

27D DRAFT ENVIRONMENTAL MANAGEMENT PLAN (POTABLE WATER SUPPLY)

27D.1 INTRODUCTION

27D.1.1 PURPOSE OF THIS EMP

This Environmental Management Plan (EMP) will describe how the potential environmental impacts associated with the proposed construction and operation of the augmentation of the Wandoan township potable water treatment plant (WTP) will be managed. The WTP is currently operated under Development Permit ENDC00610406, issued under the *Environmental Protection Act 1994* (EP Act) and *Integrated Planning Act 1997*.

Compliance with the EMP will ensure the operation is conducted in accordance with relevant Environmental Protection Policy (EPP) requirements, the standard criteria as outlined in Schedule 3 of the EP Act, current best practice environmental management and the principles of ecologically sustainable development. By doing so, the objective of the EP Act can be achieved.

The following Department of Environment and Resource Management (DERM) (formerly the Environmental Protection Agency) guideline was consulted during preparation of this EMP:

- preparing environmental management plans (Environmental Protection Agency 2003).

This EMP will replace the current EMP developed for the existing WTP by the (former) Taroom Shire Council (prior to amalgamation).

The Proponent for the water supply upgrade will be Westerns Downs Regional Council (WDRC).

27D.1.2 PROJECT OVERVIEW

The augmentation of the Wandoan WTP is being conducted to provide capacity in the treatment plant for additional potable water demand as a result of the Wandoan Coal Project, in addition to the existing and foreseeable potable water demand for the Wandoan township. This EMP covers the following activities:

- upgrade of the existing Wandoan WTP
- a new potable water pipeline from the WTP to the MLA boundary. All related infrastructure within the MLA boundary will be owned and maintained by the Wandoan Joint Venture (WJV), and is not subject to the EMP.

The location of this existing and proposed infrastructure is shown in Figure 27C-1-SV1.3.

This EMP does not cover the construction of a new third bore for the township of Wandoan. As discussed below, the new bore will be constructed by the WJV as a temporary construction water source, and ownership and management of the bore transferred to WDRC following completion of construction of the Wandoan Coal Project.

Plant upgrades at Bore 1

The augmented WTP will be located at the same location as the existing town water treatment plant associated with the Bore 1 site. The augmentation will include:

- the replacement of the borehole pumps and associated fittings in Bore 1 to cater for the increased projected demand (i.e. 26 L/s capacity)
- upgrading the existing WTP by construction of a new treatment chain comprising aeration, flocculation, lamella clarification and filtration. The process will be as per the existing treatment process for water at Bore 1. The upgrade will include the installation of equipment to facilitate the dosing of potable water with fluoride in line with Queensland Government policy
- the upgrade of the existing electrical infrastructure at the WTP to cater for additional demands of the new treatment chain and transmission pump station
- the construction of a new 450 kL reinforced concrete above-ground reservoir for bulk storage, sized to store the water demand from the mine for a 24 hour period

- the construction of a new mine-dedicated potable water transmission pump station, comprising two water pumps, contained in a galvanised pump shed matching the existing pump shed on site. The pump to supply the daily potable water requirements for the mine is expected to operate for an average of approximately 16 hours per day.

The upgraded plant will have an increased capacity to treat up to approximately 1.3 ML/annum of raw water. As discussed above, the treatment process will not change compared to the current operation, apart from the addition of fluoride at some point in the future. Sludge waste from the treatment plant will continue to be delivered to the Wandoan landfill as currently occurs. Backwash waste water from the filtration plant will discharge into the existing sewerage reticulation network for disposal at the Wandoan sewage treatment works (STP).

Upgrades at Bore 2

Works at the Bore 2 site comprise the replacement of the borehole pumps and associated fittings in Bore 2 to cater for the increased projected demand (i.e. 26 L/s capacity). No upgrade is proposed regarding the pipeline connecting the Bore 2 with the WTP at the Bore 1 site.

New Bore 3

A new bore, hereby referred to as Bore 3, will be constructed by WJV under a temporary water licence adjacent Wandoan Jackson Road, approximately 500 m from the intersection of the Leichhardt Highway and Wandoan Jackson Road on land owned by the WJV, and will initially be used for construction water by the WJV. The new bore will be an approximately 1,150 m deep, steel-lined bore into the Great Artesian Basin, and will be equipped with a new bore pump. Ownership and management is proposed to be transferred to WDRC on completion of construction of the mine, for incorporation into the Wandoan potable water system. This will include sub-division of the portion of land on which the bore and associated infrastructure are located and the donation thereof to WDRC.

As construction and initial operation of Bore 3 is not under the ownership or management of WDRC, it is not covered by this EM Plan. Ongoing operation of Bore 3 under WDRC will be the same as for Bore 2.

New pipeline

A 150 mm diameter PVC bulk potable water transmission pipeline will be constructed from the proposed new pump station at the WTP to the mining lease boundary as indicated on Figure 27C-1-SV1.3. The pipeline alignment will run within road reserves, including a crossing of the Leichhardt Highway. Crossing construction will be by way of trenchless auger or thrust boring to obviate safety issues associated with open cut trenches in active roadways.

An isolation valve chamber will be constructed at the mining lease boundary to provide separation between WJV and WDRC infrastructure.

27D.1.3 ENVIRONMENTALLY RELEVANT ACTIVITIES

The water supply upgrade does not trigger any environmentally relevant activities (ERA) under the Environmental Protection Regulation 2008 (EP Regulation). The water supply upgrade does not trigger ERA 64 Water treatment because:

- a) The water treatment does not involve desalinisation.
- b) The water treatment will treat up to 1.3 ML per day, which is less than the 10 ML in a day required to trigger ERA 64.
- c) The water treatment does not involve advanced treatment as defined in Section 63 of the EP Regulation.

As the water treatment is not an ERA, reference to the Wandoan water treatment plant should be removed from the Development Permit ENDC00610406.

27D.2 EMP OUTLINE

The EMP is intended to be a dynamic document that identifies potentially significant environmental impacts and provides practical and feasible methods to manage and minimise those impacts.

The EMP is intended to address both the construction and operational impacts associated with the proposed upgrade.

The EMP is structured as a series of action plans covering the environmental aspects of the Project. Each action plan of the EMP identifies potential environmental impacts and details controls and actions to be implemented to reduce the potential for environmental impacts, and corrective actions to be undertaken if an undesired impact were to occur. The structure of each action plan is as follows:

- each action plan is divided into early works, construction and operation (including maintenance) phases
- the operational policy which applies to the action plan is described
- the performance criteria for each action plan is stipulated
- the implementation strategies to achieve the performance standards are nominated
- the monitoring and auditing procedures to assess performance are described
- the procedure for reporting of monitoring and auditing results is described
- the corrective action or choice of corrective action is identified.

The content of this EMP will be incorporated into a Construction EMP for the augmentation works to be prepared by the Principal Contractor.

27D.2.1 ROLES AND RESPONSIBILITIES

As the Proponent, WDRC is responsible for implementing this EMP and ensuring compliance with the performance criteria of the EMP, including ensuring appropriate corrective actions are implemented when applicable.

In order for the EMP to operate effectively, specific roles and responsibilities need to be clearly defined. These will be determined by the WDRC Operations Manager, whose overall responsibilities with respect to environmental management include:

- inclusion of the EMP in contractual documents for all work to be undertaken by contractors
- ensuring all contractors comply with the requirements of the EMP and nominate an Environmental Site Representative with the necessary authority
- overall planning to ensure operations are conducted with due regard to all statutory requirements
- audit and review of the EMP in order to certify that work is compliant with the requirements of the EMP
- management of staff and contractors to ensure compliance with specified control measures and management requirements
- notification of staff and contractors with respect to any changes or amendments to the EMP or related procedures.

27D.2.2 PERFORMANCE CRITERIA

Relevant and measurable performance criteria are necessary to allow the effectiveness of the EMP to be assessed.

