Section 17.6, Avoidance, Mitigation and Management Measures.</p> <p>Section 17.6, Avoidance, Mitigation and Management Measures.</p>

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
4.3	<p><b>Transport</b></p> <p>Include subsections describing infrastructure associated with the various modes of transport, such as road, rail, pipeline, air and sea.</p>	<p>Chapter 19, Roads and Transport. Section 19.2.4, Alternative Modes of Transport.</p>
4.3.1	<p><b>Description of Existing Infrastructure and Value</b></p> <p>Describe in detail each existing or new road and rail network, including level crossings that would be used by the project. Provide illustrations of the networks at suitable scales.</p> <p>Describe the expected volumes and weights of materials, products, hazardous goods or wastes; the likely number and timing of trips; the types of vehicles to be used; and the routes. With consideration of the area of the project and the dispersed nature of the associated infrastructure, include in the description details of access roads, realignments, rail loops and loadout facilities, and level crossings used by any transport associated with the project.</p> <p>Provide details of any heavy or oversized loads, including the number and type of vehicles, with a description of the likely timing and routes of those loads highlighting any vulnerable bridges or other structures along the proposed routes. Where it is not possible to provide specific details of this nature, provide an indication of the types of transport infrastructure and activity that could reasonably be expected for various petroleum activities (such as building a gas compression or water treatment facility).</p> <p>In relation to air transport, describe the existing, new, and/or altered air fields and associated infrastructure that would be used by the project. Describe the likely additional number of flights, frequency, timing (particularly any increase in night arrivals or take-offs), and size of aircraft. Describe any features of the project that could impact on air transport (such as flares beneath flight paths).</p> <p>In relation to importing or exporting materials and products, identify any aspects of the project that will increase the shipment of materials through any port. Provide details of the ports that would be used, the berths at those ports, likely size and number of vessels, and the associated infrastructure that moves and stores materials between the ships and the rail and/or road networks.</p>	<p>Figure 19.1, Functional road type in the project development area. Section 19.2.4, Alternative Modes of Transport. Section 19.4, Issues and Potential Impacts. Appendix M, Road Impact Assessment. Site and route selection will have regard for existing road and rail networks.</p>

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
4.3.2	<b>Potential Impacts and Mitigation Measures</b>	
	Provide sufficient information to make an independent assessment of how transport used by the project will impact on environmental values.	Section 19.4, Issues and Potential Impacts.
	Provide details of the: <ul style="list-style-type: none"> <li>• Results of any modelling of transport impacts.</li> <li>• Assessment methodology used, including a summary of consultation undertaken with transport authorities regarding the scope of the impact assessment and methodology to be used. This will include the use of the Australian Level Crossing Assessment Model (ALCAM) to assess impacts on level crossings.</li> <li>• Base-data assumptions, including an assessment of the current condition of the affected network and its performance.</li> <li>• Possible interruptions to transport operations.</li> <li>• Likelihood and nature of spills of products or hazardous materials during transport, prevention measures to be used, and the requirements for dealing with any spills.</li> </ul>	Section 16.6, Avoidance, Mitigation and Management Measures (details on hazardous materials). Section 19.3, Existing Environment and Environmental Values. Section 19.4, Issues and Potential Impacts. Section 25.7, Residual Impacts (details on hazardous materials).
	Assess any impacts on stock routes due to the projects activities. Propose mitigation measures for any disruptions to movement of travelling stock on stock routes.	Section 19.4, Issues and Potential Impacts. Section 19.6.2, Efficiency, Safety and Amenity of Regional Connecting, Rural Connecting and Rural Access Roads.
	In relation to road impacts, provide an assessment of impacts on: <ul style="list-style-type: none"> <li>• The safety, efficiency and condition of road operations and assets, including driver fatigue school bus routes, pavements, structures, etc.</li> <li>• Any existing or proposed pedestrian cycle networks.</li> <li>• Any existing public transport networks (assets and services).</li> <li>• Watercourses and overland flows, and their interaction with the current and future road network (note: impacts on water values due to transport infrastructure should be outlined in the transport section of the EIS and cross-referenced to a detailed assessment in the water resources section).</li> </ul>	Section 19.3, Existing Environment and Environmental Values. Section 19.4, Issues and Potential Impacts. Section 15.7.4, Summary of Residual Impacts (interaction between roads and watercourses).

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
4.3.2	<p>In the assessment of impacts on the rail network itself, or on environmental values affected by changes in rail traffic (due to dust, noise and vibration), consider the following:</p> <ul style="list-style-type: none"> <li>• Impacts at interface points with other private and public transport pathways such as roadway level crossings or occupational crossings (that is, crossings that form part of private access pathways to and from residential or business sites).</li> <li>• Impacts on passenger transport and services.</li> <li>• Requirements for any approvals needed for rail crossings by roads or other infrastructure.</li> </ul>	<p>Section 19.2.4, Alternative Modes of Transport. Section 19.4, Issues and Potential Impacts. Section 19.6, Avoidance, Mitigation and Management Measures. Site and route selection will have regard for existing road and rail networks.</p>
	<p>Assess impacts on any port caused by the import or export of materials or products. Matters to be assessed should include the need for:</p> <ul style="list-style-type: none"> <li>• New coastal works, such as berth construction or alteration, land reclamation, etc.</li> <li>• Any dredging for shipping channels and swing basins.</li> <li>• New or altered stockpile areas.</li> <li>• New or altered, or increased use of existing, infrastructure to handle materials between ships and road or rail transport.</li> </ul>	<p>Section 19.2.4, Alternative Modes of Transport.</p>
	<p>Assess any impacts of the project on existing air fields and associated infrastructure that would be needed for the project. Describe the likely additional number of flights, frequency, timing (particularly any increase in night arrivals or take-offs), and size of aircraft, along with any features of the project that could impact on air transport (such as the placement of waste dumps, stacks or flares beneath flight paths).</p>	<p>Section 19.2.4, Alternative Modes of Transport.</p>
	<p>Assess any impacts on environmental values due to the need to redevelop or construct new airfields and any impacts on amenity due to increased air traffic. The project and assessment should have regard to State Planning Policy 1/02: Development in the Vicinity of Certain Airports and Aviation Facilities. With regard to air safety, matters to be assessed include the raising of landforms or the construction of stacks, flares or lighting within flight paths.</p>	<p>Section 19.2.4, Alternative Modes of Transport.</p>
	<p>If the works that could result in impacts, or the associated mitigation works for identified impacts, are the responsibility of the proponent, fully assess those impacts, detail the mitigation works and carry the environmental protection commitments forward into the project's EM plan.</p>	<p>Section 19.6, Avoidance, Mitigation and Management Measures. Attachment 5 (Section 4.15, Roads and Transport).</p>

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

<b>ToR Section</b>	<b>ToR Title and Details</b>	<b>EIS cross-reference</b>
<b>4.3.2</b>	If the proponent will not be responsible for the works associated with the impacts, clearly identify the entity that will be responsible and approvals that will be needed. Nevertheless, in this case, provide enough assessment of the likely impacts of all associated activities for the regulatory authorities to have confidence that approval of the project subject to this EIS process would not have unacceptable flow-on impacts due to necessary works further down the transport chain.	Section 19.6, Avoidance, Mitigation and Management Measures. Attachment 5 (Section 4.15, Roads and Transport).
	Detail measures to avoid or mitigate impacts on each transport mode. In the mitigation measures ensure the safety, efficiency and condition of each mode is maintained. Prepare these mitigation measures in close consultation with the relevant transport authorities. Identify and quantify any residual impacts that cannot be avoided.	Section 19.6, Avoidance, Mitigation and Management Measures. Section 19.7, Residual Impacts.
	<p>Include in mitigation strategies:</p> <ul style="list-style-type: none"> <li>• Consideration of any transport authority's works program and forward planning.</li> <li>• Proposed construction plans of all required transport infrastructure works in accordance with relevant and accepted authority standards and practices.</li> <li>• The responsible parties for any works.</li> <li>• Estimates of costs.</li> <li>• Details on the timing of the works.</li> <li>• The framework to be applied to identify and implement appropriate mitigation strategies for the project, as infrastructure locations are progressively determined.</li> <li>• A summary of relevant approvals and legislative requirements needed to implement mitigation strategies and transport infrastructure works required by the project.</li> </ul>	<p>Chapter 8, Environmental Framework.</p> <p>Section 19.1, Legislative Context.</p> <p>Section 19.6, Avoidance, Mitigation and Management Measures.</p> <p>Section 28.3.8, Roads and Transport (consideration of transport authority works program).</p> <p>Proposed construction plans, responsible parties, cost estimates and details on exact timing of works will be developed once facility and infrastructure site locations are known.</p>
	Also consider public transport requirements and links to, or development of, pedestrian and cycle networks.	Section 19.3.8, Public Transport and Infrastructure.
<b>4.4</b>	<b>Waste</b>	
<b>4.4.1</b>	Provide technical details of waste treatment and minimisation, with proposed emission, discharge and disposal criteria.	Section 26.6, Avoidance, Mitigation and Management Measures. Section 26.7, Inspection and Monitoring.
	<b>Description of Environmental Values</b>	
	Introduce and briefly describe the existing environment values that may be affected by the project's wastes. Refer to each of the waste streams described in section 3.3 and provide references to more detailed descriptions of the relevant environmental values in other sections of part 4 of the EIS.	Chapter 26, Waste Management (introductory section provides cross-references). Section 26.3, Existing Environment and Environmental Values.

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
4.4.2	<p><b>Potential Impacts and Mitigation Measures</b></p> <p>Define and describe the objectives and practical measures for protecting or enhancing environmental values from impacts by wastes. Describe how nominated quantitative standards and indicators may be achieved for waste management, and how the achievement of the objectives will be monitored, audited and managed.</p> <p>Provide details of each waste in terms of:</p> <ul style="list-style-type: none"> <li>• Operational handling and fate of all wastes including storage.</li> <li>• Onsite treatment methods proposed for the wastes.</li> <li>• Methods of disposal (including the need to transport wastes off site for disposal) proposed to be used for any trade wastes, liquid wastes and solid wastes.</li> <li>• Hazards associated with the handling and storage of wastes.</li> <li>• The potential level of impact on environmental values.</li> <li>• Proposed discharge/disposal criteria for liquid and solid wastes.</li> <li>• Measures to ensure stability of the dumps and impoundments.</li> <li>• Methods to prevent, seepage and contamination of surface water or groundwater from stockpiles and/or dumps.</li> <li>• Design criteria to be used to ensure that waste containment and/or storage facilities perform satisfactorily.</li> <li>• Market demand for recyclable waste, where appropriate.</li> <li>• Waste minimisation techniques processes proposed.</li> <li>• Measures to ensure wastes do not attract or propagate pests, disease vectors or vermin, and do not impact on public health.</li> <li>• Decommissioning of the site.</li> </ul>	<p>Section 26.6, Avoidance, Mitigation and Management Measures. Section 26.7, Inspection and Monitoring. Attachment 5 (Section 4.1, Air Quality). Attachment 5 (Section 4.5, Groundwater). Attachment 5 (Section 4.6, Surface Water). Attachment 5 (Section 4.9, Dams). Attachment 5 (Section 4.12, Preliminary Hazard and Risk).</p> <p>Section 25.7, Residual Impacts (provides additional detail on handling and storage of wastes, including measures to prevent seepage and contamination of surface and groundwater and criteria relevant to hazardous waste). Section 26.3, Existing Environment and Environmental Values. Section 26.4, Issues and Potential Impacts. Section 26.6, Avoidance, Mitigation and Management Measures. Attachment 5 (Section 4.9, Dams) (details on design criteria for waste containment and storage). Attachment 5 (Section 4.6, Surface Water) (details on measures to avoid, manage and mitigate waste/contaminants entering watercourses). Attachment 5 (Section 4.7, Aquatic Ecology) (details on measures to avoid, manage and mitigate waste/contaminants entering watercourses).</p>

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

<b>ToR Section</b>	<b>ToR Title and Details</b>	<b>EIS cross-reference</b>
<b>4.4.2</b>	Having regard for the Environmental Protection (Waste Management) Policy 2000 (EPP (Waste)) and local government waste management strategies, indicate the results of investigating the feasibility of using waste minimisation and cleaner technology options during all phases of the project. Also apply waste minimisation and treatment and cleaner production techniques to gaseous wastes, particularly methane, nitrogen oxides, sulfur oxides, particulates and carbon dioxide. Pay particular attention to measures that will maximise energy efficiency and minimise internal energy consumption by the project. Detail cleaner production waste management planning, especially how these concepts have been applied to preventing or minimising environmental impacts at each stage of the project. Provide details on natural resource use efficiency, such as energy and water, integrated processing design, and any co-generation of power and by-product reuse as shown in a material/energy flow analysis.	Section 5.2, Major Infrastructure Components (details onsite generation of power). Section 5.6.4, Coal Seam Gas Water and Brine Management (details reuse options for coal seam gas water and brine). Section 9.6, Avoidance, Mitigation and Management Measures. Section 11.6, Avoidance, Mitigation and Management Measures (provides details on water use efficiency). Section 26.6, Avoidance, Mitigation and Management Measures.
<b>4.5</b>	<b><i>Water Resources</i></b>	
<b>4.5.1</b>	<b><i>Description of Environmental Values</i></b>	
	Describe the existing environment for water resources that may be affected by the project in the context of environmental values as defined or considered in such documents as the Environmental Protection Act 1994, Environmental Protection (Water) Policy 1997 (EPP (Water)), ANZECC 2000, the National Water Quality Management Strategy (NWQMS), the DERM Guideline, Establishing Draft Environmental Values and Water Quality Objectives, and the Queensland Water Quality Guidelines 2009. The definition of waters in the EPP (Water) includes the bed and banks of waters, so address benthic sediments as well as the water column.	Section 14.3.6, Environmental, Social and Cultural Values. Section 15.3.2, Fluvial Geomorphology. Section 15.3.5, Water Quality. Section 15.3.7, Wetlands. Figure 15.5a, Queensland Wetlands Program identified wetlands (northern project development area). Figure 15.5b, Queensland Wetlands Program identified wetlands (central project development area). Figure 15.5c, Queensland Wetlands Program identified wetlands (southern project development area). Section 15.3.8, Environmental Values.
<b>4.5.1.1</b>	<b><i>Surface Waterways</i></b>	
	Describe the surface watercourses, overland flow, and palustrine and lacustrine wetlands.	Section 15.3.1, Overview (surface watercourses). Section 15.3.2, Fluvial Geomorphology (surface watercourses). Section 15.3.3, Stream Flow (overland flow). Section 15.3.7, Wetlands (palustrine and lacustrine wetlands).

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
4.5.1.1	Address their quality and quantity in the area affected by the project with an outline of the significance of these waters to the river catchment system in which they occur.	Section 15.3.2, Fluvial Geomorphology (quantity and significance of surface watercourses). Section 15.3.3, Stream Flow (significance to the river catchment). Section 15.3.5, Water Quality.
	Describe existing surface drainage patterns, and flows in major streams and wetlands.	Section 15.3.3, Stream Flow. Section 15.3.7, Wetlands.
	Provide details of the likelihood of flooding, history of flooding including extent, levels and frequency, and a description of present and potential water uses downstream of the areas affected by the project.	Section 15.3.6, Flooding. Figure 4.6, Extent of flooding from 1956 to 1988. Figure 4.7, Extent of flooding on 31 December 2010. Section 15.3.4, Water Use.
	Include mapping at a suitable scale of any watercourses, drainage pathways, wetlands on a subcatchment basis.	Figure 4.1, Major watercourses and drainage divisions within the project development area. Figure 15.2, Location of project development area in relation to drainage basins. Figure 15.3, Location of project development area in relation to surrounding subcatchments. Figure 15.5a, Queensland Wetlands Program identified wetlands (northern project development area). Figure 15.5b, Queensland Wetlands Program identified wetlands (central project development area). Figure 15.5c, Queensland Wetlands Program identified wetlands (southern project development area).
	In flood studies include a range of annual exceedance probabilities for affected waterways, based on observed data if available, or use appropriate modelling techniques and conservative assumptions if there are no suitable observations.	Section 15.3.6, Flooding.
	In the flood assessment include where possible local flooding due to short-duration events from contributing catchments on site(s), as well as larger scale regional flooding including waterways downstream.	Section 15.3.6, Flooding.

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
4.5.1.1	Provide a description, with photographic evidence, of the geomorphic condition of any watercourses likely to be affected by disturbance or stream diversion. Use the results of this description to form the basis for the planning and subsequent monitoring of watercourse rehabilitation during or after the operation of the project.	Section 15.3.2, Fluvial Geomorphology (geomorphic condition). Plates (photographic evidence of geomorphic condition): <ul style="list-style-type: none"> <li>• Plate 15.1, Headwater.</li> <li>• Plate 15.2, Valley fill.</li> <li>• Plate 15.3, Chain of ponds.</li> <li>• Plate 15.4, Flood channel.</li> <li>• Plate 15.5, Continuous channel.</li> <li>• Plate 15.6, Floodout.</li> <li>• Plate 15.7, Confined.</li> <li>• Plate 15.8, Partly confined bedrock controlled.</li> <li>• Plate 15.9, Partly confined low sinuosity.</li> <li>• Plate 15.10, Partly confined meandering.</li> </ul>
	Assess by means of a monitoring program, with sampling stations located upstream and downstream of the project. Obtain complementary stream-flow data from historical records (if available) to aid interpretation.	Section 15.8, Inspection and Monitoring.
	Describe water quality, including seasonal variations or variations with flow where applicable. Measure a relevant range of physical, chemical and biological parameters to gauge environmental harm on any affected creek or wetland system. Where representative sampling is not possible within the duration of the study (due to the seasonal idiosyncrasies of the regional climate), clearly state the assumptions made with respect to seasonal variation. Assumptions must consider existing literature and other publicly available information. Describe the environmental values of the surface waterways of the potentially affected area in terms of:	Section 15.3.5, Water Quality.
	<ul style="list-style-type: none"> <li>• Values identified in the Environmental Protection (Water) Policy 2009.</li> </ul>	Section 15.3.8, Environmental Values.
	<ul style="list-style-type: none"> <li>• Sustainability, including both quality and quantity.</li> </ul>	Section 15.3.8, Environmental Values.
	<ul style="list-style-type: none"> <li>• Physical integrity, fluvial processes and morphology of watercourses, including riparian zone vegetation and form.</li> </ul>	Section 15.3.8, Environmental Values.
	<ul style="list-style-type: none"> <li>• Any water resource plans, land and water management plans relevant to the affected catchment.</li> </ul>	Section 14.1, Legislative Context . Section 15.1, Legislative Context.

