

# Appendix A – Terms of Reference Checklist



**Gladstone Area  
Water Board**

**Gladstone – Fitzroy Pipeline  
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September 2008**

<b>CONTENTS OF EIS</b>		
<b>Consistency with EIS Terms of Reference (ToR)</b>		
<b>Section of ToR</b>	<b>Requirement of ToR</b>	<b>Where Addressed in Draft EIS (Chapter or Section Heading in the EIS)</b>
<b>1 Introduction</b>		
<b>Project Proponent</b>	This section should describe the experience of the Project Proponent (or associated entities), including the nature and extent of business activities, experience and qualifications, and environmental record including the Proponent's environmental policy.	Chapter 1 Section 1.2
<b>Project Description</b>	This section should provide a brief description, including a summary of any major associated infrastructure requirements of the key elements of the Project and the proposed timeframe for development, if the Project is approved. Detailed descriptions should follow in the appropriate sections.  A brief description should be provided of Government policies or studies or surveys undertaken for the purposes of developing the Project and preparing the EIS.	Chapter 1 Section 1.3
<b>Project Rationale</b>	This section should set out what the Project aims to achieve. It should describe the current status of the Project and outline the relationship of the Project to other developments or actions to which it may relate.	
	<b>Need for the Project</b>	
	The EIS should address the specific objectives and justification for the proposal. Issues to be addressed include: <ul style="list-style-type: none"> <li>• Strategic, economic and environmental implications of the proposal.</li> <li>• Impact on other water users of increased demands on existing water supplies (i.e. consumption and stored levels of water).</li> <li>• The Project's compatibility with the Fitzroy Basin Resource Operations Plan 2003 and any other relevant policy.</li> </ul>	Chapter 1 Section 1.4
	<b>Costs and Benefits of the Project</b>	
	This section should summarise: <ul style="list-style-type: none"> <li>• The economic costs and benefits to businesses and the wider community. Analysis should be conducted at local and regional levels, including feasible alternatives to the Project.</li> <li>• Regional social impacts including community disruption, related land use changes, employment, skills development and any workforce accommodation issues.</li> </ul>	Chapter 1 Section 1.4.5 & Chapter 15 Section 15.6
<b>Alternatives to the Project</b>	This section should describe feasible alternatives within the proposed Project, including the option of taking no action i.e. of not building the pipeline. Alternatives should be discussed in sufficient detail to enable an understanding of reasons for preferring certain options and courses of action and rejecting others. Reasons for selecting preferred options should be delineated in terms of technical, commercial, social and natural environment aspects. The alternatives considered should include: <ul style="list-style-type: none"> <li>• Demand reduction techniques eg conversion of industrial / power facilities. <ul style="list-style-type: none"> <li>– Other water supply methods including: <ul style="list-style-type: none"> <li>– Recycling;</li> <li>– Dam construction;</li> <li>– Desalination; and</li> <li>– Groundwater.</li> </ul> </li> </ul> </li> <li>• Other pipeline locations, in particular, discussion of reasonably practicable alternatives to the Project, which should include:</li> </ul>	Chapter 1 Section 1.6.1 Chapter 1 Section 1.6.1  Chapter 1 Section 1.6.2

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	<ul style="list-style-type: none"> <li>- Alternative locations considered, aided by maps and diagrams. The location options, highlighting the preferred location, should be shown on topographical maps at a suitable scale;</li> <li>- The rationale for selection of the preferred location and reasons other options were rejected; and</li> </ul> <ul style="list-style-type: none"> <li>• The process and results of consultation with the Department of Main Roads (DMR) during the alignment selection process aimed at minimising impacts on road safety and efficient traffic flow and realignments of any telecommunications or other infrastructure can be minimised.</li> </ul>	Discussions with DMR are ongoing during the design process
<b>Environmental Impact Assessment Process</b>	<b>Methodology of EIS</b> This section should provide an outline of the impact assessment process steps, timing and decisions to be made for relevant stages of the Project, including compliance with regulatory requirements, referral to final ToR, and types of information detailed within the EIS and any complementary or subsequent documentation (i.e. technical background paper).	Chapter 1 Section 1.7
	<b>Objectives of the EIS</b> This section should provide a statement of objectives of the environmental impact assessment process. The structure of the EIS can then be outlined as an explanation of how the EIS will meet its objectives. The audience should be able to distinguish the EIS as the key environmental document providing advice to decision makers considering approvals for the Project. The information in this section is required to ensure: <ul style="list-style-type: none"> <li>• That relevant legislation is addressed.</li> <li>• There is an awareness of the process to be followed.</li> <li>• That stakeholders are aware of any opportunities for input and participation.</li> </ul>	Chapter 1 Section 1.7 Section 1.9  1.9  Table 1.9
	<b>Submission</b> Interested and affected persons should be made aware of how submissions on the EIS will be addressed and taken into account in the decision-making process. The EIS should inform the reader on: <ul style="list-style-type: none"> <li>• How to make submissions;</li> <li>• What form the submission should take; and</li> <li>• When submissions must be made to gain standing for any appeal process.</li> </ul>	Chapter 1 Section 1.1
	<b>Public Consultation</b>	This section should outline the public consultation process that has taken place during EIS preparation and the results of such consultation. It should outline any further opportunities for public input into the EIS. A full account of community consultation data generated should be included as an appendix to the EIS.  The public consultation program should provide opportunities to encourage and facilitate active community involvement and education through public meetings, interest group meetings, production of regular summary information and updates, and other consultation mechanisms.  The public consultation process should identify broad issues of concern to local community and interest groups at all stages from project planning, through construction, commissioning, operations and final decommissioning.
<b>Project Approvals</b>	<b>Relevant Legislation and Policy Requirements</b>	Chapter 1 Section 1.9 Appendix C

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	<p>This section should identify and explain the legislation and policies controlling the approvals process.</p> <p>Reference should be made to the <i>State Development and Public Works Organisation Act 1971</i> (SDPWO Act) and its relationship with the <i>Integrated Planning Act 1997</i>, and other relevant Queensland laws. A description of the Environmentally Relevant Activities, as defined under the <i>Environmental Protection Act 1994</i> (EP Act) and subordinate legislation, necessary for each aspect of the Project should be given.</p> <p>The Proposal is a controlled action under the EPBC Act and the Commonwealth has accredited the state's EIS process for the purposes of the assessment under Part 8 of that Act.</p> <p>The EIS should include the Project's relationship with the relevant Water Resource Plans e.g. Fitzroy Basin Resource Operations Plan 2003 and subsequent Resource Operations Plans, any other specific management plans, and methods for compliance with the environmental objectives.</p> <p>The assessment and approval requirements under the EPBC Act should also be provided.</p> <p>The proponent should also identify government planning controls and local laws applying to the development area.</p>	
	<p>The EIS must provide a stand-alone report as an appendix to the EIS that exclusively and fully addresses the potential impacts on the matters of National Environmental Significance that were identified in the 'controlling provisions' when the Proposal was declared a controlled action. These are also noted in the Preface of these ToR. Further guidance on the content of this stand alone report is provided at Appendix A3 of these ToR.</p>	<p>Appendix G Potential Impacts on Matters of NES</p>
	<p><b>Planning Processes and Standards</b></p> <p>This section should outline the Project's consistency with existing land uses or long-term policy framework for the pipeline route, and in particular legislation, standards, codes or guidelines available to monitor and control operations on site. It should refer to all relevant state and regional planning policies, including Nation Action Plans and Agreements relating to climate change. This information is required to demonstrate how the proposal conforms to state, regional and local policies for the area.</p>	<p>Chapter 1 Section 1.9 Appendix C</p>

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<b>2 Description of the Project</b>	
<p>The EIS should provide detailed descriptions of construction, commissioning, operation and decommissioning stages (including rehabilitation) of the Project and any other supporting infrastructure. Details should include:</p> <ul style="list-style-type: none"> <li>• Design parameters for aspects of the Project that may impact on listed threatened species and ecological communities.</li> <li>• A program covering activities relating to design, construction, commissioning and first operating activities.</li> <li>• The overall Project duration and expected timing.</li> </ul>	
<p><b>Location</b></p> <p>This section should describe the regional and local context of the Project and associated infrastructure and illustrated on maps at suitable scales. Real property descriptions of the Project should be provided. Maps should show the precise location of the Project 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>• The location and boundaries of the Project footprint.</li> <li>• The location of any proposed buffers surrounding the working areas (for construction).</li> <li>• The location of proposed site office(s).</li> </ul> <p>The process and criteria used for the selection of the specific Project site and infrastructure construction and relocation design should be described. The full extent of land that is required for infrastructure associated with the pipeline should be documented. The process of acquisition and/or resumption (if required) of land should be outlined. The method, by which ownership, control or owners' consent is to be acquired, should be presented.</p>	<p>Chapter 2 Section 2.1</p> <p>Figure 1.1 Locality Map</p> <p>Chapter 1 Section 1.5.2 Chapter 4</p>
<p><b>Description of the Pipeline Construction and Operation</b></p>	
<p><b>Water Pipeline</b></p> <p>A detailed description of the pipeline project should be provided including:</p> <ul style="list-style-type: none"> <li>• A map of the preferred route location using cadastral and topographical maps.</li> <li>• Design parameters covering pipe grade, diameter(s), wall thickness, length, capacity, test and operating pressures, depth of cover of the pipe, cathodic protection, coating and design life.</li> <li>• Detailed criteria for pipeline burial depth and above ground construction, along with pipeline orientation/location within any state-controlled road reserve.</li> <li>• Above ground facilities, including physical dimensions and construction materials for surface facilities along the pipeline route and information on pipeline markers.</li> </ul> <ul style="list-style-type: none"> <li>• Details of criteria to assess the minimum depth the pipeline is to be buried under creeks, rivers and ephemeral water ways, in particular the crossings proposed for rivers and watercourses, taking into account Q100 flood events.</li> <li>• For the proposed pipeline route describe, with the aid of maps and diagrams, the location and/or frequency of cathodic protection points, off-take valves, control valves (isolation points), pigging facilities (if applicable) and any other Project facilities and linkages to existing water supply infrastructure.</li> <li>• Criteria for design and location of any temporary or permanent access crossing for machinery, transport etc</li> </ul>	<p>Chapter 2 Section 2.2</p> <p>Figure 1.2</p> <p>2.2.1</p> <p>2.2.1.2</p> <p>2.2.1.1 above ground valves 2.2.2, 2.2.3, 2.2.4, 2.2.5 (above ground facilities) 2.2.8 (markers)</p> <p>2.2.1.2</p> <p>2.2.1.1- cathodic protection, valves, pigging</p> <p>2.2.1.2 Access</p>

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across any waterway (e.g. construction of causeways, bridges, culvert crossings etc) and any permanent access points or roads for maintenance purposes, in particular where they are adjacent to waterways. Description of the nature of any permanent access points.

