GLADSTONE NICKEL PROJECT ENVIRONMENTAL IMPACT STATEMENT SUPPLEMENT

Environmental Management Plan for Slurry Pipeline

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Gladstone Pacific Nickel LTD

Gladstone Pacific Nickel Ltd

Gladstone Nickel Project
Environmental Management Plan

Pipeline Construction and Operations

October 2007

RLMS Pty Ltd
ACN 010 432 694
Level 5 379 Queen Street
GPO Box 2292
Brisbane 4001

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1.0 INTRODUCTION

1.1 Project Overview

Marlborough Nickel Pty Ltd (MNPL), a wholly owned subsidiary of Gladstone Pacific Nickel Limited (GPNL), owns 12 mining leases and a number of exploration permits over lateritic nickel/cobalt deposits approximately 175km north-west of Gladstone in central Queensland. An existing Environmental Authority (MIM800078102) has been granted under the *Environmental Protection Act 1994 (EP Act)* for project activities undertaken on the MNPL mining leases.

Ore mined from these deposits will be beneficiated at the Coorumburra beneficiation plant located at the Marlborough Mine and supplied to the refinery located in Gladstone by pipeline as a slurry (see Figure 1). The ore slurry pipeline will be approximately 180km long and approximately 500mm in diameter.

The slurry pipeline will be operated either from the Marlborough Mine or refinery. In addition, residue and residue return pipelines will operate between the refinery and the residue storage area (RSF). The control concepts will provide sequence control for all operations in response to system commands by the operator. Minimal operator supervision will be required once pumping commences.

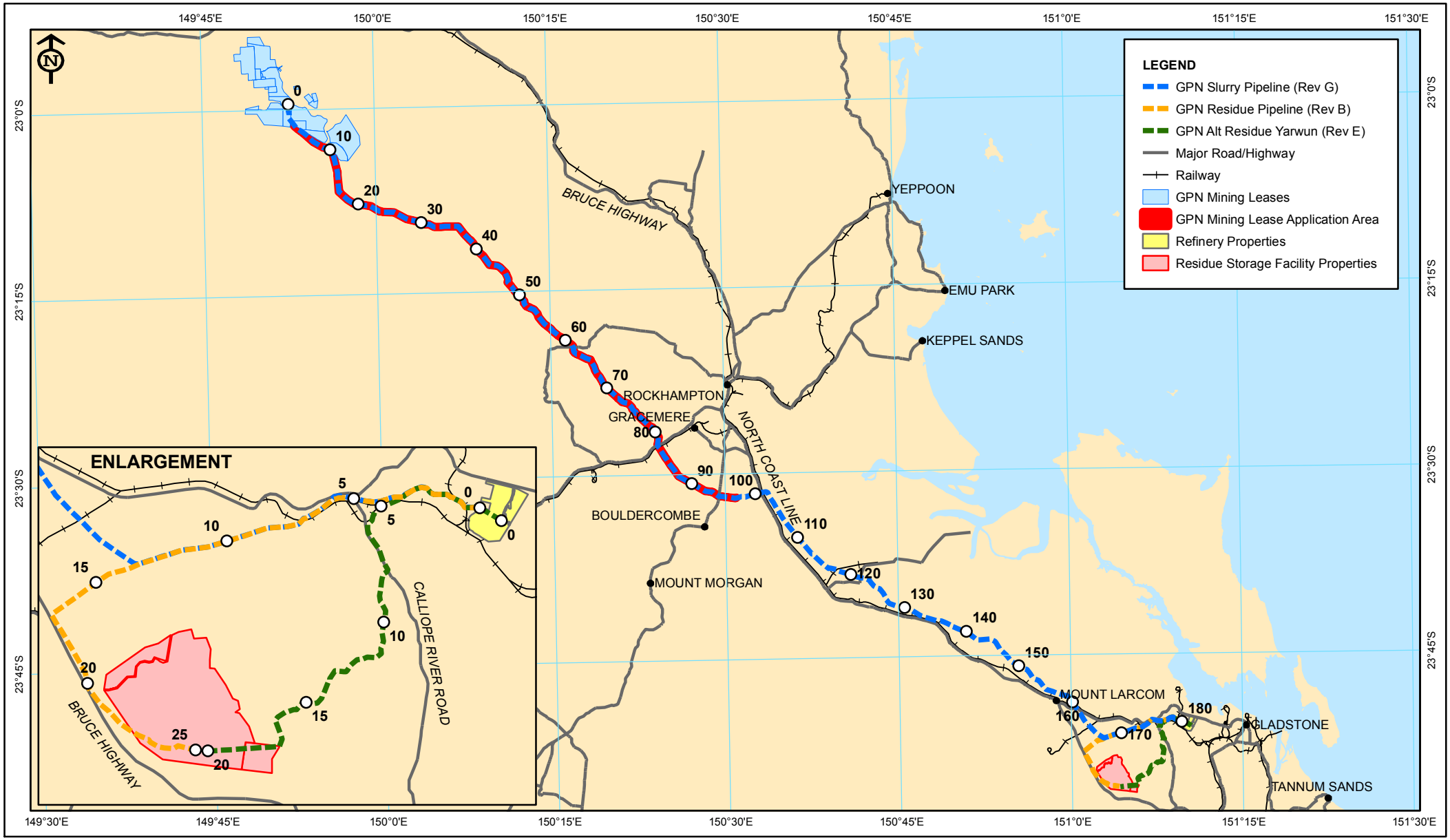
Maintenance and/or storage depots associated with the slurry and residue pipelines will be located either at the mine site of refinery.

1.2 Overview and Purpose of the EMP

This environmental management plan (EMP) will be submitted as supporting documentation with an application for a new mining lease and an application for an amendment to the existing Environmental Authority to cover the activities associated with the ore slurry pipeline. The purpose of an EMP as defined in the *EP Act* is to propose environmental protection commitments to protect the environmental values affected by the proposed activity and to help the administering authority to prepare the conditions of the Environmental Authority for the application.

In accordance with draft Queensland government guidelines for preparing an EMP, this EMP:

- Describes the relevant activities to be carried out and which land the activities are to be carried out on;
- Describes the environmental values likely to be affected;
- Outlines the potential adverse and beneficial impacts of the activities on the environmental values; and
- Proposes environmental commitments, to protect values, in terms of environmental protection objectives, control strategies, performance indicators and monitoring, reporting and corrective actions.



In preparing this map, RLMS have endeavoured to ensure that the data and information are as accurate and reliable as possible. However RLMS cannot accept liability for any decisions or actions of whatever kind or nature based on this study. RLMS expressly disclaims any loss or damage that may arise therefrom.

Map Projection: MGA94 Zone 56

0 10 20 30 40
Kilometres

PROJECT: GLADSTONE PACIFIC NICKEL

MAP TITLE: FIGURE 1

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Produced by RLMS A.B.N. 33 633 826 894
Level 5 379 Queen Street Brisbane QLD 4000
GPO Box 2292 Brisbane QLD 4001 Australia
Phone: 07 3229 8472 Fax: 07 3221 3234
Email: rlms@rlms.com.au
Internet: www.rlms.com.au

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This EMP covers all construction and operation activities associated with the proposed slurry and residue pipelines that forms part of the Gladstone Nickel Project, however, relevant Environmental Authority is only applicable to the portion of the slurry pipeline subject to a mining lease (refer to Figure 1). The Gladstone Nickel Project is a significant project and an Environmental Impact Statement (EIS) has been prepared under the *State Development and Public Works Organisation Act 1971*. As required by the relevant EPA guideline, environmental authority conditions are proposed. Please note that the conditions proposed in Section 3 for construction activities have been written so that they can equally apply throughout the life of the project during operational activities.

This EMP will ensure that the slurry pipeline is constructed and operated in accordance with industry best practice as it conforms with the Australian Pipeline Industry Association's Code of Environmental Practice (October 2005).

1.3 Objective of the EMP

The objectives of the EMP are to provide:

- The project management team with evidence of practical and achievable plans to ensure that the project's environmental requirements are complied with.
- An integrated plan for monitoring, assessing and controlling potential impacts.
- Local, State and Commonwealth authorities with a framework to confirm compliance with policies and requirements.
- The community with evidence that the GNP will be managed in an environmentally acceptable manner.

The detailed EMP will be reviewed and periodically updated, if necessary, to reflect knowledge gained during the course of the project's construction and operations. Changes to the detailed EMP will be implemented in consultation with the relevant authorities where necessary.

1.4 Associated Documents

Environmental Assessment

The EIS for the Gladstone Nickel Project (April 2007) provides a more detailed project description and summarises the route selection process and the detailed reports based upon the field surveys for Flora, Fauna, Topography, Geology and Soils and Water. The EIS also describes in greater detail the potential impacts of the construction of the pipeline on the existing environment and ecological processes. These impacts have formed a basis for the environmental protection commitments. This EMP will be submitted as part of the supplementary report to the EIS in response to submissions received during the public review period for the EIS.

Construction Specifications

Construction Specifications are standard pipeline documents, which have engineering and environmental information integrated into them. Therefore this EMP forms part of the Construction Specifications. This approach reinforces to the contractor that environmental management is an integral part of the

development and is equally as important as the engineering design specifications.

Alignment Drawings

Alignment Drawings define the alignment of the pipeline and are used as a graphical "key" to supporting documentation such as Construction Specifications and Technical Drawings.

The Alignment Drawings include engineering information, such as pipe wall thickness and depth of cover. The Environmental section of the Alignment Drawings for this project will make reference to site specific management for flora, fauna and water crossings.

Line List

The Line List is a standard pipeline document which is used to advise construction personnel of landowner requirements for matters such as access, stock management, pasture protection and soil conservation.

Detailed Procedures

A project specific Emergency Response Plan will be developed and submitted to the regulatory authorities separate to the EMP.

Engineering Drawings

Engineering drawings will be prepared prior to construction and will reference standards and relevant procedures as applicable.

1.5 Review and Update

The EMP is a dynamic document. It will be reviewed regularly and revised as the project progresses to construction and through to operations. Revisions will include, but not be limited to:

- Inclusion of final organisational structures for construction and operational staff and the allocation of responsibilities in line with the organisational structure.
- Inclusion of relevant approval conditions arising from the project's approval and subsequent permits, authorities and/or licences.
- Review of the operations EMP at the end of the construction phase.

Additional revisions will occur on an as-needs basis, including revisions to address items identified during incident investigations, inspections or audits.

GPNL will be responsible for regular review of the environmental management system to achieve continuous improvement in environmental performance.

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2.0 RELEVANT MINING AUTHORITIES

The relevant mining authority for this EMP is Mining Lease Application (MLA 80134) and only applies to a portion of the slurry pipeline (refer to Figure 1).

2.1 Nature of authorised activities

The activities to be undertaken under the mining lease can be separated into three phases: pre-construction, construction and operations/maintenance. Much of the pre-construction activity has already occurred under assessments completed as part of the EIS process for the significant project. This has involved initial and follow-up landowner contacts, shire council contacts, environmental field studies including flora, fauna, soil and water, and preliminary field identification of access routes.

Preconstruction activities generally include desktop analysis of local features, such as flora and fauna, geology, soil, weed infestations, cultural heritage, land access issues to determine the most suitable route. These studies are supplemented by field surveys as required, in order to clarify any issues, negotiate access to land and to fine tune route selection. The route selection and results of the above activities are presented in the Gladstone Nickel Project EIS and Supplementary Report.

Construction can be characterised as a moving assembly line.

In general the stages of pipeline construction can be summarised as below.

- Clearing: the removal of vegetation and debris to allow safe pipeline construction.
- Grading: the removal of topsoil and rootstock from the trench line area. This material is stored and used in the rehabilitation of the easement.
- Trenching: the excavation of the surveyed centerline for installation of the pipe. The trench dimensions will meet specified standards. Erosion control measures will be taken.
- Stringing: the ordered delivery and unloading of pipe lengths to the site, in preparation for the welding of the lengths into pipeline strings. Usually occurs post-trenching to prevent possible damage to the pipeline coating.
- Pipe installation: the insertion of the pipeline strings into the trench, after welds are visually inspected and x-rayed. The protective coating of the pipe is checked for cracks or defects, and any necessary repairs are made.
- Back Filling: the excavated material is replaced in the trench to bury the pipeline. The pipeline is padded to protect the pipe coating from damage. Topsoil and rootstock is redistributed over the back-fill.
- Hydrostatic testing: the integrity of the pipeline is tested by filling with water in accordance with Australian Standards AS 2885.5. The internal dimensions of the pipeline are gauged.
- Clean up and restoration: the project area is restored. Line-of-sight markers are installed.
- Commissioning: the pressurisation of the pipeline. Testing the pipeline system for function, including cathodic protection and leak detection.
- Handover to Operations.

Operations and maintenance activities commonly include pipeline corridor patrols; maintenance of the pipeline and pipeline corridor; and pigging of the pipeline for cleaning or inspection. In particular, operations aim to manage four key issues:

- The pipeline structure and integrity;
- Pipeline operating conditions and practices;
- The pipeline corridor/ROW; and
- Activities that could affect the above issues.

2.2 Duration and extent of activities

Pipeline construction generally proceeds at a rate of about 3 km a day during normal operating conditions. With a total length of the slurry pipeline of 180 km, this equates to about 60 days. Additional time is required at river, road and rail crossings for horizontal directional drilling and under-boring. The construction proceeds as a moving assembly line so the duration of the impact on any one property will be significantly less than the total construction time.

Activities are restricted to the 35 m Right of Way (ROW) and necessary access tracks, except for a limited number of areas required for pipe and other equipment storage and truck turn-around areas. The location of these areas and access tracks will be chosen in consultation with the appropriate landowner taking into account possible future utilisation of the area, impact on the activities of the landowner and impact on the environment.

3.0 GENERAL PROVISIONS

3.1 Roles and Responsibilities

All contractors and staff are responsible for the environmental performance of their activities and for complying with the general environmental duty under section 319(1) of the *Environment Protection Act 1994* which states that 'a person must not carry out any activity that causes, or is likely to cause, environmental harm unless the person takes all reasonable and practicable measures to minimise the harm'.

The environmental responsibilities of the key project positions for the construction and operation of the pipeline component of the project is provided in the section. Note, the actual positions and titles will not be confirmed until commencement of the relevant construction contract or operational phase of the project.

3.1.1 Construction Phase

The Construction Manager will be responsible for the environmental management of the project's construction and for ensuring compliance with the construction phase EMP.

The Construction Contractor for the pipelines will be responsible for implementing the construction phase EMP and for undertaking all work in a manner which complies with all relevant environmental procedures, adheres to all legislative requirements, and ensures that all environmental objectives associated with the contract are achieved. Contract documents will include all necessary environmental specifications and commitments and require compliance with the EMP, construction specifications, technical drawings and the general environmental duty.

The pipelines construction contractor will appoint an **Environment and Land Representative** who will be responsible for monitoring and reporting the daily implementation of the construction phase EMP and for the continual measurement of the environmental performance of personnel and equipment involved in pipeline construction. The Land and Environment Representative will be suitably qualified and experienced and will report to the Construction Manager. The Land and Environment Representative will also be responsible for contact with landholders along the pipelines alignments.

Compliance audits will be conducted by GPNL against the requirements of the construction phase EMP, the construction procedures, relevant legislation, license and permit conditions and industry standards.

3.1.2 Operational Phase

The **Operations Manager** will be responsible for ensuring that all environmental commitments are complied with for the pipelines.

An **Environmental Manager** will be appointed to be responsible for day-to-day implementation of the operations phase EMP and will report on its implementation and performance to the Operations Manager. The Environmental Manager will be supported by the superintendents, process supervisors and shift

supervisors, who will all be responsible for health, safety and environmental performance of their areas of responsibility.

3.2 Communication and Consultation

During the construction and operation of the pipeline and associated facilities, consultation with relevant regulatory authorities will occur.

Regular contact will be maintained with landholders, government agencies and interested parties, to ensure that :

- they are kept informed of planned activities; and
- there will be minimal inconvenience and impact on their activities.

This will be the responsibility of the Construction Manager, or delegate, during construction and Operations Manager, or delegate, during the operational phase. Records of all contact with stakeholders will be maintained.