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
4.5.1.1	Determine surface water quality objectives after consideration of the EPP (Water), ANZECC & ARMCANZ Water Quality Guidelines (2000), the Queensland Water Quality Guidelines (2009) and local reference data.	Section 15.1, Legislative Context.
4.5.1.2	<p><b>Groundwater</b></p> <p>Assess the quality, quantity and significance of groundwater in the project area, including:</p> <ul style="list-style-type: none"> <li>• An overview of groundwater use in areas in or adjacent to the project area.</li> <li>• Details of any springs or outflows of groundwater.</li> <li>• Identification of intake areas for local and regional groundwater aquifers.</li> <li>• The potential extent of impact caused by the project.</li> </ul>	<p>Section 14.3.4, Groundwater Use. Figure 14.8, Distribution of licensed groundwater bores and uses within the project development area.</p> <p>Section 14.3.3, Groundwater-Dependent Ecosystems. Figure 14.6, Approximate location of known groundwater springs within the groundwater model extent.</p> <p>Section 14.3.2, Regional Hydrogeology. Figure 14.5, Great Artesian Basin hydrology.</p> <p>Section 14.2.1, Desktop Study. Figure 14.1, Groundwater modelling extent and study area. Section 14.4.1, Coal Seam Gas Water Extraction - Direct Impacts. Figure 14.9, Predicted groundwater drawdown contours in the Juandah Coal Measures (modelling scenario 1 – Arrow only). Section 14.4.2, Coal Seam Gas Water Extraction - Indirect Impacts. Figure 14.10, Predicted groundwater drawdown contours in the Condamine Alluvium (modelling scenario 1 – Arrow only). Figure 14.11, Predicted groundwater drawdown contours in the Kumbarilla Beds (modelling scenario 1 – Arrow only). Figure 14.12, Predicted groundwater drawdown contours in the Hutton Sandstone (modelling scenario 1 – Arrow only). Figure 14.13, Predicted groundwater drawdown contours in the Precipice Sandstone (modelling scenario 1 – Arrow only).</p>

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
4.5.1.2	<ul style="list-style-type: none"> <li>An assessment of baseline data from existing groundwater supply facilities (bores, wells, etc) within the proponent's current field development areas.</li> </ul>	<p>Section 14.3.4, Groundwater Use. Figure 14.7, Approximate location of registered water bores and Arrow production wells within the project development area. Figure 14.8, Distribution of licensed groundwater bores and uses within the project development area. Figure 14.4, Groundwater resources accessed by registered bores within the project development area. Section 14.3.5, Groundwater Systems.</p>
	<ul style="list-style-type: none"> <li>A process and commitment for gathering baseline data from existing groundwater supply facilities (bores, wells, etc) for future field development areas.</li> </ul>	<p>Section 14.6, Mitigation, Monitoring and Management Measures. Section 14.8, Inspection and Monitoring.</p>
	<p>Include in the review a survey of existing groundwater supply facilities. The information to be gathered for analysis is to include:</p>	
	<ul style="list-style-type: none"> <li>Location.</li> </ul>	<p>Figure 14.7, Approximate location of registered water bores and Arrow production wells within the project development area.</p>
	<ul style="list-style-type: none"> <li>Pumping parameters.</li> </ul>	<p>Section 14.2.2, Numerical Groundwater Model. Section 14.3.2, Regional Hydrogeology.</p>
	<ul style="list-style-type: none"> <li>Draw down and recharge at normal pumping rates.</li> </ul>	<p>Section 14.2.2, Numerical Groundwater Model. Section 14.3.2, Regional Hydrogeology.</p>
	<ul style="list-style-type: none"> <li>Seasonal variations (if records exist) of groundwater levels.</li> </ul>	<p>N/A (relevant records could not be located).</p>
	<p>Develop and describe a monitoring program, including a network of observation points that would satisfactorily monitor groundwater resources both before and after commencement of operations.</p>	<p>Section 14.6, Mitigation, Monitoring and Management Measures. Section 14.8, Inspection and Monitoring.</p>
	<p>Address the nature and hydrology of the aquifers and provide a description of the:</p>	
	<ul style="list-style-type: none"> <li>Geology/stratigraphy, such as alluvium, volcanic, metamorphic.</li> </ul>	<p>Section 14.3.1, Regional Geology. Figure 14.3, Stratigraphy and groundwater systems present within the project development area.</p>
	<ul style="list-style-type: none"> <li>Aquifer type, such as confined, unconfined, karst or perched.</li> </ul>	<p>Figure 14.3, Stratigraphy and groundwater systems present within the project development area. Section 14.3.2, Regional Hydrogeology. Section 14.3.5, Groundwater Systems.</p>

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

<b>ToR Section</b>	<b>ToR Title and Details</b>	<b>EIS cross-reference</b>
4.5.1.2	<ul style="list-style-type: none"> <li>Depth to and thickness of the aquifers.</li> </ul>	Figure 14.3, Stratigraphy and groundwater systems present within the project development area.
	<ul style="list-style-type: none"> <li>The significance of the resource at a local and regional scale.</li> </ul>	Section 14.3.5, Groundwater Systems. Section 14.3.6, Environmental, Social and Cultural Values.
	<ul style="list-style-type: none"> <li>Depth to water level and seasonal changes in levels.</li> </ul>	Section 14.3.5, Groundwater Systems.
	<ul style="list-style-type: none"> <li>Groundwater flow directions (defined from water level contours).</li> </ul>	Section 14.3.5, Groundwater Systems.
	<ul style="list-style-type: none"> <li>Interaction with surface water.</li> </ul>	Section 14.3.3, Groundwater-Dependent Ecosystems. Section 14.3.5, Groundwater Systems. Section 14.3.6, Environmental, Social and Cultural Values.
	<ul style="list-style-type: none"> <li>Interaction with sea/salt water.</li> </ul>	NA (the project development area is located inland with no interaction with sea water).
	<ul style="list-style-type: none"> <li>Possible sources of recharge.</li> </ul>	Section 14.3.2, Regional Hydrogeology. Section 14.3.5, Groundwater Systems.
	<ul style="list-style-type: none"> <li>Vulnerability to pollution.</li> </ul>	Section 14.3.5, Groundwater Systems. Section 14.3.6, Environmental, Social and Cultural Values.
	<p>Ensure the data obtained from the groundwater survey is sufficient to enable specification of the major ionic species, pH, electrical conductivity, total dissolved solids and any potentially toxic or harmful substances. Describe the environmental values of the underground waters of the affected area in terms of:</p>	
	<ul style="list-style-type: none"> <li>Values identified in the Environmental Protection (Water) Policy.</li> </ul>	Section 14.3.6, Environmental, Social and Cultural Values.
	<ul style="list-style-type: none"> <li>Sustainability, including both quality and quantity.</li> </ul>	Section 14.3.6, Environmental, Social and Cultural Values.
	<ul style="list-style-type: none"> <li>Physical integrity, fluvial processes and morphology of groundwater resources.</li> </ul>	Figure 14.4, Groundwater resources accessed by registered bores within the project development area. Section 14.3.3, Groundwater-Dependent Ecosystems. Section 14.3.5, Groundwater Systems. Section 14.3.6, Environmental, Social and Cultural Values.

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
4.5.2	<b>Potential Impacts and Mitigation Measures</b>	
	Assess potential impacts on water resource environmental values identified in the previous section.	Section 14.4, Issues and Potential Impacts. Section 15.4, Issues and Potential Impacts. Section 16.4, Issues and potential Impacts.
	Define and describe the objectives and practical measures for protecting or enhancing water resource 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.	Section 14.5, Environmental, Social and Cultural Protection Objectives. Section 14.6, Mitigation, Monitoring and Management Measures. Section 14.8, Inspection and Monitoring. Section 15.5, Environmental Protection Objectives.
	Describe the possible environmental harm caused by the proposed project to environmental values for water as expressed in the Environmental Protection (Water) Policy. The DERM operational policy Waste Water Discharge to Queensland Waters may be consulted for guidance on how discharge proposals will be assessed.	Section 14.4, Issues and Potential Impacts. Section 15.4, Issues and Potential Impacts. Section 15.4.1, Construction (controlled and uncontrolled releases of coal seam gas water and hydrotest fluids). Section 15.4.2, Operation (controlled and uncontrolled releases of coal seam gas water and hydrotest fluids).
	Where a licence or permit will be required under the Water Act 2000 to take water or interfere with the flow of water, provide sufficient information and assessment for the administering authority to consider the suitability of approving any necessary works under the Water Act 2000. Similarly, waterway barrier works may need approval under the Fisheries Act 1994 and, if so, should be addressed.	Section 14.1, Legislative Context. Section 14.4, Issues and Potential Impacts. Section 14.6, Mitigation, Monitoring and Management Measures. Section 16.1, Legislative Context. Section 16.6.4, Reduced Movement of Aquatic Biota.
	Describe water management controls, addressing surface and groundwater quality, quantity, drainage patterns and sediment movements. Discuss the beneficial (environmental, production and recreational) use of nearby surface and groundwater, along with the proposal to divert any affected creeks, and stabilising those works.	Section 14.6, Mitigation, Monitoring and Management Measures. Section 14.8, Inspection and Monitoring. Section 15.5, Environmental Protection Objectives. Section 15.6, Avoidance, Mitigation and Management Measures. Section 15.6.1, General Mitigation Measures.
	Describe monitoring programs that will assess the effectiveness of management strategies for protecting water quality during the construction, operation and decommissioning of the project. Key water management strategy objectives include:	Section 14.6, Mitigation, Monitoring and Management Measures. Section 14.8, Inspection and Monitoring. Section 15.8, Inspection and Monitoring.
	<ul style="list-style-type: none"> <li>Protecting the integrity of the marine environment, and ultimately the Great Barrier Reef Marine Park and World Heritage property.</li> </ul>	Section 16.3.2, Environmentally Sensitive Areas.

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
4.5.2	<ul style="list-style-type: none"> <li>Protecting important local aquifers and protection of their waters.</li> </ul>	Section 14.6, Mitigation, Monitoring and Management Measures. Section 14.8, Inspection and Monitoring.
	<ul style="list-style-type: none"> <li>Maintaining sufficient quantity and quality of surface waters to protect existing beneficial downstream uses of those waters including maintenance of in-stream biota and the littoral zone.</li> </ul>	Section 15.5, Environmental Protection Objectives. Section 15.6, Avoidance, Mitigation and Management Measures. Section 15.8, Inspection and Monitoring. Section 16.4, Issues and Potential Impacts. Section 16.5, Environmental Protection Objectives. Section 16.6, Avoidance, Mitigation and Management Measures.
	<ul style="list-style-type: none"> <li>Minimising impacts on flooding levels and frequencies both upstream and downstream of the project.</li> </ul>	Section 15.6.3, Mitigations for Changes to Hydrology. Section 15.8, Inspection and Monitoring.
	<p>Conduct a risk assessment, based on conservative water quality estimates and hydrology, for uncontrolled emissions to water due to system or catastrophic failure, implications of such emissions for human health and natural ecosystems. Also provide detailed mitigation measures to prevent, minimise and contain impacts.</p>	Section 15.6.4, Mitigations for Surface Water Quality Degradation. Section 15.7.4, Summary of Residual Impacts. Section 25.4.2, Issues Identified Through Qualitative Risk Assessment. Section 25.6.3, Specific Controls. Section 25.7, Assessment of Residual Impacts.
4.5.2.1	<p><b>Surface Water and Water Courses</b></p>	
	<p>Discuss the potential environmental harm to the flow and the quality of surface waters from all phases of the project, with particular reference to their suitability for the current and potential downstream uses, including the requirements of any affected riparian area, wetland, estuary, littoral zone, and any marine and instream biological uses. Consider the impacts of surface water flow on existing infrastructure with reference to the Environmental Protection (Water) Policy 1997 and Water Act 2000.</p>	Section 15.3.4, Water Use. Section 15.6.3, Mitigations for Changes to Hydrology. Section 15.6.4, Mitigations for Surface Water Quality Degradation.
<p>Assess the hydrological impacts of the project, particularly with regard to the various components of flow. Address stream diversions (whether temporary or permanent), any changes to overland flows due to works or infrastructure, scouring and erosion, the consequent impacts of subsidence, and changes to flooding levels and frequencies both upstream and downstream of the project. Address in the appropriate sections any consequential impacts of changes to water flow or groundwater recharge on ecosystems and species. When flooding levels will be affected, provide modelling of afflux and illustrate with maps.</p>	Section 14.4.3, Surface Activities. Section 14.7.4, Reduced Aquifer Recharge and Altered Groundwater Flow Patterns. Section 15.4, Issues and Potential Impacts.	

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
4.5.2.1	Provide a risk assessment of the potential impacts on all local and downstream waters due to any controlled or uncontrolled discharges from the site. If controlled discharges are proposed, (a) stream flow data will be used in combination with proposed discharge rates to estimate in-stream dilution and water quality and (b) assessment should be provided of the available assimilative capacity of the receiving waters given existing background levels and other potential point source discharges in the catchment. Investigate options for controlled discharge under times of natural stream flow to ensure that adequate flushing of waste water is achieved.	Section 15.6.4, Mitigations for Surface Water Quality Degradation.
	Ensure quality characteristics discussed are appropriate to the downstream and upstream water uses that may be affected. Discuss chemical and physical properties of any waste water (including concentrations of constituents) at the point of entering natural surface waters, along with toxicity of effluent constituents to human health, and plants and animals.	Section 5.2.4, Water Treatment and Storage Facilities. Section 12.4.4, Issues Specifically Associated with Contaminated Land. Section 16.4, Issues and Potential Impacts. Section 17.4, Issues and Potential Impacts.
	Make reference to the properties of the land disturbed and processing plant wastes, the technology for settling suspended clays from contaminated water, and the techniques to be employed to ensure that contaminated water is contained and successfully treated on the site. Make an assessment of the potential impacts of applying saline waters to land to suppress dust over the lifetime of the project, or disposing of water from storages.	Section 5.6.4, Coal Seam Gas Water and Brine Management. Section 12.4.2, Operations. Section 12.4.4, Issues Specifically Associated with Contaminated Land. Section 12.6.2, Land Degradation.
	In relation to water supply and usage, and wastewater disposal, discuss anticipated flows of water to and from the project area. Where dams, weirs or ponds are proposed, describe the intended capacity of the storages, the source and the quality of water they contain. Investigate the effects of predictable climatic extremes (storm events, floods and droughts) on the capacity of the dams to retain contaminants, the structural integrity of the containing walls, the quality of water contained, and the flows and quality of water discharged. In the design of all water storage facilities follow the current technical guidelines on site water management.	Section 5.2.3, Production Facilities. Section 5.2.4, Water Treatment and Storage Facilities (Water Storage Dams). Section 5.2.4, Water Treatment and Storage Facilities (Water Treatment Facilities). Section 5.2.4, Water Treatment and Storage Facilities (Brine Storage Dams). Section 5.5.2, Gas and Water Gathering Systems (Hydro-testing). Section 5.5.4, Water Treatment and Storage Facilities.
	Discuss the need or otherwise for licensing of any dams (including referable dams) or creek diversions under the Water Act 2000. Establish water allocation and water sources in consultation with DERM. Assess the impacts on water resources of any dams and roads and other infrastructure related to the project and propose management measures for identified impacts.	Section 5.2.4, Water Treatment and Storage Facilities (Water Storage Dams). Section 5.5.6, High-pressure Gas Transport Pipelines (Pipeline Crossing Construction Methods). Section 5.6.4, Coal Seam Gas Water and Brine Management (Substitution of Allocations).