- Easement widths and access requirements along the route, including the use of existing areas of disturbance for pipeline access and future maintenance.
- Disposal/reuse of surplus excavated material and if this material can be coordinated with concurrent construction activities in the vicinity.
- Procedures for trench construction and pipe-laying if rock is encountered, in particular whether ripping rock or blasting may be required and the necessary procedures especially in proximity to habitation and existing infrastructure and compliance with all relevant design and construction codes.
- Pipeline construction techniques including:
  - Plant and machinery likely to be involved.
  - Supply and storage of materials – volume, composition, handling and storage during construction.
  - Anticipated timing, duration and progress of pipeline laying.
  - Possible interruption of pipeline laying to other land activities, e.g. interruption to road and or rail traffic.
  - Extent that service corridors will be used during construction and maintenance.
  - Width of vegetation clearing required. This information should indicate where vegetation to be cleared has significant conservation value (such as sensitive environmental areas and creek crossings), and should also reference where in the EIS the impacts on such vegetation have been addressed.
  - Management of soil during construction.
  - Depth of trenching and burial of the pipeline; bedding materials (if any) including compaction techniques on the pipeline trench and in particular adjacent to and within waterways, to achieve bank stability.
  - Procedures for trench construction and pipe-laying if rock is encountered.
  - Typical crossing techniques including:
    - an evaluation of the use of directional drilling to construct the pipeline across significant watercourses. Particularly for crossings of Inkerman/Six Mile Creek, Twelve Mile Creek and Raglan Creek. Depending on the outcome of the evaluation, it may then be necessary to describe in detail the locations, impacts and mitigation associated with entry and exit points for the drilling; and
    - restoration works that would be used at creek crossings, and road, rail, and other service corridor crossings. Detail whether the flow of water will need to be altered within and/or diverted out of any waterway during pipeline construction. Where in-stream infrastructure is in place, identify practicality of attaching the pipeline to these structures.
  - Management of weed seed spread, including quarantine areas and wash-down facilities and the dispersal/destruction of weed seeds and contaminated vegetative matter.

Table 2.3 Waterway crossings Reference made to Chapter 6, 7, 8, 20
2.2.1.2- <i>Construction</i> (ROW width)
2.2.1.2- <i>Access</i>
2.2.1.2 <i>Trenching</i>
2.2.1.2 <i>Trenching</i> with reference made to AS/NZS standards
2.2.1.2
2.2.1.2 <i>Trenching</i>
2.2.1.2 <i>Stringing</i>
2.2.6
2.4
2.2.2.1 <i>Crossings</i> . Chapter 20 EMP – Traffic. Chapter 13 Transport and access arrangements
2.2.1.2 Access
2.3.1
2.2.1.2 <i>Construction and Waterways</i> Chapter 6 Terrestrial Flora Chapter 20 EMP
2.2.1.2 <i>Grading</i> Chapter 5 Soils and Contaminated Land Chapter 11 Waste
2.2.1.2 <i>Trenching</i> also <i>Pipelaying and Backfilling</i>
2.2.1.2 <i>Trenching</i>
2.2.1.2 <i>Crossings</i>
2.2.1.2 <i>Clean up and Rehabilitation</i> and <i>Crossings</i> Also Table 2.2
2.2.1.2
2.2.6

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	<ul style="list-style-type: none"> <li>- Disposal or reuse of plant-matter left after clearing vegetation to minimise potential increase in fuel loads.</li> <li>- Details of the anticipated hydrostatic testing procedures (discussion of water usage for this activity should be addressed).</li> <li>- Testing the pipeline’s integrity, including an outline of cathodic protection requirements, launcher and receiving scraper station and hydrostatic testing.</li> <li>- Clean-up and restoration (rehabilitation) of areas used during construction, including camp sites and storage areas.</li> <li>• Details of any off-site quarrying activities necessary for the Project.</li> <li>• Pipeline operation and maintenance – inspection and surveillance activities and frequency, including: the impact on waterways as a result of operation and maintenance activities; safety procedures (including provision of shut-down and/or venting in event of an emergency); and provision for public safety in such circumstances.</li> <li>• Procedures to restrict unauthorised access to pipeline ROW.</li> <li>• Decommissioning methodologies, clean-up and rehabilitation.</li> </ul>	<p>Chapter 6 – Terrestrial Flora Chapter 11 - Waste Chapter 20 - EMP</p> <p>2.2.1.2 Chapter 11 Waste</p> <p>2.3.3 re: water use. Chapter 11.6.3.3 Waste</p> <p>Chapter 11 Waste</p> <p>2.2.1.2 <i>Clean up and Rehabilitation</i></p> <p>2.2.1.2 <i>Pipelaying and Backfilling.</i></p> <p>2.2.8</p> <p>2.2.8</p> <p>2.2.1.2 <i>Clean up and Rehabilitation</i></p>
	<p><b>Intake, Treatment and Storage Facilities</b></p> <p>A description is required of the other operational elements of the project, in particular, the intake structure, pump stations, the water treatment plant and intermediate and final storage tanks or reservoirs. The information should include:</p> <ul style="list-style-type: none"> <li>• Maps showing location of each facility;</li> <li>• Plans or layout diagrams showing general arrangements of equipment and facilities;</li> <li>• Outline plans and elevations of buildings and structures;</li> <li>• Construction techniques, vegetation clearing, earthworks, management of soil, and duration of construction works; and</li> <li>• Description of operations sufficient to identify the general impact of activities, movements, noise and hours of operation.</li> </ul>	<p>Figure 1.2 Locality Map Chapter 2 Section 2.2.2 Section 2.2.3 Section 2.2.4 Section 2.2.5</p> <p>Figures provided</p> <p>2.2.2.2. 2.4</p> <p>2.2 Chapter 12 Noise - describes operations noise Chapter 13 Transport and Access - describes the operational traffic movements</p>
	<p><b>Workforce and Accommodation</b></p> <p>This section should provide details on the employment requirements and skills base of the required workforce for both the construction and operations phases of the project for the entire pipeline system. The EIS should also describe the</p>	<p>Chapter 2 Section 2.2.6</p>

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	deployment strategies proposed for the workforce over the construction period and the length of the pipeline. Information should be provided on the accommodation requirements for the workforce, (if any), and if applicable their family members.	
	<b>Associated Infrastructure requirements</b>	
	This section should provide a brief overview of transport requirements both during construction and in operation. Full details of transport volumes, modes and routes should be provided in accordance with section 3.8 Traffic, Transport and Access Arrangements.	Section 2.3.1 Chapter 13 - Traffic and access arrangements
	<b>Transport</b> This section should provide a brief overview of transport requirements both during construction and in operation. Full details of transport volumes, modes and routes should be provided in accordance with section 3.8 Traffic, Transport and Access Arrangements.	Chapter 2 Section 2.3.1  Chapter 13 – Traffic and access arrangements
	<b>Electricity and Telecommunications</b> This section should identify the extent of electricity supply requirements and energy conservation measures proposed, including for water treatment and pumping. Telecommunications requirements should also be noted.	Chapter 2 Section 2.3.2
	<b>Water Usage</b> This section should provide information on water usage by the Project.  Options for the source of water for hydrostatic testing, and any other construction and/or operational water use, should be discussed. Detailed plans for any storage, reuse and disposal of water used for hydrostatic testing should be outlined. Where recycled water is proposed to be used the <i>Queensland Recycled Water Guidelines December 2005</i> should be considered.  Determination of potable water demand for the Project during the construction period should be made. Details should be provided of any existing town water supply to be used to meet such requirements. If water storage and/or treatment are proposed on site, for use by the site workforce, then this should be described. This description should include the management practices to maintain the quality of the water, including the source of the water, transportation, water treatment processes, microbiological and chemical testing program.  Use of water during operation should be described and quantitative amounts should be estimated.	Chapter 2 Section 2.3.3 Chapter 11 Waste
	<b>Gas Supply</b> This section should provide information on gas usage (if any) by the Project, including the source and quality of all gas to be used.	Chapter 2 Section 2.3.4
	<b>Waste Management</b> This section should provide a brief overview of the waste management requirements of the Project. Handling and disposal of wastewater and solids if any from treatment processes should be outlined, together with the location and impacts of disposal arrangements. Full details of the waste volumes, characteristics and management strategies should be provided in accordance with section 3.6 Waste.	Chapter 11 Chapter 20



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<b>3. Environmental Values and Management Impact</b>		
	<p><i>Note: Where the project / pipeline route traverses the Stanwell-Gladstone Infrastructure Corridor, the EIS study should consult the results of any corridor or other project investigation studies to determine the existence of relevant study material and results which can provide information to address these Terms of Reference. Where the information is adequate, then it may be presented in satisfaction of these Terms of Reference, subject to permission and acknowledgement from the original authors.</i></p> <p>This section should address all elements of the environment, (such as land, water, nature conservation, cultural heritage, social and economic, air, noise, waste, transport and traffic and hazards and risk) in a way that is comprehensive and clear.</p> <p>The EIS should assess the impacts of the construction, commissioning, operation and decommissioning stages (including rehabilitation) of the Project, together with impacts associated with potential ongoing maintenance, access and servicing resulting from the development and any other facilities required for the Project.</p> <p>The functions of this section are to:</p> <ul style="list-style-type: none"> <li>• Identify and describe existing environmental values of the area that may be affected by the proposal.</li> <li>• Describe potential adverse and beneficial impacts of the proposal on the identified environmental values.</li> <li>• Identify how the Project will be managed to protect environmental values and strategies to be applied to prevent or minimise harm to these values and if unavoidable, how these will be offset.</li> <li>• Present environmental protection objectives and the standards and measurable indicators to be achieved.</li> </ul> <p>Environmental protection objectives may be derived from legislative and planning requirements which apply to the proposal including Australian Government strategies, state planning policies, local authority strategic plans, environmental protection policies under the EP Act, any catchment management plans prepared by local water authorities or land care groups and any threatened species recovery plans. Special attention should be given to those mitigation strategies designed to protect the values of any sensitive areas and any identified ecosystems of high conservation value within the area of possible proposal impact.</p> <p>It is recommended that the EIS follow the heading structure shown below. The mitigation measures, monitoring programs etc, identified in this section of the EIS should be used to develop the EMP for the Project (see section 4).</p>	
<b>Climate</b>	This section should describe climatic conditions in the Project area in relation to their bearing on the design of Project facilities, construction methods and operational parameters.	Chapter 3.5 Climate
	Seasonal conditions (e.g. cyclones, thunderstorms, floods and storms) that may influence timing and/or construction methods should be discussed and how these will be managed.	3.5.1 and 3.5.2
	The EIS should discuss how risks from climatic events such as intense rainfall during construction and rehabilitation will be managed.	3.7.1 and 3.7.2
	The project should refer to potential impacts of sea level, tidal HAT changes over set periods (eg 50 years, >50years), if relevant.	3.6.2.1 and 3.7.3
<b>Land</b>	This section should detail the existing land environment for all areas associated with the Project, including areas affected by the pipeline route, and any new permanent or temporary facilities constructed for the pipeline.	
	This section should also describe the potential for the construction and operation of the Project to change existing and potential land uses of the Project sites and adjacent areas.	
	<b>Land Use and Infrastructure</b>	<b>Chapter 4 Land Use and Infrastructure</b>