3.3 Training and Communications

All managers and supervisors will be responsible for ensuring that personnel under their control have the requisite competencies, skills and training to carry out their assigned tasks in accordance with the requirements of the EMP. They will also be responsible for identifying additional training and competency requirements.

All staff will complete a comprehensive project induction. The induction will include safety, access and a comprehensive review of environmental requirements and standards. All project supervisors and managers will have additional detailed training on the use and implementation of the EMP.

All managers and supervisors will hold regular toolbox meetings with personnel to discuss issues associated with their scheduled work. This will include highlighting and discussing relevant environmental issues.

3.4 Auditing and review

During construction and operations there will be frequent inspections of the work areas and individuals and work crews will be required to demonstrate that the pertinent requirements of the EMP are being adhered to. Reviews of practices resulting from inspections and audits will be ongoing.

The Construction Manager or delegate (construction) and the Environmental Manager (operations) will keep all inspection and audit reports of environmental performance, which will be made available to the relevant regulatory authorities as required.

3.4.1 EMP review

The EMP is to be reviewed initially on an annual basis for the first two years and then the frequency of the review and triggers for review will be reviewed. This review will assess the appropriateness of the EMP to the current activities and determine if any changes to the EMP are required as a result of operational, legislative or organisational changes. The EMP review will be undertaken by the Construction or Operations Manager or delegate.

3.4.2 EMP audits

Audits provide lead indicators for potential incidents and provide important information for corrective action and review of procedures.

During construction, an audit to verify that all work is proceeding in accordance with the EMP will be carried out within four weeks of commencement of construction, at least once during construction and a final audit will be carried out within six weeks of completion of construction.

Post-construction, audits will be conducted annually for two years to evaluate revegetation, erosion and soil stability, weed control, watercourse alteration prevention and success of bed and bank reprofiling.

Internal compliance audits of the EMP during operations are to be completed annually or as issues are identified. EMP audits will also incorporate an audit of compliance to relevant legislative requirements.

Issues or non-conformances identified during audits will be recorded and corrective action implemented.

The Environment and Land Representative or Environmental Manager is responsible for ensuring that the EMP Review and Compliance Audit are scheduled and completed.

The Construction or Operations Manager is responsible for:

- Coordinating and/or conducting environmental audits, as required;
- Ensuring the results of audits are fully documented and maintained;
- Ensuring that corrective action is implemented for any non-compliances identified; and
- Reviewing the effectiveness of the corrective action once completed.

3.5 Records and reporting

All reports, reviews and audits will be kept by the Construction or Operations Manager or delegate and are to be made available to the Regulatory Authorities as required.

3.5.1 Records of inspections, surveys and patrols

Construction and field staff are required to maintain records of all construction field reviews, ROW works, surveys and patrols, and facility checks and inspections. Records shall include details of areas of compliance and non-compliance.

Following completion of the patrol, survey, or inspections, the completed form is to be forwarded to the Construction or Operations Manager or delegate for review. The Construction or Operations Manager or delegate is responsible for ensuring that all issues requiring corrective action are actioned in a timely manner. All issues identified must be recorded, investigated and action implemented to prevent the issue recurring.

All open items from previous inspections shall be checked during the next inspection to ensure that action has been taken, and that the action has been effective in correcting the problem.

The Construction or Operations Manager or delegate shall ensure copies of all completed inspections are maintained.

3.5.2 Incident reporting and hazard alerts

Incident reporting will be implemented to record any safety or environmental non-conformances or incidents. In addition, a hazard alert system will be used to report all hazards and near-miss environmental incidents. The relevant forms will be lodged with the Construction or Operations Manager or delegate for review and action.

Section 320 of the *Environment Protection Act 1994* requires that any person who becomes aware of an event that has the potential to cause or has caused environmental harm, report the event/incident to their employer. Details of the nature and circumstances of the event must be provided.

Any such incidents must be immediately reported to the Construction or Operations Manager and recorded on an Incident Report form. The relevant Manager will ensure that the appropriate external agencies are notified within the appropriate timeframe.

3.5.3 Complaints Register

The Environment and Land Representative or Environmental Manager will maintain a Complaints Register and will record all complaints from land owners, local authorities and the general public in relation to construction, operation and maintenance of the pipeline and ROW. The Construction or Operations Manager will review the register on a monthly basis. Corrective actions and other recommendations will be closed out with the Construction or Operations Manager and where applicable modifications to practices and procedures will be made.

3.5.4 External Reporting

Significant non-compliance with the EMP, environmental authority or relevant legislation should be reported to the relevant authorities. Reference should be made to the legislation, for detailed definitions of reporting requirements. Reference should also be made to specific licenses and permits for additional reporting requirements.

Information and records will be made available to regulatory authorities and interested parties upon request.

Proposed general environmental authority conditions

Maintenance of measures, plan and equipment

G1. The environmental authority holder must:

(a) install all measures, plant and equipment necessary to ensure compliance with the conditions of this environmental authority and the general environmental duty;

(b) maintain such measures, plant and equipment in a proper condition; and

(c) operate such measures, plant and equipment in a proper manner.

Storage of hazardous substances

G2.The holder of the environmental authority must ensure that storage facilities for all hazardous, flammable and combustible liquids:

(a) are within an onsite containment system;

(b) are controlled in a manner that prevents material or serious environmental harm;

(c) are maintained in accordance with *AS 1940:2004 Storage and Handling of Flammable and Combustible Liquids*; and

(d) are equipped with measures, appropriate to the risks to the surrounding environment, to minimise the risk of spills and ensure early detection of spills.

Monitoring

G3. All instruments and devices used for the measurement or monitoring of any parameter under any condition of this environmental authority must be calibrated and appropriately operated and maintained.

G4. Monitoring of any parameter under any condition of this environmental authority must be a representative sample of the parameter or release and undertaken by an appropriately qualified person.

G5. The holder of the administering authority must:

(a) develop and implement a monitoring program that will demonstrate compliance with this environmental authority;

(b) document the monitoring and inspections carried out and any actions taken; and

(c) record, compile and keep for a minimum of five years all monitoring results required by this environmental authority and make available for inspection all or any of these records upon request by the administering authority.

Financial Assurance

G6. The authority holder must provide a financial assurance in the amount and form required by the administering authority. The financial assurance is to remain in force until the administering authority is satisfied that no claim on the assurance is likely.

4.0 CONSTRUCTION ACTIVITIES

4.1 Environmental Management Plans

4.1.1 Air Quality Management

Air Quality Management	
Environmental Value	The qualities of the air environment that are conducive to suitability for the life, health and wellbeing of humans.
Potential adverse and beneficial Impacts	• Dust emissions. • Vehicular and machinery emissions.
Environmental Protection Objective	• To maintain acceptable levels of dust emissions during construction. • To maintain acceptable levels of vehicular and machinery operating emissions. • Receive zero complaints from local landholders regarding air quality.
Environmental Protection Control Strategy	• Consult and advise in advance any residents or landholders with the potential to be impacted by temporary construction dust emissions prior to the commencement of activities. • Vehicles and machinery will be fitted with appropriate exhaust systems and emission control devices and devices will be maintained in good working order. • Construction sites and access roads will be watered on an as required basis to minimise the potential for environmental nuisance due to dust. Watering frequency will be increased during periods of high risk (e.g. high winds). • Vehicle access routes to construction areas will be clearly defined and located to avoid areas of bull dust as far as possible. • The potential for generation of bull dust will be reduced through management and control e.g. watering, mulching cleared vegetation to provide a stable surface. • The extent and period of exposure of bare surfaces will be minimised. • The disturbed corridor will be promptly restored following construction to stabilise the disturbed surface and limit the potential for dust generation. • A strict no burning policy will be implemented.
Performance Indicators	• No excessive dust emissions during windy/dry periods and construction activities. • Number of air quality related complaints from neighbouring residential areas and industry. • Evidence of watering of construction sites and access roads completed on an as needs basis

Air Quality Management	
Monitoring, Reporting and Corrective Actions	• During construction the entire length of the easement and associated access areas will be regularly inspected to assess the effectiveness of air quality protections. • Regular visual monitoring of dust emissions will be conducted and watering frequency altered as required. • Regular audits and reviews in accordance with this EMP will be undertaken. • The construction contractor will maintain records of all monitoring and auditing activities and report results to the client at agreed intervals. • Recommendations and corrective actions arising from audits and reviews shall be implemented. • Routine work reports (as appropriate) shall be recorded and reviewed by each supervisor or manager. • All incidents that deviate from normal operating conditions will be reported internally and at such times immediate corrective action initiated (including reporting to relevant agencies where this is warranted/required) will be implemented by the construction contractor to prevent a recurrence of the incident. • Non Compliance and Incident Reporting will be reviewed and closed out by senior management to ensure prompt rectification and change management as required.
Responsible Person	• Construction Manager. • Environment and Land Representative.
Associated Documentation/ references	• *Environmental Protection (Air) Policy 1997* • Construction Plans (refer to Section 4.2).

Proposed air environmental authority conditions

Dust nuisance

A1. The holder of this environmental authority must ensure that dust or particulate matter or both, resulting from the pipeline activities does not cause an environmental nuisance at any sensitive place or commercial place.

A2. When requested by the administering authority, dust and particulate monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive place or commercial place, and the results must be notified within 14 days to the administering authority following completion of monitoring.

4.1.2 Water Resources Management

Water Resources Management	
Environmental Values	• The biological integrity of natural aquatic ecosystems. • Security for water users. • Suitability of water for recreation use, agricultural use and industrial use. • Suitability, with minimal treatment, for supply as drinking water. • Integrity of riparian and in-stream environment.
Potential adverse and beneficial Impacts	• Erosion and sedimentation of watercourses. • Contamination of surface and/or ground water. • Clearing of riparian vegetation and habitat. • Alteration of hydrology. • Alteration of bank and bed form. • Spread of weeds and algal growth.
Environmental Protection Objective	To appropriately minimise and manage adverse impacts to ground and surface waters and watercourse crossings by: • Preventing significant alteration to hydrological conditions, • Protecting ground and surface water from contamination by fuel, chemicals and other hazardous substances, • Minimising short term and preventing long term interruption or modification to surface drainage patterns, • Maintain groundwater quality and flow requirements, • Minimising disturbance to watercourse beds and banks. • Appropriate discharge of hydrostatic test water.

Environmental Protection Control Strategy	**Planning**
	• Crossing points have been selected to, where possible,:
	  • Minimise the extent of clearing of riparian vegetation
	  • Avoid unstable and/or steep incised banks;
	  • Avoid bends in the channel and confluence with other channels;
	  • Avoid permanent and semi-permanent waterholes;
	• Detailed crossing plans will be prepared for crossings once the crossing methodology has been selected.
	• Findings of engineering geotechnical studies will be utilized in the design of crossings, to ensure that the hydrological flow regimes are maintained.
	• HDD will be used on selected watercourses where practicable taking into account environmental, engineering, logistical, geotechnical issues and advice from drill operator.
	• Relevant approvals and permits will be obtained for the crossings prior to construction.
	• Crossings will, where practicable, be undertaken in no or low flow conditions, and rehabilitation completed prior to the wet season.
	• The crossings will typically be at right angles to the direction of water flow. This will minimise scour potential. This will include vehicular and maintenance tracks.
	• The disturbance corridor for the bed, bank and approaches to watercourses will be the narrowest practicable for safe construction. However, a wider ROW and work area will be required for watercourses with deep and steep banks, to install the pipeline at the required depth, and to restore as close to the original contour as practicable.
	• Additional work area will be obtained at crossing locations, outside of the riparian area, for equipment operation and stockpiling of excavated material.
	• Implement the hydrotest management plan (refer to Section 4.2.7), including determining the source of hydrostatic test water, relevant permits required, whether biocides are required, proposed method of testing and locations of storage and discharge of hydrostatic test water.

	Construction • Regional weather conditions and river flow levels will be monitored during construction to pre-empt changes in weather patterns and flow regimes to minimise impacts that would be associated with wet weather. • Storage and loading/ decanting areas for fuels and chemicals will be bunded and located outside the floodplain of the stream channels (i.e. approximately 50m away from the top bank). • The staging area will be limited to the narrowest area feasible and located outside of the stream channel and riparian area. • Large mature trees will be retained where possible and trees will be trimmed in preference to removal to retain the root stock for stabilisation of the bank. • Clearing of the slopes leading to the watercourses will be delayed until the construction of the crossing is imminent. Where this is not possible, other soil protection measures will be applied. • All stockpiles (vegetation, bed material, bank material) will be stockpiled and stored separately in areas above the top of the bank and outside of the riparian area where it will not be buried or damaged (i.e. free from traffic). • Stream bed material consisting of rocks, pebbles or course gravel overlaying finer material will be stockpiled separately for replacement during restoration. • Silt fences will be located on the lower side of topsoil & bed and bank stockpiles and installed between the watercourse and the construction area to minimise sediment releases; • Soils will be graded away from the watercourse, not towards it. • Sediment and erosion control measures will be installed as required on watercourse approaches and banks to prevent any runoff from entering watercourses. • Diversion banks will be used at the crest of, and on the slopes of, approaches to stream crossings to divert sheet flow away from backfilled trenches. • Each diversion bank will have a stabilised outlet to disperse channelised flows on the downstream side of the easement. • Hard trench plugs will be placed in trenches close to flowing streams, or in times of potential inundation, to limit the potential for stream flow into the trench. • Where biocides are added to the hydrostatic test water, ensure that discharge water is aerated. • Prior to discharge of hydrotest water, the Construction Manager, or delegate, shall be consulted about requirements for water quality testing. Where the water source and water quality is known, and no chemicals have been added, water quality testing may not be required. • Hydrotest water will be discharged to land in such a way as to prevent runoff into any watercourse or drainage lines, flooding, or erosion (e.g. against a splash plate or other dispersive device in order to aerate, slow and disperse the flow). **Restoration** • Watercourse crossings will be rapidly stabilized following construction. • The bed and bank of watercourse will be restored to as near as practical to their original profile and banks compacted to ensure stability. • Topsoil will be respread over the area from where it was removed. • Where required, sandbags, gabion or other scour protection measures will be installed, ensuring these are placed to confirm as far as possible with existing natural contours. • Where required and agreed by landholder, access to the crossings will be restricted (i.e. By fencing or barriers). • Where required, terracing or surface water diversion berms will be placed along the top and intermediate points down the bank slope to encourage runoff to discharge on to stable (i.e. vegetated) areas or via sediment settling basins and not directly to the watercourse.

	• Silt and sediment fences will be installed on slopes where appropriate to filter surface runoff water even if the watercourse is dry. • Watercourses will be stabilised (e.g. rock gabion, jute matting) as required. • Drainage shall be reinstated. • "Snags" and other structures of potential fishery value disturbed during construction will be replaced.
Performance indicators	• Watercourse banks effectively reinstated to prevent scouring. • Watercourse flows and channel crossings not altered. • No significant change to saturation or ponding patterns as a result of construction. • No spill of fuels or chemicals to land or waters. • No significant release of sediment to surface water bodies. • Surface drainage paths returned to original contours. • Erosion and sediment control techniques implemented onsite where necessary.

Monitoring, Reporting and Corrective Actions	• Watercourse crossings will be regularly inspected to assess the effectiveness of protection measures with particular attention to clearing of riparian area, location of work activities with respect to watercourse, timing of construction of crossings and restoration activities.
	• Erosion control and sediment collection devices will be inspected regularly, particularly following rainfall events.
	• Monitoring of water quality upstream and downstream of the construction area on wet crossings will include:
	  • Observation of sediment plumes and surface sheen; and
	  • Measurement of turbidity, suspended solids, pH and dissolved Oxygen
	• Monitoring of the watercourses post construction will be carried out to ensure that rehabilitation works and stability of the watercourses is at least equal to the pre construction condition.
	• Regular audits and reviews in accordance with this EMP will be undertaken.
	• The construction contractor will maintain records of all monitoring and auditing activities and report results to the client at agreed intervals.
	• Recommendations and corrective actions arising from audits and reviews shall be implemented.
	• Routine work reports (as appropriate) will be recorded and reviewed by each supervisor or manager.
	• All incidents that deviate from normal operating conditions will be reported and corrective action initiated (including reporting to relevant agencies where this is warranted/required) will be implemented by the construction contractor to prevent a recurrence of the incident.
	• Non Compliance and Incident Reporting will be reviewed and closed out by senior management to ensure prompt rectification and change management as required.