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

<b>ToR Section</b>	<b>ToR Title and Details</b>	<b>EIS cross-reference</b>
4.5.2.1	With regard for the requirements of the Environmental Protection (Water) Policy, present the methods to avoid stormwater contamination by raw materials, wastes or products and present the means of containing, recycling, reusing, treating and disposing of stormwater. Where no-release water systems are to be used, discuss the fate of salts and particulates derived from intake water.	Section 26.6, Avoidance, Mitigation and Management Measures.
	Use the Australian Water Quality Guidelines for Fresh and Marine Waters (ANZECC, 2000; ARMCANZ, 2000), Queensland Water Quality Guidelines for Fresh and Marine Waters (2009), and the Environmental Protection (Water) Policy 2009 as a reference for evaluating the effects of various levels of contamination.	Section 15.1, Legislative Context, Policies and Standards.
	Discuss options for mitigation and the effectiveness of mitigation measures, with particular reference to sediment, acidity, salinity and other emissions of a hazardous or toxic nature to human health, plants and animals. Where it is proposed that creeks will be diverted, detail how rehabilitation will affect both the physical and ecological condition of the creek's bed and banks and the quality of water in it. Describe the monitoring that will be undertaken after decommissioning, and who will have responsibility for management measures and corrective action to ensure that rehabilitated creeks do not degrade.	Section 12.6, Avoidance, Mitigation and Management Measures. Section 15.6.1, General Mitigation Measures. Section 15.6.2, Mitigations for Changes to Physical Form. Section 15.6.4, Mitigations for Surface Water Quality Degradation.
4.5.2.2	<p><b>Groundwater</b></p> <p>Include an assessment of the potential environmental harm caused by the project to local groundwater resources.</p>	<p>Section 14.4, Issues and Potential Impacts.</p> <p>Figure 14.10, Predicted groundwater drawdown contours in the Condamine Alluvium (modelling scenario 1 – Arrow only).</p> <p>Figure 14.11, Predicted groundwater drawdown contours in the Kumbarilla Beds (modelling scenario 1 – Arrow only).</p> <p>Figure 14.9, Predicted groundwater drawdown contours in the Juandah Coal Measures (modelling scenario 1 – Arrow only).</p> <p>Figure 14.12, Predicted groundwater drawdown contours in the Hutton Sandstone (modelling scenario 1 – Arrow only).</p> <p>Figure 14.13, Predicted groundwater drawdown contours in the Precipice Sandstone (modelling scenario 1 – Arrow only).</p>

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

<b>ToR Section</b>	<b>ToR Title and Details</b>	<b>EIS cross-reference</b>
<b>4.5.2.2</b>	In the impact assessment define the extent of the area where groundwater resources are likely to be affected by the proposed operations. It should assess the significance of the project to groundwater depletion or recharge, potential for impacts across or from aquifer to aquifer, and propose management options available to monitor and mitigate these effects. Describe the response of the groundwater resource to the progression and eventual cessation of the project.	Section 14.4, Issues and Potential Impacts. Figure 14.10, Predicted groundwater drawdown contours in the Condamine Alluvium (modelling scenario 1 – Arrow only). Figure 14.11, Predicted groundwater drawdown contours in the Kumberilla Beds (modelling scenario 1 – Arrow only). Figure 14.9, Predicted groundwater drawdown contours in the Juandah Coal Measures (modelling scenario 1 – Arrow only). Figure 14.12, Predicted groundwater drawdown contours in the Hutton Sandstone (modelling scenario 1 – Arrow only). Figure 14.13, Predicted groundwater drawdown contours in the Precipice Sandstone (modelling scenario 1 – Arrow only) Section 14.5, Environmental, Social and Cultural Protection Objectives. Section 14.6, Mitigation, Monitoring and Management Measures. Section 14.7, Residual Impacts. Section 14.8, Inspection and Monitoring.
	Undertake an assessment of the impact of the project on the local ground water regime caused by the altered porosity and permeability of any land disturbance.	Section 14.4, Issues and Potential Impacts. Section 14.6, Mitigation, Monitoring and Management Measures. Section 14.7, Residual Impacts. Section 14.8, Inspection and Monitoring.
	Undertake an assessment of the potential to contaminate groundwater resources including, but not limited to, surface storage of untreated associated water/residual brine and cross-contamination between aquifers. Discuss measures to prevent, mitigate and remediate such contamination.	Section 12.6.3, Land Contamination. Section 14.4, Issues and Potential Impacts. Section 14.6, Mitigation, Monitoring and Management Measures. Section 14.7, Residual Impacts. Section 14.8, Inspection and Monitoring. Section 26.6, Avoidance, Mitigation and Management Measures.

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

<b>ToR Section</b>	<b>ToR Title and Details</b>	<b>EIS cross-reference</b>
<b>4.6</b>	<b><i>Air</i></b>	
<b>4.6.1</b>	<b><i>Description of Environmental Values</i></b>	
	<p>Describe the existing air environment that may be affected by the project. The following topics may be addressed (the topics are not an exhaustive treatment of all possible impacts):</p> <ul style="list-style-type: none"> <li>• Provide a description of the existing airshed environment, having particular regard for particulates and gaseous and odorous compounds.</li> <li>• Discuss the background levels and sources of suspended particulates, SO<sub>x</sub>, NO<sub>x</sub>, and any other relevant constituent, whether major or minor, of the air environment that may be affected by the project.</li> <li>• Gather sufficient data on local meteorology and ambient levels of contaminants to provide a baseline for later studies or for the modelling of air quality environmental impacts within the airshed.</li> <li>• Include the parameters of air temperature, wind speed and direction, atmospheric stability, mixing depth and others necessary for input to the models.</li> <li>• Describe the environmental values of the airshed for the affected area(s) in terms of the Environmental Protection (Air) Policy 2008 (EPP (Air)).</li> </ul>	Section 9.3, Existing Environment and Environmental Values.
<b>4.6.2</b>	<b><i>Potential Impacts and Mitigation Measures</i></b>	
	<p>Define and describe the objectives and practical measures for protecting or enhancing environmental values for air. Describe how nominated quantitative standards and indicators may be achieved, and how the achievement of the objectives will be monitored, audited and managed. Submit information on the use of new technologies to reduce air emissions from the stack(s) or other emission sources.</p>	<p>Section 9.3.5, Environmental Values. Section 9.5, Environmental Protection Objectives. Section 9.6, Avoidance, Mitigation and Management Measures.</p>
	<p>Model the emissions using a recognised atmospheric dispersion model. State the objectives for air emissions and compare to the modelling results, in accordance with relevant standards (such as for stack or ground-level concentrations), relevant emission guidelines, and any relevant legislation. Detail the potential for interaction between the emissions from the processing plant and emissions in the airshed, and the likely environmental harm from any such interaction.</p>	<p>Section 9.4, Issues and Potential Impacts. Section 28.3.1, Air Quality.</p>

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
4.6.2	Where appropriate, provide the predicted ground-level concentrations in nearby areas. Make these predictions for both normal and expected maximum emission conditions and identify and model the worst-case meteorological conditions, where necessary. Make ground-level predictions at any residential, industrial and agricultural developments believed to be sensitive to the effects of predicted emissions. Reference the techniques used to obtain the predictions, and explain key assumptions and data sets. Address the assessment of the project's impact on air quality, at least for the following matters:	Section 9.4, Issues and Potential Impacts.
	<ul style="list-style-type: none"> <li>• An accurate description of the activities carried out on the project area.</li> <li>• An assessment of the effects of air emissions during construction and operations on air environmental values, particularly as they relate to human health.</li> </ul>	Section 9.4, Issues and Potential Impacts.
	<ul style="list-style-type: none"> <li>• A description of the pollution control equipment and pollution control techniques to be employed on the premises and the features of the project designed to suppress or minimise emissions, including dusts and odours.</li> <li>• A description of the back-up measures to be incorporated that will act in the event of failure of primary measures to minimise the likelihood of plant upsets and adverse air impacts.</li> </ul>	Section 9.6, Avoidance, Mitigation and Management Measures.
	Provide an air emission inventory of the proposed activities, including the site for all potential point, line, area and volume sources, including fugitive emissions. Provide a separate air emission inventory of any offsite activities directly associated with the project, including fugitive emissions such as from rail or road transport of product or wastes.	Section 9.4.1, Emission Sources.
	Provide a complete list of emissions to the atmosphere. The list should address SO <sub>x</sub> , NO <sub>x</sub> , VOC, CO, CO <sub>2</sub> , particulates (including dust), PM <sub>10</sub> , PM <sub>2.5</sub> , trace metals, odours and any toxic, persistent and/or hazardous substances that would be emitted by the project. Present the concentrations of all components of emissions at standard temperature and pressure, and provide the mass emission rate, exit velocity, volume flow rate and temperature at exit. Also, specify the oxygen content of the flue gases.	Section 9.2.2, Impact Study Method. Section 9.4, Issues and Potential Impacts. Section 10.4, Issues and Potential Impacts. Appendix C, Air Quality Impact Assessment.
	Where possible, base estimates of emission rates on actual measurements from samples taken from similar facilities, preferably full-scale facilities operating elsewhere or otherwise from experimental or demonstration-scale facilities. Where this is not possible, use published emission factors and/or data supplied by manufacturers of process and control equipment. The proposed level of emissions must be compared with the best practice national and international source emission standards.	Section 9.4.4, Emission Rates.

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
4.6.2	<p>For other than insignificant emissions, undertake an impact assessment with relevant inputs of emissions and local meteorology using an air dispersion model to provide estimates of the likely impacts on the surrounding environment. The model inputs should be as detailed as possible, reflecting any variation of emissions with time and including at least a full year of representative hourly meteorological data. The model input parameters must be based on the actual stack conditions for the licence conditions. Provide stack parameters such as stack height, diameter, temperature, exit velocity and volume flow rate. Estimate ground-level concentration (GLC) at the nearest sensitive receptor(s) based on one-hour average for maximum (99.9 percentile) and 99.5 percentile values. Results of the dispersion modelling must be presented as concentration contour plots and frequency contour plots. Make the predicted average ground-level concentration for both normal and expected maximum emission conditions and identify and model the worst-case meteorological conditions, where necessary. Ground-level predictions should be made at any residential, industrial and agricultural developments believed to be sensitive to the effects of predicted emissions. Reference the techniques used to obtain the predictions, and explain key assumptions and data sets.</p>	<p>Section 9.2.2, Impact Study Method. Section 9.4, Issues and Potential Impacts.</p>
	<p>Evaluate the cumulative impacts of the proposed emissions on the receiving environment by considering the project in conjunction with existing and known likely future emission sources within the region. Describe airshed management and the project's contribution to airshed capacity in view of existing and future users of the airshed for assimilating and dispersing emissions.</p>	<p>Section 28.3.1, Air Quality.</p>
	<p>Identify 'worst case' emissions that may occur at start-up, shut-down or during 'upset' operating conditions. If these emissions are significantly higher than those for normal operations, it will be necessary to evaluate the worst-case impact as a separate exercise to determine whether any planned buffer distance(s) between the facility and neighbouring sensitive receptors will be adequate.</p>	<p>Section 9.4, Issues and Potential Impacts.</p>
	<p>If odour could be an issue, conduct an odour impact assessment using the criteria described in the DERM Guideline, Odour Impact Assessment from Developments. The guideline sets out various approaches to assess potential impacts from development proposals, and provides for the use of air dispersion modelling as a tool to predict ground-level odour concentrations. Comparison must be made with guideline values to determine the likelihood of adverse odour impacts.</p>	<p>Section 9.3.3, Relevant Pollutants.</p>

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
4.6.2	<p>Ensure the averaging period for ground-level concentrations of contaminants that are modelled is consistent with the relevant averaging periods for air quality indicators and goals in the Environmental Protection (Air) Policy 2008 and the National Environmental Protection Measure (NEPM) Air. For example, the modelling of sulfur dioxide must be conducted for one-hour, 24-hour and annual averaging periods.</p> <p>Compare modelled air quality concentrations at the most exposed existing or likely future offsite sensitive receptors with the appropriate national and international ambient air quality standards including the Environmental Protection (Air) Policy 2008 and the National Environmental Protection Council (Ambient Air Quality) Measure.</p>	Section 9.4, Issues and Potential Impacts.
	To assess chemical species not listed in the EPP (Air), use risk factors and best practice design criteria published by other jurisdictions.	Noted.
	Assess the human health risk of all hazardous or toxic contaminants associated with emissions from the facility to determine whether they are, or are not, covered by the National Environmental Protection Council (Ambient Air Quality) Measure or the Environmental Protection (Air) Policy 2008.	Section 9.3.3, Relevant Pollutants.
	Where there is no single atmospheric dispersion model able to handle the different atmospheric dispersion characteristics exhibited in the project area (including strong convection, terrain features, temperature inversions and contaminant recirculation), apply a combination of acceptable models.	Section 9.4, Issues and Potential Impacts.
	Discuss the limitations and accuracy of the applied atmospheric dispersion models.	Section 9.2.2, Impact Study Method.
	Evaluate the extent to which any significant nitrogen oxides and volatile organic compounds emissions from the project and existing emission sources within the region will contribute to generating photochemical smog.	Section 9.4.2, Regional Impacts to Ambient Air Quality.
	Evaluate the extent to which any significant sulfur dioxide emissions from the project and existing emission sources within the region will contribute to generating acid rain or acidification of other atmospheric condensation, such as dew.	Section 9.3.3, Relevant Pollutants. Section 9.4.3, Localised Impacts to Ambient Air Quality.
	For any project that does not meet the Environmental Protection (Air) Policy 2008 air quality objectives, undertake a risk assessment of the potential for adverse impacts off site. Risk management strategies should be developed that identify options that will reduce exposure of local communities to levels of indicators that may be of concern and enable the proponent to meet the objectives of Environmental Protection (Air) Policy 2008.	Section 9.4.3, Localised Impacts to Ambient Air Quality. Section 9.6, Avoidance, Mitigation and Management Measures.

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
<b>4.6.3</b>	<b><i>Greenhouse Gas Emissions</i></b>	
<b>4.6.3.1</b>	<b><i>Greenhouse Gas Inventory</i></b>	
	Detail the applicable international, national and state regulatory framework for greenhouse gas emissions, and which regulations would apply to emission sources associated with the proposed development.	Section 10.1, Legislative Context.
	Provide an inventory of projected annual emissions for each relevant greenhouse gas, with total emissions expressed in 'CO2 equivalent' (using global warming potentials defined in current National Greenhouse and Energy Reporting (NGER) legislation) terms for scope 1, scope 2 and readily identifiable scope 3 (as defined by the World Resources Institute/World Business Council for Sustainable Development Greenhouse Gas Protocol). In determining scope 3 emissions the assessment should confine its consideration to direct associations such as product usage, fuel cycles, associated project fuel usage and third party infrastructure required to export product, provide essential services and manage wastes produced.	Section 10.4.2, Estimation of Impacts.
	Describe methods by which estimates were made.	Section 10.2, Assessment Methods.
	Present the CO2 equivalent emissions as a percentage of Queensland's and Australia's annual greenhouse gas emissions.	Section 10.4.2, Estimation of Impacts.
	Include intended audit and critical review procedures.	Attachment 5 (Section 4.1, Air Quality).
<b>4.6.3.2</b>	<b><i>Greenhouse Gas Abatement</i></b>	
	Propose and assess greenhouse gas abatement measures. Include: <ul style="list-style-type: none"> <li>• A description of the proposed measures (alternatives and preferred) to avoid and/or minimise greenhouse gas emissions directly resulting from activities of the project, including such activities as transporting products and consumables, and energy use by the project.</li> <li>• An assessment of how the preferred measures minimise emissions and achieve energy efficiency.</li> <li>• A comparison of the preferred measures for emission controls and energy consumption with best practice environmental management in the relevant sector of industry.</li> <li>• A description of any opportunities for further offsetting greenhouse gas emissions through indirect means.</li> </ul>	Section 9.4.4, Emission Rates. Section 10.6, Avoidance, Mitigation and Management Measures.

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

<b>ToR Section</b>	<b>ToR Title and Details</b>	<b>EIS cross-reference</b>
<b>4.6.3.2</b>	<p>Direct means of reducing greenhouse gas emissions could include such measures as:</p> <ul style="list-style-type: none"> <li>• Minimising clearing at the site (which also has imperatives besides reducing greenhouse gas emissions).</li> <li>• Using less carbon-emitting transport modes or fuels.</li> <li>• Integrating transport for the project with other local industries such that greenhouse gas emissions from building and running transport infrastructure are minimised.</li> <li>• Maximising the use of renewable energy sources.</li> <li>• Co-locating coal extraction with coal seam methane used for energy production.</li> </ul>	Section 10.6, Avoidance, Mitigation and Management Measures.
	<p>Indirect means of reducing greenhouse gas emissions could include such measures as:</p> <ul style="list-style-type: none"> <li>• Carbon sequestration at nearby or remote locations, either: <ul style="list-style-type: none"> <li>– Above ground by such means as planting trees and other vegetation to achieve greater biomass than that cleared for the project.</li> <li>– Below ground by geosequestration.</li> </ul> </li> <li>• Carbon trading through recognised markets.</li> </ul>	Section 10.6, Avoidance, Mitigation and Management Measures. Section 10.8, Inspection and Monitoring.
	<p>Include a specific module to address greenhouse abatement. That module should include:</p> <ul style="list-style-type: none"> <li>• Commitments to abate greenhouse gas emissions from the project with details of the intended objectives, measures and performance standards to avoid, minimise and control emissions.</li> <li>• Commitments to manage energy, including undertaking periodic energy audits with a view to progressively improving energy efficiency.</li> <li>• A process for regularly reviewing new technologies to identify opportunities to reduce emissions and use energy efficiently, consistent with best practice environmental management.</li> <li>• Any voluntary initiatives such as projects undertaken as a component of the national Greenhouse Challenge Plus program, or research into reducing the lifecycle and embodied energy carbon intensity of the project's processes or products.</li> <li>• Opportunities for offsetting greenhouse emissions, including, if appropriate, carbon sequestration and renewable energy uses.</li> <li>• Commitments to monitor, audit and report on greenhouse emissions from all relevant activities and the success of offset measures.</li> </ul>	Section 10.6, Avoidance, Mitigation and Management Measures. Section 10.8, Inspection and Monitoring. Attachment 5 (Section 4.1, Air Quality).