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	<p><b>Description of Environmental Values</b></p> <p>The EIS should identify, with the aid of maps:</p> <ul style="list-style-type: none"> <li>• Land tenure (including reserves, tenure of special interest such as protected areas and forest reserves, identification of both existing roads and road reserves and any corridors preserved by the DMR and Queensland Transport for future transport needs, railways and rail reserves).</li> <li>• Land use (urban, residential, industrial, agricultural, forestry, recreational, mining including mining and petroleum exploration tenures, mining leases, mining claims, mineral development licences and extractive industry permits).</li> <li>• Areas covered by applications for Native Title determination or Native Title determinations (including traditional and contemporary uses of land and water by Aboriginal people and Torres Strait islanders). Provide description of Native Title Representative Body's boundaries.</li> <li>• Information on any known occurrences of economic mineralisation and extractive resources within the Project area.</li> <li>• Distance of facilities and pipelines from residential and recreational areas.</li> <li>• The locations of gas and water pipelines, power lines, roads, rail and any other easements.</li> <li>• The location of fences and gates to be crossed by the pipeline or constructed for pipeline access.</li> </ul>	<p>Section 4.5.1.2 and Section 4.5.2.2 Figures 4.2 and 4.8</p> <p>Section 4.5.1.1 and Section 4.5.2.1 Section 4.5.1.5 and Section 4.5.2.5 Figures 4.1 and 4.7 Figures 4.5 and 4.11</p> <p>Section 4.5.1.3 and Section 4.5.2.3 Figures 4.3 and 4.9</p> <p>Section 4.5.1.4 and Section 4.5.2.4 Figures 4.4 and 4.10</p> <p>Section 4.5.1.5 and Section 4.5.2.5 Figures 4.5 and 4.11</p> <p>Section 4.5.1.6 and Section 4.5.2.6 Figures 4.6 and 4.12</p> <p>Section 4.5.1.7 and Section 4.5.2.7</p>
	<p><b>Potential Impacts and Mitigation Measures</b></p> <p>The potential for the construction and operation of the Project to change existing and potential land uses of the proposal site and adjacent areas should be detailed. Post operations land use options should be detailed including suitability of the area within the ROW to be used for agriculture or nature conservation. The factors favouring or limiting the establishment of those options should be given in the context of land use suitability prior to the Project and minimising potential liabilities for long-term management.</p> <p>The EIS should address the following:</p> <ul style="list-style-type: none"> <li>• Identify any land units requiring specific management measures.</li> <li>• Describe possible impacts on surrounding land uses and human activities, including impacts to residential and industrial uses.</li> <li>• Describe the strategy and progress in relation to making of Native Title Agreements (NTAs), including Native Title Representative Bodies, consultant selection, traditional owner involvement and related statutory processes.</li> <li>• Outline the potential issues involved in proximity of the water pipeline to electric transmission lines and electrified rail lines, both at crossing points, where lines run parallel, and where construction and maintenance machinery is used in the vicinity of other infrastructure corridors.</li> <li>• Include the specification of all possible impacts on, or sterilisation of, identified mineral or energy resources and extractive industry deposits, the amount of sterilisation (if any) of the deposits resulting from the construction and/or operation of the pipeline and associated infrastructure.</li> <li>• Identify if commercial timber (sawlog and other products) or quarry resources exist on the pipeline route and conduct an assessment of the commercial value of these resources satisfying the requirements of the Department of Natural Resources and Water.</li> </ul>	<p>Chapter 4 Land Use and Infrastructure</p> <p>Section 4.7.1</p> <p>Section 4.6.1.1 and 4.6.2.1 Section 4.6.1.5 and 4.6.2.5</p> <p>Section 4.6.1.3 and 4.6.2.3</p> <p>Section 4.6.1.6 and 4.6.2.6</p> <p>Section 4.6.1.4 and Section 4.6.2.4</p> <p>Section 4.6.1.4 and 4.6.2.4</p>
	<p><b>Topography and Geomorphology</b></p>	<p><b>Chapter 17 Landscape and Visual Assessment</b></p>

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	<p><b>Description of Environmental Values</b></p> <p>Maps should be provided locating the Project and its environs in both regional and local contexts. The topography of the proposal site should be detailed with contours at suitable increments, shown with respect to Australian Height Datum (AHD). Significant features of the landscape should be included on the maps. Commentary on the maps should be provided highlighting the significant topographical features.</p> <p>In coastal areas and for major watercourse crossings where acid sulfate soils (ASS) may be disturbed, surrounding topography should be detailed at 1m increments with levels shown with respect to AHD.</p>	Figure 17.1
	<p><b>Potential Impacts and Mitigation Measures</b></p> <ul style="list-style-type: none"> <li>• The Project should be discussed in the context of major topographic features and any measures taken to avoid or minimise impact to such (if required).</li> <li>• The objectives to be used for the Project in re-contouring and landscaping should be described. Consideration should be given to the use of threatened plant species during any landscaping and revegetation.</li> <li>• Outline any provision for the protection and reasonable restoration of the visual amenity of the locale prior to the pipeline and associated infrastructure implementation, should the pipeline or any associated infrastructure be situated above ground.</li> </ul>	17.5 17.7 20.3.14 17.7
	<p><b>Soils</b></p> <p><b>Description of Environmental Values</b></p> <p>Soils along the Project route should be described and mapped at a suitable scale, with particular reference to the physical and chemical properties of the soils which will influence erosion potential, storm water run-off quality, rehabilitation and agricultural productivity of the land, for example for dry-land cropping, irrigated cropping or grazing uses. Information should also be provided on soil stability and suitability for construction of all Project facilities.</p> <p>Soils should be mapped at a suitable scale and described according to the <i>Australian Soil and Land Survey Field Handbook</i> (Gunn et al 1988 and McDonald et al 1990) using the Australian Soil Classification (Isbell, 2006) <i>Revised Edition</i><sup>1</sup>. An appraisal of the depth and quality of useable soils should be undertaken. The location of each borehole should be accurately presented on maps, and boreholes should equitably represent different soil types present. Information should be presented according to the standards required in the <i>Planning Guidelines: The Identification of Good Quality Agricultural Land</i> (DPI, DLGP, 1993) that supports <i>State Planning Policy 1/92: Development and the Conservation of Agricultural Land</i>.</p> <p>The EIS should discuss the potential for the existence of ASS within the disturbance zone of the Project<sup>2</sup>. The EIS should also investigate the characteristics of ASS with reference to acid generation potential and its location within the disturbance zone of the pipeline.</p> <p><b>Potential Impacts and Mitigation Measures</b></p> <p>This section should provide details on any potential impacts on soils, including:</p> <ul style="list-style-type: none"> <li>• Measures to ensure that soil erosion does not accelerate along the pipeline route due to construction or maintenance activities, in accordance with measures detailed in <i>Soil Erosion and Sediment Control – Engineering Guidelines for Queensland Construction Sites, 1996</i>.</li> </ul>	<p><b>Chapter 5 Soils and Contaminated Land</b></p> <p>Section 5.6.1 Figures 5.1, 5.2, 5.3, 5.4</p> <p>Section 5.6.1 and Section 5.6.2 Figures 5.1, 5.2, 5.3, 5.4</p> <p>Section 5.6.4</p> <p>Chapter 5 Soils and Contaminated Land Section 5.8.1</p>

<sup>1</sup> NRW (4.1)

<sup>2</sup> EPA (3.1)

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	<ul style="list-style-type: none"> <li>• Influence of time of year of construction on the impact on soils, particularly from localised rain events.</li> <li>• Management measures for ASS that may be encountered in association with the Project should be consistent with State Planning Policy 2/02 – Planning and Managing Development Involving Acid Sulphate Soils Version 2 (DLGP and DNRM, August 2002) and Soil Management Guidelines Version 3.8, DNRM November 2002 (Dear et al, 2002).</li> <li>• Management measures for dealing with saline and sodic (duplex) soils.</li> <li>• Impacts to Good Quality Agricultural Land (GQAL) and forestry land (addressing loss of access to land, fragmentation of sites, increase of fire risk and loss of productive land for those purposes) along and adjacent to the proposed pipeline route, including alternative routes as outlined in Section 1.4.</li> <li>• Details of erosion control measures and criteria used to assess methods that will minimise/alleviate sedimentation over various terrain types including waterway beds, banks and adjacent areas. Methods of stockpiling and disposal of trench material from excavated streambed, bank, and adjacent areas should be included.</li> </ul> <p>A description of topsoil management should consider transport, storage and replacement of topsoils to disturbed areas. The minimisation of topsoils storage times (to reduce fertility degradation) should also be addressed. Erosion and sediment control should be described with a Soils Erosion and Sediment Control Plan included in the EMP.</p>	<p>Section 5.7.1 Section 5.8.3  Section 5.8.1 Section 5.7.2  Section 5.8.1  Chapter 20 EMP</p>
	<p><b>Land Contamination</b></p> <p><b>Description of Environmental Values</b></p> <p>A review should be undertaken to identify land within the project route and within any other areas affected by the proposed works, which has been used, or is being used, for a Notifiable Activity as listed in Schedule 2 of the EP Act, or is potentially contaminated, or is on the Environmental Management Register (EMR) or Contaminated Land Register (CLR). A preliminary site investigation should be prepared for properties that will be affected by the proposed Project</p> <p><b>Potential Impacts and Mitigation Measures</b></p> <p>A strategy for managing potential contamination on those properties, which are listed on the EMR/CLR, should be developed and submitted to the Environmental Protection Agency's (EPA's) Contaminated Land Unit, prior to commencement of the Project.</p> <p>The EIS should discuss the management of any contaminated land and potential for contamination from construction, commissioning and operation, in accordance with EPA's <i>Draft Guidelines for the Assessment and Management of Contaminated Land in Queensland (1998)</i> and the <i>National Environment Protection (Assessment of Site Contamination) Measure 1999</i>.</p>	<p><b>Chapter 5 Soils and Contaminated Land</b> Section 5.6.3  Section 5.7.3</p>
<p><b>Nature Conservation</b></p>	<p>This section should detail the existing nature conservation values of the Project area.</p> <p>The flora and fauna communities should be described, in particular those that are rare or threatened, in environmentally sensitive localities, including waterways, riparian zones, and wilderness and habitat corridors. The description should include species lists with reference to international, national, state and local significance.</p> <p>Reference should be made to relevant Queensland and Australian Government legislation and policies on threatened species and ecological communities including recovery plans.</p> <p>All surveys undertaken should be in accordance with best practice advice from the EPA <i>Guidelines for Flora and Fauna Assessments</i> and should include consideration of seasonality, potential for occurrence of significant species, rarity of species and the sensitivity of the species to disturbance.</p>	