Responsible Person	• Construction Manager • Environment and Land Representative.
Associated Documentation/ references	• *Environmental Protection (Water) Policy 1997.* • Hydrotesting Management Plan (Section 4.2.7). • Special Area Plans (Section 4.3).

Proposed water environmental authority conditions

Erosion and sedimentation

WA1. The holder of the environmental authority must prevent or minimise:

(a) erosion of areas disturbed by pipeline activities; and

(b) sedimentation or acidification of any waters as a result of pipeline activities.

Restoration of water courses

WA2. The holder of the environmental authority must ensure that bed and banks of water courses disturbed by pipeline activities are stabilised and restored to pre-construction profiles and that flows are not impeded.

Protection of Riverine Areas

WA3. The holder of this environmental authority must:

(a) ensure that there is no significant disturbance in riverine areas containing permanent water, except where necessary for the construction and/or maintenance of roads, tracks and pipelines that are essential for carrying out the authorised pipeline activities;

(b) minimise disturbance of all other riverine areas; and

(c) avoid impeding the flow of water in watercourses by establishing bed level crossings or piped culverts.

4.1.3 Noise Management

Noise	
Policy	The qualities of the acoustic environment that are conducive to: • The wellbeing of the community or a part of the community, including its social and economic amenity. • The wellbeing of an individual, including the individual's opportunity to have sleep, relaxation and conversation without unreasonable interference from intrusive noise.
Potential adverse and beneficial Impacts	• Environmental nuisance at sensitive or commercial places.
Environmental Protection Objective	• Minimise the noise and vibration level generated by pipeline activities.
Management Strategy	• Adequate community notice will be provided regarding the likely timing and duration of noisy activities. • High noise events such as blasting will be scheduled for times of least impact to the local community and adequate community notice provided of any scheduled atypical noise events. • Blasting will be carried out in accordance with relevant state legislation. • A blasting plan will be prepared prior to the commencement of blasting activities, giving consideration of potential air blast pressure and vibration and will include mitigation measures. • Equipment will be fitted with noise control devices.
Performance Indicators	• No noise related complaints received from residents and landholders during construction. • Faulty equipment repaired or replaced as soon as possible. • Evidence of consultation and planning for atypical noise events.
Monitoring, Reporting and Corrective Actions	• Landholder complaints relating to noise and vibration will be recorded and closed out by the Construction Manager or delegate. • Regular audits and reviews in accordance with this EMP will be undertaken. • The construction contractor will maintain records of all monitoring and auditing activities and report results to the client at agreed intervals. • Recommendations and corrective actions arising from audits and reviews shall be implemented. • Routine work reports (as appropriate) shall be recorded and reviewed by each supervisor or manager. • All incidents that deviate from normal operating conditions will be reported internally and at such times immediate corrective action initiated (including reporting to relevant agencies where this is warranted/required) will be implemented by the construction contractor to prevent a recurrence of the incident. • Non Compliance and Incident Reporting will be reviewed and closed out by senior management to ensure prompt rectification and change management as required.
Responsible Person	• Construction Manager. • Environment and Land Representative.

Noise	
Associated Documentation/References	• *Environmental Protection (Noise) Policy 1997.* • AS2187 .2 - 2006 Explosives - Storage, Transport and Use – Use of explosives • AS1055.1 – 1997 Acoustics – Description and Measurement of Environmental Noise – Part 1 General Procedures • Noise Measurement Manual, Third Edition, EPA March 2000. • Construction Plans (refer to section 4.2).

Proposed noise environmental authority conditions

Noise

N1. The holder of the environmental authority must ensure that pipeline activities do not cause environmental nuisance at any sensitive or commercial place.

N2. When requested by the administering authority, noise monitoring must be undertaken within a reasonable and practicable timeframe, nominated by the administering authority, to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within 14 days to the administering authority following completion of monitoring.

N3. The method of measuring and reporting of noise levels must be in accordance with the most recent edition of the Environmental Protection Agency's Noise Measurement Manual.

N4. If monitoring in accordance with N2 indicates that noise emitted from the pipeline activities exceed the noise levels specified in the tables below at any sensitive or commercial place, then the holder of the environmental authority must:

(a) address the complaint, including the use of appropriate dispute resolution if required; and

(b) immediately implement noise abatement measures so that noise emissions from the activity do not result in further environmental nuisance.

Time period	Noise level at a ***sensitive place*** measured as the Adjusted Maximum Sound Pressure Level $L_{A\ max,\ adj,\ T}$
7am– 6 pm	Background noise level plus 5 dB(A)
6pm–10pm	Background noise level plus 5 dB(A)
10pm–7am	Background noise level plus 3 dB(A)
Time period	Noise level at a ***commercial place*** measured as the Adjusted Maximum Sound Pressure Level $L_{A\ max,\ adj,\ T}$

7am –6 pm	Background noise level plus 10 dB(A)
6pm–10pm	Background noise level plus 10 dB(A)
10pm–7am	Background noise level plus 8 dB(A)

In no case is the background noise level, $L_{A90,\ 15\ mins}$ to be less than 25 dB(A). In the event that measured background noise level is less than 25 dB(A), then 25 dB(A) is to be used.

4.1.4 Waste Management

Waste	
Environmental Value	Enhance or protect: • The life, health and wellbeing of people. • The diversity of ecological processes and associated ecosystems. • Land use capability, having regard to economic considerations.
Potential adverse and beneficial Impacts	• Land and/or water contamination. • Inappropriate disposal. • Compromised land/ecosystems.
Environmental Protection Objective	• Minimise impacts related to waste management. • Minimise waste generation. • Dispose of wastes in the most appropriate manner. • No contaminated land generated from construction related activities following post-construction clean-up program.
Environmental Protection Control Strategy	**General** • Management strategies for specific waste streams will be developed by the construction contractor prior to construction commencing. • On completion of each section of the pipeline all waste material will be removed from the workplace. No wastes will be buried on the ROW or disposed of on site. • The Construction Manager will advise designated disposal areas for each section of the easement. • No on-site disposal of waste will occur without local government and/or EPA approval. • General waste will be collected and transported to local Council approved disposal sites or if none available returned to constructor's base and disposed of appropriately. • Food wastes will be collected, where practicable taking into account health and hygiene issues, for disposal off site. • Refuse containers will be located at each worksite. • Where practical, wastes will be segregated and reused/recycled (e.g. scrap metal). • All personnel will be instructed in project waste management practices and procedures as a component of the environmental induction process. • Suppliers will be requested to minimise packaging where practicable. • A high emphasis will be placed on housekeeping and all work areas will be maintained in a neat and orderly manner. • All equipment and facilities will be maintained in a clean and safe condition. • Where the waste is defined as trackable waste by the *Environmental Protection (Waste Management) Regulation 2000* it will be transported by a person with a current authority to transport such waste under the provisions of the *Environmental Protection Act 1994,* and recorded as required under section 23 of *Environmental Protection (Waste Management) Regulation 2000*. • Waste tracking records will be maintained for 5 years as required by the *Environmental Protection (Waste Management) Regulation 2000,* and will include date of transport, quantity and type of waste removed and transported, route selected for transport of waste, and quantity of waste delivered. **Liquid Waste** • Sewage and grey water will either be collected for treatment and disposal off site or treated via an onsite treatment system and disposed of to effluent absorption beds/or irrigation fields. • The treatment method will be selected in consultation with the relevant Council and EPA and the relevant Environmental Authority obtained. • Sewage effluent absorption beds and/or irrigation fields will be selected and designed to ensure that;

Waste	
	– Sensitive areas are avoided; – There is no ponding or runoff of effluent; and – The receiving environment has the capacity to assimilate the contaminants. • Vehicle washdown water, if used, will be disposed of in accordance with weed management protocol. **Hazardous Waste** • Chemical wastes will be collected (e.g. spent pipeline x-ray film developer chemicals) in 200 litre drums (or similar sealed container), appropriately labelled, for safe transport to an approved chemical waste depot or collection by a liquid waste treatment service. • Storage, transport and handling of all chemicals will be conducted in accordance with all legislative requirements. • Containment devices will be checked periodically and drained if necessary so as to prevent overflow and subsequent pollution of the surrounding land and/or water body. • All hazardous wastes will be appropriately stored in bunded areas away from watercourses and in accordance with legislative requirements. • Hazardous wastes, such as solvents, rust proofing agents and primer will be managed in accordance with the requirements of relevant legislation and industry standards. • Material Safety Data Sheets (MSDS) for hazardous materials will be available on-site during construction. • Hydrocarbon wastes, including lube oils, will be collected for safe transport off-site for reuse, recycling, treatment or disposal at approved locations.
Performance Indicators	• Minimal waste generated by construction of the pipelines. • No inappropriate disposal or management of waste. • Record of regulated waste disposal. • No contamination of soil, air or water as a result of any spillages.
Monitoring, Reporting and Corrective Actions	• Housekeeping checks to ensure waste is being stored correctly and no litter occurring. • Regular audits and reviews in accordance with this EMP will be undertaken, and recommendations and corrective actions shall be implemented. • Construction areas will be inspected after relocation to ensure that no waste material remains. • The quality characteristics of treated effluent (if discharged to land) will be monitored in accordance with the Environmental Authority Conditions. • The construction contractor will maintain records of all monitoring and auditing activities and report results to the client at agreed intervals. • Recommendations and corrective actions arising from audits and reviews shall be implemented. • Daily or Weekly work reports (as appropriate) shall be recorded and reviewed by each supervisor or manager. • All incidents that deviate from normal operating conditions will be reported internally and at such times immediate corrective action initiated (including reporting to relevant agencies where this is warranted/required) will be implemented by the construction contractor to prevent a recurrence of the incident. • Non Compliance and Incident Reporting will be reviewed and closed out by senior management to ensure prompt rectification and change management as required
Responsible Person	• Construction Manager. • Environment and Land Representative.
Associated Documentation / References	• Relevant Material Safety Data Sheets. • *Environmental Protection (Waste Management) Policy 2000.* • AS1547 – 2000 On-site domestic waste water management.

Proposed waste environmental authority conditions

Waste

W1. The holder of the environmental authority must:

(a) ensure that pipeline activities do not result in the release or likely release of a hazardous contaminant to land or waters that results in material or serious environmental harm unless the release is explicitly authorised under the *Environmental Protection Act 1994*; and

(b) as soon as practicable, remove and dispose of all regulated waste to a licensed waste disposal facility or recycling facility.

W2. All regulated waste removed from the site must be removed by a person who holds a current authority to transport such waste under the provisions of the *Environmental Protection Act 1994* and sent to a facility licensed to accept such waste.

W3. When regulated waste is removed from within the boundary of the environmental authority and transported by the holder of this environmental authority, a record must be kept of the following:

(a) date of waste transport;

(b) quantity of waste removed and transported;

(c) type of waste removed and transported;

(d) route selected for transport of waste;

(e) quantity of waste delivered; and

(f) any incidents (e.g. spillage) that may have occurred on route.

4.1.5 Land Management

Soil and Erosion	
Environmental Value	• The existing integrity of soils. • The existing biodiversity, ecological processes, and land quality.
Potential adverse and beneficial Impacts	• Erosion and sedimentation. • Land contamination. • Compromised rehabilitation. • Acid Sulphate Soils. • Salinity. • Spread of weeds.
Environmental Protection Objective	• Minimise soil erosion, sedimentation and trench subsidence. • Prevent soil inversion. • Develop a stable, vegetated easement post-construction.
Environmental Protection Control Strategy	**Topsoil and Subsoil** • Topsoil will be stripped to a depth of 5cm across the ROW and between 20 to 25cm over the trench. • Topsoil and subsoil will be stockpiled separately with a separation distance of at least 1m between stockpiles. • Stripped vegetation will be stockpiled separately and at least 1m away from soil stockpiles. • Topsoil will only be placed on the high side of the easement, on hill slopes. • Stockpiles will not exceed 2m in height and will have gaps every 50m for drainage and possible stock and wildlife movement. • Topsoil will not be used for backfill. • Where subsoil cannot be made suitable for backfill, certified, weed free, material will be imported and excess subsoil will be disposed of appropriately. • Where possible, topsoil and subsoil from places where cut and fill is required will be stockpiled in a temporary work space. • Soil stockpiles near drainage lines will be bound with silt fencing on their down slope and placed at least 10m away (where possible) from banks. • Subsoil will be re-spread and compacted over the trench and used for the construction of contour banks on steep slopes and above banks at water crossings. • Other areas of the easement will be deep ripped to relieve compaction. • Topsoil application will only take place after subsoil re-spreading, and will be evenly spread and slightly rough. • A gentle crown will be left over the trench line to allow for future settlement of soils, with appropriate breaks to allow for natural surface water flows across the ROW. • No vehicle will drive on freshly topsoiled easement. • Re-vegetation will take place as soon as possible after topsoil spread. **Erosion** • Temporary and permanent erosion control banks will be installed across slopes and in the vicinity of drainage lines along the easement as necessary. • Sediment control devices will be emptied after heavy rain. • Permanent trench breakers will be placed at regular intervals along sloping trenches, at the bases of slopes, adjacent to water bodies and wetlands and at road crossings. • Location of trench breakers will be marked prior to backfilling. • Final diversion banks will be installed immediately down slope of the trench breaks so that seepage water will be diverted away from the easement. • Earth banks across entire disturbed width will be installed every 20-70m on slopes (depending on gradient and soil type) immediately following clear and grade.

	• Banks will be high enough to collect water but low enough to drive safely over.
	• Banks will be restored, if damaged, until permanent establishment (sandbags replaced regularly can be used as an alternative).
	• Water will be discharged down slope to undisturbed vegetation where possible or into a silt fence.
	• Erosion control measures in place for construction will be recontoured to the original conditions as soon as practicable following construction, in consultation with the landholder.
	Acid Sulphate Soils (ASS)
	• A targeted ASS survey will be completed where there is the potential to disturb potential ASS (PASS) or ASS (Ragland Creek and Inkerman Creek) and the results will be considered in the design of the watercourse crossings.
	• Where identified, all areas of ASS and PASS will be clearly shown on construction plans.
	• If ASS is identified, site specific mitigation measures will be developed such as:
	  • minimising time the trench spoil is stockpiled.
	  • neutralising trench spoil with lime.
	  • containing runoff from stockpile areas in holding ponds or bunded areas.
	  • disposing of trench water only after analysis.
	  • verification testing of potential or actual acid sulfate soils post liming and prior to reburial,
	  • burying of soil below the water table.
	  • compacting the backfill to prevent acid leach migration.
	Land Contamination
	• Continued consultation with all landowners prior to construction to determine whether any potential areas of contamination are located within the ROW.
	• Site specific and contaminant specific management measures will be developed for any areas that are not avoidable through realignment of the route.
	• If suspect contamination is found during earthworks, work in that area will stop until a suitably qualified person has inspected the site, the hazard has been assessed and appropriate action has been taken.
	• EPA approval will be acquired if contaminated material must be removed from the work area.
	• All personnel will be made aware of potential contamination issues through the induction training process.

Performance indicators	• No evidence of uncontrolled erosion following high rainfall. • No evidence of sedimentation in water courses. • Erosion controlled and limited to that consistent with “natural processes” such that pipeline cover is maintained and land capacity is not reduced. • All topsoil stockpiled separately and no spoil occurs on surface after restoration. • All access contained to designated areas. • Prompt reinstatement of disturbed areas.
Monitoring, Reporting and Corrective Actions	• The entire length of the easement will be regularly inspected to assess the effectiveness of protection measures with particular attention to management of soil and spoil stockpiles, erosion control devices and effectiveness of controls following rainfall events. • Regular audits and reviews in accordance with this EMP will be undertaken. • The construction contractor will maintain records of all monitoring and auditing activities and report results to the Project Manager at agreed intervals. • Recommendations and corrective actions arising from audits and reviews will be implemented. • Routine work reports (as appropriate) will be recorded and reviewed by each supervisor or manager. • All incidents that deviate from normal operating conditions will be reported internally and corrective action initiated (including reporting to relevant agencies where this is warranted/required) will be implemented by the construction contractor to prevent a

	recurrence of the incident. • Non Compliance and Incident Reporting will be reviewed and closed out by senior management to ensure prompt rectification and change management as required.
Responsible Person	• Construction Manager • Environment and Land Representative.