27D.2.3 REPORTING

The relevant reporting structure will be included in site environmental training and induction and will be clearly displayed, along with contact names and numbers.

In the event of an incident that causes, or is likely to cause, environmental harm as defined in the EP Act, immediate action will be taken to minimise the effects of the incident. As soon as is reasonably practicable, the details of the incident and corrective actions taken will be reported to DERM.

27D.2.4 COMPLAINTS AND INCIDENTS PROCEDURE

WDRC's Complaints and Incidents Procedure will be implemented. A Complaints and Incidents Register will be used to record the details of all environmental incidents and complaints received. The information recorded will include the following, as a minimum:

- time, date, name and contact details of the complainant (or location of incident)
- reason(s)/circumstances leading to complaint or incident
- investigations undertaken and results
- corrective action(s) identified, including program for implementation
- date(s) completed.

At all times, complainants will be treated courteously and complaints will be resolved as quickly as possible. The complainant will be contacted within 24 hours of receipt of the complaint and will be kept informed of the progress of any subsequent investigation and corrective action(s).

27D.2.5 ENVIRONMENTAL MONITORING AND AUDITING

Monitoring and auditing are key activities of the EMP and measures actual performance against targets to establish whether performance criteria are being met.

General environmental monitoring of construction activities will be carried out regularly (e.g. weekly) to identify issues which may result in non-compliance with the EMP or statutory requirements (e.g. Council development application).

All monitoring will be conducted by suitably qualified and experienced personnel. Should the results of monitoring or site inspections indicate that the relevant performance criteria have not been achieved, corrective action must be implemented to rectify the situation. Details must be included in the Complaints and Incident Register.

In the event that site inspections indicate any non-conformances with the requirements of the EMP, a non-conformance notice will be issued and details will be included in the Complaints and Incident Register.

Formal audits relating to compliance with the EMP and statutory requirements will be undertaken at least every two months and audit teams should include appropriately experienced internal or external personnel. Each audit will result in an Audit Report that clearly outlines any non-conformance or non-compliance situations identified. A copy of the Audit Report will be provided to the Proponent within two weeks of the audit.

The auditor will be responsible for determining the severity of non-compliances and may instruct work to cease until the non-compliance has been rectified.

Corrective actions will be identified and implemented in response to the findings of the Audit Report.

Copies of Audit Reports and details of any subsequent corrective actions should be available for inspection, upon request by the administering authority.

27D.2.6 ENVIRONMENTAL TRAINING

All staff and contractors will receive induction training about the general requirements of the EP Act and their specific duties and responsibilities associated with the operation of the WTP and with the EMP. At a minimum, the environmental component of the induction will address the following:

- 'General environmental duty' and 'duty to notify environmental harm' (s319 and s320 of EP Act, respectively)
- specific environmental risks identified for the project
- requirements of the EMP
- emergency contact information.

In addition, relevant environmental issues will be reinforced at regular opportunities.

27D.2.7 REVIEW AND UPDATE

The EMP is intended to be dynamic and should be reviewed as often as necessary in accordance with changes to:

- selected technologies or equipment
- operational activities
- the legislative environment and/or approval conditions
- improvements in best practice environmental management
- corrective actions implemented as a result of complaints, incidents or non-conformance situations
- Audit Report recommendations.

27D.2.8 LEGISLATIVE REQUIREMENTS

The EMP will be implemented in accordance with relevant legislation, codes of practice, guidelines and standards. Legislative and other requirements will need to be revised in response to changes in legislation and/or management procedures and policies of WDRC.

The legislation and standards provided in Table 27D-1 should be used as the basis of decision making and complaint resolution with respect to the EMP, but may not be limited to list provided.

Table 27D-1: List of legislative requirements, standards and guidelines

Issue	Legislation, standards and guidelines
Approvals	<i>Environment Protection and Biodiversity Conservation Act 1999 (Cwth)</i> <i>Integrated Planning Act 1997</i> <i>State Development and Public Works Organisation Act 1971</i> <i>Transport and Infrastructure Act 1994</i> <i>Environmental Protection Act 1994</i> Environmental Protection Regulation 2008 Taroom Planning Scheme Taroom Shire Local law No. 21 (Roads)
Land use and contaminated land	<i>Environmental Protection Act 1994</i> Draft Guidelines for the assessment and management of contaminated land in Queensland (May 1998) <i>Integrated Planning Act 1997</i> <i>Land Protection (Pest and Stock Route Management) Act 2002</i> <i>Land Act 1994</i>
Geology, Mineral Resources, Overburden And Soils	Best Practice Erosion and Sediment Control – International Erosion Control Association, 2008 State Planning Policy 1/92 – Development and the Conservation of Agricultural Land
Groundwater	<i>Water Act 2000</i> Great Artesian Basin Water Resource Plan (Surat North Management Area (20)) <i>Environmental Protection Act 1994</i> Environmental Protection (Water) Policy 1997
Water	<i>Water Act 2000</i> <i>Environmental Protection Act 1994</i> Environmental Protection (Water) Policy 1997 Water Quality Sampling Manual – Department of Environment and Heritage 1995 EPA Water Quality Sampling Manual Best Practice Erosion and Sediment Control – International Erosion Control Association, 2008 <i>Nature Conservation Act 1992</i> Australian and New Zealand Guidelines for Fresh and Marine Water Quality, ANZECC, 2000 Fitzroy Basin Resource Operation Plan (November 2006)
Traffic and Transport	<i>Transport Infrastructure Act 1994</i>
Air Quality	<i>Environmental Protection Act 1994</i> Environmental Protection (Air) Policy 2008 AS 3580 – Methods of sampling and analysis of ambient air National Environment Protection Council, National Environment Protection Measures for Ambient Air Quality
Noise	<i>Environmental Protection Act 1994</i> Environmental Protection (Noise) Policy 2008 AS 2436 – Guide to noise control on construction, maintenance and demolition sites AS 1055.1/2: 1997– Acoustics – Description and management of environmental noise EPA Noise Measurement Manual 2000 Ecoaccess Guideline: Planning for noise control User's guide to the Environment Protection (Noise) Policy Environmental Protection Agency 1997

Issue	Legislation, standards and guidelines
Ecology	<i>Environment Protection and Biodiversity Conservation Act 1999 (Cwth)</i> <i>Water Act 2000</i> <i>Fisheries Act 1994</i> <i>Nature Conservation Act 1992</i> Nature Conservation (Wildlife) Regulation 2006 <i>Animal Care and Protection Act 2001</i> <i>Vegetation Management Act 1999</i> Vegetation Management Regulation 2000 <i>Agricultural Chemicals Distribution Control Act 1966</i> <i>Land Protection (Pest and Stock Route Management) Act 2002</i>
Waste Management	<i>Environmental Protection Act 1994</i> Environmental Protection (Waste) Policy 1997 Environmental Protection Regulation 1998 Environmental Protection (Waste Management) Regulation 2000
Cultural Heritage matters	<i>Queensland Heritage Act 1992</i> <i>Integrated Planning Act 1997</i> <i>Land Protection (Pest and Stock Route Management) Act 2002</i> Land Protection (Pest and Stock Route Management) Regulation 2003 <i>Environment Protection and Biodiversity Conservation Act 1999</i> <i>Environment and Heritage Legislation Act (No 1) 2003</i> <i>Australian Heritage Council Act 2003</i> <i>Coroners Act 2003</i> <i>Native Title Act 1993 (Cwth)</i> <i>Native Title (Queensland) Act 1993</i> <i>Aboriginal Cultural Heritage Act 2003</i> <i>Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (Cwth)</i>
Hazard and Risk	<i>Coal Mining Safety and Health Act 1999</i> <i>Workplace Health and Safety Act 1995</i> <i>Explosives Act 1999</i> <i>Dangerous Goods Safety Management Act 2001</i> <i>Transport Infrastructure Act 1994</i> <i>Transport Infrastructure (State-controlled Roads) Regulation 2006</i> <i>Environmental Protection Act 1994</i> <i>Petroleum and Gas (Production and Safety) Act 2004</i> AS 4360: Risk Management
Health and Safety	<i>Workplace Health and Safety Act 1995</i> <i>Workplace Health and Safety Regulation 2008</i> <i>Relevant industry Codes of Practice</i> <i>Explosives Act 1999</i> <i>Dangerous Goods Safety Management Act 2001</i> <i>Coal Mining Safety and Health Act 1999</i> <i>Petroleum and Gas (Production and Safety) Act 2004</i> Code of Practice for Management of Hazardous Substances at Work 1989 AS 1940 Storage and handling of flammable and combustible liquids AS 2187: Explosives – Storage, Transport and Use AS 4360: Risk Management AS 4801: Occupational health and safety management system – specification with guidance for use.