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	<p>This section should also discuss all likely direct and indirect environmental harm on flora and fauna in both terrestrial and aquatic environments in sensitive areas.</p> <p>The EIS should demonstrate how the Project (including the proposed pipeline route and other areas of disturbance such as access tracks) would comply with the following hierarchy:</p> <ol style="list-style-type: none"> <li>1. Avoiding impact on areas of remnant flora and fauna communities and other areas of conservation value.</li> <li>2. Mitigation of impacts through rehabilitation and restoration.</li> <li>3. Measures to be taken to replace or offset the loss of conservation values where avoidance and mitigation of impacts cannot be achieved.</li> <li>4. Explanation of why measures 1 to 3 above would not apply in areas where loss will occur.</li> </ol>	
	<p><b>Matters of National Environmental Significance</b></p>	
	<p><b>Description of Environmental Values</b></p>	
	<p>In accordance with the requirements of the Controlled Action decision of the Australian Minister for the Environment and Water Resources in decision EPBC 2007/3501 the EIS should provide sufficient information on the presence or otherwise of the following fauna species:</p> <ul style="list-style-type: none"> <li>• Yellow Chat (<i>Epithianura crocea macgregorii</i>)</li> <li>• Fitzroy Tortoise (<i>Rheodytes leukops</i>)</li> <li>• Brigalow Scaly Foot (<i>Paradelma orientalis</i>)</li> <li>• Squatter Pigeon (<i>Geophaps scripta scripta</i>)</li> <li>• Yakka Skink (<i>egernia rugosa</i>).</li> </ul>	<p>Chapter 7 terrestrial Fauna, Tables 7.8 and 7.9 &amp; Appendix C Matters of National Environmental Significance</p>
	<p>The EIS should also provide sufficient information on the presence or otherwise of the following flora species:</p> <ul style="list-style-type: none"> <li>• Semi evergreen vine thicket of the Brigalow belt</li> <li>• <i>Atalaya collina</i></li> <li>• <i>Cycas megacarpa</i></li> <li>• <i>Cycas ophiolitica</i></li> <li>• <i>Quassia bidwillii</i>.</li> </ul> <p>The proximity of the Project elements to any of these species should be identified and mapped. The EIS should discuss the presence or otherwise of the target species in these habitats, and the range of circumstances under which the species does or will make use of the habitats.</p>	<p>Chapter 6 Terrestrial Flora &amp; Appendix C Matters of National Environmental Significance</p>
	<p><b>Potential Impacts and Mitigation Measures</b></p>	
	<p>This section should discuss the following:</p> <ul style="list-style-type: none"> <li>• Address potential direct and indirect impacts of the proposal on the Controlled Action species, communities and habitats of national significance as identified above.</li> <li>• Detail appropriate management plans, mitigation and monitoring measures, including any off-set requirements if necessary, to ensure long term protection.</li> </ul>	<p>Chapter 6 Terrestrial Flora Chapter 7 terrestrial Fauna &amp; Appendix C Matters of National Environmental Significance</p>
	<p><b>Terrestrial Flora</b></p>	<p><b>Chapter 6, Terrestrial Flora</b></p>
	<p><b>Description of Environmental Values</b></p>	
	<p>Terrestrial vegetation maps at a suitable scale (e.g. 1:10,000 generally) should be provided for the entire Project area. Mapping should be produced from aerial photos and ground truthing and should show and discuss the following:</p>	<p>Figure 6.1</p>

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	<ul style="list-style-type: none"> <li>• Location and extent of vegetation types using the EPA's regional ecosystem descriptions in accordance with the <i>Conservation Status of Queensland's Bioregional Ecosystems (Sattler P.S. &amp; Williams R.D. (Eds) 1999)</i> and the EPA's website (<a href="http://www.epa.qld.gov.au/environment/science/wildlife/">www.epa.qld.gov.au/environment/science/wildlife/</a>) listing the biodiversity status of regional ecosystems. Any differences between site mapping and mapping produced by the Queensland Herbarium should be reported</li> <li>• Location of species listed as 'protected plants' under the <i>Nature Conservation (Wildlife) Regulation 2006</i> and subsequent amendments, and listed as 'threatened' under the EPBC Act 1999.</li> <li>• Any plant communities of cultural, commercial or recreational significance.</li> </ul> <ul style="list-style-type: none"> <li>• Vegetation map unit descriptions, including their relationship to regional ecosystems. Sensitive or important vegetation types should be highlighted and their value as habitat for fauna and conservation of specific rare floral and faunal assemblages or community types discussed.</li> <li>• The distribution and abundance of exotic and weed species, particularly declared plants under the <i>Land Protection (Land and Stock Route Management) Act 2002</i>. A weed management strategy will be required to include the provision of surveys for pest plants to occur after significant rainfall events that will allow germination.</li> </ul> <p>The description should contain a review of published information regarding the assessment of the significance of the vegetation to conservation, recreation, scientific, educational and historical interests. The assessment should also include the significance of native vegetation (including regrowth and restored areas in addition to remnant vegetation), from a local, regional, state and national perspective.</p> <p>Vegetation surveys should be undertaken for representative natural vegetation communities likely to be impacted by the Project at a sufficient number of sites, allowing for seasonal factors, as follows:</p> <ul style="list-style-type: none"> <li>• All data requirements of the Queensland Herbarium CORVEG database should be collected.</li> <li>• The minimum size site should be 500 square metres.</li> <li>• A complete list of species present at each site should be recorded.</li> <li>• The relative abundance of plant species should be recorded.</li> <li>• Any plant species of conservation, cultural, commercial or recreational significance should be identified. The existence of any rare, threatened or otherwise noteworthy species/communities in the study area, including discussion of range habitat, breeding, recruitment feeding and movement requirements, and current level of protection (e.g. any requirement of Protected Area Management Plans or recovery plans) should be identified.</li> <li>• Vegetation mapping and data should be submitted to the Queensland Herbarium to assist the updating of the CORVEG database.</li> <li>• Specimens of species listed as 'protected plants' under the Nature Conservation (Wildlife) Regulation 1994, other than common species, are to be submitted to the Queensland Herbarium for identification and entry into the HERBRECS database.</li> </ul> <p>The location of any horticultural crops in the vicinity of the Project facilities should be shown.</p> <p>Details of any riparian vegetation, supratidal areas and native grasslands, and their value for fauna habitat and conservation of specific rare floral and faunal assemblages or community types, from both a local and regional perspective, should be provided. Any special landscape values of any natural vegetation communities should be</p>	<p>Chapter 6, Section 6.5.2</p> <hr/> <p>Chapter 6, Section 6.5.3</p> <hr/> <p>- Known crops in the study area are discussed in Chapter 6, Section 6.5.6</p> <hr/> <p>Chapter 6, Section 6.5.2</p> <hr/> <p>Chapter 6, Section 6.5.7</p> <hr/> <p>Chapter 6, Section 6.5.2</p> <hr/> <p>The methodology for vegetation surveys is described in Chapter 6, Section 6.2.4</p> <hr/> <p>- Known crops in the study area are discussed in Chapter 6, Section 6.5.6 - Vegetation and its conservation values are described in Chapter 6, Section 6.5.</p>
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	<p>described.</p> <p>Existing information on plant species may be used instead of new survey work provided that the data are derived from surveys consistent with the above methodology. Methodology used for flora surveys should be specified in the appendices to the EIS. Any existing information should be revised and comments provided on whether the areas are degraded, cleared or affected in ways that would affect their environmental value.</p>	<ul style="list-style-type: none"> <li>- Fauna habitat value in the project area is described in Chapter 7 Terrestrial Fauna.</li> <li>- Landscape values are described in Chapter 17 Landscape and Visual Assessment</li> </ul>
<p><b>Potential Impacts and Mitigation Measures</b></p>		
	<p>This section should discuss all foreseen direct and indirect effects on terrestrial flora and the potential level of environmental impact identified and measures to mitigate the impacts of the Project on vegetation types, particularly those identified as having high conservation values. The discussion should include the following:</p> <ul style="list-style-type: none"> <li>• Description of the construction and operation of the Project involving clearing, salvaging or removal of vegetation, including assessment of both direct impacts and indirect impacts on vegetation not cleared. Short term and long term durations should be considered with specific reference to impacts on riparian vegetation, supratidal areas and native grasslands or other sensitive vegetation communities. In areas of high conservation value the use of particular construction methods (eg reduced ROW: underboring) to mitigate adverse impacts should be discussed.</li> <li>• Mitigation plans to address anticipated impacts arising from land clearing, including identification of suitable areas for offsets (in consultation with council's and state agencies) to compensate vegetation/habitat loss.</li> <li>• Plans to allow for the maintenance or enhancement of habitat and corridor functions outlined.</li> <li>• Methods to ensure rapid rehabilitation of disturbed areas following construction including the species chosen for revegetation which should be consistent with the surrounding associations. Details of any post construction monitoring programs and what benchmarks will be used for review of monitoring should be included.</li> <li>• Methods of minimising the potential for the introduction and/or spread of weeds or plant disease, including: <ul style="list-style-type: none"> <li>- Identification of the origin of construction materials, machinery and equipment.</li> <li>- The need for vehicle and machinery wash-down and any other hygiene protocols.</li> <li>- Staff/operator education programs.</li> </ul> </li> <li>• A weed management plan presented in the EMP, to be developed in consultation with local government environmental officers, to cover construction, commissioning, rehabilitation and operation periods.</li> </ul> <p>The EIS should address any actions of the project or likely impacts that would be assessable development for the purposes of the <i>Vegetation Management Act 1999</i> in particular, there will be a requirement for an operational works permit to clear vegetation which is assessable as per Schedule 8 of IPA.</p> <p>If clearing of 'endangered' and 'of concern' regional ecosystems, or 'essential habitat', is proposed, the 'current</p>	<p>Potential impacts and mitigation measures for Terrestrial Flora are described in Chapter 6, Section 6.6 and 6.7. Further mitigation measures are provided in the EMP in Chapter 20.</p> <p>The impacts to vegetation that may arise as a result of the project are described in Chapter 6, Section 6.6</p> <p>Mitigation measures to address impacts to vegetation are included in Chapter 6, Section 6.7. This includes information on vegetation offset requirements. Mitigation measures are also included in Chapter 20 EMP.</p> <p>A vegetation clearing control plan is included in Chapter 20 EMP.</p> <p>Measures for rehabilitation measures are included in the vegetation clearing control plan in Chapter 20 EMP.</p> <p>Weed management measures are included in Chapter 20 EMP.</p> <p>A weed management plan is included in the EMP and will be further developed as part of the construction EMP to be prepared prior to construction.</p> <p>Regional ecosystems likely to be impacted by the project are described in Chapter 6, Section 6.7.2.</p>