Associated Documents / References	• *State Planning Policy 2/02: Planning and Managing Development involving Acid Sulphate Soils and the relevant Guideline*
	• Construction Management Plans:
	  • Clear and Grade (Section 4.2.2)
	  • Trenching (Section 4.2.3)
	  • Pipe laying and Backfill *(*Section 4.2.6)
	  • Clean Up and Rehabilitation (Section 4.2.8)
	  • Dangerous Goods and Chemical Management (Section 4.2.9)

Flora and Fauna	
Environmental Value	• The biodiversity, ecological processes, and existing land quality. • The biological Integrity of natural ecosystems.
Potential adverse and beneficial Impacts	• Clearing of vegetation. • Disturbance to EVR Flora and Fauna species. • Habitat fragmentation. • Spread of weeds and pests. • Opportunity to study and monitor poorly understood fauna.
Environmental Protection Objective	• Minimise impacts to all native vegetation. • Where practicable, avoid disturbance to endangered, vulnerable and rare flora species. • Minimise habitat fragmentation. • Rehabilitate disturbed areas to as close as practical to the pre-construction condition.
Environmental Protection Control Strategy	**Planning** • The route has been selected to avoid disturbance to endangered, vulnerable and rare (EVR) flora species as far as possible and to minimise fragmentation & habitat disturbance of protected fauna species. • The site of additional work areas, storage areas and access roads will be selected to avoid clearing of significant remnant vegetation (Brigalow, Eucalypt Woodland and Cyprus Pine Woodland). • A preconstruction vegetation survey will be completed in targeted areas of the final alignment to identify individual EVR species and trees that contain hollows that are located within the easement and that may be avoided during construction. • Appropriate permits for the clearing of vegetation, including any marine vegetation, will be obtained prior to the commencement of construction. • The location of vegetation to be retained will be clearly indicated on all construction drawings. • Flagging of clearing boundaries through areas of significant vegetation will be completed during the preconstruction pegging of the pipeline alignment (refer Section 4.3.2). • Construction will be scheduled for the dry season wherever possible, but particularly in the vicinity of the Fitzroy River and the wetland/waterbodies between KP101-140 (See Special Area Plan Section 4.3.1) **Construction** • Disturbance will be restricted to a 35m ROW (2 pipelines) and 50m (4 pipelines) and designated work areas. • Physical barriers will be installed around significant vegetation areas in order to restrict

	access and avoid disturbance. • Trenching will occur progressively to minimise the length of time the trench is open. • Clearing of hollow bearing trees will be avoided as far as possible. • Clearing and disturbance in riparian areas and wetland/waterbody areas between KP101-140 will be minimised to that necessary to safely construct the pipeline and meet other environmental requirements (e.g. separation of stockpiles, erosion control). • Removed vegetation was will be respread over the ROW. • Trees and shrubs will be allowed to naturally regenerate on cleared areas not required to be kept clear for pipeline protection and maintenance (subject to landholder agreement). • Fauna escape ramps or ladders and water soaked, sawdust filled hessian sacks (used to support pipes prior to lay-in) will be placed at regular intervals along the open trench. • Cleared native vegetation and timber will be respread over the ROW to aid regeneration and provide fauna habitat (subject to landholder agreement). • Controls to prevent permanent barriers to fish movement will be implemented. • Implement the weed management plan and pest management plan presented in the project EIS. **Restoration** • Rehabilitation of disturbed areas will be undertaken progressively as works progress. • The pipeline construction area will be re-profiled to original or stable contours, re-establishing surface drainage lines and other land features. • Revegetation will take place as soon as possible after topsoil spread. • Flagging used to identify clearing boundaries and sensitive features will be removed. • Native vegetation will be respread over the ROW (not burnt) to assist in the distribution of seed stock and provide shelter for fauna. Distribution of vegetation will be controlled to ensure that any erosion or subsidence that may occur will not be hidden from view during subsequent monitoring inspections. When respreading on slopes tree trunks should be along the line of the contour. • Native groundcover and shrubs will be encouraged to revegetate wherever appropriate to minimise habitat barrier effects in significant habitat areas. • Trees will be permitted to grow within 3 metres of the pipeline as long as pipeline integrity is not affected. • Environmental features such as rocks and dead timber will be replaced on the pipeline construction area where appropriate. • A reseeding plan based on soil types, existing local vegetation characteristics and landholder preferences will be developed. • Seeding will be utilised in areas where rapid restoration is required e.g. watercourse crossings and areas of high erosion potential. • Where disturbed areas are to be re-planted or reseeded, preference will be given to the use of locally native species. However, non-native and non-evasive grass seed stock may be used where approved by the landholders to provide environmentally acceptable short term surface stability.
Performance indicators	• Minimal disturbance of terrestrial flora and fauna during construction of the pipeline, associated tracks and services. • No unplanned or unapproved damage to flora and fauna. • Relevant permit is in place before removing any protected species. • Restoration of disturbed areas to equivalent to surrounding area after construction.
Monitoring, Reporting and Corrective Actions	• The entire length of the easement will be regularly inspected to assess the effectiveness of protection measures with particular attention to management of flora and fauna protection and clearing boundaries. • The open trench will be surveyed on a daily basis by qualified fauna spotters and handlers. • Ongoing monitoring will be undertaken to assess the success and integrity of construction and rehabilitation measures and ensure appropriate follow-up rehabilitation measures are implemented.

	• Any sites not displaying stability (after 12 months) will undergo additional rehabilitation using a method approved by the relevant authority or landholder. • Regular audits and reviews in accordance with this EMP will be undertaken • The construction contractor will maintain records of all monitoring and auditing activities and report results to the Project Manager at agreed intervals. • Recommendations and corrective actions arising from audits and reviews will be implemented. • Routine work reports (as appropriate) shall be recorded and reviewed by each supervisor or manager. • All incidents that deviate from normal operating conditions will be reported and immediate corrective action initiated (including reporting to relevant agencies where this is warranted/required) will be implemented by the construction contractor to prevent a recurrence of the incident. • Non Compliance and Incident Reporting will be reviewed and closed out by senior management to ensure prompt rectification and change management as required.
Responsible Person	• Construction Manager. • Environment and Land Representative.

Associated Documents / References	• *Nature Conservation (Wildlife) Regulation 2006*
	• Construction Management Plans
	  • Clear and Grade (Section 4.2.2).
	  • Special Area Plan - Wetland Habitat Area (Capricorn Yellow Chat) (Section 4.3.1).
	  • Special Area Plan - Black Iron Box (Section 4.3.2).
	• APIA Code of Environmental Practice - Onshore Pipelines 2005

Proposed land environmental authority conditions

Land management

L1. The holder of this environmental authority must:

(a) minimise disturbance to land in order to prevent land degradation; and

(b) ensure that for land that is to be significantly disturbed by the pipeline activities that the top layer of the soil profile is removed and:

i. stockpiled in a manner that will preserve its biological and chemical properties, and

ii. used for rehabilitation purposes.

Contaminant release to land

L2. Contaminants, resulting from the pipeline activities, must not be released to land.

L3. Notwithstanding the other conditions of this environmental authority, if a hazardous contaminant is released to water or land, the holder of the environmental authority must:

(a) take immediate action to prevent any further release;

(b) take immediate action to contain the hazardous contaminant to the affected area, taking particular care to protect environmentally sensitive areas;

(c) restore or rehabilitate the environment to its condition before the release occurred; and

(d) take necessary action to prevent recurrence of the release.

Vegetation management

L4. The holder of the environmental authority must:

(a) prevent or minimise disturbance to vegetation by pipeline activities;

(b) manage the effects of clearing to prevent the loss of biodiversity, reduction of ecological processes and land degradation;

(c) consider whether it is feasible to avoid clearing and, where viable alternatives exist, must not clear vegetation:

i. in or within 50 metres of the high bank of a watercourse;

ii. in or within 50 metres of the static high water mark of wetlands, lakes or springs;

iii. in a way that isolates clumps or dissects corridors of vegetation;

iv. on slopes greater than 5%;

v. on dispersible soils; and

vi. in existing or potential groundwater discharge areas.

(d) when clearing in areas with a high probability of acid sulphate soils, comply with an acid sulphate soil environmental management plan prepared in accordance with the State Planning Policy 2/02: Planning and Managing Development involving Acid Sulphate Soils and the relevant Guideline.

(e) implement, where applicable, the following management plans presented in the project EIS:

i. weed management plan;

ii. pest management plan;

iii. special area plan - wetland habitat area (Capricorn yellow chat); and

iv. special area plan - black iron box.

4.1.6 Community

Community	
Environmental Value	• The integrity of existing community social and economic infrastructure. • Preservation of sites of cultural heritage significance and artefacts with high conservation value.
Potential adverse and beneficial Impacts	• Negative impact on visual amenity of the area. • Temporary interruption to landowner activities. • Temporary interruption to traffic flow on roads impacted by construction. • Hazards and nuisance created by heavy machinery traffic to the area and along haulage roads. • Safety hazard for livestock and private landowners. • In kind support to local council, e.g. road maintenance or upgrades. • Temporary nuisance to local businesses. • Possible employment opportunities within the community. • Flow on benefits to local businesses of increased temporary workforce.
Environmental Protection Objective	• No injuries to the workforce or general public. • No incidents that could cause injury or threaten life. • To ensure workplace safety in accordance with the provisions of the *Workplace Health and Safety Act 1995.* • Activities will not cause negative impacts on the livelihood and well being of the local community. • Open and co-operative relationships with the local community including the traditional owners. • Minimise disturbance to landowners and community. • Preference given to local suppliers whenever practicable. • Minimise the visual impact of the pipeline and associated infrastructure. • Minimise the impact of construction traffic on the amenity of the community. • Observe the general duty of care under the *Environmental Protection Act 1994*. • Take account of the relevant Council Planning Scheme, and council by-laws. • Compliance with Department of Main Roads' requirements for access to and crossing of road corridors. • Protection of Aboriginal sites and artefacts, and areas of high cultural and heritage value in accordance with the *Aboriginal Cultural Heritage Act 2003*, the Duty of Care guidelines and Project Cultural Heritage Management Plans..
Environmental Protection Control Strategy	• Minimise time between initial clearing and easement restoration. • Reduce the cleared easement to the smallest practicable width, without compromising public or personal safety. • Minimise clearing required for access to the ROW whenever possible without compromising public or personal safety. • All complaints received to be recorded including details of complainant, reasons for the complaint, investigations undertaken, conclusions formed and actions taken. These records to be maintained and available for inspection for a period of 5 years. • Identify any concerns or conflicts of interest and address these promptly. • Record any emergency or incident which causes non-compliance with the Environmental Authority and notify the administering authority as soon as practicable, and in writing within 14 days of the initial notification. • Maintain records of environmental incidents for a period of 5 years, and make available for inspection as required by the administering authority. • Appropriate landscaping and visual screening to be undertaken to minimise the impact to visual amenity. • Ensure safe flow of traffic around construction activities, with regard to local council by-laws and requirements.

	• Observe the requirements of the public road authority. • Traditional owners or other approved personnel will monitor the pipeline route for any culturally significant sites or artefacts. • Any artefacts found will be managed as required under the *Aboriginal Cultural Heritage Act 2003*. • As far as practicable work to improve the amenities and well-being of the community. • Keep the community informed of relevant developments in the project area. • Pipeline signage will be maintained. • All gates on private and public land will be left as they are found. • All vehicles and equipment will remain within the defined access roads and pipeline right of way.
Performance indicators	• Level of landowner complaints. • Level of disruption to traffic and local business. • Level of satisfaction with cultural heritage monitoring.
Monitoring, Reporting and Corrective Actions	• A record of complaints and incidents causing environmental harm, and actions taken in response to the complaint or incident will be maintained. • The record or complaints will be retained for 5 years
Responsible Person	• Project Manager • Environment and Land Manager

Associated Documents / References	• *Aboriginal Cultural Heritage Act 2003* Duty of Care Guidelines
	• Project Cultural Heritage Management Plans (as agreed with Darumbul People and Port Curtis Coral Coast Native Title Claimants).
	• Principles for Engagement with Communities and Stakeholders, MCMPR 2005
	• Construction Management Plans
	  • Access and Site Selection Management (Section 4.2.1).
	  • Traffic Management Plan (Section 4.2.12).
	  • Third Party Infrastructure (Section 4.2.11).

Proposed community environmental authority conditions

Complaints

C1. The holder of the environmental authority must:

(a) maintain a record of complaints and incidents causing environmental harm, and actions taken in response to the complaint or incident;

(b) retain the record of complaints required by this conditions for five years;

(c) establish a regular program of monitoring and inspections of the pipeline activities; and

(d) document the monitoring and inspections carried out under the program and any actions taken.

Notification

C2. In the event of an emergency or incident, the environmental authority holder must take all reasonable and practical immediate steps to minimise environmental harm not authorised under this environmental authority.

C3. The environmental authority holder must notify the administering authority in writing, within 24 hours, after becoming aware of any emergency or incident resulting in environmental harm, or which has the potential to cause environmental harm, not authorised by this environmental authority.

4.2 Construction Management Plans

4.2.1 Access and Site Selection

Access and Site Selection Management Plan	
Policy	To utilise, to the extent practicable, existing cleared areas and access tracks so as to: • Minimise impacts to native flora and fauna. • Minimise impacts to soil and water. • Reduce the likelihood of the spread of weeds. • Minimise impacts on visual amenity. • Minimise the number of access tracks and diversions. • Minimise disruption to landholders and third parties. • Manage road and track usage, and achieve satisfactory road and site rehabilitation. • Minimise damage to existing road networks.
Performance Criteria	• Access tracks and work areas/sites are readily manageable and able to be rehabilitated using standard techniques. • No significant complaints from land owners, authorities and public. • No unplanned disturbance of vegetation. • Erosion and sediment control in place.
Implementation Strategy	• Route alignment, location of campsites, storage and additional work areas and new access tracks have been/will be based on, to the extent practicable, the following criteria: – Avoiding unduly steep or rugged terrain; – Minimising impacts on sensitive vegetation, erosion prone soils and watercourse crossings; – Avoiding significant remnant vegetation (Briglalow, Eucalypt Woodland and Cyprus Pine Woodland). • Existing roads and tracks will be used where practicable. • Only designated access tracks will be used by construction vehicles, including personnel vehicles. • Property access will be provided for landholders at all times. • Temporary gates will be installed where fences are breached during construction. • Property fences and gates will be installed, maintained and reinstated to a condition at least equal to the pre-existing condition. • Gates will be left as found. If closed gates are required to be open for a period of time, these will not be left unattended unless by prior agreement with the landholder. • Where there is a risk of land degradation, access along the easement during wet weather will be undertaken in consultation with the relevant landholder and Construction Representative. • Unless otherwise requested by the landholder, temporary access tracks will be rehabilitated to a condition compatible with the surrounding land use upon completion of pipeline construction. • Public and private access tracks will be reinstated to the pre-construction condition. • Workforce education, signage and boundary demarcation will be used to ensure vehicles remain on designated access tracks, within the pipeline construction area. • Temporary access tracks will be signposted during construction, but will not be signposted post-construction to discourage use of the tracks.
Monitoring and Auditing	• During construction the entire length of the construction area and associated work areas will be regularly inspected to assess the effectiveness of protection measures with particular attention to erosion control, topsoil management and waste management.
Reporting and Corrective Action	• Recommendations and corrective actions arising from audits and reviews will be implemented. • Routine work reports (as appropriate) will be recorded and reviewed by each supervisor/manager. • Non -compliance and incident reports will be closed out by senior management. • Landholder complaints will be recorded, appropriate corrective actions implemented and closed out by the Construction Manager or delegate.
Associated Documents / References	• Land Management (Section 4.1.5) • Community Management Plan (Section 4.1.6)