27D.3 ENVIRONMENTAL MANAGEMENT STRATEGIES

Environmental management strategies for aspects potentially impacted by the construction and operation of the proposed WTP upgrade are contained in the action plans attached in the following sections.

27D.3.1 CONTAMINATED LAND ACTION PLAN

Objectives	<ul style="list-style-type: none"> ▪ To ensure that construction, operation and maintenance activities do not result in contamination. ▪ To minimise contamination impacts to land, surface water and groundwater.
Performance Criteria	<ul style="list-style-type: none"> ▪ No land or water contamination within or adjacent to the WTP or associated infrastructure areas.
Environmental Aspects	<ul style="list-style-type: none"> ▪ Soils, surface water and groundwater in the vicinity of the WTP or associated infrastructure areas. ▪ Oils, greases and chemicals used during construction, operation and maintenance.
EARLY WORKS	
Actions/Controls	<ul style="list-style-type: none"> ▪ None required.
Monitoring	<ul style="list-style-type: none"> ▪ None required.
Corrective Action	<ul style="list-style-type: none"> ▪ None required.
Responsibility	<ul style="list-style-type: none"> ▪ Proponent.
Reporting	<ul style="list-style-type: none"> ▪ None required.
CONSTRUCTION	
Actions/Controls	<ul style="list-style-type: none"> ▪ The contents of this EMP will be communicated to all contractors and staff via the site induction. ▪ No on-site fuel storage, other than at designated refuelling stations at the site depot. ▪ No refuelling on site, other than at designated refuelling stations at the site depot. ▪ Appropriate spill kits will be available on site in case of fuel or chemical spills. ▪ Develop and implement waste disposal protocols. ▪ Minimise the amount of potential contaminants stored on site ▪ Securely store potential contaminants (e.g. bunded and weatherproof chemical storage areas). ▪ Ensure water supply for dust generation does not lead to soil contamination (e.g. avoid saline groundwater or contaminated wastewater).
Monitoring	<ul style="list-style-type: none"> ▪ Maintain a training register ▪ Record details of complaint(s) and incident(s) in the Complaints and Incidents Register. ▪ Weekly inspection of all work areas to detect any chemical/oil/hazardous materials spills. ▪ Weekly inspection of spill containment equipment. ▪ Should a contaminant release incident occur with potential to impact on land, surface water or groundwater, undertake monitoring as required for relevant indicator parameters.
Corrective Action	<ul style="list-style-type: none"> ▪ Immediately contain source of spill and deploy containment measures. ▪ Clean up soil and/or water contamination or spillage immediately, with disposal only by an appropriately licensed contractor. ▪ Effect replenishment of spill kits immediately. ▪ Immediately notify DERM/relevant Council officers if a significant spill occurs with potential to cause environmental harm. ▪ Consult with DERM to facilitate remediation of soil, water and/or groundwater if soil, water and/or groundwater contamination is confirmed.
Responsibility	Construction contractor
Reporting	<ul style="list-style-type: none"> ▪ Training register. ▪ Weekly reporting commensurate with inspections throughout the construction period. ▪ Complaints and Incidents Register.
OPERATION AND MAINTENANCE	
Actions/Controls	<ul style="list-style-type: none"> ▪ Water treatment plant to be operated in accordance with Operator's Manual. ▪ Regular inspection and maintenance of the water treatment plant. ▪ Pumps will be fitted with a low pressure cut-out control system in the event of a pipe section failure.

	<ul style="list-style-type: none"> Securely store potential contaminants (e.g. banded and weatherproof chemical storage areas).
Monitoring	<ul style="list-style-type: none"> As part of the regular inspection and maintenance program.
Corrective Action	<ul style="list-style-type: none"> Conduct prompt maintenance to repair any leaks or spills identified. Clean up soil contamination or spillage as soon as practicable, with disposal only by an appropriately licensed contractor. Effect replenishment of spill kits immediately. Immediately notify the DERM/relevant Council officers if a significant spill occurs with potential to cause environmental harm.
Responsibility	<ul style="list-style-type: none"> WTP operator
Reporting	<ul style="list-style-type: none"> Maintenance records Inspection records Record details of incident(s) in the Complaints and Incident Register

27D.3.2 SITE PREPARATION AND REHABILITATION ACTION PLAN

Objectives	<ul style="list-style-type: none"> To minimise the area of clearing and general disturbance. To encourage establishment of permanent and stable vegetation groundcover in areas disturbed for the construction of the WTP, pipeline and temporary construction areas. To ensure that water quality downstream of the construction work area is maintained and not adversely affected as a result of the construction works.
Performance Criteria	<ul style="list-style-type: none"> No ongoing erosion or land degradation following completion of construction.
Environmental Aspects	<ul style="list-style-type: none"> Soils, surface water and vegetation in the vicinity of the WTP and associated infrastructure areas.
EARLY WORKS	
Actions/Controls	<ul style="list-style-type: none"> Prepare an Erosion and Sediment Control Plan in accordance with Best Practice in Erosion and Sediment Control (International Erosion Control Association 2008) prior to the commencement of any construction activities specifying the locations and types of erosion and sediment control measures to be used and in which locations. Measures listed under the construction section of this action plan should be included in the Plan.
Monitoring	<ul style="list-style-type: none"> None required.
Corrective Action	<ul style="list-style-type: none"> None required.
Responsibility	<ul style="list-style-type: none"> WDRC/construction contractor.
Reporting	<ul style="list-style-type: none"> Erosion and Sediment Control Plan approved by WDRC prior to commencement of construction.
CONSTRUCTION	
Actions/Controls	<ul style="list-style-type: none"> The contents of this EMP will be communicated to all contractors and staff via the site induction. Provide construction works personnel with training regarding minimising land disturbance and need for erosion and sediment control. Install erosion and sediment controls in accordance with the Erosion and Sediment Control Plan. Implement appropriate site drainage, sediment and erosion controls prior to, or as soon as possible, following the removal of vegetation. Maintain as required to control surface runoff from all disturbed areas. Bund all stockpiles. Short term stockpiles may be banded by sediment fencing, while long term stockpiles should have measures such as earthen bunds. Clearly identify the areas required to be disturbed to ensure that land disturbance and vegetation clearance is minimised. Rip the top layer of soil in previously compacted areas that are to be rehabilitated (e.g. pipeline trench edges, access tracks, stockpile and layover areas). Ripping the top layer of soil breaks down the soil structure, and as a result protection of these areas from re-compaction (i.e. vehicles or grazing animals) after ripping is required to allow the soil structure to reform.