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

<b>ToR Section</b>	<b>ToR Title and Details</b>	<b>EIS cross-reference</b>
<b>4.6.3.3</b>	<p><b><i>Climate Change Adaptation</i></b></p> <p>Ensure that the project design is adaptive to climate change so that community resources are not depreciated by projects that would be abandoned or require costly modification before their potential to provide a full return to the community is realised. Provide an assessment of the project's vulnerabilities to climate change and describe possible adaptation strategies for the activity including:</p> <ul style="list-style-type: none"> <li>• A risk assessment of how changing patterns of rainfall and hydrology, temperature, extreme weather and sea level (where appropriate) may affect the viability and environmental management of the project.</li> <li>• The preferred and alternative adaptation strategies to be implemented.</li> <li>• Commitments to undertaking, where practicable, a cooperative approach with government, other industry and other sectors to address adaptation to climate change.</li> </ul>	<p>Section 10.1.2, International Framework. Section 10.1.4, Queensland Strategies and Schemes. Section 10.4.2, Estimation of Impacts. Section 11.4, Issues and Potential Impacts. Section 11.6, Avoidance, Mitigation and Management Measures.</p> <p>Section 11.4, Issues and Potential Impacts.</p> <p>Section 11.6, Avoidance, Mitigation and Management Measures.</p> <p>Section 11.6, Avoidance, Mitigation and Management Measures.</p>
<b>4.7</b>	<b><i>Noise and Vibration</i></b>	
<b>4.7.1</b>	<p><b><i>Description of Environmental Values</i></b></p> <p>Describe the existing environmental values that may be affected by noise and vibration from the project. Environmental values, and acoustic objectives for noise-sensitive receptors, are defined in the Environmental Protection (Noise) Policy 2008.</p> <p>If the proposed activity could adversely impact on the noise environment, undertake baseline monitoring at a selection of sensitive receptors affected by the project. Sensitive receptors are defined in the Environmental Protection (Noise) Policy 2008.</p> <p>Measure background noise levels that take into account seasonal variations.</p> <p>Identify the locations of sensitive receptors on a map at a suitable scale.</p>	<p>Section 20.3, Existing Environment and Environmental Values.</p> <p>Section 20.3.2, Baseline Monitoring.</p> <p>Section 20.2.2, Field Survey. Section 20.3.2, Baseline Monitoring.</p> <p>Section 7.1, Environmental Values. Figure 7.2a, Sensitive receptors (northern project development area) Map 1 of 3. Figure 7.2b, Sensitive receptors (central project development area) Map 2 of 3. Figure 7.2c, Sensitive receptors (southern project development area) Map 3 of 3.</p>

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
4.7.1	Describe the results of any baseline monitoring of noise and vibration in the proposed vicinity of the project.	Section 20.3.2, Baseline Monitoring.
	Gather sufficient data to provide a baseline for later studies. Monitor and report the daily variation of background noise levels at nearby sensitive receptors, with particular regard to detailing variations at different periods of the night.	Section 20.3.2, Baseline Monitoring. Figure 20.2, Measured background noise levels.
	Ensure monitoring methods adhere to accepted best practice methodologies, relevant DERM guidelines and Australian Standards, and any relevant requirements of the Environmental Protection Regulation 2008 and the Environmental Protection (Noise) Policy 2008.	Section 20.3.2, Baseline Monitoring.
	Provide comment on any current activities near the project area that may cause a background level of ground vibration (e.g., major roads, quarrying activities, etc.).	Section 20.2.7, Vibration.
4.7.2	<b>Potential Impacts and Mitigation Measures</b>	
	Define and describe the objectives and practical measures for protecting or enhancing environmental values from impacts by noise and vibration.	Section 20.5, Environmental Protection Objectives.
	Describe how nominated quantitative standards and indicators may be achieved to manage noise and vibration.	Section 20.4.4, Predicted Construction Noise Levels. Section 20.4.5, Predicted Operational Noise Levels. Section 20.6, Avoidance, Mitigation and Management Measures.
	Describe how the achievement of the objectives will be monitored, audited and managed.	Attachment 5 (Section 4.10.3, Noise and Vibration Management).
	In the assessment of noise impacts include matters raised in the document ,The Health Effects of Environmental Noise – Other Than Hearing Loss, published by the Health Council, 2004 (or later editions), ISBN 0 642 82304 9.	Section 20.6, Issues and Potential Impacts.
Submit information, including mapped noise contours from a suitable acoustic model, based on the proposed generation of noise.	Section 20.4.4, Predicted Construction Noise Levels. Section 20.4.5, Predicted Operational Noise Levels. Figure 20.4, Noise contours – with additional acoustic treatment to achieve 28 dB(A) at 1 km. Figure 20.5, Noise contours – with additional acoustic treatment to achieve 28 dB(A) at 2 km. Figure 20.6, Noise contours – with additional acoustic treatment to achieve 28 dB(A) at 3 km.	

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
4.7.2	Quantify the potential environmental harm of noise and vibration at all potentially sensitive receptors in terms of objectives, standards and indicators to be achieved.	Section 20.2.8 Establishment of Assessment Criteria. Section 20.5, Environmental Protection Objectives.
	Give particular consideration to emissions of low frequency noise; that is, noise with components below 200Hz.	Section 20.4.7, Low Frequency Noise.
	In the assessment also include environmental impacts on terrestrial animals and birds, including migratory species.	Section 17.4, Issues and Potential Impacts. Section 17.4.2, Habitat Loss and Degradation and Fauna Mortality. Section 17.4.5, Project Activities with Potential to Impact Ecological Values.
	In the assessment include noise on any nearby protected areas, which are defined as a sensitive receptor in the EPP (Noise). The assessment of impacts on protected areas should address not only the amenity of the areas as required by the EPP (Noise), but also the impacts on animals.	Section 17.4.5, Project Activities with Potential to Impact Ecological Values. Section 17.6.1, General Measures. Section 17.6.3, Habitat Loss, Degradation and Fauna Mortality.
	Provide proposed measures to minimise or eliminate impacts.	Section 20.6, Avoidance, Mitigation and Management Measures.
	In the proposed measures include details and illustrations of any screening, lining, enclosing or bunding.	NA (design specifics for the project are not yet finalised).
	Provide a discussion of timing schedules for construction and operations with respect to minimising environmental nuisance and harm from noise.	Section 20.6.1, Design and Planning.
	Supply information on blasting that might cause ground vibration or fly rock on or adjacent to the site, with particular attention given to places of work, residence, recreation, worship and general amenity.	Section 20.2.8, Establishment of Assessment Criteria. Section 20.4.1, Construction. Section 20.4.2, Operation. Section 20.4.8, Vibration.
	Discuss the magnitude, duration and frequency of any vibration.	Section 20.4.8, Vibration.
	Discuss measures to prevent or minimise environmental nuisance and harm.	Section 20.6, Avoidance, Mitigation and Management Measures.
	Make reference to the DERM Guideline, Noise and Vibration from Blasting.	Section 20.1, Legislative Context and Standards. Section 20.2.1, Desktop Study.
	In the assessment also address offsite noise and vibration impacts that could arise due to increased road or rail transport directly resulting from the project.	Section 20.4.9, Traffic Noise and Vibration.

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
<b>4.8</b>	<b><i>Nature Conservation</i></b>	
<b>4.8.1</b>	<b><i>Description of Environmental Values</i></b>	
	This section describes the existing environmental values for conserving nature that may be affected by the project. Describe the environmental values of nature conservation for the affected area in terms of:	
	<ul style="list-style-type: none"> <li>• Integrity of ecological processes, including habitats of rare and threatened species.</li> </ul>	Section 17.2, Assessment Methods. Section 17.3, Existing Environment and Environmental Values.
	<ul style="list-style-type: none"> <li>• Conserving resources.</li> </ul>	Section 16.6, Avoidance, Mitigation and Management Measures. Section 17.6, Avoidance, Mitigation and Management Measures. Attachment 3, Matters of National Environmental Significance (Section 7, Avoidance, Mitigation and Management Measures).
	<ul style="list-style-type: none"> <li>• Biological diversity, including habitats of rare and threatened species.</li> </ul>	Section 16.3, Existing Environment and Environmental Values. Section 17.3, Existing Environment and Environmental Values. Attachment 3, Matters of National Environmental Significance (Section 4.2, Threatened Ecological Communities).
	<ul style="list-style-type: none"> <li>• Integrity of landscapes and places, including wilderness and similar natural places.</li> </ul>	Section 16.3, Existing Environment and Environmental Values. Section 17.3, Existing Environment and Environmental Values.
	<ul style="list-style-type: none"> <li>• Aquatic and terrestrial ecosystems.</li> </ul>	Section 16.3, Existing Environment and Environmental Values. Section 17.3, Existing Environment and Environmental Values.
	Present a discussion on the nature conservation values of the areas likely to be affected by the project.	Section 16.3.7, Environmental Values. Section 17.3, Existing Environment and Environmental Values.
	Describe the plant and animal communities that 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.	Attachment 3, Matters of National Environmental Significance: <ul style="list-style-type: none"> <li>• Section 4.1, Wetlands of International Importance.</li> <li>• Section 4.2 Threatened Ecological Communities.</li> <li>• Section 4.3, Threatened Flora and Fauna Species.</li> <li>• Section, 4.4 Threatened Migratory Species.</li> </ul>
	Include in the description a plant species list.	Section 16.3.4, Aquatic Flora Species. Section 17.3.3, Terrestrial Flora.

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
4.8.1	Also include 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 DERM (see the draft Regional Nature Conservation Strategy for SE Queensland 2001-2006).	Section 17.3.3, Terrestrial Flora. Figure 17.3a, Regional ecosystems (northern project development area) Map 1 of 3. Figure 17.3b, Regional ecosystems (central project development area) Map 2 of 3. Figure 17.3c, Regional ecosystems (southern project development area) Map 3 of 3.
	Ensure survey effort is sufficient to identify, or adequately extrapolate, the plant and animal values over the seasons, particularly during and following a wet season.	Section 16.2.2, Field Survey. Section 17.2.3 Field Surveys.
	The survey should account for the ephemeral nature of watercourses traversing the project area, and seasonal variation in animal populations.	Section 16.2.2, Field Survey.
	Identify sensitive areas, or areas that may have low resilience to environmental change, near the project or its associated activities.	Section 16.3.2, Environmentally Sensitive Areas. Section 17.3.2, Environmentally Sensitive Areas.
	Areas of special sensitivity include: • Wetlands.	Section 16.3.2, Environmentally Sensitive Areas. Section 17.3.2, Environmentally Sensitive Areas. Attachment 3, Matters of National Environmental Significance (Section 4.1, Wetlands of International Importance). Section 15.3.7, Wetlands.
	• Wildlife breeding or roosting areas.	Section 17.3.5, Summary of Values.
	• Any significant habitat or relevant bird flight paths for migratory species.	Section 17.3.2, Environmentally Sensitive Areas. Attachment 3, Matters of National Environmental Significance (Section 4.1, Wetlands of International Importance).
	• Bat roosting and breeding caves including existing structures such as adits and shafts.	Section 17.3.5, Summary of Terrestrial Ecology Values.

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
4.8.1	<ul style="list-style-type: none"> <li>Habitat of threatened plants, animals and communities.</li> </ul>	<p>Section 16.3, Existing Environment and Environmental Values. Attachment 3, Matters of National Environmental Significance (Section 4.2, Threatened Ecological Communities). Attachment 3, Matters of National Environmental Significance (Section 4.3, Threatened Flora and Fauna Species). Attachment 3, Matters of National Environmental Significance (Section 4.4, Threatened Migratory Species).</p>
	<p>Areas regarded as sensitive with respect to plants and animals have one or more of the following features (and which should be identified, mapped, avoided or effects minimised):</p>	<p>Section 16.6, Avoidance, Mitigation and Management Measures. Section 17.6, Avoidance, Mitigation and Management Measures. Attachment 3, Matters of National Environmental Significance (Section 5.2, Avoidance, Mitigation and Management Measures).</p>
	<ul style="list-style-type: none"> <li>Protected areas, including nature refuges, which have been proclaimed under the Nature Conservation Act 1992 and Marine Parks Act 1982 or are under consideration for proclamation.</li> </ul>	<p>Section 17.3.2, Environmentally Sensitive Areas. Section 17.3.5, Summary of Values. Figure 17.2, Environmentally sensitive areas within the project development area.</p>
	<ul style="list-style-type: none"> <li>Critical habitat identified under the Nature Conservation Act 1992.</li> </ul>	<p>Section 16.3.7, Environmental Values. Section 17.2.2, Habitat Suitability Assessment. Figure 17.4, Core habitat for listed flora and fauna species (mapped).</p>
	<ul style="list-style-type: none"> <li>Vegetation mapped as essential habitat.</li> </ul>	<p>Section 17.2.2, Habitat Suitability Assessment.</p>
	<ul style="list-style-type: none"> <li>Sites listed under international treaties such as Ramsar wetlands and World Heritage areas.</li> </ul>	<p>Section 16.3.2, Environmentally Sensitive Areas. Section 17.3.3, Terrestrial Flora. Attachment 3, Matters of National Environmental Significance (Section 4.1, Wetlands of International Importance).</p>
	<ul style="list-style-type: none"> <li>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, critically endangered, vulnerable or rare.</li> </ul>	<p>Figure 17.4, Core habitat for listed flora and fauna species. Attachment 3, (Section 4.3, Threatened Flora and Fauna Species). Attachment 3, (Section 4.4, Threatened Migratory Species). Figure Att.3: F4.3a, Core habitat for EPBC Act-listed species, Map 1 of 3. Figure Att.3: F4.3b, Core habitat for EPBC Act-listed species, Map 2 of 3. Figure Att.3: F4.3c, Core habitat for EPBC Act-listed species, Map 3 of 3.</p>

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
4.8.1	<ul style="list-style-type: none"> <li>Regional ecosystems listed as 'endangered' or 'of concern' under Queensland legislation, and/or ecosystems listed as presumed extinct, endangered, critically endangered or vulnerable under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999.</li> </ul>	<p>Section 17.3.3, Terrestrial Flora.</p> <p>Figure 17.3a, Regional ecosystems (northern project development area) Map 1 of 3.</p> <p>Figure 17.3b, Regional ecosystems (central project development area) Map 2 of 3.</p> <p>Figure 17.3c, Regional ecosystems (southern project development area) Map 3 of 3.</p> <p>Attachment 3, Matters of National Environmental Significance (Section 4.2, Threatened Ecological Communities).</p> <p>Figure Att.3: F4.1a, EPBC Act-listed communities within the project development area, Map 1 of 3.</p> <p>Figure Att.3: F4.1b, EPBC Act-listed communities within the project development area, Map 2 of 3.</p> <p>Figure Att.3: F4.1c, EPBC Act-listed communities within the project development area, Map 3 of 3.</p>
	<ul style="list-style-type: none"> <li>Good representative examples of remnant regional ecosystems or regional ecosystems which are described as having 'medium' or 'low' representation in the protected area estate as defined in the regional ecosystem description database (REDD) available at DERM's website.</li> </ul>	<p>Section 17.3.3, Terrestrial Flora.</p> <p>Attachment 3, Matters of National Environmental Significance (Section 4.2, Threatened Ecological Communities).</p> <p>Figure Att.3: F4.1a, EPBC Act-listed communities within the project development area, Map 1 of 3.</p> <p>Figure Att.3: F4.1b, EPBC Act-listed communities within the project development area, Map 2 of 3.</p> <p>Figure Att.3: F4.1c, EPBC Act-listed communities within the project development area, Map 3 of 3.</p>
	<ul style="list-style-type: none"> <li>High-value regrowth vegetation.</li> </ul>	<p>Section 17.3.3, Terrestrial Flora.</p> <p>Figure Att.3: F4.1a, EPBC Act-listed communities within the project development area, Map 1 of 3.</p> <p>Figure Att.3: F4.1b, EPBC Act-listed communities within the project development area, Map 2 of 3.</p> <p>Figure Att.3: F4.1c, EPBC Act-listed communities within the project development area, Map 3 of 3).</p>

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
4.8.1	<ul style="list-style-type: none"> <li>Sites containing near-threatened or bioregionally significant species or essential, viable habitat for near-threatened or bioregionally significant species.</li> </ul>	Section 17.3.3, Terrestrial Flora. Figure 17.4, Core habitat for listed flora and fauna species (mapped). Figure Att.3: F4.3a, Core habitat for EPBC Act-listed species, Map 1 of 3. Figure Att.3: F4.3b, Core habitat for EPBC Act-listed species, Map 2 of 3. Figure Att.3: F4.3c, Core habitat for EPBC Act-listed species, Map 3 of 3.
	<ul style="list-style-type: none"> <li>Sites in, or adjacent to, areas containing important resting, feeding or breeding sites for migratory species of conservation concern listed under the Environment Protection and Biodiversity Act 1999, and/or Convention of Migratory Species of Wild Animals, and/or bilateral agreements between Australia and Japan (JAMBA), Australia and China (CAMBA), or Australia and the Republic of Korea (ROKAMBA).</li> </ul>	Section 17.3.2, Environmentally Sensitive Areas. Section 17.3.3, Terrestrial Flora. Section 17.3.5, Summary of Terrestrial Ecology Values. Figure 17.4, Core habitat for listed flora and fauna species. Attachment 3, (Section 4.1, Wetlands of International Importance). Attachment 3, (Section 4.4, Threatened Migratory Species). Figure Att.3: F4.3a, Core habitat for EPBC Act-listed species, Map 1 of 3. Figure Att.3: F4.3b, Core habitat for EPBC Act-listed species, Map 2 of 3. Figure Att.3: F4.3c, Core habitat for EPBC Act-listed species, Map 3 of 3.
	<ul style="list-style-type: none"> <li>Sites adjacent to nesting beaches, feeding, resting or calving areas of species of special interest, e.g., marine turtles and cetaceans.</li> </ul>	NA.
	<ul style="list-style-type: none"> <li>Sites containing common species that represent a distributional limit and are of scientific value, or which contain feeding, breeding, resting areas for populations of echidna, koala, platypus and other species of special cultural significance.</li> </ul>	Section 17.3.4, Terrestrial Fauna. Section 17.6, Listed fauna species identified in the project development area.
	<ul style="list-style-type: none"> <li>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 that may contain:</li> </ul>	Section 16.3, Existing Environment and Environmental Value. Section 17.3, Existing Environment and Environmental Values.
	<ul style="list-style-type: none"> <li>– Natural vegetation in good condition or other habitat in good condition (including wetlands).</li> </ul>	Section 16.3, Existing Environment and Environmental Value. Section 17.3, Existing Environment and Environmental Values.
	<ul style="list-style-type: none"> <li>– 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.</li> </ul>	Section 16.3, Existing Environment and Environmental Value. Section 17.3, Existing Environment and Environmental Values.
	<ul style="list-style-type: none"> <li>A site containing other special ecological values; e.g., high habitat diversity and areas of high endemism.</li> </ul>	Section 16.3, Existing Environment and Environmental Value. Section 17.3, Existing Environment and Environmental Values.