4.2.2 Clearing and Grading

Clearing and Grading Management Plan	
Policy	To manage the impact of site clearing and disturbance such that: • Impacts on vegetation and ecological communities are minimised. • Cleared material is stored appropriately and able to be effectively used during restoration activities. • The rehabilitation success of the disturbed areas is optimised.
Performance Criteria	• No unplanned or unapproved damage to flora and fauna. • Installation and maintenance of erosion control and soil containment devices. • Soils and vegetation stored appropriately to allow for restoration of disturbed areas to equivalent to surrounding area after construction.
Implementation Strategy	• No clearing of protected vegetation will occur until appropriate permits have been obtained. • All infrastructure, such as powerlines, will be identified on construction drawings and made safe and protected during construction. • All clearing boundaries will be clearly illustrated on construction drawings and clearly marked in the field. • The location of all sensitive areas close to the ROW will be marked on construction drawings and physically marked in the field. • Where practical, trees will be trimmed rather than felled. Individual trees to be retained or preserved on the ROW will be clearly marked in the field, before clearing activities begin. • Clearing in riparian vegetation or wetlands will be kept to the minimum required to safely construct the pipelines and meet other environmental requirements (e.g. erosion control, spoil storage). • Blade clearing of trees will occur to retain the root mass wherever practicable. • Cleared vegetation will be stockpiled (not burnt) for respreading during rehabilitation. • Cleared vegetation will be stockpiled outside watercourses behind the floodline. • Cleared vegetation or soil will not to be pushed up against trunks of trees. • Cleared vegetation and soil will not be stored against fencelines. • Topsoil will be graded from the ROW to a depth of 5 cm and between 20-25 cm over the trench line. • Graded soil will be stockpiled behind the floodline, where it can be readily recovered for respreading and where loss through wind or water erosion or other means will be minimised. • Where appropriate, containment devices (e.g. silt fences) will be used to preserve stockpiled soils to prevent siltation of any land surface water or blockage of any existing drainage channels. • Soil stockpiles will not be placed within the bed or banks of watercourses. • The stockpiles will be breached in appropriate locations (coinciding with designated access roads or tracks, fencelines) to allow vehicular, stock and wildlife access. Vehicular movement over stockpiled soil will not be allowed. • Soil and surface stability will be maintained at all times (e.g. temporary erosion control berms, drains and sediment barriers will be installed as necessary and maintained until final construction clean-up is completed). • Water trucks will be used (particularly in hot and windy conditions) on the ROW and, where necessary, on access roads to reduce dust generation. • Vehicle speeds will be restricted on unsealed roads.
Monitoring and Auditing	• The entire length of the easement will be regularly inspected to assess the effectiveness of protection measures with particular attention to areas such as clearing widths, topsoil and vegetation storage and erosion and sediment control measures.
Reporting and Corrective Action	• Recommendations and corrective actions arising from audits and reviews will be implemented. • Routine work reports will be recorded and reviewed by each supervisor/manager. • Non-compliance and incident reports will be closed out by senior management. • Landholder complaints will be recorded, appropriate corrective actions implemented and closed out by the Project Manager or delegate.
Associated Documents / References	• Environmental Management Plans (Section 4.1) • Special Area Plans (Section 4.3)

4.2.3 Trenching

Trenching Management Plan	
Policy	To manage the impacts of trenching activities such that: • Topsoil quality is protected, • Third party infrastructure is identified and protected, • Disruption of landholders, their activities and domestic stock is limited, • Adverse impacts to native fauna are minimised.
Performance Criteria	• Subsoil segregated from topsoil and vegetation. • Ramps and fauna exit points installed and maintained. • Access for landholders and third parties maintained. • No unplanned or uncontrolled disturbance to third party infrastructure. • Temporary sediment and erosion control devices reinstated.

Implementation Strategy	• The location of the existing third party infrastructure in the ROW will be accurately identified on the alignment sheets and marked physically on the ground prior to trenching activities.
	• Crossing of infrastructure will be completed in accordance with agreements reached with infrastructure holders.
	• Known contaminated areas will be avoided.
	• Trenching Supervisor will be instructed in process for handling previously unidentified contaminated areas (e.g. dip, waste pit) or acid sulphate soil (ASS) in the event that any such areas are uncovered during trenching. These will include:
	  • Cessation of trenching at the location.
	  • Relocation and recommencement of trenching 50 m ahead.
	  • Advising Construction Manager and completing an assessment of the potential contamination. This may require the collection and analysis of the soil.
	  • Initiating appropriate remedial action based on the assessment. This may include deviating around the site.
	• Trench spoil (sub soils) will be stockpiled separately to topsoil and vegetation.
	• Areas of potential ASS will be clearly marked on construction drawings. Where potential or actual ASS is disturbed during trenching, trench spoil must be stockpiled within a contained area.
	• Trench spoil will be stockpiled outside watercourses, and / or behind containment structures so as to prevent siltation of any land or surface water or blockage of any existing drainage channels.
	• Regular gaps and spaces in the topsoil, subsoil and vegetation stockpile will be provided for fauna movement.
	• The distances between gaps in stockpiles will be reduced at approaches to stream crossings.
	• Trench plugs will be utilised at appropriate intervals to minimise erosion and allow access across the ROW.
	• The pipeline trenches will be left open for the minimum time practicable, usually between 2 and 8 weeks.
	• The trench will not be left open for extended periods on slopes leading to drainage lines or watercourses.
	• Ramps will be installed in the trench to allow the easy egress of fauna from the trench at a minimum of 500 m intervals, and at any other locations conjunctive with track crossings etc. In areas of high fauna density, additional ramps, branches, hessian sacks or similar devices to enable small fauna to exit the trench may be used.
	• Temporary sediment and erosion control devices will be reinstated.
	• All major road and rail crossings will be bored.
	• Open cut crossing of minor roads and tracks will be managed in consultation with landholders and third parties and alternative traffic management plans developed and implemented.

Monitoring and Auditing	• During construction, the entire length of the easement will be regularly inspected to assess the effectiveness of protection measures, with particular attention to areas such as soils segregation, erosion control devices, fauna escape ramps and access across the easement. • The open trench will be surveyed on a daily basis by qualified fauna spotters and handlers.
Reporting and Corrective Action	• Recommendations and corrective actions arising from audits and reviews will be implemented • Routine work reports will be recorded and reviewed by each supervisor/manager. • Non-compliance and incident reports will be closed out by senior management . • Landholder complaints will be recorded, appropriate corrective actions implemented and closed out by the Project Manager or delegate.

Trenching Management Plan	
Associated Documents / References	• Environmental Management Plans (Section 4.1) • Special Area Plans (Section 4.3)

4.2.4 Horizontal Directional Drilling and Boring

Horizontal Direction Drilling & Boring Management Plan	
Policy	• To protect the quality of local land and water and land resources during pipeline boring and drilling.
Performance Criteria	• Clearing boundaries delineated. • No discharge of drilling fluids to land or waters.
Implementation Strategy	• Access to, and the location of, the drill sites will be selected in accordance with Section **Error! Reference source not found.**. • Geotechnical studies and investigations will be conducted prior to construction to determine appropriateness of method for crossing. • A detailed site plan will be prepared for each drill prior to mobilisation to site. • The extent of the drill pad will be clearly delineated. The size of the cleared area will be minimised, but will be adequate to allow for the safe conduct of the drilling operations. • All vegetation, excluding that which is flagged for avoidance or earmarked for timber salvage, will be cleared and stockpiled within the drill pad area for respreading, mulching or disposal during rehabilitation works. • Topsoil will be graded from the site and stockpiled separately within the drill pad area for respreading during rehabilitation works. • The site will be graded as required. However, graded material will not be placed or pushed into vegetation or other areas where it cannot be readily recovered, mixed with vegetation or topsoil stockpiles, or stockpiled outside the defined drill pad area. • Appropriate erosion control devices such as silt fences, will be installed and maintained to contain runoff from the drill pad and to prevent watercourse siltation as a result of the drilling activities. • Drilling fluids will be contained within the fluid circulation system (i.e. mud tanks, fluid pump system, drill point bell holes and drilling orifice). • Drilling will be designed and operated to avoid loss of drilling fluids (e.g. through rock faults and fissures, etc), and contingency procedures will be in place to halt and/or plug fluid loss should it occur. • The solids, spoil material and any liquid wastes/sludge will be disposed of by a method acceptable to the Local Council. • All containment areas, equipment and carriers will be maintained to prevent leakage. Any leakage will be immediately reported and action taken to contain the spill and prevent a similar event occurring. • Vehicle entry will not be located on the topographical low point of the area. • Entire drilling site will be enclosed by earthen bund. • Bund height will be doubled at vehicle crossing points to allow for compaction by vehicle crossings. • Site will be reinstated and revegetated at conclusion of construction of crossing. • Silt fencing will remain until the site is stable and re-vegetated.
Monitoring and Auditing	• All drilling sites will be audited once during installation. • Daily work records to be maintained by drilling supervisor and reviewed daily by the Construction Manager.
Reporting and Corrective Action	• Recommendations and corrective actions arising from audits and reviews will be implemented • Routine work reports will be recorded and reviewed by each supervisor/manager. • Non-compliance and incident reports will be closed out by senior management to ensure prompt rectification and change management. • Landholder complaints will be recorded, appropriate corrective actions implemented and closed out by the Project Manager or delegate.
Associated Documents / References	• Environmental Management Plans (Section 4.1) • Special Area Plans (Section 4.3)

4.2.5 Pipe Stringing and Welding

Pipe Stringing and Welding Management Plan	
Policy	To carry out pipe stringing and welding in a safe and responsible manner with minimal interference to the landowner or risk to the environment.
Performance Criteria	• No uncontrolled fires. • No significant complaints from landholders/occupiers. • Debris removed from ROW.

Implementation Strategy	• Pipe will be strung, allowing gaps for access across the line of pipe. Gaps will coincide with access roads or tracks, boundary fences and gaps in stockpiled vegetation, and will be located in consultation with relevant landholders.
	• Dust and noise impacts related to pipe transport traffic will be minimised by scheduling deliveries during daylight hours.
	• All welding, welding procedures, welder qualifications, the use of welding consumables, and the removal of weld defects will conform to relevant Australian Standards.
	• The following precautions will be taken to minimise the possibility of fire due to welding activities:
	  • The construction area along the ROW will be cleared of combustible vegetation to reduce the risk of fire.
	  • Stockpiled vegetation will be separated from welding activity.
	  • Water trucks (also used for dust suppression) will be available for use as fire trucks in the event of fire.
	  • Fire extinguishers will be available to all appropriate crew members.
	• 'Night caps' or other appropriate devices will be placed over the open pipe string ends to prevent the ingress of dust, wildlife or other objects into welded pipes.
	• All welding waste will be managed appropriately and removed from the ROW on a daily basis.

Monitoring and Auditing	• The entire length of the ROW will be regularly inspected to assess the effectiveness of protection measures, with particular attention to debris control and availability of fire fighting equipment and crew preparedness.
Reporting and Corrective Action	• Recommendations and corrective actions arising from audits and reviews will be implemented. • Routine work reports will be recorded and reviewed by each supervisor/manager. • Non-compliance and incident reports will be closed out by senior management. • Landholder complaints will be recorded, appropriate corrective actions implemented and closed out by the Project Manager or delegate.
Associated Documents / References	• Environmental Management Plans (Section 4.1) • Special Area Plans (Section 4.3)

4.2.6 Pipe Laying and Backfilling

Pipe Laying and Backfilling Management Plan	
Policy	To manage the impacts of pipelaying and backfilling such that : • The likelihood of erosion or subsidence is minimised. • Disturbance to landholders/occupiers and third parties is minimised. • Topsoil is preserved for rehabilitation, • There are no significant barriers to the reestablishment of overland flow of water.
Performance Criteria	• Subsoil returned to trench prior to topsoil. • No inversion of subsoil and topsoil. • No subsoil at surface on completion of back filling. • Well compacted trench line with appropriately installed trench breakers and contour banks. • No significant landholder complaints regarding access, quality of soil and buried services.
Implementation Strategy	• The period of time between trenching and backfilling will be minimised to prevent erosion of exposed soils. • Appropriate means, such as trench blocks (i.e. trench/sack breakers) and compaction of backfilled soils, will be used to prevent erosion along the backfilled trench.

Pipe Laying and Backfilling Management Plan	
	• Pipelaying crews will prepare for identified third party crossings and will have materials and equipment available. • Gentle crown to be left over the trench line to allow for future settlement of soils, with appropriate breaks to allow for natural surface water flows across the ROW. • Measures including pipeline markers and landholder liaison will be used to alert third parties to the presence of the buried pipelines. Markers will be installed with appropriate regard to land use. • Topsoil will not be used as bedding material. • Topsoil will only be reinstated after the excavated spoil has been backfilled and compacted. • Compaction is to be relieved prior to spreading topsoil. • Erosion berms will be constructed across the ROW on slopes to divert rainfall runoff away from the ROW and to discharge onto stabilised areas.
Monitoring and Auditing	• The entire length of the ROW will be regularly inspected to assess the effectiveness of protection measures with particular attention to areas such as soils management and trench compaction.
Reporting and Corrective Action	• Recommendations and corrective actions arising from audits and reviews will be implemented. • Routine work reports will be recorded and reviewed by each supervisor/manager. • Non-compliance and incident reports will be closed out by senior management. • Landholder complaints will be recorded, appropriate corrective actions implemented and closed out by the Project Manager or delegate.
Associated Documents / References	• Environmental Management Plans (Section 4.1) • Special Area Plans (Section 4.3)

4.2.7 Hydrotesting

Hydrotesting Management Plan	
Policy	• To protect the quality of local land and water resources during pipeline hydrotesting.
Performance Criteria	• Appropriate permits obtained prior to drawing water. • No existing water sources depleted to provide hydrotesting water. • No adverse impacts on soil or surface water as the result of discharging hydrotesting water.
Implementation Strategy	• Relevant permits to draw water obtained. • Pipe sections crossing water bodies will be tested prior to installation. • Inspection of all pipeline section welds, or hydrotesting of pipeline sections before installation under waterbodies, will be performed in accordance with construction specifications/procedures. • Biocides, where required, will be biodegradable. • Where biocides are added, discharge water will be aerated. • Prior to discharge of hydrotesting water, the Construction Manager, or delegate, will be consulted about requirements for water quality testing. Where the water source and water quality is known, and no chemicals have been added, water quality testing may not be required. • Hydrotesting water will be discharged to land in such a way as to prevent runoff into any watercourse or drainage lines, flooding or erosion (e.g. against a splash plate or other dispersive device in order to aerate, slow and disperse the flow). • Discharge of hydrotesting water will comply with all regulatory and landholder requirements.
Monitoring and Auditing	• Inspections of hydrotesting water source against requirements of relevant permits and discharge locations.
Reporting and Corrective Action	• Recommendations and corrective actions arising from audits and reviews will be implemented. • Routine work reports will be recorded and reviewed by each supervisor/manager. • Non-compliance and incident reports will be closed out by senior management. • Landholder complaints will be recorded, appropriate corrective actions implemented and closed out by the Project Manager or delegate.
Associated Documents / References	• Environmental Management Plans (Section 4.1) • Special Area Plans (Section 4.3)