	<ul style="list-style-type: none"> ▪ Strip topsoil and stockpile separately during clearing for reuse in site rehabilitation. ▪ Sow all disturbed areas with an appropriate mix of species (e.g. native seed in road reserve areas). ▪ Where practicable, mulch vegetation removed for construction works and stockpile for subsequent use in rehabilitation. ▪ Direct water runoff around or away from disturbed areas using diversion bunds and catch drains as appropriate. ▪ Revegetate exposed soils as soon as practical after works have been completed. ▪ In relation to the pipeline to be constructed between the WTP and mining lease, excavated topsoils and subsoils will be replaced in the trench according to the order in which they were removed (i.e. subsoils initially followed by a cover of topsoil). ▪ In relation to the pipeline to be constructed between the WTP and mining lease, compact fill around the pipeline to at least the density of the surrounding soil material, and leave the filled trench slightly higher than the natural land surface to minimising ponding or infiltration around the pipe.
Monitoring	<ul style="list-style-type: none"> ▪ Maintain a training register. ▪ Record details of complaint(s) and incident(s) in the Complaints and Incident Register. ▪ Weekly (at minimum) visual inspection of sediment and erosion control measures. ▪ Visual inspection of sediment and erosion control measures following heavy rain events. ▪ Weekly visual inspection of trench and water management infrastructure for erosion. ▪ Continue erosion monitoring until the vegetation cover has become fully established. ▪ Monitoring for occurrence of erosion. ▪ Monitoring of landform stability and vegetation cover, weeds, etc. ▪ Monitoring for the development of tunnel erosion should be undertaken three monthly for 12 months following the completion of construction.
Corrective Action	<ul style="list-style-type: none"> ▪ Where monitoring programs indicate that rehabilitation is failing, rehabilitation maintenance works will be implemented in a timely manner. ▪ Rehabilitation activities to be undertaken in areas where unplanned damage to vegetation or landforms result from construction activities. ▪ Remediate erosion as soon as practicable. This may include levelling the eroded area, capping with non-dispersive topsoil, application of seed and applying erosion control measures to prevent water impacting the site. ▪ Rehabilitation activities to be undertaken in areas where unplanned damage to vegetation or landforms results from construction activities.
Responsibility	Construction contractor.
Reporting	<ul style="list-style-type: none"> ▪ Training register. ▪ Complaints and Incidents Register. ▪ Weekly reporting commensurate with inspections throughout the construction period.
OPERATION AND MAINTENANCE	
Actions/Controls	<ul style="list-style-type: none"> ▪ Any pipeline construction tracks not to be used for ongoing maintenance access will be rehabilitated/allowed to regenerate.
Monitoring	<ul style="list-style-type: none"> ▪ Visual monitoring of the revegetated/rehabilitated areas to ensure that successful rehabilitation is occurring.
Corrective Action	<ul style="list-style-type: none"> ▪ Where monitoring programs indicate that rehabilitation is failing, additional rehabilitation maintenance works will be implemented in a timely manner.
Responsibility	<ul style="list-style-type: none"> ▪ WTP operator.
Reporting	<ul style="list-style-type: none"> ▪ Inspection records.

27D.3.3 WATER QUALITY ACTION PLAN

Note that this action plan relates only to releases to waters to the environment, and does not address the water quality requirements of the potable water product from the WTP.

Objectives	<ul style="list-style-type: none"> ▪ To minimise the potential for soil loss and degradation. ▪ To prevent adverse impacts on water quality.
Performance Criteria	<ul style="list-style-type: none"> ▪ No deterioration in water quality in the creeks and drainage lines in the vicinity due to the upgrade of the WTP.
Environmental Aspects	<ul style="list-style-type: none"> ▪ Overland flow from rainfall events. ▪ The WTP, Bore 2 or pipeline to the MLA area are not located in close proximity to any surface waters. ▪ Soils in the vicinity of the WTP and associated infrastructure.
EARLY WORKS	
Actions/Controls	<ul style="list-style-type: none"> ▪ Prepare an Erosion and Sediment Control Plan in accordance with Section 27D.3.2 Site Preparation and Rehabilitation Action Plan.
Monitoring	<ul style="list-style-type: none"> ▪ As per Section 27D.3.2 Site Preparation and Rehabilitation Action Plan.
Corrective Action	<ul style="list-style-type: none"> ▪ As per Section 27D.3.2 Site Preparation and Rehabilitation Action Plan.
Responsibility	<ul style="list-style-type: none"> ▪ As per Section 27D.3.2 Site Preparation and Rehabilitation Action Plan.
Reporting	<ul style="list-style-type: none"> ▪ Erosion and Sediment Control Plan approved by the WDRC as per Section 27D.3.2 Site Preparation and Rehabilitation Action Plan.
CONSTRUCTION	
Actions/Controls	<ul style="list-style-type: none"> ▪ The contents of this EMP will be communicated to all contractors and staff via the site induction. ▪ Install erosion and sediment controls in accordance with the Erosion and Sediment Control Plan. ▪ Divert clean surface runoff away from disturbed areas. ▪ Stockpile excavated materials away from gullies and drainage lines. ▪ Plan construction works to minimise the length of time that soils are disturbed and ensure prompt revegetation of areas as soon as works are complete. ▪ Limit vegetation clearing and disturbance (including grass cover) to the minimal amount required for construction works. ▪ Confine traffic to defined roads and access tracks. ▪ Install measures to remove mud from vehicles prior to leaving the site, such as by use of rubble strips.
Monitoring	<ul style="list-style-type: none"> ▪ As per Section 27D.3.2 Site Preparation and Rehabilitation Action Plan.
Corrective Action	<ul style="list-style-type: none"> ▪ As per Section 27D.3.2 Site Preparation and Rehabilitation Action Plan.
Responsibility	<ul style="list-style-type: none"> ▪ Construction contractor.
Reporting	<ul style="list-style-type: none"> ▪ As per Section 27D.3.2 Site Preparation and Rehabilitation Action Plan.
OPERATION AND MAINTENANCE	
Actions/Controls	<ul style="list-style-type: none"> ▪ Securely store potential contaminants (e.g. banded and weatherproof chemical storage areas). ▪ Management of sludge waste as discussed in Section 27D.3.8 Waste management Action Plan.
Monitoring	<ul style="list-style-type: none"> ▪ Rehabilitation monitoring to be undertaken for a period post-construction. ▪ Water quality monitoring for appropriate suite of parameters to be undertaken if rehabilitation works fail and erosion and sedimentation is evident.
Corrective Action	<ul style="list-style-type: none"> ▪ Investigate reason(s) for inadequate performance, identify appropriate corrective measures and implement as necessary. ▪ Additional site preparation and rehabilitation works to be undertaken should initial rehabilitation works fail and impact to water quality through erosion and sedimentation is continuing. ▪ Management of sludge waste as discussed in Section 27D.3.8 Waste management Action Plan.

Responsibility	<ul style="list-style-type: none"> WTP operator.
Reporting	<ul style="list-style-type: none"> In the event of an incident causing material or serious environmental harm, DERM must be notified in accordance with Section 320 of the EP Act. Maintenance records. Inspection records.

27D.3.4 TRAFFIC AND SAFETY ACTION PLAN

Objectives	<ul style="list-style-type: none"> To facilitate a safe work area in which traffic movements to, from and throughout the work areas are undertaken in a safe manner.
Performance Criteria	<ul style="list-style-type: none"> Safe flow of traffic to, from and throughout the work areas. Implement traffic controls around work areas where necessary to ensure safe environment is created for road users and construction workers alike. Minimise hazards and nuisance which may be created by heavy machinery traffic to the work area.
Environmental Aspects	<ul style="list-style-type: none"> Local roads during the construction phase. Pipeline site access roads during the construction phase. Minimal changes to traffic volumes during operational phase.
EARLY WORKS	
Actions/Controls	<ul style="list-style-type: none"> If required, obtain Heavy Vehicle Permits prior to commencement of equipment and transport and construction. Develop and implement a site Traffic and Access Management Plan specifying the locations and types of traffic management measures to be used. Measures listed under the construction section of this action plan should be included in the Plan. Negotiations with local and state government to utilise local and state government controlled road reserves for the pipeline alignments where applicable.
Monitoring	<ul style="list-style-type: none"> None required.
Corrective Action	<ul style="list-style-type: none"> None required.
Responsibility	<ul style="list-style-type: none"> WDRC/construction contractor.
Reporting	<ul style="list-style-type: none"> Heavy vehicle permit application. Traffic and Access Management Plan for approval by WDRC and/or Department of Transport and Main Roads.
CONSTRUCTION	
Actions/Controls	<ul style="list-style-type: none"> The contents of this EMP will be communicated to all contractors and staff via the site induction. All drivers and operators will retain the appropriate licence for the class of vehicle being used. Staff will be made aware of weed dispersal and management issues throughout the area as detailed in Section 27D.3.7 Terrestrial Ecology Action Plan. Implement appropriate traffic management measures where pipelines are constructed in close proximity to roads or are required to cross roads. Installation of appropriate signage in accordance with the <i>Workplace Health and Safety Act 1995</i> will be undertaken to provide adequate control of the work site and associated access roads. Restrict speed limits within and adjacent to work areas to reflect the surrounding environment and to limit dust suppression. Reduce heavy vehicle movements during the school bus route operational hours. Ensure vehicles do not exceed standard vehicle weights. Provide the workforce with appropriate induction training and regular reinforcement of traffic rules and policies.
Monitoring	<ul style="list-style-type: none"> Maintain a training register. Record details of complaint(s) and incident(s) in the Complaints and Incidents Register. Safety and traffic issues will be monitored. Complaints regarding vehicle access and traffic issues to be monitored.