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
4.8.1	<ul style="list-style-type: none"> <li>Ecosystems that provide important ecological functions such as wetlands of national, state and regional significance, such as coral reefs, riparian vegetation, or an important buffer to a protected area, or important habitat corridor between areas.</li> </ul>	Section 16.3.2, Environmentally Sensitive Areas. Section 17.3.3, Terrestrial Flora. Section 17.3.5, Summary of Values. Attachment 3, (Section 4.1, Wetlands of International Importance). Figure Att.3: F4.3a, Core habitat for EPBC Act-listed species, Map 1 of 3. Figure Att.3: F4.3b, Core habitat for EPBC Act-listed species, Map 2 of 3. Figure Att.3: F4.3c, Core habitat for EPBC Act-listed species, Map 3 of 3.
	<ul style="list-style-type: none"> <li>Sites of palaeontologic significance such as fossil sites.</li> </ul>	Section 17.3.3, Terrestrial Flora. Section 12.3.5, Specific Sites of Geoheritage Environmental Significance. Figure 12.2, Surface geology of the project development area and environs.
	<ul style="list-style-type: none"> <li>Sites of geomorphological significance, such as lava tubes or karst.</li> </ul>	Section 12.3.2, Landform. Figure 12.1, Ground investigation locations.
	Also reference the Queensland Vegetation Management Act 1999 and the findings of any regional vegetation management plan.	Section 16.1, Legislative Context. Section 17.1, Legislative Context. Attachment 3, (Section 4.2, Threatened Ecological Communities).
	Describe the occurrence of pest plants and animals in the project area.	Section 16.3, Existing Environment and Environmental Values. Section 17.3.3, Terrestrial Flora. Section 17.3.4, Terrestrial Fauna.
4.8.1.1	<p><b>Terrestrial Vegetation</b></p> <p>Provide a map of terrestrial vegetation at a suitable scale with descriptions of the units mapped. Sensitive or important vegetation types should be highlighted, including riparian vegetation, and their value as animal habitat and conservation of specific rare plant and animal assemblages or community types.</p>	Figure 12.1, Environmentally sensitive areas within the project development area. Figure 17.4, Core habitat for listed flora and fauna species. Figure 17.5, Listed flora species identified in the project development area. Figure 17.6, Listed fauna species identified in the project development area. Figure 17.7, Areas identified with a sensitivity ranking of extremely high. Figure 17.8, Areas identified with a sensitivity ranking of high. Attachment 3, Matters of National Environmental Significance.

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
4.8.1.1		<p>Figure Att.3: F4.1a, EPBC Act-listed communities within the project development area, Map 1 of 3.</p> <p>Figure Att.3: F4.1b, EPBC Act-listed communities within the project development area, Map 2 of 3.</p> <p>Figure Att.3: F4.1c, EPBC Act-listed communities within the project development area, Map 3 of 3.</p> <p>Figure 17.3a, Regional ecosystems (northern project development area) Map 1 of 3.</p> <p>Figure 17.3b, Regional ecosystems (central project development area) Map 2 of 3.</p> <p>Figure 17.3c, Regional ecosystems (southern project development area) Map 3 of 3.</p>
	Specifically address the existence of rare or threatened species. 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.	<p>Section 17.3.3, Terrestrial Flora.</p> <p>Section 17.3.4, Terrestrial Fauna.</p> <p>Attachment 3, Matters of National Environmental Significance (Section 4.3, Threatened Flora and Fauna Species).</p> <p>Attachment 3, Matters of National Environmental Significance (Section 4.4, Threatened Migratory Species).</p>
	Show the location of any horticultural crops in the vicinity of the site.	<p>Section 13.3.5, Agricultural Activities.</p> <p>Figure 13.1, Selected agricultural statistics for the Darling Downs.</p> <p>Figure 4.11, Potential strategic cropping land within and surrounding the project development area.</p> <p>Figure 4.10, Good-quality agricultural land within and surrounding the project development land.</p>
	Discuss the existence of important local and regional weed species (including declared species under the Land Protection (Pest and Stock Route Management) Act (Qld) 2002, and environmental or problem weed species identified within Commonwealth, Queensland or local government pest management plans).	<p>Section 17.3.3, Terrestrial Flora.</p>

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
4.8.1.1	<p>Provide vegetation mapping for all relevant project sites, including new transport infrastructure, port facilities and irrigation land if relevant. Also map adjacent areas to illustrate interconnectivity. Mapping should illustrate any larger scale interconnections between areas of remnant or regrowth vegetation where the project site includes a corridor connecting those other areas.</p>	<p>NA (as project sites not final). Mapping that has taken place:</p> <ul style="list-style-type: none"> <li>• Figure 17.3a, Regional ecosystems (northern project development area) Map 1 of 3.</li> <li>• Figure 17.3b, Regional ecosystems (central project development area) Map 2 of 3.</li> <li>• Figure 17.3c, Regional ecosystems (southern project development area) Map 3 of 3.</li> <li>• Figure 17.7, Areas identified as extremely sensitive.</li> <li>• Figure 17.8, Areas identified as highly sensitive.</li> </ul>
	<p>Describe the terrestrial vegetation communities within the affected areas at an appropriate scale with mapping produced from aerial photographs and ground truthing, showing the following:</p> <ul style="list-style-type: none"> <li>• Location and extent of vegetation types using DERM's regional ecosystem type descriptions in accordance with the REDD.</li> </ul>	<p>Section 17.3.3, Terrestrial Flora. Figure 17.3a, Regional ecosystems (northern project development area) Map 1 of 3. Figure 17.3b, Regional ecosystems (central project development area) Map 2 of 3. Figure 17.3c, Regional ecosystems (southern project development area) Map 3 of 3.</p>
	<ul style="list-style-type: none"> <li>• Location of vegetation types of conservation significance based on DERM's regional ecosystem types and occurrence of species listed as protected plants under the Nature Conservation (Wildlife) Regulation 2006 and any subsequent amendments, as well as areas subject to the Vegetation Management Act 1999.</li> </ul>	<p>Section 17.3.3, Terrestrial Flora. Figure 17.3a, Regional ecosystems (northern project development area) Map 1 of 3. Figure 17.3b, Regional ecosystems (central project development area) Map 2 of 3. Figure 17.3c, Regional ecosystems (southern project development area) Map 3 of 3. Figure 17.5, Listed flora identified in the project development area.</p>

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
4.8.1.1	<ul style="list-style-type: none"> <li>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).</li> </ul>	Section 17.3.3, Terrestrial Flora. Section 17.1, Legislative Context. Section 17.3.2, Environmentally Sensitive Areas. Figure 17.2, Environmentally sensitive areas within the project development area. Section 17.3.5, Summary of Terrestrial Ecology Values. Figure 17.7, Areas identified with a sensitivity ranking of extremely high. Figure 17.8, Areas identified with a sensitivity ranking of high.
	<ul style="list-style-type: none"> <li>Any plant communities of cultural, commercial or recreational significance.</li> </ul>	Section 17.3.1, Regionally significant species. Section 17.3.5, Summary of Terrestrial Ecology Values. Figure 17.8, Areas identified with a sensitivity ranking of high. Section 17.1, Legislative Context. Appendix K, Terrestrial Ecology Impact Assessment.
	<ul style="list-style-type: none"> <li>Location and abundance of any exotic or weed species (including declared species under the Land Protection (Pest and Stock Route Management) Act 2002, and environmental or problem weed species identified within Commonwealth, Queensland or local government pest management plans).</li> </ul>	Section 17.3.3, Terrestrial Flora Section 17.2.3, Field Surveys.
	Within each defined (standard system) vegetation community that has been identified through extensive desktop study as being impacted or potentially impacted by the development, survey a minimum of three sites (numbers should be discussed with DERM) for plant species, as follows:	Section 17.2.3, Field Surveys.
	<ul style="list-style-type: none"> <li>Site data should be recorded using the Queensland Herbarium methodology and proformas in the latest version of the Methodology for survey and mapping of regional ecosystems and vegetation communities in Queensland (DERM, 2005).</li> </ul>	Section 17.2.3, Field Surveys.
	<ul style="list-style-type: none"> <li>The minimum site size should be 10 by 50 m.</li> </ul>	Section 17.2.3, Field Surveys.
	<ul style="list-style-type: none"> <li>A complete list of species present at each site should be recorded.</li> </ul>	Section 17.2.3, Field Surveys.
	<ul style="list-style-type: none"> <li>The relative abundance of plant species present should be recorded.</li> </ul>	Section 17.2.3, Field Surveys.
	<ul style="list-style-type: none"> <li>Any plant species of conservation, cultural, commercial or recreational significance should be identified.</li> </ul>	Section 17.2.3, Field Surveys.

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

<b>ToR Section</b>	<b>ToR Title and Details</b>	<b>EIS cross-reference</b>
<b>4.8.1.1</b>	<ul style="list-style-type: none"> <li>Plants that could not be identified during the survey should be submitted to the Queensland Herbarium for identification. Voucher specimens of plant species of conservation significance, including those listed as protected plants under the Nature Conservation (Wildlife) Regulation 2006, other than common species, should be submitted to the Queensland Herbarium for identification and entry into the HERBRECS database. These specimens should be collected with sufficient information to enable their lodgement as vouchers. A full list of these species will be furnished in the report.</li> </ul>	Section 17.2.3, Field Surveys.
	Existing information on plant species may be used instead of new survey work, provided that the data is derived from previous surveys at the site consistent with the above methodology. Methodology used for vegetation surveys should be specified in the appendices to the report.	Section 17.2.3, Field Surveys. Section 17.3.3, Terrestrial Flora.
<b>4.8.1.2</b>	<p><b>Terrestrial Wildlife</b></p> <p>Describe the terrestrial and riparian wildlife occurring in the areas affected by the project, noting the broad distribution patterns in relation to vegetation, topography and substrate. The description of the wildlife present or likely to be present in the area should include:</p> <ul style="list-style-type: none"> <li>Species diversity (in the form of a species list) and abundance of animals, including amphibians, birds, reptiles and mammals.</li> <li>Any species that are poorly known but suspected of being rare or threatened.</li> <li>Habitat requirements and sensitivity to changes, including movement corridors and barriers to movement.</li> </ul>	<p>Section 17.3.4, Terrestrial Fauna. Attachment 3, Matters of National Environmental Significance (Section 4.3, Threatened Flora and Fauna Species). Attachment 3, Matters of National Environmental Significance (Section 4.4, Threatened Migratory Species).</p> <p>Section 17.3.4, Terrestrial Fauna. Attachment 3, Matters of National Environmental Significance (Section 4.3, Threatened Flora and Fauna Species). Attachment 3, Matters of National Environmental Significance (Section 4.4, Threatened Migratory Species).</p> <p>Section 17.2.4, Impact Assessment Method. Section 17.3.3, Terrestrial Flora. Section 17.3.5, Summary of Terrestrial Ecology Values. Section 17.4.1, Habitat Fragmentation and Isolation of Populations, Attachment 3, Matters of National Environmental Significance (Section 4.3, Threatened Flora and Fauna Species). Attachment 3, Matters of National Environmental Significance (Section 4.4, Threatened Migratory Species).</p>

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
4.8.1.2	<ul style="list-style-type: none"> <li>The existence of feral or exotic animals.</li> </ul>	Section 17.3.3, Terrestrial Flora. Section 17.3.4, Terrestrial Fauna.
	<ul style="list-style-type: none"> <li>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 (such as any requirements of protected area management plans).</li> </ul>	Section 17.3.3, Terrestrial Flora. Section 17.3.4, Terrestrial Fauna. Attachment 3, Matters of National Environmental Significance (Section 4.3, Threatened Flora and Fauna Species). Attachment 3, Matters of National Environmental Significance (Section 4.4, Threatened Migratory Species).
	<ul style="list-style-type: none"> <li>Use of the area by migratory birds, nomadic birds, bats, and arboreal and ground-dwelling animals.</li> </ul>	Section 17.3.2, Environmentally Sensitive Areas. Section 17.3.3, Terrestrial Flora. Section 17.3.4, Terrestrial Fauna. Attachment 3, Matters of National Environmental Significance (Section 4.3, Threatened Flora and Fauna Species). Attachment 3, Matters of National Environmental Significance (Section 4.4, Threatened Migratory Species).
	Undertake a comprehensive vertebrate animal survey of the project area at a sampling intensity that supports the scale of vegetation mapping.	Appendix K, Terrestrial Ecology Impact Assessment. Section 17.2.3 Field Surveys.
	Apart from the species recorded in the survey, provide an indicative list of all known and potential species and threatened species in the project area, by reference to the regional ecosystems within the project area and a 10 to 25-km buffer, and knowledge of species present in the local bioregion.	Section 17.2.1, Desktop Study. Section 17.3.3, Terrestrial Flora. Appendix K, Terrestrial Ecology Impact Assessment.
	Ensure the occurrence of wildlife of conservation significance is geo-coded to mapped vegetation units or habitats, which can then be used in section 4.9.2 to propose areas to be protected.	Section 17.2.4, Impact Assessment Method. Section 17.3.5, Summary of Terrestrial Ecology Values.
	Conduct surveys of terrestrial animals in a manner that is sensitive to effects of seasonality and the different activity patterns and habitat use by species under different seasonal conditions.	Section 17.2.3, Field Surveys.
	Indicate how well any affected communities are represented and protected elsewhere in the province where the site of the project occurs.	Section 17.3.3, Terrestrial Flora. Appendix K, Terrestrial Ecology Impact Assessment.

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
4.8.1.3	<b><i>Aquatic Biology</i></b>	
	The aquatic plants and animals occurring in the areas affected by the project should be described, noting the patterns and distribution in the waterways and any associated wetlands and lacustrine and marine environments. The description of the plants and animals present or likely to be present in the area should include:	Section 16.3, Existing Environment and Environmental Values.
	<ul style="list-style-type: none"> <li>• Fish species, mammals, reptiles, amphibians, crustaceans and aquatic invertebrates occurring in the waterways within the affected area, and/or those in any associated lacustrine and marine environment.</li> </ul>	16.3.5, Aquatic Fauna Species (Fish and Reptiles). 16.3.6, Aquatic Fauna Species (Macroinvertebrates).Section 17.3.4, Terrestrial Fauna.
	<ul style="list-style-type: none"> <li>• Any rare or threatened marine species, particularly the dugong and its habitat.</li> </ul>	NA.
	<ul style="list-style-type: none"> <li>• Aquatic plants.</li> </ul>	16.3.4, Aquatic Flora Species.
	<ul style="list-style-type: none"> <li>• Aquatic and benthic substrate.</li> </ul>	Section 15.2.2, Field Surveys.
	<ul style="list-style-type: none"> <li>• Habitat downstream of the project or potentially impacted due to currents in associated lacustrine and marine environments.</li> </ul>	Section 16.3.2, Environmentally Sensitive Areas. Section 17.3.3, Terrestrial Flora. Attachment 3, Matters of National Environmental Significance (Section 4.1, Wetlands of International Importance).
4.8.2	<b><i>Potential Impacts and Mitigation Measures</i></b>	
	Define and describe the objectives and practical measures for protecting or enhancing nature conservation values. Describe 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.	
Address any actions of the project or likely impacts that require an authority under the Nature Conservation Act 1992, and/or would be assessable development for the purposes of the Vegetation Management Act 1999.	Section 2.3, Additional Key Permits and Approvals. Section 16.1, Legislative Context. Section 17.1, Legislative Context.	

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
4.8.2	Ensure the discussion covers all likely direct and indirect environmental harm due to the project on plants and animals in sensitive areas. Terrestrial and aquatic (marine and freshwater) environments should be covered and include human impacts and the control of any domestic animals introduced to the area.	Section 16.3, Existing Environment and Environmental Values. Section 16.4, Issues and Potential Impacts. Section 17.3, Existing Environment and Environmental Values. Section 17.4, Issues and Potential Impacts. Attachment 3, Matters of National Environmental Significance (Section 5.1, Potential Impacts). Section 17.4.2, Habitat Loss or Degradation and Fauna Mortality. Section 17.6.3, Habitat Loss or Degradation and Fauna Mortality. Section 16.6, Avoidance, Mitigation and Management Measures.
	Describe strategies for protecting the Great Barrier Reef Marine Park and World Heritage property, and any rare or threatened species, and discuss any obligations imposed by state or Commonwealth legislation or policy or international treaty obligations (e.g. JAMBA, CAMBA or ROKAMBA).	Section 17.6.3, Habitat Loss or Degradation and Fauna Mortality.
	Describe the potential environmental harm to the ecological values of the area arising from building, operating and decommissioning the project, including clearing, salvaging or removing vegetation, and discuss the indirect effects on remaining vegetation.	Section 16.4, Issues and Potential Impacts. Section 17.4, Issues and Potential Impacts. Attachment 3, Matters of National Environmental Significance (Section 5.1, Potential Impacts).
	Consider short-term and long-term effects with comment on whether the impacts are reversible or irreversible.	Section 16.4, Issues and Potential Impacts. Section 17.2.4, Impact Assessment Method. Section 17.4, Issues and Potential Impacts. Attachment 3, Matters of National Environmental Significance (Section 5.1, Potential Impacts).
	Assess the environment's capacity to assimilate discharges/emissions. The assessment should address the potential for impacts due to chronic, low-level exposure to contaminants or the bio-accumulation of contaminants.	Section 26.4, Issues and Potential Impacts.
	Identify key plants and animal indicators for future monitoring.	Section 17.6.3, Habitat Loss or Degradation and Fauna Mortality (Habitat Degradation- Pest Flora and Fauna).
	Propose and describe in detail measures to be taken to avoid and minimise potential adverse impacts of the project on nature conservation and biodiversity values.	Section 16.4, Issues and Potential Impacts. Section 17.4, Issues and Potential Impacts. Attachment 3, Matters of National Environmental Significance (Section 5.1, Potential Impacts).