4.2.8 Clean Up and Rehabilitation

Clean Up and Rehabilitation	
Policy	To restore land to surrounding condition and restore land use as far as practicable and compatible with pipelines operation.
Performance Criteria	• No new weed species introduced. • Revegetation re-established similar to surrounding condition. • No significant change in drainage pattern. • ROW stabilised with no significant erosion events. • Reinstated drainage patterns.
Implementation Strategy	• Rehabilitation of disturbed areas will be undertaken progressively as works progress. • Subsoil will be respread and compacted over the trench, with crown development, and used for the construction of contour banks on steep slopes and above banks at water crossings. • Areas of the ROW will be deep ripped to relieve compaction. • The pipelines construction area will be re-profiled to original or stable contours, re-establishing surface drainage lines and other land features. • Topsoil application will only take place after subsoil respreading and will be evenly spread and left with a slightly rough surface. • Driving vehicles on freshly topsoiled ROW will be prohibited. • Revegetation will take place as soon as practicable after topsoil spread. • Subsoil displaced by the pipe, and not utilised, may be stockpiled in locations approved by the landholder for use during operations. • Imported topsoil, of an appropriate quality and weed free, may be required for ROW repairs, and will only be used with landholder approval. • Flagging used to identify clearing boundaries and sensitive features will be removed. • Erosion and sediment control measures will be installed where necessary. Existing soil erosion measures will be reinstated to a condition at least equal to the pre-existing state. • Native vegetation will be respread over the ROW (not burnt) to assist in the distribution of seed stock and provide shelter for fauna. Distribution of vegetation will be controlled to ensure that any erosion or subsidence that may occur will not be hidden from view during subsequent monitoring inspections. • Native groundcover and shrubs will be encouraged to revegetate wherever appropriate to minimise habitat barrier effects in significant habitat areas. • Trees will be permitted to grow within 3 metres of the pipelines as long as pipeline integrity is not affected. • Environmental features such as rocks and dead timber will be replaced in the pipelines construction area where appropriate. • A reseeding plan based on soil types, existing local vegetation characteristics and landholder preferences will be developed. • Seeding will be utilised in areas where rapid restoration is required e.g. watercourse crossings and areas of high erosion potential. • Where disturbed areas are to be re-planted or reseeded, preference will be given to local native species. However, non-native and non-invasive grass seed stock may be used where approved by the landholders to provide environmentally acceptable short term surface stability. • Ecologically sensitive areas will be reseeded with local provenance bluegrass (Dicanthium sericeum), seed if available, or purchased bluegrass seed from other parts of Central Queensland (subject to landholder preferences). • Trees and shrubs will be allowed to regenerate naturally on cleared areas not required to be kept tree free for pipeline protection and maintenance. • Where applied, seed will be evenly dispersed over the entire disturbed area. • Seeding will take place as soon as practicable following clean-up and topsoil placement. • Fertilisers and soil supplements will be used only as necessary with the agreement of landholders and authorities. • Permanent pipeline warning signs will be erected along the easement. • All waste materials and equipment will be removed from the pipelines construction area once backfilling and tie-ins are completed. • Temporary access roads will be closed and rehabilitated to a condition compatible with the surrounding land use. • Where access routes are to be retained, but are not public access, the entry will be disguised

Clean Up and Rehabilitation	
	(e.g. by dog-legging, brush spreading). • Disused silt fences will be removed. • Fences or other barriers will be installed where appropriate and where approved by the landholder to minimise unauthorised easement access.
Monitoring and Auditing	• Regular inspections will be undertaken during the pipelines construction period and operations to monitor for trench subsidence, presence of weeds, revegetation success and stability of the ROW. • Until regrowth is established, significant (e.g. riparian zones) areas and any seeded areas will be monitored regularly to ensure growth and if necessary appropriate reapplication of seed will be carried out. • The success of restoration will be assessed by comparing the percentage cover and species diversity on the ROW with that of adjoining land. • Monitoring will also include an assessment of the effectiveness of weed control measures. • The process of monitoring and rehabilitation will only conclude when the site becomes stable.
Reporting and Corrective Action	• Any sites not displaying stability (after 12 months) will undergo additional rehabilitation using a method approved by the relevant authority or landholder. • Recommendations and corrective actions arising from audits and reviews will be implemented. • Routine reports will be recorded and reviewed by each supervisor/manager. • Non-compliance and incident reports will be closed out by senior management to ensure prompt rectification and change management . • Landholder complaints will be recorded, appropriate corrective actions implemented and closed out by the Project Manager or delegate.
Associated Documents / References	• Environmental Management Plans (Section 4.1) • Special Area Plans (Section 4.3)

4.2.9 Chemical and Dangerous Goods

Chemical and Dangerous Goods Management Plan	
Policy	To ensure that storage and handling of chemicals and dangerous goods on-site does not cause environmental harm or harm to persons.
Performance Criteria	• No hazardous goods contamination of the environment. • Storage and handling procedures correct and appropriate.
Implementation Strategy	• Spill control procedures will be prepared and personnel trained. • Dangerous goods will be stored and handled as per the requirements of relevant Australian Standards. • Dangerous goods will, where appropriate (e.g. outside locations) be stored in bunded areas away from watercourses. • Explosives will be stored in magazines constructed and located as prescribed in AS 2187. • MSDSs for chemicals and dangerous goods will be available on-site. • Waste dangerous goods, which cannot be recycled, will be transported to a designated disposal site as approved by local council. • Spills of dangerous goods will be rendered harmless and collected for treatment and disposal at a designated site, including cleaning materials, absorbents and contaminated soils. • Absorbent and containment material (e.g. absorbent matting) will be available where hazardous materials are used and stored and personnel trained in the correct use. • Protective clothing, appropriate to the materials in use, will be provided • Relevant permits will be held and conditions of permits met.
Monitoring and Auditing	• Regular inspections to ensure that chemical storage facilities continue to meet Australian Standards. • Audits will include inspection of dangerous goods storage areas.

Chemical and Dangerous Goods Management Plan	
Reporting and Corrective Action	• The construction contractor will maintain records of all monitoring and auditing activities and report results to the Project Manager at agreed intervals. • Recommendations and corrective actions arising from audits and reviews will be implemented. • Routine work reports will be recorded and reviewed by each supervisor or manager. • All incidents that deviate from normal operating conditions will be reported and immediate corrective action initiated (including reporting to relevant agencies where this is warranted/required) by the construction contractor to prevent a recurrence of the incident. • Non-compliance and incident reports will be reviewed and closed out by senior management.
Associated Documents / References	• Environmental Management Plans (Section 4.1) • Special Area Plans (Section 4.3)

4.2.10 Cultural Heritage

Cultural Heritage	
Policy	To protect the cultural heritage values of the project area.
Performance Criteria	Compliance with the requirements of the *Aboriginal Cultural Heritage Act 2003* and the relevant Cultural Heritage Management Plans (CHMPs). No disturbance of any place on the Queensland Heritage Register in accordance with the requirements of the *Queensland Heritage Act 1992*.
Implementation Strategy	GPNL is committed to the protection of cultural heritage sites and the sensitive handling of any accidental discovery of sites. GPNL will: • Complete cultural heritage surveys and develop and implement agreed management measures for the management of cultural heritage in accordance with the principles and procedures detailed in the approved CHMPs. • Where potential European heritage material is identified, determine the significance of the site in consultation with the Cultural Heritage Unit of the Department of Natural Resources and Water (DNRW) and where appropriate, in consultation with local historical organisations regarding the relocation / preservation of material. • Include cultural heritage issues in the project induction program and involve representatives from the Aboriginal Parties in the development and implementation of such programs.
Monitoring and Auditing	Monitoring of the earthworks will be undertaken by Traditional Owner monitors in accordance with the Project CHMP's. Auditing of compliance with the CHMPs in accordance with the processes defined within the CHMP.
Reporting	Any signs of disturbance of artefacts will be reported to the Construction Manager and the relevant indigenous stakeholders.
Corrective Action	Any of the following will constitute an incident or failure to comply: • Failure to prepare and/or implement a CHMP • Unauthorised disturbance of any artefacts • Failure to implement a cultural heritage monitoring program In the event of an incident or failure to comply, the commitment that has not been undertaken will be reviewed and modifications implemented as appropriate.
Associated Documents / References	• Environmental Management Plans • Land (Section)
Associated Documents / References	• Environmental Management Plans (Section 4.1) • Special Area Plans (Section 4.3)

4.2.11 Third Party Infrastructure

Third Party Infrastructure Management Plan	
Policy	To minimise potential impacts to third party infrastructure during the construction of the pipelines.
Performance Criteria	• Minimal interruption to third party infrastructure.
Implementation Strategy	• .Infrastructure will be accurately identified pre-construction and recorded on construction drawings. • Disturbance to pre-existing soil conservation measures (e.g. levee/contour banks) will be avoided as far as possible. Where disturbance is required, the banks/levees will be reinstated as soon as practicable, in consultation with the relevant landholder. • Where required along the route, temporary fences will be installed to protect humans and livestock. • The location of existing fences will be determined pre-construction and temporary gates will be installed at locations where the pipelines cross fence lines. • Fences will be reinstated post construction • GPNL will work with infrastructure holders (road, rail, pipelines, powerlines) in regard to: – Accurately determining the location of existing underground infrastructure, – Designing the crossings, taking into account the specific requirements of the infrastructure holders, – Developing agreed safety protocols for the purpose of constructing crossings, – Obtaining the relevant consent/licence agreements for crossings, – Agreeing a schedule for construction of crossings, – Developing agreed protocols for any operational activities associated with the pipelines where an infrastructure crossing exists. • Crossings will be designed in accordance with AS 2285 to maintain the integrity of the existing infrastructure and public safety.
Monitoring and Auditing	Routine monitoring of implementation of agreed protocols.
Reporting and Corrective Action	• The construction contractor will maintain records of all monitoring and auditing activities and will report results to the Project Manager at agreed intervals. • Recommendations and corrective actions arising from audits and reviews will be implemented. • Routine work reports will be recorded and reviewed by each supervisor or manager. • All incidents that deviate from normal operating conditions will be reported and corrective action initiated (including reporting to relevant agencies where this is warranted/required) by the construction contractor to prevent a recurrence of the incident. • Non-compliance and incident reports will be reviewed and closed out by senior management.
Associated Documents / References	• Environmental Management Plans (Section 4.1) • Special Area Plans (Section 4.3)

4.2.12 Traffic Management Plan

Traffic Management Plan	
Policy	To minimise any potential impacts associated with traffic generated by the pipelines' construction traffic.
Performance Criteria	Minimal traffic-related complaints and incidents.
Implementation Strategy	• All heavy vehicles travelling to and from the construction areas will follow dedicated heavy vehicle routes to avoid built-up areas. • Access to and from the ROW will be via designated routes. • Use of carpooling and bus services will be implemented where possible to minimise worker trips during construction. • Where possible, truck deliveries will be restricted to daytime working hours. • Dangerous goods will be transported along preferred dangerous goods routes in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail and in accordance with the requirements of the Queensland *Transport Operations (Road Use*

Traffic Management Plan	
	Management – Dangerous Goods) Regulation 1998 and the *Transport Infrastructure Act 1994*. • If possible, the transport of oversize loads will be restricted to non-peak periods to minimise traffic disruptions and will be provided with appropriate escorts and approvals from both the Main Roads Department and the Police. • Clear traffic signs and signals will be installed on-site to provide for safe traffic movement. • GPNL will negotiate with the Department of Main Roads, Fitzroy Shire Council and Calliope Shire Council regarding the development of a traffic management plan for the construction of the pipelines. This will be undertaken during the detailed design phase of the project, once the pipe source and delivery mode had been determined. The following issues will be specifically addressed in the plan: – Development of designated access routes for pipeline delivery and construction traffic. – Inspection of the access roads in consultation with relevant local authority representatives to determine the state of the road, whether any upgrade is required, and to record the preconstruction condition of the road (e.g. written record, photographs). GPNL will work with the local authority to make any necessary road upgrades and agree the reinstatement condition necessary for each road. GPNL will also work with landholders to develop agreements on any upgrades or reinstatement to private access tracks. – Identification of locations where additional traffic control measures will be necessary to ensure safe traffic movement and minimise disruption to public traffic flows. – Development of temporary traffic control measures necessary to ensure safe traffic movement during construction.
Monitoring and Auditing	The Environmental and Land Management Representative will monitor the number of incidents or complaints received in relation to project traffic.
Reporting	The occurrence of any traffic incidents or complaints will be recorded by the Environmental and Land Management Representative and reported to the Construction Manager.
Corrective Action	The following will constitute an incident or failure to comply in regard to traffic management: • Not following designated routes. • Vehicles not observing site traffic regulations e.g. speed regulations. • Transport of oversize loads at times and in such manners as to disrupt other on- and off-site road users. • Necessary approvals for traffic-related activities not obtained from relevant bodies e.g. Main Roads and local councils. • Non-compliance with the requirements for the Australian Code or Queensland Regulations. In the event of a complaint, an incident or failure to comply with requirements, relevant corrective action will be taken which could include the following: • Traffic patterns will be investigated and vehicles will be rescheduled or rerouted if possible. • Repeatedly offending vehicles will be identified and operators educated in the required of operation for the vehicle. • Appropriate approvals will be sought from relevant authorities where this has not been done. • Issues of non-compliance will be rectified. • Review and modification of the traffic management plan.
Associated Documents / References	• Environmental Management Plans (Section 4.1) • Special Area Plans (Section 4.3)

4.2.13 Weed Management

Weed Management Plan	
Policy	• To prevent the introduction and spread of weed species in association with the construction and operation of the pipelines.
Performance Criteria	• No new weed infestation in the ROW as a result of construction activities. • No spread of weeds from infested areas to previously weed-free areas. • ROW restored to a state that minimises the potential for weed colonisation of disturbed areas.
Implementation Strategy	• A weed inspection of the ROW will be completed prior to construction and the location of declared plants and other noxious weeds recorded. • Weed control of the ROW and relevant access tracks will be undertaken prior to

Weed Management Plan	
	construction. • Upon arrival at the construction area all vehicles, equipment and portable infrastructure (including trailers, generators, workshop and accommodation huts etc.) will be washed at a designated weed washdown area. • Access roads to the ROW will be defined to minimise the potential for the spread of weed species and protocols established for washdown of vehicles travelling along the ROW. • Cleaning procedures will be thorough to remove all soil or organic matter from the surfaces of vehicles, equipment and portable infrastructure, including the undercarriage. Personnel will also ensure all soil and organic matter is removed from clothing and footwear. • Washdown by air or water of a vehicle and/or portable equipment will be supervised by trained personnel and the vehicles details recorded in a vehicle washdown register to be maintained by the construction contractor. • All vehicles will be certified and registered as clean before these are permitted access to the pipeline ROW. • Topsoil and vegetation material will be respread in the immediate vicinity of the area of origin to limit the potential spread of weeds and pathogens.
Monitoring and Auditing	• The ROW, work areas and access tracks will be regularly inspected to assess the effectiveness of protection measures with particular attention to access to and travel along the ROW, washdown activities and records and restoration activities. • Pre-construction weed survey and weed control. • Post-construction weed survey and weed control.
Reporting and Corrective Action	• The construction contractor will maintain records of all monitoring and auditing activities and report results to the Project Manager at agreed intervals. • Recommendations and corrective actions arising from audits and reviews will be implemented. • Areas left bare due to weed control will be reseeded in consultation with the landholder. • Routine work reports will be recorded and reviewed by each supervisor or manager. • All incidents that deviate from normal operating conditions will be reported and corrective action implemented (including reporting to relevant agencies where this is warranted/required) by the construction contractor to prevent a recurrence of the incident. • Non-compliance and incident reports will be reviewed and closed out by senior management.
Associated Documents / References	• Environmental Management Plans (Section 4.1) • Special Area Plans (Section 4.3)