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	<p>extent' of the endangered and of concern regional ecosystems or essential habitat must be maintained. A vegetation management offset which meets the requirements of the "Policy for Vegetation Management Offsets", current at the time of application, may be required.</p>	
	<p><b>Terrestrial Fauna</b></p>	<p><b>Chapter 7 Terrestrial Fauna</b></p>
	<p><b>Description of Environmental Values</b></p>	
	<p>The terrestrial and riparian fauna occurring in the areas affected by the Project should be described, noting the broad distribution patterns in relation to vegetation, topography and substrate. Wildlife corridors and refugia along the proposed route should be identified and mapped.</p> <p>The description of the fauna present or likely to be present in the area should include:</p> <ul style="list-style-type: none"> <li>• Species diversity (i.e. a species list) and abundance of animals, including amphibians, birds, reptiles, mammals and bats.</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> <li>• The existence of feral or exotic animals, including maps of major pest infestations.</li> <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 (e.g. any requirements of Protected Area Management Plans or Threatened Species Recovery Plans).</li> </ul> <p>Surveys are to be conducted at the appropriate time of the year when the species is known to be present on the site, so that identification and location of these species is optimal.</p> <p>The EIS should indicate how well any affected communities are represented and protected elsewhere in the subregion where Project is located. The methodology for subregional analysis of representatives and adequacy of protection for the terrestrial/riparian vegetation communities and the flora and fauna taxa that inhabit them within the affected areas should be clarified.</p> <p>Site data should be recorded in a format compatible with EPA WildNet databases and provided to EPA.</p>	<p>The terrestrial fauna values in the study area are described in Chapter 7, Section 7.5</p> <p>Section 7.5.2</p> <p>Section 7.5.2</p> <p>Section 7.5.1</p> <p>Section 7.6</p> <p>Section 7.5.2</p> <p>Survey methodology is described in Chapter 7, Section 7.4.2</p> <p>The species found in the study area and the regional context is provided in Section 7.5</p> <p>Data to be provided to the EPA.</p>
	<p><b>Potential Impacts and Mitigation Measures</b></p>	
	<p>This section should discuss all foreseen direct and indirect effects on terrestrial fauna, including strategies for protecting rare or threatened species and any obligations imposed by Queensland or Australian Government endangered species legislation or policy. The discussion should include the following:</p> <ul style="list-style-type: none"> <li>• Assessment of any impacts the proposal may have on terrestrial fauna, relevant wildlife habitat and other fauna conservation values during construction and operation of the Project, including consideration of short term and long term duration impacts.</li> <li>• Measures to mitigate the impact on habitat or the inhibition of normal movement, propagation or feeding patterns, and change to food chains.</li> <li>• Measures to minimise wildlife capture and mortality.</li> <li>• Details of the methodology that will be used to assess and handle injuries that may be inflicted on livestock or native fauna as a result of operational works for the Project.</li> <li>• Methods of minimising the introduction of feral animals, and other exotic fauna. Such as tramp ants (fire ants and yellow crazy ants).</li> </ul>	<p>Section 7.6</p> <p>Section 7.7 and in Chapter 20 EMP</p> <p>Section 7.7 and in Chapter 20 EMP</p> <p>Section 7.7 and in Chapter 20 EMP</p> <p>Section 7.7 and in Chapter 20 EMP</p>



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	<ul style="list-style-type: none"> <li>The effects of construction activities and disposal of construction wastes on biting insect species of pest and health significance, including measures to prevent increases and the spread of these species.</li> </ul>	Chapter 7, Section 7.7 and Chapter 8, Section 8.6
<b>Aquatic Flora and Fauna</b>		<b>Chapter 8 Aquatic Ecology</b>
<b>Description of Environmental Values</b>		
<p>The aquatic flora and fauna occurring in the areas affected by the Project should be described noting the patterns and distribution in the waterways.</p>		Chapter 8, Section 8.5
<p>A description of the habitat requirements and the sensitivity of aquatic flora species to changes in flow regime, water levels and water quality in the Project areas should be described.</p>		
<p>The discussion of the fauna and flora present or likely to be present at any time during the year, (including the presence of any rare, threatened or otherwise noteworthy aquatic species or communities) should include:</p>		
<ul style="list-style-type: none"> <li>Fish species, mammals, reptiles, amphibians, and aquatic invertebrates occurring in the waterways within the Project area, including feral and exotic fauna species.</li> </ul>		Chapter 8, Section 8.5
<ul style="list-style-type: none"> <li>Aquatic (waterway) plants, including all marine plants as defined under the <i>Fisheries Act 1994</i>, and<sup>3</sup> any declared pest plants.</li> </ul>		Chapter 8, Section 8.5
<ul style="list-style-type: none"> <li>Aquatic substrate and stream type.</li> </ul>		Chapter 8, Section 8.5
<b>Potential Impacts and Mitigation Measures</b>		
<p>This section should discuss all foreseen direct and indirect effects on aquatic flora and fauna, and intertidal communities<sup>4</sup> including strategies for protecting rare or threatened species and any obligations imposed by Queensland or Australian Government endangered species legislation or policy. The discussion should include the following:</p>		
<ul style="list-style-type: none"> <li>Assessment of any impacts the proposal may have on aquatic flora and fauna, habitat or the inhibition of propagation during construction and operation of the Project, including consideration of short term and long term duration impacts.</li> </ul>		Chapter 8, Section 8.6
<ul style="list-style-type: none"> <li>Any proposed stream diversions, causeway construction and crossing facilities, stockpiled material and other impediments that will restrict free movement of fish, including if seasonal construction of waterway crossings can avoid fish spawning periods.</li> </ul>		Chapter 8, Section 8.6
<ul style="list-style-type: none"> <li>Identification of necessary permits/authorities required by the Project (e.g. permits under the <i>Fisheries Act 1994</i> to construct temporary or permanent waterway barriers).</li> </ul>		Chapter 8, Section 8.6.2.3
<ul style="list-style-type: none"> <li>The potential for and mitigation measures to prevent the creation of new mosquito and biting midge breeding sites during construction (e.g. in quarries and borrow pits).</li> </ul>		Chapter 8, Section 8.6.2.4
<ul style="list-style-type: none"> <li>The potential for and mitigation measures to prevent the introduction, transfer or facilitation of exotic, non-indigenous and noxious plants (including blue green algae) and water borne insect pests.</li> </ul>		Chapter 8, Section 8.6.3 and 8.7.2.2

<sup>3</sup> DPIF (12.4)

<sup>4</sup> CCC (1.9)

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	<p>Specific reference should be made to:</p> <ul style="list-style-type: none"> <li>the potential for fish to become trapped within the proposed sheet pile coffer dam that would be erected in the Fitzroy River for construction of the water intake and how the risks of these impacts would be managed; and<sup>5</sup></li> <li>the potential for fish, fish eggs or aquatic weeds to be transferred from the Fitzroy River to any of the proposed storage facilities, or to GAWB's supply network and how the risks of these impacts would be managed.</li> </ul>	<p>Chapter 8, Section 8.6.4.2</p> <p>Chapter 8, Section 8.6.3</p>
<p><b>Water Resources and Water Quality</b></p>	<p><b>Description of Environmental Values</b></p>	<p>Chapter 9 Water Resources and Water Quality</p>
	<p>This section should describe the existing environment for water resources that may be affected by the Project in the context of the environmental values as defined in such documents referred to in the <i>Environmental Protection Act 1994</i>, the <i>Environmental Protection (Water) Policy 1997</i> and the <i>National Water Quality Management Strategy</i> (Australian and New Zealand Environment and Conservation Council 2000).</p> <p>If a licence or permit will be required under the <i>Water Act 2000</i> or EP Act (e.g. dredging) to take or interfere with the flow of water, this section of the EIS should provide sufficient information for a decision to be made on this application.</p> <p>The EIS should discuss the following:</p> <ul style="list-style-type: none"> <li>Watercourses to be crossed by the pipeline showing planned crossing locations on a map, and including consideration of alternative crossing locations in environmentally sensitive areas.</li> <li>Existing surface and ground water in terms of physical, chemical and biological characteristics.</li> <li>Environmental values of the surface waterways of the affected area in terms of: <ul style="list-style-type: none"> <li>Values identified in the <i>Environmental Protection (Water) Policy 1997</i>.</li> <li>Sustainability, including both quality and quantity.</li> <li>Physical integrity, fluvial processes and morphology of water courses, including riparian zone vegetation and form.</li> </ul> </li> <li>Existing surface drainage patterns, flows, history of flooding including extent, levels and frequency and present water uses.</li> </ul>	<p>Chapter 9, Section 9.5 Figure 9.2 and 9.4 Chapter 9, Section 9.5 Chapter 9, Section 9.5</p>
	<p><b>Potential Impacts and Mitigation Measures</b></p> <p>This section should assess potential impacts on water resource environmental values identified in the previous section. It should also define and describe the objectives and practical measures for protecting or enhancing water resource environmental values, to 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>Matters to be addressed should include:</p> <ul style="list-style-type: none"> <li>Likely impacts associated with the construction and operation of the Project on water courses, particularly with respect to erosion and scouring, and selection criteria for determining the final crossing type for various stream orders to protect watercourse integrity.</li> </ul>	<p>Chapter 9, Section 9.5</p>
		<p>Chapter 9, Section 9.6</p> <p>Watercourse crossings are also discussed in</p>

<sup>5</sup> DPIF (12.2)