Corrective Action	<ul style="list-style-type: none"> Review Traffic and Access Management Plan and amend if required (e.g. in response to a complaint or incident).
Responsibility	<ul style="list-style-type: none"> Construction Contractor.
Reporting	<ul style="list-style-type: none"> Training register. Reporting to be undertaken throughout construction period. Complaints and Incidents Register.
OPERATION AND MAINTENANCE	
Actions/Controls	<ul style="list-style-type: none"> In regard to pipeline maintenance, maintenance vehicles will only utilise and remain within specifically constructed and dedicated maintenance tracks. Restrict speed limits on maintenance tracks to reflect the surrounding environment.
Monitoring	<ul style="list-style-type: none"> Inspections in response to a complaint.
Corrective Action	<ul style="list-style-type: none"> Should a valid complaint be received, it will be investigated immediately and corrective actions taken within an appropriate timeframe.
Responsibility	<ul style="list-style-type: none"> WTP operator.
Reporting	<ul style="list-style-type: none"> Complaints and Incident Register.

27D.3.5 AIR QUALITY ACTION PLAN

Objectives	<ul style="list-style-type: none"> To prevent dust and other atmospheric emissions generated by construction activities from causing a hazard or nuisance to nearby sensitive receptors. To comply with the <i>Environmental Protection Act 1994</i> and the Environmental Protection (Air) Policy 2008
Performance Criteria	<ul style="list-style-type: none"> Dust levels remain well below the EPP (Air) goals for annual TSP, PM₁₀ and dust deposition at sensitive receptors (e.g. residences) and businesses. No complaints received relating to dust.
Environmental Aspects	<ul style="list-style-type: none"> Residences and businesses in the vicinity of the WTP and associated infrastructure areas. Dust from the construction of the WTP and pipeline. The dust generation potential during operation will be similar to the current WTP, which is minimal.
EARLY WORKS	
Actions/Controls	<ul style="list-style-type: none"> None required.
Monitoring	<ul style="list-style-type: none"> None required.
Corrective Action	<ul style="list-style-type: none"> None required.
Responsibility	<ul style="list-style-type: none"> Not applicable.
Reporting	<ul style="list-style-type: none"> None required.
CONSTRUCTION	
Actions/Controls	<ul style="list-style-type: none"> The contents of this EMP will be communicated to all contractors and staff via the site induction. Rehabilitate and/or apply ground surface cover (e.g. mulch or seed) to disturbed areas as soon practicable following completion of construction activities. Water access roads and potential dust generating areas as necessary. Truck loads of materials that have the potential to create dust will be covered or dampened prior to transportation. No cleared vegetation or other waste to be burnt on-site.
Monitoring	<ul style="list-style-type: none"> Maintain a training register. Record details of complaint(s) and incident(s) in the Complaints and Incident Register. Daily visual inspection for dust generation. Opportunistic visual inspections during windy conditions for dust generation. Visual inspections in response to a complaint.
Corrective Action	<ul style="list-style-type: none"> Application of ground surface cover (e.g. mulch) to disturbed areas. Application of water spray.

	<ul style="list-style-type: none"> ▪ Review water spray procedures and amend if required (e.g. frequency of watering or conditions under which watering is required).
Responsibility	<ul style="list-style-type: none"> ▪ Construction contractor.
Reporting	<ul style="list-style-type: none"> ▪ Training register. ▪ Record of inspections. ▪ Throughout the construction period. ▪ Complaints and Incidents Register.
OPERATION AND MAINTENANCE	
Actions/Controls	<ul style="list-style-type: none"> ▪ WTP to be operated in accordance with Operator's Manual.
Monitoring	<ul style="list-style-type: none"> ▪ Complaints and Incident Register. ▪ Inspections in response to a complaint.
Corrective Action	<ul style="list-style-type: none"> ▪ Application of ground surface cover (e.g. mulch) to disturbed areas. ▪ Application of water spray. ▪ To be determined based on inspection results and resultant investigation.
Responsibility	<ul style="list-style-type: none"> ▪ WTP operator.
Reporting	<ul style="list-style-type: none"> ▪ Complaints and Incident Register.

27D.3.6 NOISE ACTION PLAN

Objectives	<ul style="list-style-type: none"> ▪ Minimise noise impacts at sensitive receptors (e.g. residences and public places) or businesses.
Performance Criteria	<ul style="list-style-type: none"> ▪ No noise-related complaints from sensitive receptors.
Environmental Aspects	<ul style="list-style-type: none"> ▪ Residences and businesses in the vicinity of the WTP and associated infrastructure areas. ▪ Noise from construction activities. ▪ Pumps and cooling tower of the WTP.
EARLY WORKS	
Actions/Controls	<ul style="list-style-type: none"> ▪ None required.
Monitoring	<ul style="list-style-type: none"> ▪ None required.
Corrective Action	<ul style="list-style-type: none"> ▪ None required.
Responsibility	<ul style="list-style-type: none"> ▪ Not applicable.
Reporting	<ul style="list-style-type: none"> ▪ None required.
CONSTRUCTION	
Actions/Controls	<ul style="list-style-type: none"> ▪ The contents of this EMP will be communicated to all contractors and staff via the site induction. ▪ All machinery on site to be maintained regularly and in good working order to minimise noise generation. ▪ Undertake a community consultation program to inform the nearby residences, businesses and the local community when noise impacts are planned to occur. ▪ Construction activities will not be undertaken during the following hours: <ul style="list-style-type: none"> ▸ on a Sunday or Public holiday at any time, unless after consultation and agreement has been made with appropriate government authorities and property owners ▸ on a Saturday or business day before 6:30 am or after 6.30 pm.
Monitoring	<ul style="list-style-type: none"> ▪ Weekly inspection for excessive noise generation. ▪ Opportunistic inspections for excessive noise generation. ▪ Inspections in response to a complaint. ▪ Maintain a training register. ▪ Record details of complaint(s) and incident(s) in the Complaints and Incident Register.
Corrective Action	<ul style="list-style-type: none"> ▪ Instigate mitigation measures (commensurate with noise impact occurring and complaint) to ensure noise levels are reduced to acceptable levels wherever necessary.

Responsibility	<ul style="list-style-type: none"> Construction contractor.
Reporting	<ul style="list-style-type: none"> Throughout the construction period. Records of weekly inspections. Training register. Complaints and Incidents Register.
OPERATION AND MAINTENANCE	
Actions/Controls	<ul style="list-style-type: none"> Water treatment plant to be operated in accordance with Operator's Manual. Any new pumps will be housed within enclosures, or otherwise have measures installed to minimise noise impacts. All plant and machinery on site to be maintained regularly and in good working order to minimise noise generation. Cooling tower to be located at ground level in a position such that existing and proposed solid structures provide screening to noise sensitive receptors.
Monitoring	<ul style="list-style-type: none"> Complaints and Incident Register. Inspections in response to a complaint.
Corrective Action	<ul style="list-style-type: none"> To be determined based on inspection results and resultant investigation.
Responsibility	<ul style="list-style-type: none"> WTP operator.
Reporting	<ul style="list-style-type: none"> Complaints and Incidents Register.