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
4.8.2	Identify and quantify any potential net loss of environmental values.	Attachment 3, Matters of National Environmental Significance (Section 7, Proposed Disturbance Limits).
	Describe environmental offsets that would counterbalance the remaining loss of environmental values. Proposed environmental offsets should be consistent with the requirements set out in the specific-issue offset policies under the framework of the Queensland Government's Environmental Offset Policy (2008) and consider Use of Environmental Offsets draft policy under the Environment Protection & Biodiversity Act 1999.	Section 17.6.6, Habitat Offsets. Attachment 3, Matters of National Environmental Significance (Section 9, Offsets).
	Discuss the potential environmental harm on plants and animals due to any alterations to the local surface and ground water environment, with specific reference to environmental impacts on riparian vegetation or other sensitive vegetation communities.	Section 16.4, Issues and Potential Impacts. Section 16.4.1, Construction. Section 17.4, Issues and Potential Impacts. Section 17.4.1, Habitat Fragmentation and Isolation of Populations. Attachment 3, Matters of National Environmental Significance (Section 5.1, Potential Impacts).
	Describe measures to mitigate the environmental harm to habitat or the inhibition of normal movement, propagation or feeding patterns, and changes to food chains.	Section 16.6.4, Reduced Movement of Aquatic Biota. Section 17.4.2, Habitat Loss or Degradation and Fauna Mortality. Section 17.7.2, Habitat Loss or Degradation and Fauna Mortality. Attachment 3, Matters of National Environmental Significance (Section 5.2, Avoidance, Mitigation and Management Measures).
	Assess the potential impacts of wastes on animals at the site, particularly those related to any form of toxicants.	Section 16.4.1, Construction. Section 16.4.2, Operation. Section 17.4.2, Habitat Loss or Degradation and Fauna Mortality. Section 17.4.5, Project Activities with Potential to Impact Terrestrial Ecology Ecological Values. Attachment 3, Matters of National Environmental Significance (Section 5.1, Potential Impacts).
	Propose measures to prevent harm.	Section 16.6.2, Decline in Water Quality and Increased Algal Blooms. Section 17.6.3, Habitat Loss or Degradation and Fauna Mortality. Attachment 3, Matters of National Environmental Significance (Section 5.2, Avoidance, Mitigation and Management Measures).

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

<b>ToR Section</b>	<b>ToR Title and Details</b>	<b>EIS cross-reference</b>
<b>4.8.2</b>	Discuss providing buffer zones and movement corridors.	Section 16.6, Avoidance, Mitigation and Management Measures. Section 16.6.2, Decline in Water Quality and Increased Algal Blooms. Section 17.6.1, General Measures. Section 17.6.4, Edge Effects. Attachment 3, Matters of National Environmental Significance (Section 5.2.1, Avoidance).
	Discuss strategies to minimise environmental harm on migratory, nomadic and aquatic animals.	Section 16.6, Avoidance, Mitigation and Management Measures. Section 17.6.3, Habitat Loss, Degradation and Fauna Mortality. Attachment 3, Matters of National Environmental Significance (Section 5.2.1, Avoidance).
	Ensure weed management strategies are in place to contain existing weed species (including parthenium and other declared plants) and ensure no new declared plants are introduced to the area.	Section 17.6.2, Habitat Fragmentation and Isolation of Populations. Section 17.6.3, Habitat Loss or Degradation and Fauna Mortality. Attachment 3, Matters of National Environmental Significance (Section 5.2.2 Other Measures).
	Address feral animal management strategies and practices. The study should develop strategies to ensure that the project does not contribute to increased encroachment of a feral animal species or high biosecurity risk species. This should include a risk assessment of high biosecurity risk species and sites, and the development of threat mitigation plans for them, such as clean down and inspections at high-risk sites.	Section 16.6, Avoidance, Mitigation and Management Measures. Section 17.6.3, Habitat Loss or Degradation and Fauna Mortality (Habitat Degradation- Pest Flora and Fauna).
	Include in biosecurity management strategies mitigation measures relevant to protecting any potentially affected primary production areas.	Section 16.6, Avoidance, Mitigation and Management Measures. Section 17.6.3, Habitat Loss or Degradation and Fauna Mortality (Habitat Degradation- Pest Flora and Fauna).
	When determining control strategies, refer to Biosecurity Queensland's Annual Pest Distribution Survey 2008 data, published biosecurity management strategies, Local Government Pest Management Plans and any applicable model local laws dealing with locally declared pest plants and animals.	Section 16.6, Avoidance, Mitigation and Management Measures. Section 17.6.3, Habitat Loss or Degradation and Fauna Mortality (Habitat Degradation- Pest Flora and Fauna).
	Discuss the strategies for both plants and animals in the main body of the EIS and provide in a working form in a pest management plan as part of the overall EM plan for the project.	Section 16.6, Avoidance, Mitigation and Management Measures. Section 17.6.3, Habitat Loss or Degradation and Fauna Mortality (Habitat Degradation- Pest Flora and Fauna).

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
4.8.2	Where appropriate, incorporate provision of nest hollows and ground litter into rehabilitation of disturbed areas. Relevant specific-issue policies that should be addressed are:	Section 17.6.1, General Measures. Section 17.6.3, Habitat Loss or Degradation and Fauna Mortality. Section 17.6.4, Edge Effects.
	<ul style="list-style-type: none"> <li>Vegetation management – Policy for Vegetation Management Offsets, October 2009 (or more recent version), Department of Environment and Resource Management.</li> </ul>	Section 17.6.3, Habitat Loss or Degradation and Fauna Mortality. Section 17.6.5, Habitat Offsets.
	<ul style="list-style-type: none"> <li>Marine fish habitat – Mitigation and Compensation for Works or Activities Causing Marine Habitat Loss, 2002, Department of Primary Industries and Fisheries.</li> </ul>	NA.
	<ul style="list-style-type: none"> <li>Koala habitat – Offsets for Net Benefit to Koalas and Koala Habitat, 2006, Department of Environment and Resource Management.</li> </ul>	Section 17.6.3, Habitat Loss or Degradation and Fauna Mortality. Section 17.6.5, Habitat Offsets.
	<ul style="list-style-type: none"> <li>Offsets framework – Queensland Government’s Environmental Offset Policy (2008).</li> </ul>	Section 17.6.3, Habitat Loss or Degradation and Fauna Mortality. Section 17.6.6, Habitat Offsets.
4.9	<b><i>Cultural Heritage</i></b>	
4.9.1	<b><i>Description of Environmental Values</i></b>	
	In this section describe existing cultural heritage values that may be affected by the project, and include a description of the environmental values of the cultural landscapes of the affected area in terms of the physical and cultural integrity of the landforms.	Section 24.3, Existing Environment and Cultural Values.
	Unless an exemption applies under s. 86 of the Aboriginal Cultural Heritage Act 2003, undertake an Indigenous cultural heritage study in accordance with the requirements of part 7 of that act.	Chapter 23, Indigenous Cultural Heritage.
	Undertake an historical cultural heritage study of the known and potential historical cultural heritage values of the affected area. The study will, as a minimum, include a desktop analysis and an archaeological investigation (such as a physical investigation) of the area potentially affected by the project.	Section 24.2, Assessment Methods.
	This desktop component of the study should, as a minimum, review the following sources for information on historical cultural heritage values within the region of the project site:	Section 24.2.1, Desktop Study.
	<ul style="list-style-type: none"> <li>The Queensland Heritage Register, for places already protected under the Queensland Heritage Act 1992.</li> </ul>	Section 24.2.1, Desktop Study.
	<ul style="list-style-type: none"> <li>Local government heritage registers, lists or inventories.</li> </ul>	Section 24.2.1, Desktop Study.
	<ul style="list-style-type: none"> <li>The results of previous cultural heritage studies conducted within the region of the project.</li> </ul>	Section 24.3.2, Regionally Known Sites.

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
4.9.1	Base the scope of the archaeological investigation upon the results of the desktop analysis. The archaeological investigation must be conducted by an appropriately qualified person, as required by the Queensland Heritage Act 1992, and should address all types of historical cultural heritage places located within the project area (including built, archaeological and cultural landscape values).	Section 24.6, Avoidance, Mitigation and Management Measures (Undertake archaeological assessment by a qualified heritage practitioner if cultural heritage sites or artefacts are uncovered during construction.).
	Ensure the discovery and protection of any previously unidentified archaeological artefacts or archaeological places during the course of the historical cultural heritage study complies with part 9 of the Queensland Heritage Act 1992.	Section 24.3, Existing Environment and Cultural Values.
4.9.2	<b>Potential Impacts and Mitigation Measures</b>	
	Define and describe the objectives and practical measures for managing, protecting or enhancing cultural heritage values that may be affected by the project. Describe how practices may be implemented to appropriately manage those values, and how the achievement of the objectives will be monitored, audited and managed.	Section 24.4, Issues and Potential Impacts. Section 24.6, Avoidance, Mitigation and Management Measures.
4.9.2.1	<b>Indigenous Cultural Heritage</b>	
	Unless an exemption applies under s. 86 of the Aboriginal Cultural Heritage Act 2003, manage the potential impacts on Indigenous cultural heritage values in the vicinity of the project under a cultural heritage management plan (CHMP) developed and approved under part 7 of that act.	Section 23.4, Issues and Potential Impacts. Section 23.6, Compliance with the Aboriginal Cultural Heritage Act Duty of Care. Section 23.7, Avoidance, Mitigation and Management Measures.
Ensure development of the CHMP follows the guidelines gazetted under s. 85 of the Aboriginal Cultural Heritage Act 2003. DERM's EIS coordinator must be made aware of the progress of the CHMP approval process and of any related issues that should be addressed in the EIS assessment report.	Section 23.6, Compliance with the Aboriginal Cultural Heritage Act Duty of Care. Section 23.7, Avoidance, Mitigation and Management Measures.	
4.9.2.2	<b>Non-Indigenous Historical Cultural Heritage</b>	
	Address the potential impacts on non-Indigenous historical cultural heritage values and their avoidance or mitigation in a management plan. The historical heritage management plan will specifically address identified values and provide a process for managing yet undiscovered values should they become apparent during development of the project.	Section 23.7, Avoidance, Mitigation and Management Measures.
	Negotiate the development of an historical heritage management plan with DERM and any other relevant stakeholders.	Section 23.7, Avoidance, Mitigation and Management Measures.
In the historical heritage management plan, address, as a minimum, the following issues:	Section 23.7, Avoidance, Mitigation and Management Measures.	

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

<b>ToR Section</b>	<b>ToR Title and Details</b>	<b>EIS cross-reference</b>
<b>4.9.2.2</b>	<ul style="list-style-type: none"> <li>Processes for mitigating, managing and protecting identified historical cultural heritage values during excavations of the construction, operational, rehabilitation and decommissioning phases of the project.</li> </ul>	Section 23.7, Avoidance, Mitigation and Management Measures.
	<ul style="list-style-type: none"> <li>Processes for reporting, as required by s. 89 of the Queensland Heritage Act 1992, the discovery of any archaeological artefact not previously identified in the historical cultural heritage study.</li> </ul>	Section 23.7, Avoidance, Mitigation and Management Measures.
	<ul style="list-style-type: none"> <li>Procedures for the collection of any artefact material, including appropriate storage and conservation.</li> </ul>	Section 23.7, Avoidance, Mitigation and Management Measures.
	<ul style="list-style-type: none"> <li>Historical cultural heritage awareness training or programs for project staff.</li> </ul>	Section 23.7, Avoidance, Mitigation and Management Measures.
	<ul style="list-style-type: none"> <li>The historical heritage management plan should be incorporated into the project's draft EM plan.</li> </ul>	Section 23.7, Avoidance, Mitigation and Management Measures.
<b>4.10.</b>	<p><b>Social</b></p> <p>Conduct the description of the social and cultural values potentially impacted by the project, and the assessment of the impacts on those values, in consultation with the Social Impact Unit of the Department of Infrastructure and Planning, and all affected local, state and federal government bodies.</p>	Chapter 22, Social.
<b>4.10.1</b>	<p><b>Description of Social and Cultural Values</b></p>	
	<p>Define and describe the social and cultural area of influence of the project and any associated activities. Identify key social and cultural organisations, including relevant government, quasi-non-government and non-government organisations, and other community groups. Also describe the community engagement process and present its findings to date.</p>	<p>Section 22.1, Study Area.</p> <p>Section 22.3.6, Community Consultation and Stakeholder Engagement.</p>
	<p>Describe the current population and demographics of the potentially affected communities within the project's social and cultural area of influence. Such communities are likely to be impacted directly and indirectly by the project, such as the potential host communities and the source communities for the project workforce and their families. Provide separate population figures and demographics for affected Indigenous and non-Indigenous populations and communities. Characteristics to be described include:</p>	
<ul style="list-style-type: none"> <li>The community size, history, age structure, ethnic characteristics, and gender composition.</li> </ul>	<p>Section 22.4.1, Population and Demographic Profile.</p> <p>Section 22.4, Existing Environment.</p>	

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
4.10.1	<ul style="list-style-type: none"> <li>Average income profiles, including the number and proportion of low-income households.</li> </ul>	Section 22.4.1, Population and Demographic Profile. Section 22.4, Existing Environment.
	<ul style="list-style-type: none"> <li>Education and skill level by age and gender.</li> </ul>	Section 22.4.4, Employment, Skills and Business. Section 22.4, Existing Environment.
	<ul style="list-style-type: none"> <li>Prevalence of disability.</li> </ul>	Section 22.4.5, Community Health and Wellbeing.
	<ul style="list-style-type: none"> <li>Health and wellbeing indicators.</li> </ul>	Section 22.4.5, Community Health and Wellbeing.
	<ul style="list-style-type: none"> <li>Major trends and changes in the population make-up that may be occurring irrespective of the project.</li> </ul>	Section 22.4.1, Population Growth and Demographic Profile.
	<ul style="list-style-type: none"> <li>Any additional information identified as relevant through engagement with the communities.</li> </ul>	Section 22.6.1, Key Issues Raised Through Consultation.
	Describe and analyse the current employment patterns, rates and trends within the social and cultural area of influence, for the Indigenous and non-Indigenous populations, including:	Section 22.4.2, Employment, Skills and Business. Section 21.3.3, Population, Employment, Workforce and Wages.
	<ul style="list-style-type: none"> <li>The locations and types of other significant places of employment.</li> </ul>	Section 22.4.2, Employment, Skills and Business. Section 21.3.3, Population, Employment, Workforce and Wages.
	<ul style="list-style-type: none"> <li>Numbers employed in relevant industry sectors and demographic cohorts, including disadvantaged groups.</li> </ul>	Section 22.4.2, Employment, Skills and Business. Section 21.3.3, Population, Employment, Workforce and Wages.
	<ul style="list-style-type: none"> <li>Shift patterns and hours of work.</li> </ul>	Section 22.5, Workforce Profile.
	<ul style="list-style-type: none"> <li>Type and level of qualifications and skills.</li> </ul>	Section 22.4.2, Employment, Skills and Business.
	<ul style="list-style-type: none"> <li>Unemployment rates or shortage levels within relevant skill levels and sectors.</li> </ul>	Section 22.4.2, Employment, Skills and Business. Section 21.3.3, Population, Employment, Workforce and Wages.
	<ul style="list-style-type: none"> <li>Any other relevant historical or anticipated changes or shifts in these employment patterns, rates and trends.</li> </ul>	Section 22.4.2, Employment, Skills and Business. Section 21.3.3, Population, Employment, Workforce and Wages. Section 21.3.7, Agriculture.
	Describe the settlement patterns and residential profile of communities within the social and cultural area of influence, including:	Section 4.2, Social Environment (environmental context). Section 22.4.1, Population Growth and Demographic Profile. Section 22.4.6, Housing and Accommodation.
	<ul style="list-style-type: none"> <li>Household size.</li> </ul>	Section 22.4.6, Housing and Accommodation.
<ul style="list-style-type: none"> <li>Type of occupancy, such as families versus singles house-sharing.</li> </ul>	Section 22.4.6, Housing and Accommodation.	

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
4.10.1	<ul style="list-style-type: none"> <li>Length of occupancy, including generational continuity (such as farming properties).</li> </ul>	Section 22.4.6, Housing and Accommodation.
	<ul style="list-style-type: none"> <li>Current property values and trends.</li> </ul>	Section 22.4.6, Housing and Accommodation. Section 21.3.4, Property Market.
	<ul style="list-style-type: none"> <li>Home ownership rates.</li> </ul>	Section 22.4.6, Housing and Accommodation. Section 21.3.4, Property Market.
	<ul style="list-style-type: none"> <li>The size of the private rental market.</li> </ul>	Section 22.4.6, Housing and Accommodation. Section 21.3.4, Property Market.
	<ul style="list-style-type: none"> <li>Typical rents for the area, including trends.</li> </ul>	Section 22.4.6, Housing and Accommodation.
	<ul style="list-style-type: none"> <li>The vacancy rate of rental accommodation with an assessment of seasonal fluctuations.</li> </ul>	Section 22.4.6, Housing and Accommodation. Section 21.3.4, Property Market.
	<ul style="list-style-type: none"> <li>Rates of housing stress (availability, affordability, and adequacy).</li> </ul>	Section 22.4.6, Housing and Accommodation. Section 21.3.4, Property Market.
	<ul style="list-style-type: none"> <li>Comparative affordability for ownership and renting relative to other towns and centres.</li> </ul>	Section 22.4.6, Housing and Accommodation.
	<ul style="list-style-type: none"> <li>Constraints and opportunities for building new houses in the local communities, including the capacity of the local land development and housing construction industries to provide new housing and accommodation.</li> </ul>	Section 22.4.6, Housing and Accommodation.
	<p>Provide a profile of the current social and cultural values and the characteristics of communities, groups and individuals likely to be impacted by the project. Describe the social and cultural values for the affected communities and populations in terms of:</p>	
	<ul style="list-style-type: none"> <li>The use of the area on and around the project site for business (including industry, agriculture, forestry, fishing, aquaculture, and education), cultural purposes (including the gathering of natural products for food, medicine or ceremonial purposes), or residential purposes.</li> </ul>	Section 22.4.4, Community Values and Lifestyles. Section 21.3.8, Summary of Values.
	<ul style="list-style-type: none"> <li>The historical, aesthetic, social and cultural significance of places to people who use, or have used the area.</li> </ul>	Section 18.3, Existing Environment and Environmental Values. Section 22.4.4, Community Values and Lifestyles. Section 23.3.4, Cultural Heritage Values. Section 24.3, Existing Environment and Cultural Values.