4.3 Special Area Plans

4.3.1 Wetland Habitat Area – Capricorn Yellow Chat

Wetland Habitat Area – Capricorn Yellow Chat	
Item / Area of Significance	Several areas of low lying coastal lands represent significant wetland values and habitat of the endangered Capricorn Yellow Chat (*Epthianura crocea macgregori*) and other fauna. The wetland regions comprise of fresh / brackish and tidally influenced water bodies. The Capricorn Yellow Chat (Yellow Chat) is limited in distribution to coastal central Queensland and is currently listed as 'Critically Endangered' under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and listed as 'Vulnerable' under the Queensland *Nature Conservation Act 1992*. GPNL is committed to delivering pipelines that do not adversely impact wetland habitat areas particularly the Capricorn Yellow Chat.
Policy	To adhere to all mitigation procedures, where applicable, to minimise impacts to wetland areas (KP 105 – 140) intersected by the pipeline route.
Definitions **Refer to EIS Figure 7.5.2.**	High priority Yellow Chat habitat - sites where Yellow Chat breeding has been confirmed. Medium priority Yellow Chat habitat – sites where Yellow Chats have been observed but at which the breeding status is uncertain and few numbers were present. Low priority Yellow Chat habitat – sites at which Yellow Chats have not been found but have appropriate vegetation structure such as emergent sedges or grasses (e.g. key species supporting breeding listed above plus Typha, Carex and Eleocharis).
Detailed Requirements	• Habitat critical for survival of Yellow Chats is marine plains that have pulses of freshwater inundation during the wet season, supporting sedges and dense grasses. • There appear to be two components to the Yellow Chat's habitat: – areas of moderate to tall rush/sedge or grass vegetation (0.4 to 2 m tall) along drainage lines and depressions providing shelter and nesting habitat; and – foraging habitat comprising these shelter areas and nearby more open vegetation types, particularly sparser grasslands and samphire. • Breeding habitat includes: – channels lined with *Cyperus alopecuroides* (a sedge), *Schoenoplectus litoralis* (a club-rush) or Sporobolus virginicus (marine couch); – adjacent grasslands dominated by *Paspalum distichum* (water couch) or *Brachiaria mutica* (para grass); or – adjacent saltmarsh habitat dominated by *Halosarcia perangulata, H. indica, Sesuvium portulacastrum* and *S. virginicus*. • Marginal components of Yellow Chat habitat (those where the species has been seen but not confirmed as breeding) are adjacent freshwater marshes dominated by *Eleocharis*. Para grass lined channels may provide important dry season refuge when the breeding habitat has dried out. Other Yellow Chat subspecies use various species of rushes (*Typha*) and sedges, rank grasses and/or wetland shrubs. • Yellow Chats are insectivores and breeding appears to be dependent on inundation of the habitat. Most breeding occurs in the wetter months (October to May), coinciding with inundation, with breeding less likely during the drier winter to early spring period (June to September) when inundation is less likely. • Inundation appears to drive the productivity (primary and secondary) that supports breeding of Yellow Chats and consequently any reduction in surface flows into breeding habitat may be deleterious. • All chat breeding habitat coincides with a complex mosaic of fresh and salt-influenced wetlands, creating fine scale structural complexity in the plant community. • The majority of records are from marine plains or the marine plain / alluvial terrace interface with only one record from a site embedded within the alluvial terrace (Pelican Creek dam, HLA-Envirosciences 2006). This site was less than 2 km from tidal influence. • All sites where Yellow Chats occur are subject to extremes of wetness, drying completely during the dry season.
Potential Impacts	• Direct impact on the birds (e.g. noise, dust or lights associated with construction activities). • Physical disturbance of the habitat (e.g. clearing of wetland vegetation, water contamination, weed infestation). • Disturbance on hydrology that drives the breeding cycle (e.g. loss or reduction of downstream flows). • Disturbance of creek banks. The alignment only intersects low priority habitat but is upstream of high and medium priority habitat and thus has the potential for downstream effects on high and medium priority habitat.

Wetland Habitat Area – Capricorn Yellow Chat	
Performance Indicators	• No disturbance to high priority areas. • No significant change to saturation or ponding patterns as a result of construction. • Construction completed and stabilised prior to wet season.
Mitigation Measures	• The pipeline route has been aligned to avoid physical disturbance of high priority Yellow Chat habitat. • Additional surveys for Yellow Chats will be undertaken during the detailed design phase to further map potential habitat and assist in route refinement. • Buffer areas will be established and clearly marked in the field and on construction drawings. • Construction through the wetland area will be scheduled for the dry season (usually from June to August), when the extent of the wetlands will be minimal and to reduce the likelihood of disturbing breeding birds. • Clearing and disturbance in riparian areas and wetland/waterbody areas between KP101-140 will be minimised to that necessary to safely construct the pipelines and meet other environmental requirements (e.g. separation of stockpiles, erosion control). • Construction activities will be scheduled to limit the duration of construction through the area. • The route will be aligned to avoid areas of ponded water as far as possible, especially on watercourses and drainage lines upstream of habitat areas. • Where disturbance to wetland vegetation is unavoidable, disturbance will be confined to the upper reaches of the wetland. • Geotechnical studies will be completed on 12 Mile, Raglan and Inkerman Creeks prior to the selection of the crossing method. Where HDD is selected, the crossing will be designed to ensure that the drilling does not adversely impact on aquifer persistence or hydrology. • Soil and vegetation stockpiles will have regular breaks to limit any disturbance to overland water flow. • There will be no drawing of water from dams/impoundments within this area. • Disturbed wetland soils will be revegetated with native macrophytes sourced from topsoil of disturbed wetland or seed sources from adjacent undisturbed wetland areas.
Monitoring and Auditing	• Regular audits and reviews during construction through this area.
Reporting and Corrective Action	• The construction contractor will maintain records of all monitoring and auditing activities and report results to the Project Manager at agreed intervals. • Recommendations and corrective actions arising from audits and reviews will be implemented. • Routine work reports will be recorded and reviewed by each supervisor or manager. • All incidents that deviate from normal operating conditions will be reported and corrective action initiated (including reporting to relevant agencies where this is warranted/required) by the construction contractor to prevent a recurrence of the incident. • Non-compliance and incident reports will be reviewed and closed out by senior management.
Associated Documents / References	• Environmental Management Plans (Section 4.1) • Special Area Plans (Section 4.3)

4.3.2 Black Iron Box

Black Iron Box	
Item / Area of Significance	Black Ironbox is listed as Vulnerable under the EPBC Act and *Nature Conservation Act 1992*. The pipeline route crosses five ephemeral watercourses between KP 38 and KP 80.5, which are lined by numerous Black Ironbox trees, which include a mix of both mature and juvenile trees.
Policy	To adhere to all mitigation procedures, where applicable, to minimise impacts to Black Ironbox intersected by the pipeline route.
Performance Criteria	• No clearing of Black Ironbox for staging or work areas.
Implementation Strategy	• The route has been selected to avoid clearing of mature Black Ironbox trees as far as possible and to minimise disturbance to juvenile species. • A pre-construction survey will be completed of the final alignment. Any individual Black Ironbox, located within the construction easement, that can be avoided, will be clearly identified both in

Black Iron Box	
	the field and on construction drawings. • Permits under the *Nature Conservation Act 1992* will be obtained for clearing of Black Ironbox. • All clearing boundaries will be clearly marked on construction drawings and in the field. • Topsoil, which contains seedstock, will be respread over the ROW. • Cleared native vegetation will be respread across the ROW to assist in the distribution of seed stock. • Subject to landholder consent, the riparian area will be fenced to protect the regeneration area from cattle grazing. • Natural regeneration will be monitored. Where re-establishment is not deemed sufficient, seed collection will be undertaken and spread over the regeneration area.
Monitoring and Auditing	• Audits of the crossings will be completed to confirm the number of individual trees disturbed. • Audits of the crossings to ensure compliance to mitigation measures.
Reporting and Corrective Action	• Recommendations and corrective actions arising from audits and reviews will be implemented. • Routine work reports will be recorded and reviewed by each supervisor/manager. • Non-compliance and incident reports will be closed out by senior management. • Landholder complaints will be recorded, appropriate corrective actions implemented and closed out by the Project Manager or delegate.
Associated Documents / References	• Environmental Management Plans (Section 4.1) • Special Area Plans (Section 4.3)

4.3.3 Pest Management Plan – Fire Ants

Pest Management Plan	
Policy	To prevent further spread of the eastern red imported fire ant (RIFA) beyond the project boundaries and assist in the eradication of RIFA. The pipelines enter the Yarwun Fire Ant Restricted Area from KP 175 to end.
Performance Criteria	No sightings / evidence of RIFA.
Implementation Strategy	The following strategies will be implemented for construction within declared fire ant restricted areas to aid in reducing the spread of RIFA: **Site Survey** A survey of the last 5 km of the pipelines construction areas will be conducted by the Department of Primary Industries & Fisheries (DPIF) within 28 days prior to the commencement of works to ensure that there are no active nests. The survey will be signed-off in accordance with the provisions of DPIF Approved Risk Management Plan for the control of risks associated with RIFA. **Movement Certification** All high risk items (including fill gained through earthworks) to be transported within the restricted areas or to a DPIF-approved disposal site will be accompanied by a movement certificate. **Vehicle Movements** DPIF requirements for the movement of vehicles from a restricted area will be followed. Such requirements may include inspection and washdown. **Staff Education and Awareness** All personnel will be trained in the required practices through a training and awareness program developed in consultation with DPIF.
Monitoring and Auditing	Regular visual inspections will be conducted by the Environmental and Land Management Representative, in accordance with DPIF guidelines, and by DPIF. If there is a suspected RIFA nest, DPIF will be notified within 24 hours and an inspection will occur.
Reporting	The Environmental and Land Management Representative will be responsible for enforcing all procedures and polices relating to RIFA, and maintaining all records. The Environmental and Land Management Representative will liaise with, and report to, the Construction Manager and the relevant authorities on a regular basis. Should a RIFA nest be found, DPIF will be contacted within 24 hours.
Identification of Incident of Failure to Comply	The following represents an incident or failure to comply: • The presence of RIFA on site. • Suspected RIFA nests discovered. • Failure to comply with the DPIF Fire Ant Risk Management Plan.

Pest Management Plan	
	• Ineffective utilisation of movement certification.
Corrective Action	The following represents an incident or failure to comply in regard to RIFA: • Suspected RIFA nest discovered. • Failure to comply with the DPIF requirements. Work policies and procedures will be changed to improve the situation.
Associated Documents / References	• Environmental Management Plans (Section 4.1) • Special Area Plans (Section 4.3)

5.0 OPERATIONAL ACTIVITIES

5.1 Introduction

Prior to commencement of operations, this section of the EMP will be reviewed and updated to:

- Include the organisational structure for operations and allocation of responsibilities in line with the organisational structure;
- Establish reporting structures based on the organisational structure;
- Include relevant approval conditions arising from the approval process and subsequent permits, authorities and licences relevant to the pipeline's operation;
- Review control strategies, objectives and performance indicators to ensure that these are appropriate for operations;
- Include reference to 'as constructed" drawings, particularly those that reference areas of environmental sensitivity; and
- Review inspection and audit schedules and inclusion of specific locations where a higher level of inspection is required (e.g. to monitor rehabilitation success of sensitive areas).

5.2 Environmental Values and Operations Impact

The key operational activities that may have an impact on environmental values are:

- Access to the ROW;
- Maintenance of the ROW, involving management and/or control of vegetation, weeds, pests, bushfire, erosion and sedimentation, pipeline subsidence, cultural heritage and third party infrastructure;
- Maintenance of the pipeline, including excavation, hydrotesting, pigging, and welding. Where maintenance activities to be undertaken are similar to construction activities, the applicable activity-based management plans presented in the EIS and the values-based management plans presented in Section 3 of this document should be implemented;
- Operation of the pipeline involving management of spills and emergency response; and
- Monitoring activities including patrols, inspections and aerial surveys.

Other operational activities such as waste management and storing and handling chemicals will occur either at the Marlborough Mine or the refinery and are included in the relevant EMPs for those locations.

All environmental authority conditions proposed in Section 3 for construction activities will also apply to the relevant operations activities. They have not been repeated in this Section.

The environmental values that may be impacted during operations of the slurry pipeline are presented in more detail in Section 5.4 Environmental Management Plans. A monitoring and reporting program for the operation of the pipeline is presented in the following section.

5.3 Monitoring Program

5.3.1 Schedule

The monitoring program for the slurry pipeline operations will consist of the following:

Monitoring	Frequency
Operational Monitoring	continuous
Ground patrols	monthly
Air surveillance	twice yearly then annually
Internal pipeline inspection	after five years, then seven years after that
Cathodic protection surveys	annually
Planned maintenance program	annually
Issue specific monitoring	as required (Initial program developed following construction)

Records will be maintained of all inspection completed, including (as required) any action arising, further investigation required and corrective action implemented.

5.3.2 Operational Monitoring

Each pipeline will have a flow meter and pressure transmitter located at each end. The control system will monitor the flow into and out of each pipeline on a continuous basis. An alarm will occur if a mismatch in flow is detected which would indicate that a leak is occurring in the pipeline. Pressure transmitters are installed primarily to indicate an over-pressure condition (as outlined in Section 2.5.6 of the EIS).

5.3.3 Ground patrols

Regular inspections are carried out on the pipeline corridor by vehicle to check on the condition of the corridor and identify any activities that may have the potential to impact on the integrity of the pipeline. The inspection will include, but not be limited to, a review of:

- Activity on the pipeline corridor and in the vicinity;
- Use of access tracks and pipeline corridor and any unauthorised traffic;
- Access track condition and maintenance requirements;
- Evidence of erosion, washouts or land subsidence;
- Evidence of pipeline exposure;
- Vegetation cover;
- Excess vegetation on the pipeline corridor;
- Weed and pest infestation;
- Water quality and protection of natural flows;

- Condition of pipeline crossings;
- Disturbance to protected heritage sites;
- Indications of leaks or spills;
- The presence of refuse or litter; and
- Damages to fences, gates, signs, markers etc.

Ground patrols will be undertaken monthly. Special patrols will be undertaken after heavy storms or significant events to check for damage to the pipeline. A further annual ground patrol is undertaken as part of the planned maintenance program.

5.3.4 Air surveillance

Two aerial patrols in the first year after construction will be carried out, then one per year after that. During air surveillance of the pipeline, observers will take note of the following:

- Bare patches (indicating possible leaks or erosion);
- Pipeline exposure;
- Scouring, sink holes, areas of active or potential erosion;
- Condition of water crossings;
- Noxious weed areas;
- Sign coverage;
- Ploughed areas and/or evidence of third party activity;
- Areas of limited revegetation success; and
- Vegetation regrowth that will require control.

5.3.5 Internal pipeline inspections

Internal pipeline inspections to monitor the integrity of the pipe are carried out by intelligent pigs on an as required basis. However, a common schedule would be to inspect after five years, then seven years after that depending on the condition of the line. The slurry pipeline will have internal HDPE lining to protect the pipe from damage by the ore slurry.

5.3.6 Cathodic Protection Surveys

The cathodic protection system on the pipeline must be checked annually. Cathodic protection test points will be installed on the pipeline at intervals of between 2km and 5km in rural areas and closer (intervals of less than 1km) in areas where the pipeline might be subject to an alternating current induction. Therefore, a cathodic protection survey will involve traversing the entire pipeline ROW to check readings at each test point and a full ground patrol will be combined with the survey.

5.3.7 Planned maintenance program

A detailed ROW maintenance program is planned each year. This will involve partial ground patrols along sections of the pipeline ROW in the course of carrying out routine works. Work for the planned maintenance program will be identified by the routine ground and aerial patrols, by the pipeline field staff and from issues raised by landholders or regulatory authorities.

5.3.8 Issue specific monitoring

After construction of the pipeline, areas that require a high level of monitoring, such as water course crossings, will be identified and incorporated into the operations monitoring program.

Special ground and/or aerial patrols may be undertaken after heavy storms or earthquakes to check for damage to the pipeline.

Water quality monitoring may be undertaken as required to monitor the impacts of major works on water quality in nearby watercourses.

Photographic monitoring is sometimes informally undertaken to monitor the success and ongoing maintenance of erosion control and remediation works.