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	<ul style="list-style-type: none"> <li>• Potential impacts on flooding levels upstream of any new crossing of water courses.</li> <li>• Amelioration or mitigation measures to address each impact identified that may affect local and regional water quality, particularly measures to ensure beds and banks of water courses remain stable and measures to safeguard downstream water quality.</li> <li>• Possible sources of water pollution or other changes in water quality, including soil erosion, situation, accidental spills, waste and sewage disposal and likely chemical composition of any leachate from introduced fill on the site.</li> <li>• The quality of water leaving construction sites (including physical, chemical, and biological characteristics), potential impacts for any likely discharged water (e.g. hydrotest water) and how the impacts will be assessed and monitored.</li> <li>• The effects of drainage works, placement of fill, clearing or any other alterations to existing topography and landform on the hydrology of the site including any alteration to drainage patterns and the watertable and secondary influence on flooding. If levee banks or downstream diversionary constructions are proposed, the effects on neighbouring landholders should be considered, and any works requiring permits or licensing in accordance with the <i>Water Act 2000</i> identified.</li> <li>• Proposed drainage structures for all aspects of the Project, including facilities such as access roads.</li> <li>• The timing of the construction works relative to likely periods of flooding and proposals to minimise the risk of adversely impacting downstream water quality.</li> <li>• Measures to ensure viable weed seeds and pathogens are not released into the water environment including from machinery traversing creek systems or riparian areas.</li> <li>• Measures to minimise the likelihood for the transfer of toxins and pathogens between catchments.</li> </ul>	<p>Chapter 2 Project Description Chapter 9, Section 9.6 Chapter 9, Section 9.7</p> <p>Chapter 9, Section 9.6</p> <p>The potential impacts of hydrotesting are discussed in Chapter 11, Waste.</p> <p>Chapter 9, Section 9.6</p> <p>Chapter 9, Section 9.6 and 9.7 Chapter 9, Section 9.6 and 9.7</p> <p>Chapter 9, Section 9.6, Chapter 20 EMP and Chapter 8 Chapter 9, Section 9.6</p>
<b>Air Environment</b>	<p><b>Description of Environmental Values</b> This section should describe the existing air environment, which may be affected by the Project in the context of environmental values as defined by the EP Act and <i>Environmental Protection (Air) Policy 1997</i>. Ambient air quality conditions in terms of particulate matter should be described for any sensitive sites (residences) in proximity to the pipeline and associated construction areas, including any baseline monitoring results.</p> <p><b>Potential Impacts and Mitigation Measures</b> The following air quality issues should be considered:</p> <ul style="list-style-type: none"> <li>• Impacts of dust generation from construction activities, especially in areas where the pipeline follows existing road networks or passes in close proximity to residences.</li> <li>• Identification of climatic patterns that could affect dust generation and movement.</li> <li>• Predicted changes to air quality from vehicle emissions and dust generation along haulage routes.</li> <li>• Impacts on air quality from gaseous emissions including carbon monoxide (CO) oxides of nitrogen (NO<sub>x</sub>) from pump stations (if any), greenhouse gas emissions and ozone depleting substances.</li> <li>• Amelioration or mitigation measures for each identified impact relating to vehicle emission, dust generation and gaseous emissions from pump stations and the water treatment plant<sup>6</sup> should be proposed.</li> </ul>	<p>Chapter 10, Air Environment Chapter 10, Section 10.5</p> <p>Chapter 10, Section 10.6</p> <p>Chapter 10, Section 10.5 and 10.6 Chapter 10, Section 10.6 Chapter 10, Section 10.6</p> <p>Chapter 10, Section 10.7</p>
<b>Waste</b>	<b>Waste Generation</b>	Chapter 11 Waste

<sup>6</sup> EPA (3.6)

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	<p>The EIS should identify and describe all sources of waste associated with construction, commissioning, operation and decommissioning of the Project<sup>7</sup>. This section should describe all activities including:</p> <ul style="list-style-type: none"> <li>• Chemical and mechanical processes conducted on the construction sites/camps (e.g. chemical storage, sewage treatment, power generation, fuel burning, mechanical workshop, diesel storage).</li> <li>• The amount and characteristics of solid and liquid waste produced on-site (e.g. pumping facilities, pipeline, construction camps) by the Project.</li> <li>• Any waste treatment process involved, including site drainage and erosion controls.</li> <li>• Selection criteria for, and location of, likely run-off/stormwater discharge points.</li> <li>• Selection criteria for, and location of, disposal points for hydro-test water.</li> <li>• Hazardous materials to be stored and/or used on-site, including provision of their Material Safety Data Sheets and environmental toxicity data and biodegradability.</li> </ul> <p>The EIS should provide details of any waste water output including:</p> <ul style="list-style-type: none"> <li>• Volume estimates of industrial and domestic effluent that will be produced at each Project site.</li> <li>• Quality of effluent produced.</li> <li>• Any mobile sewerage facilities to be used.</li> <li>• The proposed method of disposal and extent of use of local government facilities (i.e. Council sewerage works).</li> </ul>	<p>Chapter 11 Waste</p> <p>Chapter 11, Section 11.6.2</p> <p>Chapter 11, Section 11.6.2</p> <p>Chapter 11, Section 11.6.2 Chapter 11, Section 11.6.4.5 and Chapter 9 Chapter 11, Section 11.6.3.2 Chapter 11, section 11.6.2</p> <p>Chapter 11, Section 11.6.3 Chapter 11, Section 11.6.3 Chapter 11.6.3 Chapter 11, Section 11.4.2</p>
	<p><b>Waste Management</b></p> <p>Handling and disposal of wastewater and solids if any from water treatment processes should be detailed, together with the location and impacts of disposal arrangements. The EIS should discuss waste management strategies, including reduction, reuse, recycling, storage, transport and disposal of waste (including measures to minimise attraction of vermin, insect and pests).</p> <p>The EIS should address the potential impacts to any aquifers, underground water flows and surface waters to be traversed by construction of the pipeline from disposal of waste water. Similarly, the EIS should address potential impacts from the disposal of excavated material or fill.</p>	<p>Chapter 11 Waste</p> <p>Chapter 9 Water Resources and Water Quality</p>
<p><b>Noise and Vibration</b></p>	<p><b>Description of Environmental Values</b></p> <p>This section should describe the existing noise and vibration environment, which may be affected by the proposal in the context of environmental values as defined by the EP Act and <i>Environmental Protection (Noise) Policy 1997</i>.</p> <p>Sensitive noise receptors adjacent to the pipeline route should be mapped and typical background noise levels discussed. The potential sensitivity of such receptors should be discussed and performance indicators and standards should be nominated for each affected receptor. Current background levels for noise should be surveyed or reported.</p> <p><b>Potential Impacts and Mitigation Measures</b></p> <p>The EIS should include the following analysis of noise and vibration impacts:</p> <ul style="list-style-type: none"> <li>• The levels of noise and vibration generated during construction of the pipeline and ancillary activities (e.g. access roads, camp sites) and operations (e.g. pumping stations) against current typical background</li> </ul>	<p>Chapter 12, Noise and Vibration</p> <p>Some of the noise measurements undertaken to characterise the baseline noise environment were undertaken at identified nearest sensitive receptors, these are mapped in Figure 12.1</p> <p>Relevant noise criteria are discussed in Chapter 12, Section</p> <p>Chapter 12, Section 12.6</p>

<sup>7</sup> EPA (3.7)

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	<p>levels.</p> <ul style="list-style-type: none"> <li>• The potential environmental harm of noise and vibration (including from any blasting required for construction of the pipeline) at all potentially sensitive places, in particular, any places of work, residence, recreation, or worship, should be quantified and compared with objectives, standards to be achieved and measurable indicators.</li> <li>• Proposals to minimise or eliminate these effects, including details of any screening, lining, enclosing or bunding of facilities, or timing schedules for construction and operations that would minimise environmental harm and environmental nuisance from noise.</li> <li>• Assessment of the potential emission of low-frequency noise (i.e. noise with components below 200 Hz) from major items or plant or equipment and, if necessary, measures for reducing the intensity of these components.</li> </ul>	<p>Chapter 12, Section 12.6</p> <p>Chapter 12, Section 12.7</p> <p>Chapter 12, Section 12.8.2</p>
<p><b>Transport and Access Arrangements</b></p>	<p><b>Transport Methods and Routes</b></p>	<p>Chapter 13 Transport and Access</p>
	<p>The EIS should describe (including with the use of maps and data tables) transport methods and routes for delivering pump station and balance tank equipment, pipeline construction and maintenance materials and other necessary goods and consumables and workforce transportation. Information should include:</p>	<p>Figures 13.1-13.7</p>
	<ul style="list-style-type: none"> <li>• Existing traffic volumes on the proposed transport routes.</li> <li>• Volumes, tonnage, and composition of construction inputs.</li> <li>• Hazardous or dangerous material that may be transported.</li> <li>• Method of transport (e.g. sea, rail, road) and the type of vehicles most likely to be used for transport.</li> <li>• Number and type of workforce traffic and service vehicles.</li> <li>• Number and frequency of trips generated (both light and heavy vehicles).</li> <li>• Origin and destination of inputs and transport route proposed (with the use of maps). Existing traffic volumes will need to be shown.</li> <li>• Details of over-dimension, excess mass loads or any hazardous goods.</li> <li>• Timing and duration of transport activities.</li> </ul> <p>The EIS should clearly and fully describe transport information for all stages of the Project including:</p> <ul style="list-style-type: none"> <li>• Any new access requirements to State-controlled or local government roads or corridors preserved by the DMR.</li> <li>• Full details of where the pipe alignment crosses or runs close to road and rail reserves, stock route easements etc.</li> </ul> <p>The EIS should provide sufficient details to allow DMR and Queensland Transport to ascertain compliance with legislative and design requirements to ensure the safe and efficient operation of State-controlled roads is not compromised and the integrity of preserved transport corridors is protected.</p>	<p>Chapter 13, Section 13.5 and Section 13.6</p> <p>Chapter 13, Section 13.7.6 and 13.8.6</p> <p>Chapter 13, Section 13.5.1 and 13.6.1</p> <p>Chapter 13, Section 13.7.5</p>
	<p>The EIS should present an assessment of the impacts of the transport task for the Project, including the following:</p> <p><b>Potential Transport Impacts and Mitigation Measures</b></p> <ul style="list-style-type: none"> <li>• The likely impacts and mitigation strategies of increased traffic on local and regional road networks (with appropriate directional distributions), including Forest Plantations Queensland access roads, with reference to: <ul style="list-style-type: none"> <li>– Traffic volume.</li> <li>– Vehicle size and types, including heavy vehicle access.</li> <li>– Usage rates.</li> <li>– Road safety issues, including safe access to construction sites and school bus routes within the</li> </ul> </li> </ul>	<p>Chapter 13, Section 13.7 and 13.8</p>