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
4.10.1	<ul style="list-style-type: none"> <li>Potentially affected places in the area.</li> </ul>	Section 18.3, Existing Environment and Environmental Values. Section 22.4.4, Community Values and Lifestyles. Section 23.3.4, Cultural Heritage Values. Section 24.3, Existing Environment and Cultural Values.
	<ul style="list-style-type: none"> <li>The sense of community.</li> </ul>	Section 22.4.4, Community Values and Lifestyles.
	<ul style="list-style-type: none"> <li>The integrity of social conditions, including perceptions of community cohesion and personal safety.</li> </ul>	Section 22.4.4, Community Values. Section 22.4.7, Health Safety and Environment.
	<ul style="list-style-type: none"> <li>Amenity, liveability, harmony and wellbeing.</li> </ul>	Section 22.4.4, Community Values. Section 22.4.7, Health Safety and Environment.
	Describe the current availability of community access to recreational facilities and sites, and to social and community services and infrastructure.	Section 22.4.5, Community Infrastructure and Services.
	Outline the current rates of crime against persons and property, and the likely rate of substance abuse as far as it is known.	Section 22.4.7, Health, Safety and Environment.
	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 section 4.9, cultural heritage, and section 4.12, economy.	
4.10.2	<b>Potential Impacts and Mitigation Measures</b>	
	Ensure the assessment of impacts (both beneficial and adverse) is supported by evidence-based discussions, and is developed in consultation with all relevant government agencies and community groups.	Section 22.3.3, Impact Identification and Assessment. Section 22.3.6, Community Consultation and Stakeholder Engagement. Section 22.6, Impacts and Potential Impacts.
	Include information obtained so far through the project's community engagement process, and provide a description of how consultation feedback has identified and informed the assessment of impacts and the development of mitigation measures.	Section 6.2, Consultation Program. Section 22.6.1, Key Issues Raised Through Consultation. Section 22.3.6, Community Consultation and Stakeholder Engagement.
	Ensure the assessment does not consider the impacts of the project in isolation. Rather it should discuss the likely direct, indirect and cumulative impacts of the project in conjunction with all known existing and planned projects within the area of influence.	Section 28.3.10, Socioeconomic (Cumulative Impacts chapter).
	Ensure the assessment addresses not only impacts on people and families directly affected by those matters, but also impacts on associated people and communities, such as those whose livelihoods would be affected by loss or gain of direct or indirect (such as service provision) employment.	Section 22.6.3, Employment, Skills and Business. Section 22.6.5, Community Values and Lifestyles.

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
4.10.2	With regard to its timeframe, ensure the assessment of social impacts covers:	
	<ul style="list-style-type: none"> <li>• The state of affairs immediately before the project was proposed.</li> </ul>	Section 22.4, Existing Environment.
	<ul style="list-style-type: none"> <li>• The period from when people first became aware of the project until it is commissioned, should approval be given.</li> </ul>	Section 6.4.1, Consultation Sessions. Section 22.3.6, Community Consultation and Stakeholder Engagement.
	<ul style="list-style-type: none"> <li>• The proposed active phases of the project, such as construction, operation and decommissioning.</li> </ul>	Section 22.6, Issues and Potential Impacts.
	<ul style="list-style-type: none"> <li>• The phase after the project ceases to the extent that there may be residual impacts. Describe the likely impacts on population numbers in the social and cultural area of influence and the associated demographic shifts.</li> </ul>	Appendix P, Social Impact Assessment (Section 6.1, Key Observations and Impact Summary (post-project residual impacts)).
	<ul style="list-style-type: none"> <li>• A description of the social impacts of changes in land use, the alienation of property and loss of connection with the land. Also address the impacts and stresses associated with relocations.</li> </ul>	Section 22.6.5, Community Values and Lifestyles. Section 13.4, Issues and Potential Impacts.
	<ul style="list-style-type: none"> <li>• A description of likely recruitment schedules and locations, and how recruitment during the various phases of the project will impact on employment patterns, rates, and trends within the social and cultural area of influence. The assessment should at least address the following matters:</li> </ul>	
	<ul style="list-style-type: none"> <li>– Estimated employment rates, including the number of staff to be employed, with an estimate of the numbers in the various trades and sectors (such as clerical staff, unskilled labour, etc.).</li> </ul>	Section 22.5, Workforce Profile. Section 22.6.3, Employment, Skills and Business. Section 21.4.3, Impacts on Population, Employment, Workforce and Wages.
	<ul style="list-style-type: none"> <li>– Estimated impacts on unemployment levels, including creation of labour shortages within skilled, semiskilled and unskilled trades and sectors.</li> </ul>	Section 22.6.3, Employment, Skills and Business. Section 21.4.3, Impacts on Population, Employment, Workforce and Wages.
	<ul style="list-style-type: none"> <li>– Employment trends such as attraction (cross-over) of workforce between trades and sectors or changes to sector numbers due to the influx of new workers or the redeployment of existing workers within the area.</li> </ul>	Section 22.6.3, Employment, Skills and Business. Section 21.4.3, Impacts on Population, Employment, Workforce and Wages.
	<ul style="list-style-type: none"> <li>– Indigenous education, training and employment initiatives.</li> </ul>	Section 22.8.2, Employment, Skills and Business. Section 22.6.3, Employment, Skills and Business.
	<ul style="list-style-type: none"> <li>– Recruitment of people from disadvantaged groups.</li> </ul>	Section 22.8.5, Community Health and Wellbeing. Section 22.8.2, Employment, Skills and Business.

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
4.10.2	<ul style="list-style-type: none"> <li>- To the extent that information is available, cumulative effects of other major employers in the area and their likely recruitment schedules.</li> </ul>	Section 28.3.10, Socio-Economic.
	Describe likely lay-off schedules and identify how reductions in the workforce at various stages will impact on employment patterns in the social and cultural areas of influence. To the extent that information is available, include the cumulative effects of other major employers in the area and their likely lay-off schedules. Describe the training opportunities to be provided during the various phases of the project, particularly for Indigenous people, or people from disadvantaged groups, and describe the provisions to be made for apprenticeship and worker training schemes.	Section 22.8.2, Employment, Skills and Business. Section 28.3.10, Socio-Economic.
	Describe where staff and their immediate families are likely to reside during the construction and operational phases, and assess the likely impacts on housing availability and affordability, including:	
	<ul style="list-style-type: none"> <li>• The likely changes to residential and agricultural patterns in the social and cultural area of influence during all stages of the project.</li> </ul>	Section 22.6.7, Housing and Accommodation Availability and Affordability. Section 13.4, Issues and Potential Impacts.
	<ul style="list-style-type: none"> <li>• The effects of the commuting model, e.g., fly in/fly out (FIFO) or drive in/drive out (DIDO) versus local residency.</li> </ul>	Section 22.6.2, Population and Demographic Profile. Section 22.6.7, Housing and Accommodation Availability and Affordability.
	<ul style="list-style-type: none"> <li>• Locations, size and type of any workers camps.</li> </ul>	Section 22.5, Workforce Profile.
	<ul style="list-style-type: none"> <li>• Purchase of existing housing for project staff.</li> </ul>	Section 22.5, Workforce Profile. Section 22.6.7, Housing and Accommodation Availability and Affordability.
	<ul style="list-style-type: none"> <li>• The availability and demand for land, including state land.</li> </ul>	Section 21.4.4, Impacts on the Property Market. Section 22.6.7 Housing and Accommodation Availability and Affordability.
	<ul style="list-style-type: none"> <li>• Changes to residential occupation patterns, such as families versus house-sharing by groups of singles.</li> </ul>	Section 22.6.2 Population Growth and Demographic Profile. Section 22.6.7, Housing and Accommodation Availability and Affordability.
	<ul style="list-style-type: none"> <li>• Construction of new family housing.</li> </ul>	Section 22.8.6 Housing and Accommodation Availability and Affordability.
	<ul style="list-style-type: none"> <li>• Availability of existing housing for purchase and rent, and the capability of the existing housing stock, including rental accommodation, to meet any additional demands created by the project.</li> </ul>	Section 22.6.7, Housing and Accommodation Availability and Affordability.

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
4.10.2	<ul style="list-style-type: none"> <li>Effects on property values and rents.</li> </ul>	Section 22.6.7, Housing and Accommodation Availability and Affordability. Section 21.4.4, Impacts on the Property Market.
	<ul style="list-style-type: none"> <li>Effects on property marketability.</li> </ul>	Section 22.6.7, Housing and Accommodation Availability and Affordability. Section 22.8.3, Land Use and Property. Section 21.4.4, Impacts on the Property Market.
	<ul style="list-style-type: none"> <li>Effects on land values in relation to agricultural pursuits.</li> </ul>	Section 22.4.6, Land Use and Property. Section 13.4, Issues and Potential Impacts. Section 21.4.4 Impacts on the Property Market.
	<ul style="list-style-type: none"> <li>The potential displacement of existing residents who may no longer be able to afford accommodation.</li> </ul>	Section 22.6.7, Housing and Accommodation Availability and Affordability.
	<ul style="list-style-type: none"> <li>Impacts of the project on the availability of low cost housing within the social and cultural area of influence (e.g., assess whether pressure on rents would create a need for a local authority to build low cost housing for those in the community who would not benefit economically from the project).</li> </ul>	Section 22.6.7, Housing and Accommodation Availability and Affordability.
	<p>In the assessment address not only the impacts on residential issues due to the accommodation of workers directly employed by the project, but also those due to the numbers of contractors and service providers that may be attracted by the opportunities offered by the project. Assess the impacts arising from alternative options for accommodation and develop a preferred accommodation strategy. Identify any approvals needed for the preferred option for new worker camps or housing, and cross-reference to those sections of the EIS that assess the potential impacts of new camps or housing.</p>	Section 22.6.7, Housing and Accommodation Availability and Affordability. Section 22.5.1, Construction Workforce. Section 22.8.6, Housing and Accommodation Availability and Affordability.
	<p>Assess, for the various stages of the project, the demand for community services and the likely impacts on social infrastructure provided by local, Queensland and Commonwealth governments. The assessment should provide sufficient information for affected government authorities to make informed decisions about how the project may affect their business and enable them to plan for the continuing provision of social infrastructure, including health, education, community services, recreational activities and other services in the region.</p>	Section 22.6.6, Community Infrastructure and Services.
	<p>Assess the likely cultural pressures and shifts both for Indigenous and non-Indigenous cultural groups. Pay particular attention to:</p>	
	<ul style="list-style-type: none"> <li>Likely changes to cultural identities in the social and cultural area of influence.</li> </ul>	Section 22.6.5, Community Values and Lifestyles.

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
4.10.2	<ul style="list-style-type: none"> <li>The ability of both Indigenous and non-Indigenous people to live in accordance with their own values and priorities.</li> </ul>	Section 22.6.5, Community Values and Lifestyles.
	<ul style="list-style-type: none"> <li>The use of, and access to, culturally important areas and landscapes.</li> </ul>	Section 22.6.5, Community Values and Lifestyles. Section 23.4, Issues and Potential Impacts. Section 24.4, Issues and Potential Impacts (Non-Indigenous Cultural Heritage). Section 22.6.4, Land Use and Property.
	Assess the likely impacts on lifestyle and amenity in the social and cultural area of influence, including:	
	<ul style="list-style-type: none"> <li>Effects on families (and the demand for family support services) of parents being absent while on-roster.</li> </ul>	Section 22.6.3, Employment, Skills and Business.
	<ul style="list-style-type: none"> <li>Changes to perceptions of safety and community in the established population.</li> </ul>	Section 22.6.8, Health, Safety and Environment.
	<ul style="list-style-type: none"> <li>Changes to health and social wellbeing of families and communities, including household consumption patterns (social dysfunction including alcohol and drugs, crime, violence, and social or cultural disruption due to population influx).</li> </ul>	Section 22.6.5, Community Values. Section 22.6.7 Housing and Accommodation Availability and Affordability. Section 22.6.2, Population and Demographic Profile.
	<ul style="list-style-type: none"> <li>Impacts on amenity of changes in household composition patterns, such as sharing singles replacing families in residential areas, increased noise from social activities, and contractors parking commercial vehicles and machinery in residential areas.</li> </ul>	Section 22.6.7 Housing and Accommodation Availability and Affordability. Section 22.5, Workforce Profile.
	Describe likely effects on the prevalence of crimes against the person and against property in the social and cultural area of influence based on evidence of equivalent social changes elsewhere.	Section 22.6.5, Community Values. Section 22.6.8, Health, Safety and Environment.
	Assess the likely adverse and beneficial social impacts of the project on local and regional service industries and the families that depend in whole or part on the income that comes from those service industries (the financial effects should be discussed in the economy section of the EIS).	Section 22.6.3, Employment, Skills and Business. Section 22.8.3, Employment Skills and Business. Section 21.4.3, Impacts on Population, Employment, Workforce and Wages.
	Describe the project's implications for future developments in the social and cultural area of influence, including constraints on surrounding land uses.	Section 22.6.4, Land Use and Property. Section 13.4, Issues and Potential Impacts.
	Summarise the net adverse or beneficial social impacts of the proposed project with an estimate of the overall significance of those impacts.	Section 22.8, Avoidance, Mitigation and Management Measures.

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
4.10.2	For identified social impacts, present social impact mitigation strategies and measures to address:	
	<ul style="list-style-type: none"> <li>Demographic changes in the profile of the social and cultural area of influence.</li> </ul>	Section 22.8.1 Population and Demographic Profile.
	<ul style="list-style-type: none"> <li>Recruitment and training of the construction and operational workforces and the social and cultural implications this may have for the host community.</li> </ul>	Section 22.8.2, Employment, Skills and Business.
	<ul style="list-style-type: none"> <li>Housing and accommodation issues, in consultation with relevant local authorities and Queensland Government agencies, with proposals for accommodating the project workforce and their families that avoid, mitigate or offset any short- and medium-term adverse effects on housing affordability and availability, including the rental market, in the social and cultural area.</li> </ul>	Section 22.8.6, Housing and Accommodation Availability and Affordability.
	<ul style="list-style-type: none"> <li>Capacity of current social infrastructure, particularly health and welfare, education, policing and emergency services.</li> </ul>	Section 22.8.5, Community Infrastructure and Services.
	<ul style="list-style-type: none"> <li>Adequate provision of education, training and employment for all groups, including women, people with a disability, and Indigenous people.</li> </ul>	Section 22.8.2, Employment, Skills and Business.
	Describe any consultation with government agencies and the communities regarding the acceptability of proposed mitigation strategies and implementing practical management and monitoring regimes. Clearly indicate whether any nominated party other than the proponent accepts responsibility for implementing the measure(s).	Section 22.10, Inspection and Monitoring. Attachment 6, Social Impact Management Plan.
	Present a draft social impact management plan that promotes an active and ongoing role for impacted communities, local authorities and government agencies through the project life cycle from planning, construction, operations and decommissioning. The draft plan should cover:	
	<ul style="list-style-type: none"> <li>Action plans for the implementation of mitigation strategies and measures.</li> </ul>	Attachment 6, Social Impact Management Plan (Section 3).
	<ul style="list-style-type: none"> <li>Assignment of accountability and resources.</li> </ul>	Attachment 6, Social Impact Management Plan (Section 3).
	<ul style="list-style-type: none"> <li>Reporting mechanism for activities, and commitments and performance, including relevant monitoring data.</li> </ul>	Attachment 6, Social Impact Management Plan (Section 3).
	<ul style="list-style-type: none"> <li>Mechanisms to respond to public enquiries and complaints.</li> </ul>	Attachment 6, Social Impact Management Plan (Section 4).
	<ul style="list-style-type: none"> <li>Mechanisms to resolve disputes with stakeholders.</li> </ul>	Attachment 6, Social Impact Management Plan (Section 4).
<ul style="list-style-type: none"> <li>Periodic evaluation of the effectiveness of community engagement processes.</li> </ul>	Attachment 6, Social Impact Management Plan (Section 3).	

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
4.10.2	<ul style="list-style-type: none"> <li>Practical mechanisms to monitor and adjust mitigation strategies and action plans to achieve best outcomes.</li> </ul>	Attachment 6, Social Impact Management Plan (Section 5).
4.11	<b>Health and Safety</b>	
4.11.1	<b>Description of Values</b>	
	Describe the existing community values for public health and safety that may be affected by the project. Projects that could discharge contaminants, even accidentally, into water bodies should identify and describe any downstream extraction for potable use. 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.	Section 25.3, Existing Environment and Values. Section 22.4.7, Health, Safety and Environment. Section 25.3, Existing Environment and Environmental Values. Section 9.3, Existing Environment and Environmental Values. Section 20.3, Existing Environment and Environmental Values.
4.11.2	<b>Potential Impacts and Mitigation Measures</b>	
	Define and describe the objectives and practical measures for protecting or enhancing health and safety community values. Describe how nominated quantitative standards and indicators may be achieved to manage health impacts, and how the achievement of the objectives will be monitored, audited and managed.	Attachment 5, Environmental Management Plan. Attachment 6, Social Impact Management Plan. Section 22.8.7, Health, Safety and Environment. Section 25.6, Avoidance, Mitigation and Management Measures.
	Assess the impacts on the community in terms of health, safety, and quality of life from project operations and emissions. Any impacts on the health and safety of any members of the community should be detailed in terms of health, safety, and quality of life from factors such as air emissions, odour, dust and noise.	Section 22.6.8, Health, Safety and Environment. Section 25.4, Issues and Potential Impacts. Section 9.4, Issues and Potential Impacts. Section 20.4, Issues and Potential Impacts.
	Provide maps showing the locations of sensitive receptors, such as, but not necessarily limited to, kindergartens, schools, hospitals, aged care facilities, residential areas, and centres of work (including office buildings, factories and workshops). The EIS, illustrated by the maps, should discuss how planned discharges from the project could impact on public health in the short and long term, and should include an assessment of the cumulative impacts on public health values caused by the project, either in isolation or by combination with other known existing or planned sources of contamination.	Section 7.1, Environmental Values. Figure 7.2a, Sensitive receptors (northern project development area). Figure 7.2b, Sensitive receptors (central project development area). Figure 7.2c, Sensitive receptors (southern project development area). Chapter 28, Cumulative Impacts. Section 9.4, Issues and Potential Impacts. Section 25.4, Issues and Potential Impacts. Section 20.4, Issues and Potential Impacts.