5.4 Environmental Management Plans

5.4.1 Land management

Soil and Erosion	
Environmental Value	• The existing integrity of soils. • The existing biodiversity, ecological processes, and land quality.
Potential adverse and beneficial Impacts	Operational activities that have potential to adversely impact upon soil include: • Excavation works during scheduled maintenance or emergency response (i.e. repair of damaged pipeline) leading to erosion, sedimentation, disturbance of ASS, land contamination and vegetation clearing. • Patrols and inspections of the ROW (vehicle use). • Vegetation control activities (control of weed species & ROW clearing leading to exposed soil).
Environmental Protection Objective	• Minimise soil erosion, sedimentation and trench subsidence. • Prevent soil inversion. • Maintain a stable, vegetated easement post-construction.
Environmental Protection Control Strategy	• Install, maintain and monitor erosion and sediment control devices (e.g. berms, silt fences, jute matting) so that ground is stable and vegetation cover is maintained. • Ensure that runoff control devices (e.g. whoaboys) are maintained to prevent erosion. • Carry out excavation works in conformity with the provisions of the Construction EMP. • Install sediment fencing around active erosion adjacent to watercourses as needed to keep areas stable. • Remove and stockpile topsoil where excavation or subsidence remediation is to occur. Replace topsoil as soon as practicable after works have finished. • Empty sediment control devices after heavy rain. • If ASS is identified, site specific measures will be implemented as per the construction procedure. • Contain any slurry leaks as soon as practicable. Consider erosion potential, sedimentation and land contamination issues when formulating an incident specific emergency response. • Repair leaks as soon as practicable.
Performance indicators	• No evidence of significant erosion during operations (i.e. significantly above that of adjacent lands). • No evidence of significant erosion following excavation or high rainfall. • No evidence of significant changes to ground level, drainage patterns etc. which may indicate soil erosion and sedimentation. • Minimum damage or failure of erosion/sediment control devices. • No evidence of collapse/subsidence of banks at nearby watercourse crossings. • No evidence of subsidence or exposure of pipeline. • Prompt reinstatement of disturbed areas.
Monitoring, Reporting and Corrective Actions	• Visually assess the presence and effectiveness of erosion, sediment and runoff control structures during periodic inspections. • Inspect watercourse crossings after major rainfall events. • Re-instate or repair defective erosion, sediment, and runoff control devices. • Review water runoff management techniques as required. • Install additional erosion, sediment or runoff control measures where necessary. • Utilise latest techniques as they become known. • Report internally all incidents that deviate from normal operating conditions. • Initiate corrective action to prevent a recurrence of the incident (including reporting to relevant agencies where this is warranted/required).

	• Review non-compliance and incident reporting and close out by senior management to ensure prompt rectification and change management as required.
Responsible Person	Environment Manager Operations Manager Field Personnel
Associated Documents / References	As required for maintenance activities: • Construction Management Plans (Section 4.2) • Special Area Plans (Section 4.3)

Flora and Fauna	
Environmental Value	• The biodiversity, ecological processes, and existing land quality. • The biological Integrity of natural ecosystems.
Potential adverse and beneficial Impacts	• Clearing of vegetation and habitat fragmentation from maintenance or emergency works, vegetation control along easement (no large vegetation within 3m of pipeline) and use of agricultural chemicals. • Spread of weeds and vegetation diseases along the ROW through operation of vehicles (during inspections or maintenance activities), importation of soil for earthworks,
Environmental Protection Objective	• Minimal disturbance to native vegetation. • No outbreak of new pest species/ diseases. • No spread of existing pest species into previously clean areas as a result of pipeline activities. • Successful establishment and ongoing success of native grass species planted along ROW post-construction. • Successful rehabilitation of vegetation enabling fauna movement to continue unimpeded. • No complaints from landholders of damage to pest control measures or fencing on their properties.
Environmental Protection Control Strategy	• Inspect condition of revegetation on ROW during regular surveys and patrols. • Implement and maintain weed and pest management strategies (see Weed Management Plan and Pest Management Plan). • Restrict clearing of vegetation to large vegetation regrowth occurring within 3 meters of the pipeline • Stockpile topsoil where excavation is to be undertaken, to maintain grass seed stock, and re-spread once the pipeline trench has been filled in. • Re-establish grasses, where soil is exposed during pipeline excavation works, using varieties native to the area. • Works in the special areas identified in the EIS (Capricorn Yellow Chat habitat and Black Iron Box) are to be in accordance with the relevant special area plan (refer to Section 4.3). • Implement relevant aspects of the construction management plans. • Maintain records of properties where pest control infrastructure is maintained. • Ensure all vermin or dingo fencing is left undisturbed and gates are closed. • Use biodegradable chemicals/herbicides, where practicable, for the treatment of weed species. • Re-establish the ROW with native grass species to minimise fragmentation and prevent impacts on natural ecosystem functioning and fauna movement. • Limit vehicle speed along ROW to 10 - 15 km/hr (reduce dust, reduce fauna fatalities).
Performance indicators	• No weed/disease infestations within ROW or facilities. • Condition of vegetation on ROW.
Monitoring,	• Ongoing pipeline monitoring will be undertaken to assess the success and integrity of

Reporting and Corrective Actions	revegetation and to ensure appropriate follow-up measures are implemented. • Non compliance and incident reporting will be actioned by senior management to ensure prompt rectification and, where required, initiated changes to systems. • Regular audits and reviews will be undertaken and recommendations and corrective actions will be implemented. • Landholder complaints will be recorded and actioned.
Responsible Person	• Environment Manager • Operations Manager • Field Personnel
Associated Documents / References	As required for maintenance activities: • Construction Management Plans (Section 4.2) • Special Area Plans (Section 4.3) • *Nature Conservation (Wildlife) Regulation 2006* • APIA Code of Environmental Practice - Onshore Pipelines 2005

5.4.2 Air Quality Management

Air	
Environmental Value	The qualities of the air environment that are conducive to suitability for the life, health and wellbeing of humans.
Potential adverse and beneficial Impacts	• Dust emissions. • Vehicular and machinery emissions.
Environmental Protection Objective	• To maintain acceptable levels of dust emissions during operations. • To maintain acceptable levels of vehicular and machinery operating emissions. • Receive zero complaints from local landholders regarding air quality.
Environmental Protection Control Strategy	• Vehicles and machinery will be fitted with appropriate exhaust systems and emission control devices and devices will be maintained in good working order. • Excavation sites and access roads will be watered on an as required basis to minimise the potential for environmental nuisance due to dust. Watering frequency will be increased during periods of high risk (e.g. high winds). See also construction EMP. • Consult and advise in advance any residents or landholders with the potential to be impacted by temporary excavation dust emissions prior to the commencement of activities. • Minimise the extent and period of exposure of bare surfaces. • Implement a strict no burning policy.
Performance Indicators	• No visual observance of defective exhausts. • No excessive dust emissions during windy/dry periods and pipeline/ROW maintenance activities. • Number of air quality related complaints from neighbouring residential areas and industry.
Monitoring, Reporting and Corrective Actions	• Landholder complaints will be recorded and actioned. • Regular audits and reviews in accordance with this EMP will be undertaken. • The construction contractor will maintain records of all monitoring and auditing activities and report results to the client at agreed intervals. • Recommendations and corrective actions arising from audits and reviews shall be implemented. • Non Compliance and Incident Reporting will be reviewed and closed out by senior management to ensure prompt rectification and change management as required.
Responsible Person	• Manager Operations • Environment Manager • Field Personnel
Associated Documentation/ references	• *Environmental Protection (Air) Policy 1997* As required for maintenance activities: • Construction Management Plans (Section 4.2) • Special Area Plans (Section 4.3)

5.4.3 Water Resources Management

Water Resource Management	
Environmental Values	• The biological integrity of natural aquatic ecosystems. • Security for water users. • Suitability of water for recreation use, agricultural use and industrial use. • Suitability, with minimal treatment, for supply as drinking water. • Integrity of riparian and in-stream environment.
Potential adverse and beneficial Impacts	• Sedimentation of water courses from excavation and earth works. • Contamination of water resources from accidental leakages, excavation, weed control activities, and inspection/monitoring activities. • Clearing of riparian vegetation and alteration of water course hydrology and morphology and habitat from ROW and pipeline maintenance activities.
Environmental Protection Objective	To appropriately minimise and manage adverse impacts to ground and surface waters and watercourse crossings by: • Preventing significant alteration to hydrological conditions, • Protecting ground and surface water from contamination by fuel, chemicals and other hazardous substances, • Minimising short term and preventing long term interruption or modification to surface drainage patterns, • Maintain groundwater quality and flow requirements, • Minimising disturbance to watercourse beds and banks. • Appropriate discharge of hydrostatic test water after maintenance and repair activities.
Environmental Protection Control Strategy	• Implement appropriate construction environmental management strategy when carrying out pipeline maintenance work (refer to Section 4.2) • Hydrotest water will be discharged to land in such a way as to prevent runoff into any watercourse or drainage lines, flooding, or erosion (e.g. against a splash plate or other dispersive device in order to aerate, slow and disperse the flow). • Rapidly stabilise watercourse profiles following any necessary excavations within water courses. • Avoid emergency maintenance to vehicles and equipment within water course areas.
Performance indicators	• No subsidence or exposure of pipeline within water course crossings. • Watercourse banks effectively reinstated to prevent scouring. • Watercourse flows and channel crossings not altered. • No spill of fuels or chemicals to land or waters. • No significant release of sediment to surface water bodies. • Surface drainage paths remain unaltered.
Monitoring, Reporting and Corrective Actions	• Regular inspections of watercourse crossings to assess the effectiveness of protection and stabilisation measures with particular attention to clearing of riparian area, location of work activities with respect to watercourse and restoration activities. • Regular inspections of permanent erosion control and sediment collection devices particularly following rainfall events. • Regular audits and reviews in accordance with this EMP will be undertaken. • Recommendations and corrective actions arising from audits and reviews shall be implemented. • Non Compliance and Incident Reporting will be reviewed and closed out by senior management to ensure prompt rectification and change management as required.
Responsible Person	• Field Personnel • Manager Operations • Environment Manager
Associated	• *Environmental Protection (Water) Policy 1997.*

Documentation/ references	As required for maintenance activities: • Construction Management Plans (Section 4.2) • Special Area Plans (Section 4.3)

5.4.4 Noise Management

Noise	
Policy	The qualities of the acoustic environment that are conducive to: • The wellbeing of the community or a part of the community, including its social and economic amenity. • The wellbeing of an individual, including the individual's opportunity to have sleep, relaxation and conversation without unreasonable interference from intrusive noise.
Potential adverse and beneficial Impacts	• Environmental nuisance at sensitive or commercial places from vehicle and machinery operation along the ROW and access tracks.
Environmental Protection Objective	• Minimise the noise and vibration level generated by pipeline activities.
Management Strategy	• Notify adjacent landholders of timing and duration prior to any maintenance activities creating excess noise being conducted along the ROW. • Ensure noise attenuation devices fitted to machinery are maintained.
Performance Indicators	• No noise related complaints received from residents and landholders during operations. • Faulty equipment repaired or replaced as soon as possible. • Evidence of consultation and planning for atypical noise events.
Monitoring, Reporting and Corrective Actions	• Landholder complaints relating to noise and vibration will be recorded and addressed. • Regular audits and reviews in accordance with this EMP will be undertaken. • Recommendations and corrective actions arising from audits and reviews shall be implemented. • Non Compliance and Incident Reporting will be reviewed and closed out by senior management to ensure prompt rectification and change management as required. • Noise surveys at relevant nearest local residences will be undertaken as appropriate and/or upon request of the administering authority.
Responsible Person	• Environment, Lands and Heritage Officer
Associated Documentation/ References	• *Environmental Protection (Noise) Policy 1997.* • AS2187 .2 - 2006 Explosives - Storage, Transport and Use – Use of explosives • AS1055.1 – 1997 Acoustics – Description and Measurement of Environmental Noise – Part 1 General Procedures • Noise Measurement Manual, Third Edition, EPA March 2000. As required for maintenance activities: • Construction Management Plans (Section 4.2) • Special Area Plans (Section 4.3)

5.4.5 Access and Security Management

Access and Security	
Policy	Maintain and provide safe access to the ROW and pipeline facilities for maintenance, inspection and operations with minimal disturbance to property owners, adjacent land uses and the environment.
Potential adverse and beneficial Impacts	During operation, access to the pipeline ROW is required on a regular basis for: • Routine inspections to identify any unacceptable risks to the pipeline (e.g. washouts, third party encroachments). • Monitoring and auditing of environmental conditions. • Performance of maintenance activities. • Construction of facilities or additional infrastructure. • Security of pipeline facilities is required to ensure third party access is restricted.
Environmental Protection Objective	• Minimise impacts to native flora and fauna. • Minimise impacts to soil and water. • Avoid adverse impacts on cultural and historic heritage sites. • Reduce the likelihood of the spread of weeds and pests. • Minimise impacts on visual amenity. • Minimise the number of access tracks and diversions. • Minimise disruption to landholders and third parties. • Manage road and track usage, and achieve satisfactory road and site rehabilitation. • Minimise damage to existing road networks.
Management Strategy	• Access ROW only for activities essential to ensuring continued safe pipeline operation and protection of the local environment (the pipeline ROW will not be used as a general thoroughfare). • Access the pipeline ROW, as far as is practicable, by existing roads/tracks. • Arrange private property access to the pipeline ROW with individual landholders, managers and/or lessees. • Minimise the width of any access track to the minimum practical to enable safe vehicle movement. • Restrict public access along the pipeline ROW unless that right already exists. • Restrict public access to the pipeline ROW by minimising visibility (e.g. dogleg service track entrances or revegetation plantings), or by physical barriers (e.g. gates, fences, log and rock barriers, trenches) and signs. • Control vegetation and soil erosion to ensure continued access and safe navigation by vehicles • Notify landholder, if possible, at least 24 hours before access is required. Where this is not possible, reach alternative agreements regarding ongoing access. • Limit speed to 10-15 km/hr along the ROW. • Except for specific purposes (e.g. rehabilitation of topsoil, protection of heritage sites, safety hazard control, or to restrict access to the ROW), the pipeline ROW should not be fenced. • Minimise access to the pipeline ROW to minimise potential weed impacts (see also Weed Management Plan). • Normal operations inspections will be during daylight hours as part of the structured inspection and monitoring program described in Section 5.3.
Performance Indicators	• Number of complaints received from residents and landholders. • Condition of signage and security fencing. • Condition of ROW environment.

Access and Security	
Monitoring, Reporting and Corrective Actions	• During operations the entire length of the easement and associated work areas will be regularly inspected to assess the effectiveness of rehabilitation measures with particular attention to erosion control and revegetation. • Regular audits and reviews will be undertaken, and recommendations and corrective actions will be implemented. • Non Compliance and Incident Reporting will be actioned by Senior Management to ensure prompt rectification and change management as required. • Landholder complaints will be recorded and actioned.
Responsible Person	• Manager Operations
Associated Documentation/ References	As required for maintenance activities: • Construction Management Plans (Section 4.2) • Special Area Plans (Section 4.3)

5.4.6 Emergency Preparedness and Response

Emergency Response Management Plan	
Policy	To ensure that project personnel can respond effectively and efficiently in the event of an emergency associated with construction of the pipelines.
Performance Criteria	Emergency plans for pipeline operations developed and in place prior to operations. Operational personnel familiar with emergency procedures and role in the event of an emergency and emergency drills have been undertaken.
Implementation Strategy	GPNL will prepare a detailed emergency response plan during the project detailed design phase. The plan will include consideration of the following: • Response procedures in the event of a fire, spill, leak, explosion, equipment failure, bomb threat, natural disaster (including severe storm and flood events) or any other likely emergency. • Communication arrangements and contact details. • Roles and responsibilities of responsible personnel. • Emergency controls and alarms. • Evacuation procedures. • Emergency response equipment. • Leak detection and control points. • Training requirements. • Site access and security. The key principles for the response to a pipeline related incident, in particular a breach of the pipeline include: • Continual monitoring of pipeline flow/pressure. • Immediate shut down of the pipeline where an incident is detected. The pipelines can be safety shut down for a short period and then restarted (slurry and solid material will resuspend). • Mobilisation of crews and equipment to identify nature and severity of the incident, minimise impacts to the surrounding areas and implement actions to manage immediate threats. • Notification to relevant regulatory agencies and emergency services as required. • Notification to relevant landholders. • Detailed investigation of the incident and development and implementation of corrective actions. • Development and implementation of comprehensive restoration plan.

Emergency Response Management Plan	
Monitoring and Auditing	The effectiveness of the emergency response plan will be regularly tested and audited.
Reporting	The Health and Safety Manager will be responsible for compiling the results of testing and auditing programs. These results will be reported to the Operations Manager.
Corrective Action	The following constitute incidents or failure to comply: • Emergency response plan is not prepared or implemented. • Emergency response equipment is not provided. • Emergency response training is not undertaken. • Emergency response procedures not followed in the event of an incident. In the event of an incident or failure to comply, a selection of the following actions will be undertaken as appropriate: • Prepare or implement the emergency response plan. • Provide the necessary equipment or training. • Investigate why the emergency response procedures were not followed and implement mitigating measures.
Associated Documentation/References	Special Area Plans (Section 4.3)