27D.3.7 TERRESTRIAL ECOLOGY ACTION PLAN

Objectives	To minimise impacts to native flora and fauna, domestic animals and stock.
Performance Criteria	<ul style="list-style-type: none"> No clearing or destruction of vegetation outside that required for WTP works. No injury or death of native animals, domestic animals and stock resulting from WTP works. No impacts on threatened flora or fauna other than that authorised under approvals.
Environmental Aspects	<ul style="list-style-type: none"> The WTP at Bore 1, Bore 2 and road reserve between the site and mining site is largely cleared of vegetation, therefore requiring the minimal vegetation clearing, and minimal expected impact to terrestrial flora and fauna. The WTP is located in Wandoan township, with the potential for interaction with domestic animals and stock, the site is however fully fenced so this potential is significantly reduced.
EARLY WORKS	
Actions/Controls	<ul style="list-style-type: none"> If required, revisit and revise this action plan based on conditions imposed by DEWHA from the <i>Environment Protection and Biodiversity Conservation Act 1999</i> referral associated with the MLA areas and surrounds. During detailed design, endeavour, where possible, to locate ancillary areas and infrastructure to avoid impacts to areas of sensitive biodiversity. Prepare a Weed Management Plan, with a particular focus on declared weed species. Prior to commencement of construction activities, obtain all applicable licenses, approvals and permits (e.g. fauna handling and removal, vegetation clearing, etc). If detailed design reveals that native vegetation is to be cleared, prepare a Biodiversity Management Plan prior to the commencement of any construction activities, specifying the locations and types of flora and fauna management measures to be used and in which locations. Measures listed under the construction section of this action plan should be included in the Plan.
Monitoring	<ul style="list-style-type: none"> None required.
Corrective Action	<ul style="list-style-type: none"> None required.
Responsibility	<ul style="list-style-type: none"> WDRC/construction contractor.
Reporting	<ul style="list-style-type: none"> Weed management plan for approval by WDRC. Biodiversity Management Plan for approval by WDRC (if required).

CONSTRUCTION	
Actions/Controls	<ul style="list-style-type: none"> ▪ The contents of this EMP will be communicated to all contractors and staff via the site induction. ▪ Select previously cleared sites for activities such as construction materials laydown areas and hardstand areas. ▪ Clearly delineate or temporarily fence off vegetation to be retained prior to any commencement of clearing works or construction activities. ▪ Preserve large mature trees where possible, particularly in areas where they may be located near the fringes of the construction area. ▪ Notify surrounding properties to appropriately manage domestic and stock animals during the construction period. ▪ In the event of sick, injured or orphaned native animals being located during clearing activities, the Queensland Parks and Wildlife Service is to be contacted and appropriate arrangements made. ▪ Undertake a certified washdown of vehicles prior to commencing work on the site and prior to moving to weed free areas. ▪ Prior to the commencement of works on pipeline construction each morning, all open trenches should be inspected for wildlife, such as lizards and domestic animals, which should be removed from the trench. ▪ Sow all disturbed areas with an appropriate mix of species (e.g. native seed in road reserve areas).
Monitoring	<ul style="list-style-type: none"> ▪ Monitoring of clearing activities against biodiversity management plan. ▪ Monitoring against weed management plan. ▪ Weed monitoring. ▪ Daily monitoring for native fauna, and domestic animals and stock. ▪ Rehabilitation monitoring to be undertaken as per Section 27D.3.2 Site Preparation and Rehabilitation Action Plan. ▪ Maintain a training register. ▪ Record details of complaint(s) and incident(s) in the Complaints and Incident Register.
Corrective Action	<ul style="list-style-type: none"> ▪ Provision of additional training to staff and contractors regarding the content of the EMP. ▪ Rehabilitation activities to be undertaken in areas where unplanned damage to vegetation or landforms result from construction activities. ▪ Weed eradication program if required.
Responsibility	<ul style="list-style-type: none"> ▪ Construction contractor.
Reporting	<ul style="list-style-type: none"> ▪ Training records. ▪ Complaints and Incident Register. ▪ Appropriate reporting to be undertaken throughout construction period.
OPERATION AND MAINTENANCE	
Actions/Controls	<ul style="list-style-type: none"> ▪ The pipeline route to be maintained with groundcover vegetation to allow ease of access to the pipeline in case of emergency repair. ▪ Vegetation to be managed as appropriate for the vegetation type (e.g. native grasses should be managed differently to domestic grasses). ▪ Weed management to be undertaken as necessary.
Monitoring	<ul style="list-style-type: none"> ▪ Rehabilitation monitoring will be conducted in accordance with Section 27D.3.2 Site Preparation and Rehabilitation Action Plan. ▪ Periodic (e.g. six monthly) weed monitoring at the WTP, bore sites and along the pipeline route.
Corrective Action	<ul style="list-style-type: none"> ▪ As per Section 27D.3.2 Site Preparation and Rehabilitation Action Plan. ▪ Undertake weed management in accordance with the Weed Management Plan if weed infestation are observed.
Responsibility	<ul style="list-style-type: none"> ▪ WTP operator.
Reporting	<ul style="list-style-type: none"> ▪ Complaints and Incident Register.

27D.3.8 WASTE MANAGEMENT ACTION PLAN

Objectives	<ul style="list-style-type: none"> ▪ To minimise waste generation on site. ▪ To minimise the impacts of waste materials on the environmental values of the surrounding environment.
Performance Criteria	<ul style="list-style-type: none"> ▪ No deterioration in the visual amenity in the vicinity of the WTP and associated infrastructure areas caused by waste materials. ▪ No deterioration in surface water or groundwater quality in the vicinity of the WTP and associated infrastructure areas caused by waste generation. ▪ Implementation of a waste tracking system that complies with DERM waste tracking requirements.
Environmental Aspects	<ul style="list-style-type: none"> ▪ Visual amenity of the WTP and associated infrastructure areas from nearby residences, roads and public areas. ▪ Air, surface water, groundwater and soil quality in the vicinity of the WTP and associated infrastructure areas.
EARLY WORKS	
Actions/Controls	<ul style="list-style-type: none"> ▪ Preparation of a Waste Management Plan that identifies waste streams and relevant storage/disposal requirements.
Monitoring	<ul style="list-style-type: none"> ▪ None required.
Corrective Action	<ul style="list-style-type: none"> ▪ None required.
Responsibility	<ul style="list-style-type: none"> ▪ Construction contractor.
Reporting	<ul style="list-style-type: none"> ▪ None required.
CONSTRUCTION	
Actions/Controls	<ul style="list-style-type: none"> ▪ The contents of this EMP will be communicated to all contractors and staff via the site induction. ▪ Reuse soil and green waste for rehabilitation works. ▪ Remove all other waste materials from site. ▪ Waste materials reused or recycled where possible. ▪ All hazardous materials disposed of to an appropriately licensed facility. ▪ Make chemical spill kits available on site in case of fuel spills. ▪ Capture and reuse water generated by pipeline testing for commissioning or disposed of via the Wandoan waste water treatment plant. ▪ Conduct any major equipment maintenance and repairs off site. ▪ All regulated wastes to be handled in accordance with waste tracking requirements under the EP Act.
Monitoring	<ul style="list-style-type: none"> ▪ Waste tracking. ▪ Waste audits. ▪ Visual inspections. ▪ Maintain a training register. ▪ Record details of complaint(s) and incident(s) in the Complaints and Incident Register.
Corrective Action	<ul style="list-style-type: none"> ▪ Review waste management procedures and amend to further minimise wastes (waste avoidance and additional opportunities for re-use/recycling).
Responsibility	<ul style="list-style-type: none"> ▪ Construction contractor.
Reporting	<ul style="list-style-type: none"> ▪ Waste records throughout duration of construction phase including types, quantity and disposal records. ▪ Training records. ▪ Complaints and Incidents Register.
OPERATION AND MAINTENANCE	
Actions/Controls	<ul style="list-style-type: none"> ▪ Sludge from the clarifiers is to be discharged to 3x20 kL collection tanks for processing in a sludge to liquid separator. Solids will be removed to landfill with liquid being returned to the sewerage system for disposal. ▪ All filtration plant backwash waste to be disposed of via the sewerage system to the Wandoan waste water treatment plant. ▪ All waste materials shall be removed from site. ▪ Waste materials reused or recycled where possible.

