LinkWater Projects

Northern Pipeline Interconnector - Stage 2

ENVIRONMENTAL IMPACT STATEMENT

December 2008

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This Environmental Impact Statement (EIS) for the Northern Pipeline Interconnector Project Stage 2 has been prepared by Northern Network Alliance on behalf of Southern Regional Water Pipeline Company Pty Ltd trading as LinkWater Projects. In preparing this EIS, Northern Network Alliance has relied upon and presumed accurate certain information provided by specialist subconsultants, certain State and Commonwealth government agencies and others identified herein. Except as otherwise stated in this EIS, Northern Network Alliance has not attempted to verify the accuracy or completeness of any such information. No warranty or guarantee, whether express or implied, is made with respect to the information reported or the findings, observations or conclusions expressed in this EIS. Further, such information, findings, observations and conclusions are based solely on information in existence at the time of the investigation.

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EXECUTIVE SUMMARY

Background to the Project

The south-east Queensland (SEQ) region is one of the fastest growing areas in Australia. However, unprecedented population growth over the last decade has coincided with the worst drought on record. This has placed increasing pressure on the management and use of regional water sources and highlighted the vulnerability of the region's water supplies. In response, the Queensland Government is implementing an integrated water infrastructure network—the SEQ water grid (see Figure 1). The water grid is made up of a group of water supply sources joined by a series of large interconnected water pipelines, which will allow water to be transferred to where it is most needed and ultimately provide water security for the region.

Water Supply and Distribution

The Northern Pipeline Interconnector (NPI) Stage 2 project is a key component of the SEQ grid. Initially, the NPI Stage 2 will transport water under existing utilised entitlement (up to 55% or 3600 ML/a has been used by Noosa Shire in the past) authorised under the *Water Resource (Mary Basin) Plan 2006* (Mary Basin WRP). This existing entitlement comprises 6500 ML/a (18 ML/d) interim water allocation (high priority) held by the SEQ Water Grid Manager within the Upper Mary River Water Supply Scheme. However, the pipe will be sized and designed to accommodate flows from future bulk water sources on the Sunshine Coast, including the Traveston Crossing Dam, should it be approved.

The completed NPI (Stage 1 and Stage 2) will supply a target volume of 65 ML/d of potable fresh water to existing storage facilities at Elimbah and Morayfield for distribution to localities in the greater Brisbane region. Successful completion of Stage 2 will include a number of integration works with NPI Stage 1 in order to operate the project as a whole. Further, the NPI Stage 2 will support the regional growth initiatives on the Sunshine Coast described by the Queensland Water Commission (QWC) (QWC 2008).

Completion of the NPI Stage 1 at the end of 2008 will initially supply the full 65 ML/d drought contingency flows from Baroon Pocket Dam via the Landers Shute water treatment plant (WTP). Completion of Stage 2 will connect the NPI to additional existing water sources (supplying up to 18 ML/d), thereby reducing the reliance on water drawn from the Baroon Pocket Dam to supply drought contingency flows.

Stage 2 Water Supply Strategy

The previous water supply strategy for NPI Stage 2 proposed the abstraction of approximately 40 ML/d of water from the Mary River which would be sought through new entitlements under the Mary Basin WRP. As this proposed entitlement was not included within the establishment of the Mary Basin WRP, any impacts associated with the new allocation would require assessment against relevant state and federal environmental legislation.

Following the review of the previous water supply strategy for Stage 2, a new strategy (now the current water supply strategy) was proposed. The factors influencing the new water supply strategy included:

- improvements in the regional water supply situation following good rainfall over the summer of 2007–08 and in early June 2008, which resulted in spillway overflows at all Sunshine Coast dams;
- recent short-term water balance modelling completed by QWC, which showed that the transfer of 65 ML/d from Baroon Pocket Dam to the SEQ water grid was sustainable until the end of 2011; and
- enhancement of water supply security in SEQ through the completion of a number of key drought contingency projects by the end of 2008.

Under the currently proposed water supply strategy (ie utilisation of existing entitlements) NPI Stage 2 will have the capacity to deliver up to 6500 ML/a (18 ML/d). The obvious advantages of this water supply strategy are:

- the impacts to the environmental values of this entitlement have been assessed and as a result the allocation was authorised under the Mary Basin WRP 2006;
- no new water entitlements are being sought and there are no resulting anticipated impacts on endangered, vulnerable and rare (EVR) species or matters of national environmental significance (MNES) in the Mary River;
- water entitlements have been previously utilised and established under the WRP. This is consistent with the environmental flow objectives (EFOs) of the WRP;
- reduced reliance on Baroon Pocket Dam for drought contingency flows;
- no changes to the existing infrastructure on the Mary River; and
- more easily managed from a risk management perspective, resulting in a more streamlined approvals process.