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	<p>Project area (e.g. consideration of the need for turning lanes, improved sight lines, waiting areas, off-road parking locations).</p> <ul style="list-style-type: none"> <li>– Reduced efficiency of traffic flows or intersections along key routes, especially during construction.</li> <li>– Additional wear/reduced life of pavements requiring additional or accelerated rehabilitation and maintenance, if any.</li> </ul> <ul style="list-style-type: none"> <li>• The proposed traffic management arrangements and plans, especially within both rural and urban residential areas and steps to be taken to prevent public access to construction access ways not provided on public roads.</li> <li>• Specific issues related to construction phase activities, including: <ul style="list-style-type: none"> <li>– Site depot location and access.</li> <li>– Construction traffic on local road networks, daily movement patterns, possible road closures and emergency access, especially in rural and urban residential areas.</li> <li>– Methods to be adopted to address safety issues, avoid obstruction to other road uses and provide information on altered conditions during construction.</li> </ul> </li> <li>• The likely impact of increased traffic on rail haulage systems.</li> <li>• The likely impacts on rail corridor security and access, drainage, dust, noise, blasting, vibration and electrical effects.</li> <li>• Potential impacts and mitigation measures for heavy vehicle use of railway level crossings.</li> <li>• Environmental issues relating to transport (e.g. weed management, vegetation clearing in road reserves, dust control and erosion protection) are adequately assessed and ways to ameliorate any adverse impacts are outlined.</li> <li>• Cultural heritage issues arising from project activities in or near transport corridors such as road reserves.</li> <li>• The impacts of construction with regard to seasonal considerations such as potential for road impacts during wet weather.</li> </ul> <p>Findings of studies and assessments should be incorporated into a road management strategy including Transport and Traffic Management Plans set down in the EMP.</p> <p>Reference should be made to any relationship between Project road works and works proposed in the current Road Implementation Program(s) of the DMR. Road infrastructure impacts should be described and assessed according to DMR's <i>Guidelines for Assessment of Road Impacts of Development Projects</i> (April 2006). Reference should also be made to other DMR planning documents where applicable.</p> <p><i>Note: Where the project / pipeline route traverses the Stanwell-Gladstone Infrastructure Corridor, the EIS study should consult the results of any corridor or other project investigation studies to determine the existence of relevant study material and results which can provide information to address these Terms of Reference. Where the information is adequate, then it may be presented in satisfaction of these Terms of Reference, subject to permission and acknowledgement from the original authors.</i></p>	<p>Chapter 13, Section 13.10 and Chapter 20 EMP</p> <p>Chapter 13, Section 13.7 and 13.8</p> <p>Chapter 13, Section 13.7 and 13.8 Chapter 13, Section 13.10.2 Chapter 10 Air Quality Chapter 12 Noise and Vibration Chapter 13, Section 13.7 and 13.8 Chapters 6 Terrestrial Flora, 7 Terrestrial Fauna, 10 Air Quality and Chapter 20 EMP.</p> <p>Chapter 14 Cultural Heritage Chapter 13, Section 13.10.3</p> <p>The Road Implementation Program is discussed in Chapter 13, Section 13.7.1</p>
<b>Cultural Heritage</b>	The EIS should describe the existing environment values for cultural heritage that may be affected by the Project	

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	<p>activities.</p> <p>The EIS should include a cultural heritage study that describes Indigenous and non-Indigenous cultural heritage sites and places, and their values, including the following:</p> <p><b>Description of Environmental Values</b></p> <ul style="list-style-type: none"> <li>• Consultation with: <ul style="list-style-type: none"> <li>– The Australian Heritage Council regarding the Register of National Estate.</li> <li>– The EPA regarding the Queensland Heritage Register and other information regarding places of potential non-indigenous cultural heritage significance.</li> <li>– The Department of Natural Resources and Water regarding the Indigenous Site Database.</li> <li>– Any local government heritage register.</li> <li>– Any existing literature relating to the affected areas.</li> </ul> </li> <li>• Liaison with representatives of relevant Indigenous communities concerning: <ul style="list-style-type: none"> <li>– Places of significance (including archaeological sites, natural sites, story sites etc), and appropriate involvement in field surveys.</li> <li>– Any requirements by communities and/or informants relating to selection of consultants and confidentiality of site data.</li> <li>– Assessment of significance of any cultural heritage sites/places located.</li> </ul> </li> <li>• Liaison with relevant community groups/organisations (e.g. local historical societies) concerning: <ul style="list-style-type: none"> <li>– Places on non-Indigenous cultural heritage significance.</li> <li>– Opinion regarding significance of any cultural heritage places located or identified.</li> </ul> </li> <li>• Identifying locations of culturally significant sites likely to be impacted by pipeline construction, including: <ul style="list-style-type: none"> <li>– Stone artefact scatters.</li> <li>– Culturally significant vegetation.</li> <li>– Buildings or places of archaeological significance.</li> <li>– Archaeological sites, natural sites, story sites etc.</li> </ul> </li> <li>• The location of historical mining areas, which should be shown on maps, including the potential for former mining zones or historical workings to cause slumping or other problems.</li> </ul> <p>The EIS should present a report of the work done, including background research, relevant environmental data and methodology, as well as results of field surveys, significance assessment and conclusions and management recommendations (having due regard for any confidentiality requirements specified by community representatives).</p> <p>As a minimum, investigations and consultation should be undertaken in such manner and detail to satisfy statutory responsibilities and duties of care, including those under the <i>Queensland Heritage Act 1992</i>, the <i>Aboriginal Cultural Heritage Act 2003</i> and the <i>Commonwealth Aboriginal and Torres Strait Islander Heritage Protection Act 1984</i>, and to protect areas and objects of cultural heritage significance.</p>	<p>Chapter 14, Sections 14.5 and 14.6</p> <p>Chapter 14, Section 14.2.1</p> <p>Chapter 14, Section 14.2.2</p> <p>Chapter 14, Sections 14.3 and 14.6</p> <p>Chapter 14, Section 14.6</p> <p>Chapter 14, Section 14.3, 14.6 and 14.8</p>
	<p><b>Potential Impacts and Mitigation Measures</b></p> <ul style="list-style-type: none"> <li>• The EIS should provide an assessment of any likely effects of the Project on sites of Indigenous</li> </ul>	<p>Chapter 14, Section 14.7</p> <p>Chapter 14, Section 14.8</p>

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	<p>and non-Indigenous cultural heritage values, including but not limited to the following:</p> <ul style="list-style-type: none"> <li>○ Describing the significance of artefacts, items or places of conservation or cultural heritage value likely to be affected by the Project and their values at a local, regional and national level.</li> <li>○ Recommended means of mitigating any negative impacts on cultural heritage values and enhancing any positive impacts.</li> </ul> <p>The management of Indigenous cultural heritage impacts should be detailed in either a NTA with Indigenous parties or in a Cultural Heritage Management Plan (CHMP) that is developed specifically for the proposed Project. The NTA or CHMP should provide a process for the management of identified cultural heritage places and values within the proposed pipeline route and be developed in a form that complies with the provisions of Part 7 of the <i>Aboriginal Cultural Heritage Act 2003</i>, to meet the cultural heritage duty of care requirements.</p> <p>The NTA or CHMP should be based on information contained in the cultural heritage study report and/or information from Indigenous communities. The NTA or CHMP should include the following:</p> <ul style="list-style-type: none"> <li>● A process for including Indigenous communities associated with the proposed pipeline route in protection and management of Indigenous cultural heritage.</li> <li>● Processes for mitigation, management and protection of identified cultural heritage places and material along the pipeline route, including associated infrastructure developments, both during the construction and operational phases of the Project.</li> <li>● Provisions for the management of the accidental discovery of cultural material including burials.</li> <li>● A conflict resolution process.</li> </ul> <p>The development of a NTA or CHMP should be negotiated with all relevant stakeholder representatives, subject to any confidentiality specified by indigenous communities and registered Native Title applicants</p> <p><i>Note: Where the project / pipeline route traverses the Stanwell-Gladstone Infrastructure Corridor, the EIS study should consult the results of any corridor or other project investigation studies to determine the existence of relevant study material and results which can provide information to address these Terms of Reference. Where the information is adequate, then it may be presented in satisfaction of these Terms of Reference, subject to permission and acknowledgement from the original authors.</i></p>	<p>The CHMP for the project is to be developed in consultation with traditional owners prior to construction commencing</p>
<p><b>Social and Economic Environment</b></p>	<p><b>Description of Environmental Values</b></p> <p>This section should detail the existing social and economic values that might be affected by the Project. Issues to be addressed include:</p> <ul style="list-style-type: none"> <li>● Structure of potentially affected communities in the study area.</li> <li>● Community profile, providing information on the following characteristics: <ul style="list-style-type: none"> <li>– Rural properties, farms, croplands and grazing areas.</li> <li>– Demography and family structure.</li> <li>– Health status and sensitive groups.</li> <li>– Workforce characteristics, including types of skill or occupations and availability during both construction and operational stages.</li> <li>– Accommodation quantity availability (as it relates to the need for accommodation of the Project construction and operational work force, if any). This should include a description of the existing</li> </ul> </li> </ul>	<p>Chapter 15, Section 15.5.1 Chapter 15, Section 15.5.1, 15.5.2 and 15.5.3</p>



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	<p>local accommodation, the size of the private rental market in the catchment area, including caravan parks, backpacker hostels, hotel and motel accommodation and houses, the current vacancy rate of rental accommodation, including an assessment of seasonal fluctuations and the availability and median cost of housing for purchase in the catchment area.</p> <ul style="list-style-type: none"> <li>- Public health and education facilities.</li> <li>- Local government and public services.</li> <li>- Other community services and facilities.</li> </ul> <ul style="list-style-type: none"> <li>• Socio-demographic characteristics, including employment and unemployment rates.</li> <li>• Aboriginal people's traditional and contemporary uses of the land affected by the Project.</li> </ul> <p>Economic base and economic activity.</p>	<p>Chapter 15, Section 15.5.1 Chapter 15, Section 15.5.1</p> <p>Chapter 15, Section 15.5.2</p>
	<p>The social and economic impacts of the proposed development should be addressed as part of the EIS incorporating any assessment of stakeholders' concerns about adverse impacts to the natural, social, economic or built environment so that appropriate mitigation strategies can be developed. Considerations should be given to the following:</p>	
	<p><b>Potential Impacts and Mitigation Measures</b></p> <ul style="list-style-type: none"> <li>• The impact of the Project on existing agricultural and grazing land uses, e.g. disruption to stock, fences, water points, sowing or harvesting of crops, movement of agricultural machinery and any loss of agricultural land.</li> <li>• The impact on affected landowners and communities, e.g. impact on property values and local authority rates.</li> <li>• Restrictions to public access and recreational use during construction, commissioning and operational phases, and after decommissioning.</li> <li>• Strategies to minimise access requirements for operation and maintenance activities.</li> <li>• Assessment of long term implications on operations and maintenance within the Gladstone City Local Government area.</li> <li>• The potential and mechanisms for local communities and business to meet contracts for services and supplies for the construction, rehabilitation and operation phases of the Project.</li> <li>• Strategies for local residents including members of Indigenous communities interested in employment opportunities, which would identify skills required for the Project and initiate appropriate recruitment and training programs.</li> <li>• The impact of the Project on public health and safety of adjacent communities, including such impacts as noise, dust, waste, transport, and other hazards and strategies to mitigate these impacts.</li> <li>• Strategies responding to Government Policy relating to: <ul style="list-style-type: none"> <li>- The level of training provided for construction contracts on Queensland Government building and construction contracts, with regard to the <i>Queensland Government Building and Construction Contracts Structured Training Policy (the 10% Policy)</i>.</li> <li>- Indigenous employment opportunities, with regard to the <i>Indigenous Employment Policy for Queensland Government Building and Civil Construction projects (the 20% Policy)</i>.</li> <li>- The use of locally sourced goods and services, with regard to the <i>Local Industry Policy</i> (Department of State Development 1999).</li> </ul> </li> </ul>	<p>Chapter 15, Section 15.6.1</p> <p>Chapter 15, Section 15.6.1</p> <p>Chapter 15, Section 15.6.1</p> <p>Chapter 15, Section 15.6.1 Chapter 15, Section 15.6.1</p> <p>Chapter 15, Section 15.6.2</p> <p>Chapter 15, Section 15.6.1</p> <p>Chapter 15, Section 15.6.1</p> <p>Chapter 15, Section 15.6.1</p>