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

<b>ToR Section</b>	<b>ToR Title and Details</b>	<b>EIS cross-reference</b>
4.11.2	Provide an assessment of risk to the community arising from the operation of the project. This assessment should include consideration of controlled, uncontrolled and emergency situations arising from natural events such as bushfire, flood and extreme storms. The assessment should address the potential contamination not only of public water supplies but also of private water sources such as rainwater tanks with roof collection.	Section 25.4, Potential Issues and Impacts. Section 25.3, Existing Environment and Environmental Values. Section 25.6, Avoidance, Mitigation and Management Measures.
	Address the project's potential for providing disease vectors. Measures to control mosquito and biting midge breeding should be described, including measures to be used for any residual ponding after the project activities cease. Any use of recycled water should be assessed for its potential to cause infection by transmitting bacteria and/or viruses by contact, dispersion of aerosols, and ingestion (including via use on food crops). Similarly, the use of recycled water should be assessed for its potential to cause harm to health via the food chain due to contaminants such as heavy metals and persistent organic chemicals. Practical monitoring regimes should also be recommended in this section.	Section 25.4, Potential Issues and Impacts. Section 25.3, Existing Environment and Environmental Values. Section 25.6, Avoidance, Mitigation and Management Measures. Section 25.8, Monitoring and Inspection. Chapter 2, Project Approvals.
4.12	<b>Economy</b>	
4.12.1	<b>Description of Values</b>	
	<p>Describe the existing economic environment that may be affected by the project. The character and basis of the local and regional economies should be described, including:</p> <ul style="list-style-type: none"> <li>Economic viability (including economic base and economic activity, future economic opportunities, current local and regional economic trends, in particular drought and rural downturn, etc.).</li> </ul>	<p>Section 4.3.1, Major Industries. Section 21.3, Existing Economic Environment and Values.</p> <p>Section 21.3.1, Gross Regional, State and National Product. Section 21.3.2, Local, State and Commonwealth Government Taxes and Revenues and the Australian Dollar. Section 21.3.3, Population, Employment, Workforce and Wages. Section 21.3.4, Property Market. Section 21.3.5, Local Business and Supply Chain. Section 21.3.6, Local Infrastructure and Services. Section 21.3.7, Agriculture. Section 21.3.8, Summary of Values.</p>

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
4.12.1	<ul style="list-style-type: none"> <li>Economic development in the region, with consideration of large-scale resource developments and their effects in the region.</li> </ul>	Section 21.4, Issues and Potential Impacts. Section 21.5, Value of Lost or Gained Economic Opportunities.
	Ensure the economic impact statement includes estimates of the opportunity cost of the project.	Section 21.6, Cost Benefit Analysis.
4.12.2	<b>Potential Impacts and Mitigation Measures</b>	
	Define and describe the objectives and practical measures for protecting or enhancing economic values. 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. 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.	Section 21.4, Issues and Potential Impacts. Section 21.6, Cost Benefit Analysis. Section 21.8, Avoidance, Mitigation and Management Measures. Section 21.9, Residual Impacts.
	At a level of detail appropriate to the scale of the project, consider in the analysis:	
	<ul style="list-style-type: none"> <li>The significance of this project on the local and regional economic context.</li> </ul>	Section 21.4.1, Impacts on Gross Regional, State and National Product.
	<ul style="list-style-type: none"> <li>The long- and short-term beneficial (such as job creation) and adverse (such as competition with local small business) impacts that are likely to result from the development.</li> </ul>	Section 21.4, Issues and Potential Impacts.
	<ul style="list-style-type: none"> <li>The potential, if any, for direct equity investment in the project by local businesses or communities.</li> </ul>	Section 21.4.5, Impacts on Local Business and Supply Chain.
	<ul style="list-style-type: none"> <li>The cost to all levels of government of any additional infrastructure provision.</li> </ul>	Section 21.4.6, Impacts on Local Infrastructure and Services.
	<ul style="list-style-type: none"> <li>Implications for future development in the locality, including constraints on surrounding land uses and existing industry.</li> </ul>	Section 21.4.7, Impacts on Agriculture.
	<ul style="list-style-type: none"> <li>The potential economic impact of any major hazard identified in section 4.14.</li> </ul>	Section 21.4.8, Impacts on Public Safety.
	<ul style="list-style-type: none"> <li>The distributional effects of the project, including proposals to mitigate any negative impact on disadvantaged groups.</li> </ul>	Attachment 6, Social Impact Management Plan (Section 6, Potential Impacts and Mitigation). Section 22.6, Issues and Potential Impacts. Section 22.8, Avoidance, Mitigation and Management Measures.
	<ul style="list-style-type: none"> <li>The value of lost opportunities or gained opportunities for other economic activities anticipated in the future.</li> </ul>	Section 21.5, Value of Lost or Gained Economic Opportunities.
<ul style="list-style-type: none"> <li>Impacts on local property values.</li> </ul>	Section 21.4.4, Impacts on the Property Market.	

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

<b>ToR Section</b>	<b>ToR Title and Details</b>	<b>EIS cross-reference</b>
<b>4.12.2</b>	<p>Consider the impacts of the project in relation to energy self-sufficiency, security of supply and balance of payments benefits. 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.</p>	<p>Chapter 5, Project Description (energy self-sufficiency). Section 21.4.1, Impacts on Gross Regional, State and National Product. Section 21.4.2, Impacts on Local, State and Commonwealth Government Taxes and Revenues and the Australian Dollar. Section 21.4.3, Impacts on Population, Employment, Workforce and Wages. Section 21.4.4, Impacts on the Property Market. Section 21.4.5, Impacts on Local Business and Supply Chain. Section 21.4.6, Impacts on Local Infrastructure and Services. Section 21.4.7, Impacts on Agriculture. Section 21.4.8, Impacts on Public Safety. Section 21.4.3, Impacts on Population, Employment, Workforce and Wages.</p>
	<p>For identified impacts on economic values, suggest mitigation and enhancement strategies and facilitate initial negotiations to gain acceptance of these strategies. Practical monitoring regimes should also be recommended.</p>	<p>Section 21.9, Residual Impacts. Section 21.10, Inspection and Monitoring.</p>
<b>4.13</b>	<b><i>Hazard and Risk</i></b>	
	<p>Describe the potential hazards and risk to people and property that may be associated with the project, as distinct from hazards and risk to the natural environment that should be addressed in other sections of the terms of reference. When addressing natural hazards, particularly in regard to places where people would work and live (such as an accommodation camp), consider the principles of natural hazard management in State Planning Policy 1/03 (SPP1/03), Mitigating the Adverse Impacts of Flood, Bushfire and Landslide, even if the development is exempt development under the Sustainable Planning Act 2009. SPP1/03 may not be applicable as a statutory instrument for exempt development, but it contains information that guides best practice for all development.</p>	<p>Section 25.4, Potential Issues and Impacts.</p>
<b>4.13.1</b>	<b><i>Description of Values</i></b>	
	<p>Detail the values related to people and property that could be affected by any hazardous materials and actions associated with the project.</p>	<p>Section 25.3, Existing Environment and Values.</p>

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
4.13.2	<b>Potential Impacts and Mitigation Measures</b>	
	Describe the potential hazards and risk that may be associated with the project, including consideration of both natural and man-made hazards. The assessment of risk should be in accordance with relevant standards, such as ISO 31000:2009, Risk Management Principles and Guidelines.	Section 25.4, Potential Issues and Impacts. Section 25.2.1, Hazard Identification.
	Define and describe the objectives and practical measures for protecting people and places from hazards and risk. Describe 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. Conduct an analysis into the potential impacts of both natural and induced emergency situations and counter disaster and rescue procedures as a result of the project on sensitive areas and resources, such as forests, water reserves, state and local government-controlled roads, places of residence and work, and recreational areas. The degree and sensitivity of risk should be detailed.	Section 25.4, Potential Issues and Impacts. Section 25.6, Avoidance, Mitigation and Management Measures. Section 25.7, Residual Impacts (not fully covered by this section, no sensitivities).
	Provide an assessment of risk to the community arising from the operation of the project. This assessment should include consideration of controlled, uncontrolled and emergency situations arising from natural events such as bushfire, flood and extreme storms. The assessment should address the potential contamination not only of public water supplies but also of private water sources such as rainwater tanks with roof collection.	Section 25.6.3, Specific Controls (Hazardous Materials).
	Provide an inventory for each class of substances listed in the Australian Dangerous Goods Codes to be held on site. This information should be presented by classes and should contain: <ul style="list-style-type: none"> <li>• Chemical name</li> <li>• Concentration in raw material chemicals.</li> <li>• Concentration in operation storage tank.</li> <li>• U.N. number.</li> <li>• Packaging group.</li> <li>• Correct shipping name.</li> <li>• Maximum inventory of each substance.</li> </ul>	Section 25.4.2, Issues Identified Through Qualitative Risk Assessment (Hazardous Substances).
	Provide details of:	
	<ul style="list-style-type: none"> <li>• Safeguards proposed on the transport, storage, use, handling and onsite movement of the materials to be stored on site.</li> </ul>	Section 25.6.3, Specific Controls (Hazardous Materials).

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
4.13.2	<ul style="list-style-type: none"> <li>The capacity and standard of bunds to be provided around the storage tanks for classified dangerous goods and other goods likely to adversely impact upon the environment in the event of an accident.</li> </ul>	Section 25.6.3, Specific Controls (Hazardous Materials).
	<ul style="list-style-type: none"> <li>Procedures to prevent spillages, and emergency plans to manage hazardous situations.</li> </ul>	Section 12.6.3, Land Contamination.
	<p>Develop an integrated risk management plan for the whole of the life of the project, including construction, operation and decommissioning phases. The plan should include a preliminary hazard analysis (PHA), conducted in accordance with appropriate guidelines for hazard analysis (such as HAZOP Guidelines, NSW Department of Urban Affairs and Planning (DUAP)). The assessment should outline the implications for, and the impact on, the surrounding land uses, and should involve consultation with Department of Emergency Services, Queensland Fire and Rescue Authority, and Queensland Ambulance Service. The preliminary hazard analysis should incorporate:</p>	<p>Section 25.6.2, Procedural and Behavioural Controls. Section 25.2.1, Hazard Identification. Section 25.2, Assessment Methods.</p>
	<ul style="list-style-type: none"> <li>All relevant major hazards both technological and natural.</li> </ul>	Section 25.2.1, Hazard Identification.
	<ul style="list-style-type: none"> <li>The possible frequency of potential hazards, accidents, spillages and abnormal events occurring.</li> </ul>	<p>Section 25.2.2, Quantitative Risk Assessment. Section 25.2.3, Qualitative Risk Assessment.</p>
	<ul style="list-style-type: none"> <li>An indication of cumulative risk levels to surrounding land uses.</li> </ul>	Section 28.3.13, Preliminary Hazard and Risk.
	<ul style="list-style-type: none"> <li>The life of any identified hazards.</li> </ul>	Section 25.4, Issues and Potential Impacts.
	<ul style="list-style-type: none"> <li>A list of all hazardous substances to be used, stored, processed, produced or transported.</li> </ul>	Section 25.4.2, Issues Identified Through Qualitative Risk Assessment (Hazardous Substances).
	<ul style="list-style-type: none"> <li>The rate of usage.</li> </ul>	Section 25.4.2, Issues Identified Through Qualitative Risk Assessment (Hazardous Substances).
	<ul style="list-style-type: none"> <li>A description of processes, type of the machinery and equipment used.</li> </ul>	<p>Section 25.4.1, Issues Identified Through Quantitative Risk Assessment. Section 25.4.2, Issues Identified Through Qualitative Risk Assessment.</p>
	<ul style="list-style-type: none"> <li>Potential wildlife hazards such as crocodiles, snakes, and disease vectors.</li> </ul>	<p>Section 25.3, Existing Environment and Values. Section 25.4.2, Issues Identified Through Qualitative Risk Assessment (Personal Safety Hazards). Section 25.6.3, Specific Controls (Hazardous Wildlife).</p>
	<ul style="list-style-type: none"> <li>Public liability of the Queensland Government for private infrastructure and visitors on public land.</li> </ul>	

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
4.13.2	<p>The integrated risk management plan should include the following components:</p> <ul style="list-style-type: none"> <li>• Operational hazard analysis.</li> <li>• Regular hazard audits.</li> <li>• Information on how fire safety and, emergency events will be managed.</li> <li>• Information on how the proponent will develop and maintain emergency response plan/s.</li> <li>• Qualitative risk assessment.</li> <li>• Preliminary information on construction safety management.</li> <li>• Where relevant, each of these components should be prepared in accordance with the relevant NSW DUAP Hazardous Industry Planning Advisory Paper (HIPAP).</li> </ul>	Section 25.6, Avoidance, Mitigation and Management Measures.
4.14	<p><b><i>Siting and Management of Petroleum Activities – Constraints Analysis</i></b></p> <p>In the constraints analysis use appropriate environmental, social and economic factors based on the values identified in the preceding sections of the EIS. Details of those factors must be provided, together with a description of the assumptions, methods and any weightings used in the constraints analysis.</p> <p>Provide details about the information and criteria used to inform site selection and decision-making on the siting of project activities, infrastructure and choice of construction method, as well as the standard operating procedures and site-specific controls that will be applied (how, where and when) to the range of petroleum activities that may occur throughout the project area.</p> <p>Ensure the resolution of the analysis is sufficient to determine the potential for petroleum activities to occur on any individual lot of land in the project area. Detail both general environmental management methods for all petroleum activities and any specific environmental management methods that would apply to particular lots of land.</p>	<p>Preliminary constraints analysis was conducted as described in Chapter 8, Environmental Framework. The environmental, social and economic factors that will inform future constraints analyses are described in the impact assessment chapters 8 to 28, as well as in Attachment 5, Environmental Management Plan. A description of the assumptions, methods and any weightings used in constraints analysis is presented in Chapter 8, Environmental Framework.</p> <p>Criteria used to inform site selection is provided in Chapter 8, Environmental Framework. Environmental controls that will be applied are provided in the impact assessment chapters 9 to 26 and Attachment 5, Environmental Management Plan.</p> <p>The resolution of analysis to a lot of land is described in Chapter 8, Environmental Framework.</p> <p>General and specific environmental management methods are described in the impact assessment chapters 9 to 26. The method of developing additional, site-specific management measures once the site location is known is also described in Chapter 8, Environmental Framework.</p>

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
4.15	<b><i>Cross-reference with the Terms of Reference</i></b>	
	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.	Attachment 2, Cross-reference with the Final Terms of Reference.
5	<b><i>Environmental Management Plan</i></b>	Attachment 5, Environmental Management Plan.
6	<b><i>Commitments Not Included in the EM Plan</i></b>	Attachment 8, EIS Commitments Summary.
7	<b><i>References</i></b>	
	Present all references consulted in a recognised format.	Chapter 29, References.
A1.	<b><i>Final Terms of Reference for this EIS</i></b>	
	Include a copy of the final TOR in the EIS.	Attachment 1, Surat Gas Project Final Terms of Reference.
	Where it is intended to bind appendices in a separate volume from the main body of the EIS, bind the TOR at least with the main body of the EIS for ease of cross-referencing.	Noted.
Provide in section 4.15 of the EIS a summary, cross-referencing specific items of the TOR to the relevant section of the EIS. For this purpose the TOR should be line numbered.	Attachment 2, Cross-reference with Final Terms of Reference.	
A2.	<b><i>Development Approvals</i></b>	
	Present a list of the development approvals required by the project.	Chapter 2, Project Approvals. Attachment 4, Project Relevant Legislation.
A3.	<b><i>Study Team</i></b>	
	Provide the qualifications and experience of the study team, specialist sub-consultants and expert reviewers.	Chapter 31, Study Team.
A4.	<b><i>The Standard Criteria</i></b>	
	Present a brief summary of the project's compatibility with the standard criteria as defined by the Environmental Protection Act 1994, which include the principles of ESD and other relevant policy instruments.	Attachment 7, Ecologically Sustainable Development (Section 6, Compatibility with the Standard Criteria).

**Table A2.1 Cross-reference with the EIS terms of reference (cont'd)**

ToR Section	ToR Title and Details	EIS cross-reference
A4.	With regard to the principles of ESD, as listed in the National Strategy for Ecologically Sustainable Development, published by the Commonwealth Government in December 1992 (available from the Australian Government Publishing Service), discuss each principle and conclusions drawn as to how the project conforms. A life-of-project perspective should be shown.	Attachment 7, Ecologically Sustainable Development.
A5.	<p><b>Consultation Report</b></p> <p>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.</p> <p>Provide a further list that includes the Commonwealth, Queensland and local government agencies consulted, and the individuals and groups of stakeholders consulted.</p> <p>In the Consultation Report appendix 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.</p>	<p>Section 6.3, Stakeholders and Focal Audiences.</p> <p>Section 6.3, Stakeholders and Focal Audiences.</p> <p>Chapter 6, Public and Stakeholder Consultation. Appendix B, Consultation Report.</p>
A6.	<p><b>Specialist Studies</b></p> <p>Include as appendices all reports generated on specialist studies undertaken as part of the EIS.</p>	Appendices A to S.
A7.	<p><b>Research</b></p> <p>Outline in an appendix any proposals for researching alternative environmental management strategies or for obtaining any further necessary information.</p>	Noted. See also Chapter 27, Summary of Key Impacts.

Environmental Impact Statement  
Surat Gas Project