Figure 1
SEQ WATER GRID

Project Proponent

The proponent for the NPI Stage 2 is the Southern Regional Water Pipeline Company, trading as LinkWater Projects. LinkWater Projects is responsible for a number of major water infrastructure projects in the SEQ region, including the Southern Regional Water Pipeline (SRWP), NPI Stage 1, the Eastern Pipeline Interconnector (EPI) and Toowoomba Pipeline Project (TPP).

LinkWater Projects is a division of LinkWater, which was established as Queensland's Bulk Water Transport Authority with the introduction of the *South East Queensland Water (Restructuring) Act 2007*. LinkWater will retain ultimate ownership of the NPI Stage 2 asset.

LinkWater has a commitment to effective environmental management and lists environment as a key component of its overall vision 'to become an effective partner in delivering water security to SEQ', with an underlying principle of 'Sustainability and positive environmental outcomes'.

For further information regarding LinkWater and LinkWater Projects, please contact:

LinkWater Projects
Level 4, 200 Creek Street
Brisbane QLD 4000
Phone: (07) 3270 4000
www.linkwater.com.au

Project Overview

The completed NPI (Stages 1 and 2) will transport a target volume of 65 ML/d of treated potable water from the Sunshine Coast to Brisbane. Completion of the NPI Stage 1 at the end of 2008 will supply the full 65 ML/d drought contingency flows from Baroon Pocket Dam via the Landers Shute Water Treatment Plant (WTP). Successful completion of the Stage 2 project will connect additional existing and unutilised water sources to the SEQ water grid, thereby reducing the reliance on water drawn from the Baroon Pocket Dam to supply drought contingency flows. The connection of Stage 2 to additional water sources therefore increases the security of water supply for the NPI.

The NPI Stage 2 will have the capacity to deliver up to 6500 ML/a (18 ML/d) from existing utilised entitlements on the Mary River authorised under the Mary Basin WRP. The NPI will be sized and designed to integrate with a future Northern Regional Pipeline (NRP), which would transfer flows from the proposed Traveston Crossing Dam, should it be approved.

The project comprises approximately 48 km of pipeline and associated facilities required to transport water from the existing Noosa WTP near Cooroy and the termination point of the NPI Stage 1 pipeline at Eudlo (see Figure 2). The project footprint is approximately 148 ha, composed mainly of a 30 m wide pipeline corridor.