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	<ul style="list-style-type: none"> <li>• Strategies to foster cross-cultural awareness for the Project and its participants.</li> <li>• Establishment of a complaints' register and response procedure.</li> <li>• Direct and indirect impact of the Project on the regional, state and national economies in terms of direct and indirect effects on employment, income and production.</li> <li>• Potential skills shortage for the Project and strategies to address these.</li> <li>• Impact of the Project workforce on local human services (e.g. housing, education and health facilities) and local community social and recreational environments and strategies to mitigate these impacts.</li> </ul> <p>With respect to the project workforce, the EIS should provide:</p> <ul style="list-style-type: none"> <li>• An estimate of the number of additional employees that may be housed on-site or in existing local accommodation;</li> <li>• An estimate of the number of new workers who may be accompanied by dependents; and</li> <li>• Any identified constraints and opportunities (if any) for new housing construction in the catchment area, including the capacity of the local land development and housing construction industries to provide new housing.</li> </ul>	<p>Chapter 15, Section 15.7.1 Chapter 15, Section 15.7.1 Chapter 15, Section 15.6.2</p> <p>Chapter 15, Section 15.6.2 and 15.7.2 Chapter 15, Section 15.6.1</p> <p>Chapter 15, Section 15.6.3</p> <p>Chapter 15, Section 15.6.1 Chapter 15, Section 15.5.3</p>
<p><b>Hazard and Risk</b></p>	<p>The EIS shall carry out a Hazard and Risk Assessment (HRA) in accordance with appropriate parts of AS/NZS Risk Management Standard 4360:1999. The study shall assess natural and manmade risks during the construction, operational and decommissioning phases of the pipeline and associated pumping, storage and treatment infrastructure. Where possible these risks are to be assessed in quantitative terms.</p> <p>Indicate possible hazards, accidents, and abnormal events that may arise for the Project, both during construction and in operation and the impact on surrounding land uses. This would be expected to include accidents involving pipeline and treatment plant operations, chemical escapes associated with breakdown incidents, and interfaces with other infrastructure such as surrounding roads.</p> <p>Details are to be provided of the safeguards which will be employed or installed to reduce the likelihood and severity of hazards, consequences and risks to persons, and fauna during operations. Where possible indicate the reduced level of risk which would be experienced with these safeguards in place. Compare assessed and mitigated risks with acceptable risk criteria for land uses adjacent to the corridor, including public roads which border or cross the corridor.</p> <p>The handling and storage of large quantities of hazardous materials requires the involvement of the DES Chemical Hazards and Emergency Management Services with regards to the Dangerous Goods Safety Management Act 2001 (DGSM Act). Applicability of, the DGSM Act will need to be addressed.</p>	<p>Details of the Hazard and Risk assessment undertaken for the project are described in Chapter 16 Hazard and Risk</p>
	<p><b>Hazard and Risk Assessment</b></p> <p><b>Natural Hazards</b></p> <p>The EIS should identify whether or not the Project is located inside a Natural Hazard Management Area for flood, bushfire and/or landslide, the areas of development at risk and the potential severity of the risk. Details should also be provided of earthquake fault lines or past earthquake activity in the vicinity of the Project area and the implications for the Project.</p> <p>If any hazard proves to be severe, the EIS will need to clearly define the interaction between those hazards and people, property and any hazardous materials stored in bulk on the site, and to demonstrate appropriate</p>	<p>Chapter 16, Section 16.4</p>

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	<p>solutions, if necessary, to meet the specified outcomes in SPP 1/03 and to maintain the safety of these elements. Further, the EIS should define solutions and response strategies which specifically and systematically address the requirements of SPP 1/03.</p>	
	<p>Details should be provided of any impacts of the Project during construction and operation on the health, safety and quality of life of the community, workforce, suppliers and other stakeholders from factors such as air emissions, odour, dust, pests, traffic noise and vibration, waste and water. This includes health and safety matters associated with on-site and off-site workforce accommodation. It should include details of:</p> <p><b>Health and Safety</b></p> <ul style="list-style-type: none"> <li>• compliance with relevant Health and Safety legislation;</li> <li>• security arrangements; and</li> <li>• details of on-site emergency response capabilities (e.g. on-site paramedic or first-aid officer), for both the construction and operation phases of the Project, which should include personnel trained for fire suppression and containment, rescue and first aid.</li> </ul>	<p>Chapter 16, Section 16.7</p>
	<p>An outline of the proposed emergency management procedures should be provided for the range of situations identified in the above risk assessment where there are measurable risks. The following should also be presented:</p> <p><b>Emergency Management Plan</b></p> <ul style="list-style-type: none"> <li>• Contingency plans to deal with hydrocarbon (e.g. diesel, lubricating oils) oil spills during construction, operation and maintenance of the pipeline.</li> <li>• Contingency plans to account for natural disasters such as storms, floods and fires during the construction, operation and maintenance phases.</li> <li>• Emergency planning and response procedures that have been determined in consultation with State and regional emergency service providers.</li> <li>• Plans for involvement of the relevant state agencies (such as the Queensland Ambulance Service) in relation to emergency medical response and transport and first aid matters.</li> </ul>	<p>Chapter 16, Section 16.8 and Chapter 20 EMP</p>
<p><b>Cumulative Impacts</b></p>	<p>The purpose of this section is to provide clear and concise information on the overall impacts of the Project. In addition, the cumulative impacts that could occur as a consequence of the Project in conjunction with the development of other proposals that are currently under study should be considered, including the interrelationship of these impacts as they relate to particular issues (e.g. water, air, noise cultural heritage, social etc.). These impacts should be considered over time or in combination with other impacts because of the scale, intensity, duration or frequency of the impacts.</p> <p>In particular, the requirements of any relevant State Planning Policies, Environmental Protection Policies, National Environmental Protection Measures and emergency drought response strategies and regulations should be addressed in assessing the cumulative impacts of the Project on the existing environment</p>	<p>Cumulative and Interactive Effects are discussed in each chapter.</p>

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	<p><b>Environmental Management Plan</b></p> <p>Draft Environmental Management Plans (EMPs) should be presented in the EIS for construction, commissioning, and operational phases of the Project, and should detail measures to address impacts identified in this EIS for the respective phase of the Project. EMPs should contain the following:</p> <ul style="list-style-type: none"> <li>• Environmental element – the environmental aspect requiring management consideration.</li> <li>• Potential impacts – as identified in the EIS.</li> <li>• Performance objective – the target or strategy to be achieved through management.</li> <li>• Management actions – the strategies and actions to be undertaken to achieve the performance objective, including any necessary approvals, applications and consultation.</li> <li>• Performance indicators – criteria against which the implementation of the actions and the level of achievement of the performance objectives will be measured.</li> <li>• Monitoring – process of measuring actual performance.</li> <li>• Responsibility – assignment of responsibility for carrying out strategies and monitoring actions to relevant persons/organisations.</li> <li>• Reporting – the process and responsibility for reporting monitoring results.</li> <li>• Corrective action – the action to be implemented in the case of non-compliance and the person/organisation responsible for action.</li> <li>• A mechanism to receive complaints from the community and stakeholders, and a process to demonstrate that these complaints have been appropriately considered and any required mitigation measures implemented within a timely fashion, and that these actions have been communicated to the complainant.</li> </ul> <p>The EMP is to include emergency response planning and incident management strategies and subsequently be linked to identified outcomes of the HRA.</p>	<p><b>Chapter 20 EMP</b></p> <p>Chapter 20 is the planning EMP that has been developed for the project. This EMP covers the construction, commissioning and operational phases of the project and forms a guidance document for the future development of detail construction and operation EMP's which will be developed prior to each phase of the project</p>
<b>Conclusion and Recommendation</b>		
	<p>The EIS should make conclusions and recommendations with respect to the Project, based on the studies presented, the EMPs and the conformity of the proposal with legislative and policy requirements.</p>	
<b>Reference</b>		
	<p>All references used in the preparation of the EIS should be consistent and presented in a recognised format.</p>	<p>References are presented at the end of each chapter.</p>
<b>Appendices</b>		
	<p>A1. Final Terms of Reference for this EIS</p> <p>A copy of the final ToR must be included in the EIS. Where it is intended to bind appendices in a separate volume from the main body of the EIS, the ToR at least must be bound with the main body of the EIS for ease of cross-referencing. A summary, cross-referencing specific items of the ToR to the relevant section of the EIS, must also be provided in section 4.14 of the EIS. For this purpose the ToR must be line numbered.</p> <p>A2. Development Approvals</p> <p>A list of all the approvals (including local law approvals) required by all phases of the Project must be presented (in the expected sequencing of applications) along with their corresponding regulating legislation and the approving authority.</p>	<p>Appendix A</p> <p>Appendix C</p>

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**A3. Potential Impacts on Matters of National Environmental Significance**

The EIS must provide a stand-alone report that exclusively and fully addresses the issues relevant to the matters of NES that were identified in the 'controlling provisions' when the Proposal was declared a controlled action under Part 3, Division 1 of the EPBC Act.

The stand-alone report must follow the following template outline.

Introduction

Description of Proposed Action (as it would impact on NES matters)

Description of the Affected Environment Relevant to the Controlling Provisions (i.e. describe the features of the environment that are NES matters protected under the EPBC Act)

Assessment of Impacts on NES Matters and Mitigation Measures

Conclusions

References

The description and analysis of the potential impacts of the Proposal must address all aspects of the Proposal. All discussion of the potential impacts of the Proposal must address both potential direct and indirect impacts. The stand-alone report must discuss the presence and environmental requirements of any species of flora or fauna or ecological community, listed as threatened under the EPBC Act, potentially impacted by the proposed development.

**A4. Study Team**

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

**A5. Consultation Report**

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

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

The Consultation Report appendix must 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 must include the methodology used in the community consultation program including criteria for identifying stakeholders and the communication methods used.

**A6. Specialist Studies**

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

Appendix G

Appendix H

Appendix B

Results of all specialist studies are included in the EIS chapters. Appendix E includes the appendices for the chapters of the EIS, where required (ie not all chapters have appendices)

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	<p>geology; soil survey and land suitability studies; waterway and groundwater hydrology; land use and capability studies; flora and fauna studies; economic and social studies, cost-benefit analyses; transport and traffic studies; and hazard and risk studies.</p> <p>A7. Research</p> <p>Any proposals for researching alternative environmental management strategies or for obtaining any further necessary information must be outlined in an appendix.</p> <p>A8. List of Proponent Commitments</p> <p>A list of all commitments made by the proponent in the EIS must be provided along with a reference to the relevant section in the EIS.</p>	<p>N/A</p> <p>Appendix F</p>
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