	<ul style="list-style-type: none"> ▪ All hazardous materials disposed of to an appropriately licensed facility. ▪ No waste products to be discharged to stormwater.
Monitoring	<ul style="list-style-type: none"> ▪ Waste tracking. ▪ Waste audits. ▪ Visual inspections.
Corrective Action	<ul style="list-style-type: none"> ▪ Review waste procedures and amend to further minimise wastes (waste avoidance and additional opportunities for re-use/recycling). ▪ review staff training.
Responsibility	<ul style="list-style-type: none"> ▪ WTP operator.
Reporting	<ul style="list-style-type: none"> ▪ Waste records throughout duration of operational phase including types, quantity and disposal records. ▪ Waste tracking reports.

27D.3.9 CULTURAL HERITAGE (INDIGENOUS AND NON INDIGENOUS) ACTION PLAN

Objectives	<ul style="list-style-type: none"> ▪ To avoid adverse impacts to indigenous cultural heritage sites, places, artefacts or materials. ▪ To avoid adverse impacts to non-indigenous cultural and historic heritage sites.
Performance Criteria	<ul style="list-style-type: none"> ▪ No impacts to cultural sites, artefacts, places or materials. ▪ No impacts to non-indigenous cultural and historic heritage sites.
Environmental Aspects	<ul style="list-style-type: none"> ▪ Indigenous cultural heritage. ▪ Non-Indigenous cultural heritage. ▪ The works are occurring on existing disturbed sites and cleared road reserves, and as such there is expected to be limited potential for items of cultural heritage significance.
EARLY WORKS	
Actions/Controls	<ul style="list-style-type: none"> ▪ Undertake surveys in consultation with the Traditional Owner Field Officers of the Iman People #2. ▪ Prepare a Cultural Heritage Management Plan (CHMP) (as per s.87 of the <i>Aboriginal Cultural Heritage Act 2003</i>). ▪ Develop the necessary procedures to ensure implementation of the CHMP. ▪ Identification of any items or areas of potential non-indigenous cultural heritage significance.
Monitoring	<ul style="list-style-type: none"> ▪ Monitoring to be undertaken in accordance with the CHMP.
Corrective Action	<ul style="list-style-type: none"> ▪ None required.
Responsibility	<ul style="list-style-type: none"> ▪ WDRC.
Reporting	<ul style="list-style-type: none"> ▪ Cultural Heritage Management Plan.
CONSTRUCTION	
Actions/Controls	<ul style="list-style-type: none"> ▪ The contents of this plan will be communicated to all contractors and staff via the site induction. ▪ Exclusion zones in relation to culturally significant areas, if identified, will be established and communicated to all staff and contractors. ▪ All contractors and staff are to be provided with a Cultural Heritage induction (indigenous and non-indigenous). ▪ At all times, construction associated with the WTP will be conducted in accordance with the Duty of Care Guidelines (2004), pursuant to s.28 of the <i>Aboriginal Cultural Heritage Act 2003</i> (DNRW, 2008b). ▪ Adhere to the requirements of the Cultural Heritage Management Plan where applicable. ▪ If any artefacts are found, work will cease immediately and advice sought from the Cultural Heritage Coordination Unit – DERM (formerly the Department of Natural Resources and Water).

	<ul style="list-style-type: none"> ▪ If surface or buried material of archaeological or cultural significance is uncovered during construction: <ul style="list-style-type: none"> ▸ all work at the location must cease and reasonable efforts to secure the site should be made. Work can continue at an agreed distance from the site. Note that the material will not be removed or disturbed further, but barriers or temporary fences may be erected as a buffer around the material if required. ▸ notify the Cultural Heritage Coordination Unit – Department of Environment and Resource Management or police, as appropriate.
Monitoring	<ul style="list-style-type: none"> ▪ Monitoring to be undertaken in accordance with the CHMP. ▪ Monitoring during clearing activities to identify items or places likely to be of non-indigenous cultural heritage significance. ▪ Maintain a training register. ▪ Record details of complaint(s) and incident(s) in the Complaints and Incident Register.
Corrective Action	<ul style="list-style-type: none"> ▪ The treatment of any discovered cultural resources will be made in consultation with the relevant traditional owners and the Department of Environment and Resource Management.
Responsibility	<ul style="list-style-type: none"> ▪ Construction contractor.
Reporting	<ul style="list-style-type: none"> ▪ A detailed report of any artefacts located during construction will be provided to DERM (formerly the Department of Natural Resources and Water). ▪ Report any archaeological artefacts uncovered during works that are deemed significant to the DERM (formerly the Environmental Protection Agency). ▪ Reporting to be undertaken in accordance with the CHMP. ▪ Training register. ▪ Complaints and Incidents Register.
OPERATION AND MAINTENANCE	
Actions/Controls	<ul style="list-style-type: none"> ▪ Maintenance crews should be aware of the potential for artefacts during patrols. ▪ If any artefacts are found, work will cease immediately and advice sought from the Cultural Heritage Coordination Unit – DERM. ▪ Adhere to the requirements of the Cultural Heritage Management Plan where applicable.
Monitoring	<ul style="list-style-type: none"> ▪ None required.
Corrective Action	<ul style="list-style-type: none"> ▪ Corrective action will be determined by the maintenance contractor in conjunction with DERM (formerly NRW).
Responsibility	<ul style="list-style-type: none"> ▪ Operations contractor.
Reporting	<ul style="list-style-type: none"> ▪ Reporting will be prepared in accordance with the CHMP and directions from DERM (formerly NRW).

27D.3.10SOCIAL ACTION PLAN

Objectives	<ul style="list-style-type: none"> ▪ To minimise disruption to landholders and third parties.
Performance Criteria	<ul style="list-style-type: none"> ▪ No significant impacts on social values due to the WTP and associated infrastructure construction.
Environmental Aspects	<ul style="list-style-type: none"> ▪ Nearby residences and the general public.
EARLY WORKS	
Actions/Controls	<ul style="list-style-type: none"> ▪ Conduct consultation with adjacent landowners and the surrounding community relating to project activities, particularly in relation to potential interruptions to farming activities and changes to property access requirements.
Monitoring	<ul style="list-style-type: none"> ▪ None required.
Corrective Action	<ul style="list-style-type: none"> ▪ Potential for modifications to proposed construction activities/times based on community feedback.
Responsibility	<ul style="list-style-type: none"> ▪ WDRC and the Construction contractor.
Reporting	<ul style="list-style-type: none"> ▪ Letters and communication with adjacent landowners.

	<ul style="list-style-type: none"> Community notification of project works, such as through community newsletters or similar
CONSTRUCTION	
Actions/Controls	<ul style="list-style-type: none"> Consultation with adjacent landowners and the surrounding community in relation to construction activities, particularly in relation to potential interruptions and changes to property access requirements. Keep local communities informed of work in progress.
Monitoring	<ul style="list-style-type: none"> Feedback from local residents. Monitoring/auditing as detailed under various other action plans for construction monitoring. Record details of complaint(s) and incident(s) in the Complaints and Incident Register.
Corrective Action	<ul style="list-style-type: none"> Potential for modifications to construction activities / times based on monitoring results and community feedback.
Responsibility	<ul style="list-style-type: none"> Construction contractor.
Reporting	<ul style="list-style-type: none"> Community notification of project works such as through community newsletters or similar. Complaints and Incidents Register.
OPERATION AND MAINTENANCE	
Actions/Controls	<ul style="list-style-type: none"> Provide residents with information regarding planned maintenance activities where required.
Monitoring	<ul style="list-style-type: none"> Complaints and Incident Register. Inspections in response to a complaint.
Corrective Action	<ul style="list-style-type: none"> To be determined based on inspection results and resultant investigation.
Responsibility	<ul style="list-style-type: none"> WTP operator.
Reporting	<ul style="list-style-type: none"> Community notification of project works. Record details of incident(s) in Complaints and Incident Register.

27D.3.11 HAZARD AND RISK ACTION PLAN

Objectives	<ul style="list-style-type: none"> To minimise risks posed to the human, social and biophysical environment in the locality by all activities associated with the construction of the WTP and associated infrastructure.
Performance Criteria	<ul style="list-style-type: none"> No incidents involving the construction and/or operational workforce. No incidents involving the general public. No land or water contamination within or adjacent to the WTP and associated infrastructure areas. Any incidents responded to in prompt and efficient method.
Environmental Aspects	<ul style="list-style-type: none"> Construction and operation workers and the general public. Air, surface water, groundwater and soil quality in the vicinity of the WTP and associated infrastructure areas. Native and domestic animals in the vicinity of worksites.
EARLY WORKS	
Actions/Controls	<ul style="list-style-type: none"> Develop awareness program of the importance of safe road use behaviours, and training programs for construction personnel.
Monitoring	<ul style="list-style-type: none"> None required.
Corrective Action	<ul style="list-style-type: none"> None required.
Responsibility	<ul style="list-style-type: none"> Construction contractor.
Reporting	<ul style="list-style-type: none"> None required.

CONSTRUCTION	
Actions/Controls	<ul style="list-style-type: none"> ▪ The contents of this EMP will be communicated to all contractors and staff via the site induction. ▪ Prevent unauthorised access to excavations and any other hazardous areas during construction. ▪ Provide awareness training of the importance of safe road use behaviours, and training programs for construction personnel. ▪ Provide workforce with awareness training regarding venomous snakes and biting insects, areas and times they are most likely to be encountered, and how to react and provide first aid treatment. Provide work teams with appropriate first aid equipment to treat bites. ▪ Keep any works that can not be secured easily in a safe state with appropriate signage and/or fencing or guarding. ▪ Transport all dangerous goods during construction in accordance with the current Australian Code for the Transport of Dangerous Goods. ▪ Maintain appropriate procedures and equipment to manage leaks and spills of all dangerous goods used during construction. ▪ Provide adequate fencing to the site to prevent public access.
Monitoring	<ul style="list-style-type: none"> ▪ Auditing. ▪ Maintain a training register. ▪ Record details of complaint(s) and incident(s) in the Complaints and Incidents Register.
Corrective Action	<ul style="list-style-type: none"> ▪ Review incident and near miss response, to identify and manage hazards/risks and update training/procedures.
Responsibility	<ul style="list-style-type: none"> ▪ Construction contractor.
Reporting	<ul style="list-style-type: none"> ▪ Training register. ▪ Complaints and Incidents Register.
OPERATION AND MAINTENANCE	
Actions/Controls	<ul style="list-style-type: none"> ▪ Water treatment plant to be operated in accordance with Operator's Manual. ▪ Ensure the effective operation of the WTP and associated infrastructure is maintained, and shut down if a major failure occurs. ▪ Ensure emergency procedures are documented in the operating manual.
Monitoring	<ul style="list-style-type: none"> ▪ Auditing.
Corrective Action	<ul style="list-style-type: none"> ▪ Incident and near miss response plan to identify and manage hazards risks and update training/procedures.
Responsibility	<ul style="list-style-type: none"> ▪ WTP operator.
Reporting	<ul style="list-style-type: none"> ▪ In the event of an incident causing material or serious environmental harm, DERM must be notified in accordance with Section 320 of the EP Act. ▪ Maintenance records. ▪ Inspection records. ▪ Incident and near miss reporting. ▪ Ensure emergency contacts are included in the operating manual so necessary authorities may be contacted in the occurrence of an event (e.g. chemical spillage on site).

27D.3.12HEALTH AND SAFETY ACTION PLAN

Objectives	<ul style="list-style-type: none"> ▪ To identify and minimise the health and safety risks associated with construction, operation and maintenance of the WTP and associated infrastructure.
Performance Criteria	<ul style="list-style-type: none"> ▪ No health and safety impacts to workers or general public due to construction, operation and maintenance of the WTP and associated infrastructure.
Aspects	<ul style="list-style-type: none"> ▪ Construction and operation workers and the general public.
EARLY WORKS	
Actions/Controls	<ul style="list-style-type: none"> ▪ None required.
Monitoring	<ul style="list-style-type: none"> ▪ None required.

Corrective Action	<ul style="list-style-type: none"> ▪ None required.
Responsibility	<ul style="list-style-type: none"> ▪ Not applicable.
Reporting	<ul style="list-style-type: none"> ▪ None required.
CONSTRUCTION	
Actions/Controls	<ul style="list-style-type: none"> ▪ The contents of this EMP will be communicated to all contractors and staff via the site induction. ▪ Include the following items in the Health and Safety Plan prepared under Occupational Health and Safety legislation requirements: <ul style="list-style-type: none"> ▸ induction training for all staff in health and safety policies and procedures ▸ minimise dust exposure of project personnel by promptly rehabilitating disturbed areas once construction is complete, watering disturbed areas, roads and stockpiles and, if required, providing employees with personal protective equipment (PPE) to limit dust inhalation ▸ manage the effects of heat by providing suitable working environments, equipment and protective clothing and training workers in the signs and symptoms of heat effects/dehydration ▸ limit exposure of workers to noise by using equipment that complies with relevant emission standards, and encouraging the use of suitable PPE where high noise levels can not be prevented ▸ store dangerous goods in accordance with relevant standards ▸ training of employees in the risk of snakes and first aid equipment with which to deal with snake bite ▸ keep local residents aware of any changes expected in traffic during the construction period ▸ implement procedures and rules for use of machinery and equipment ▸ site induction programs to ensure vehicles are driven in a safe manner and that site driving rules are understood ▸ undertake machinery and equipment inspection checks as part of the construction phase regular maintenance program ▸ implement confined space procedures to be followed by anyone entering a confined space.
Monitoring	<ul style="list-style-type: none"> ▪ Auditing. ▪ Maintain a training register. ▪ Record details of complaint(s) and incident(s) in Complaints and Incident Register.
Corrective Action	<ul style="list-style-type: none"> ▪ Incident and near miss response plan to identify and manage hazards / risks and update training/procedures.
Responsibility	<ul style="list-style-type: none"> ▪ Construction contractor.
Reporting	<ul style="list-style-type: none"> ▪ Training register. ▪ Complaints and Incidents Register.
OPERATION AND MAINTENANCE	
Actions/Controls	<ul style="list-style-type: none"> ▪ Water treatment plant to be operated in accordance with Operator's Manual. ▪ Store dangerous goods in accordance with relevant standards. ▪ Implement procedures and rules for use of machinery and equipment. ▪ Site induction programs to ensure vehicles are driven in a safe manner and that site driving rules are understood.
Monitoring	<ul style="list-style-type: none"> ▪ Auditing as per Health and Safety Plan to be prepared to address OH&S legislative requirements.
Corrective Action	<ul style="list-style-type: none"> ▪ Review incident and near miss response plan to identify and manage hazards/risks and update training/procedures.
Responsibility	<ul style="list-style-type: none"> ▪ WTP operator.
Reporting	<ul style="list-style-type: none"> ▪ Incident and near miss reporting.



27D.4 REFERENCES

Environmental Protection Agency, 2003, *Preparing Environmental Management Plans*, Environmental Impact Assessment Guideline, Queensland Government.