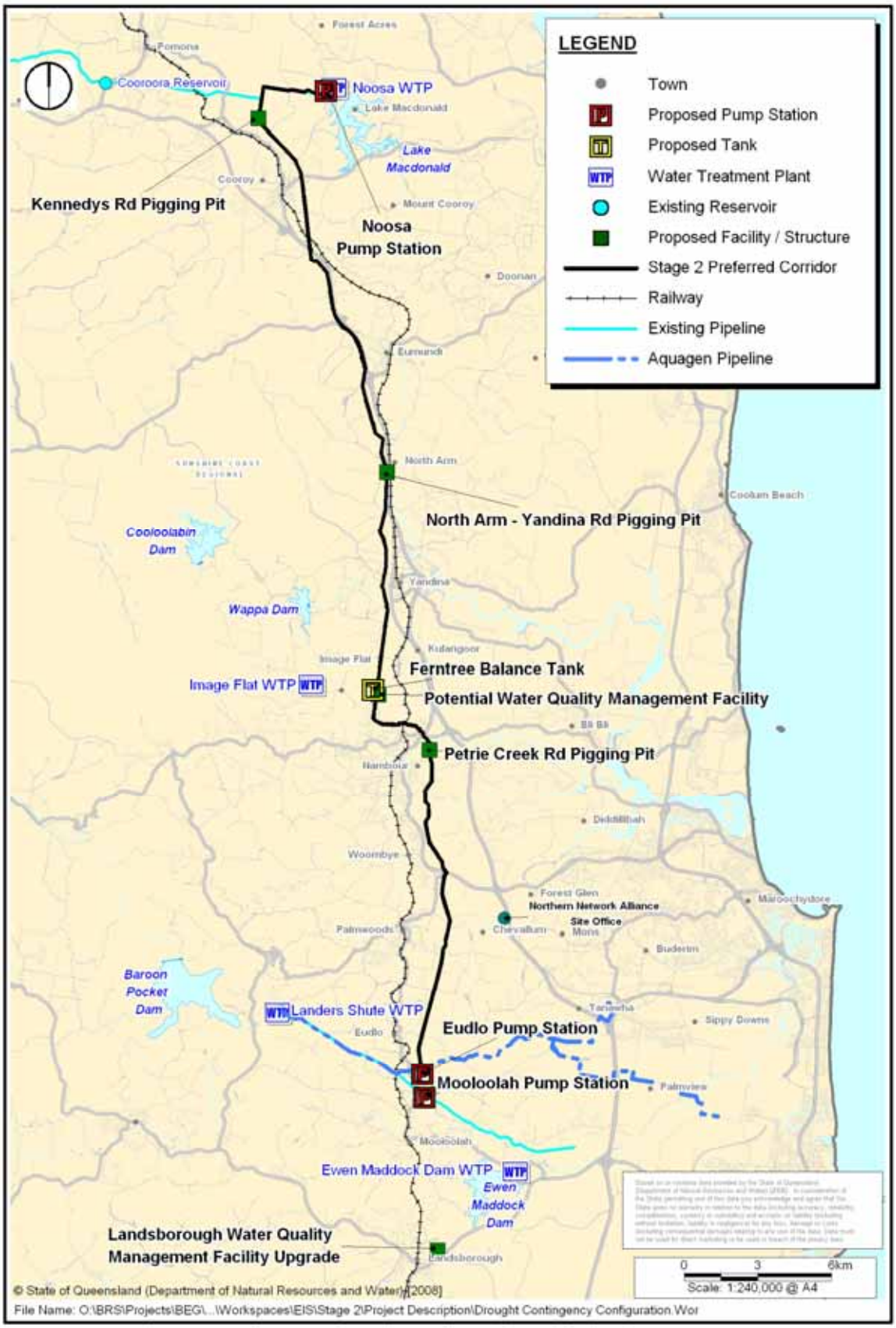

Figure 2
NPI STAGE 2 PREFERRED CORRIDOR

The current proposed NPI Stage 2 system configuration (for the purpose of this EIS) will require:

- the 5 ML Ferntree balance tank at Kulangoor (near Nambour);
- three new pump stations at Lake Macdonald, Eudlo and Mooloolah;
- a new water quality management facility (WQMF) at Kulangoor; and
- upgrades to an existing WQMF at Landsborough.

The majority of the pipeline route is located within existing public utility easements (approximately 68%) or road reserves (approximately 24%) to minimise additional encumbrance to directly affected landholders and disturbance to native vegetation and habitat areas.

In some locations, the use of existing easements or road reserves is not feasible due to engineering or environmental constraints. In these areas, every effort has been made to minimise the number of landholders affected by the project and minimise the potential for environmental harm.

Public Consultation

A comprehensive community consultation program has been undertaken as part of the preparation of this EIS. A Community and Stakeholder Relations team, in conjunction with the Department of Infrastructure and Planning, have consulted with directly affected landholders, nearby residents, community groups and elected representatives. Consultation will continue for the life of the project to identify and manage potential issues. Anyone requiring further information about the NPI Stage 2 project should contact the Northern Network Alliance:

Freecall: 1800 243 998

Reply paid: PO Box 515, Nambour QLD 4560

Environmental Impact Assessment

EIS Process

This EIS is prepared under the bilateral agreement between the Queensland and Commonwealth governments to satisfy the environmental assessment processes under the *State Development and Public Works Organisation Act 1971* (Qld) (SDPWOA) and the *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth).

The EIS has been prepared to inform directly affected landholders, native title parties, advisory agencies, the Commonwealth Minister for the Environment, Water, Heritage and the Arts and other interested parties about the need for the NPI Stage 2

project, the potential impacts associated with the project and how these impacts will be managed. The Coordinator-General (CG) and the Department of Environment, Water, Heritage and the Arts (DEWHA) are the decision-making authorities for the EIS process.

Submissions

A public notice will be advertised in relevant state and local newspapers. This notice will state:

- where a copy of the EIS is available for inspection;
- where a copy of the EIS may be obtained at a stated cost; and
- the period nominated by the CG during which submissions on the EIS may be made.

Impact Assessment Framework

This EIS has been prepared with input from a wide range of government and private sources, and technical professionals commissioned to undertake specialist studies. Studies and the associated reporting have been undertaken to address the terms of reference prepared by the CG. The outcomes of the various studies have been incorporated into the EIS, either within the main report or as appendices. In many cases, specialist studies undertaken for this EIS have resulted in changes to the project or preferred corridor. As such, these are not included with the EIS document but can be made available to the public by request to LinkWater Projects (see details above).

Construction and Operation

Constructing the Project

Construction of the NPI Stage 2 is proposed to commence in mid-2009 following project approval and is due for completion by 31 December 2011. The primary construction activity will be laying pipe in a trench along the construction right-of-way (ROW). Pipe laying will generally be contained within the 30 m wide permanent easement; however, the ROW may be up to 40 m wide depending on local ground conditions.

There will be three to four pipe-laying work fronts active along the ROW throughout construction, each laying approximately 170 m of pipe per week depending on local ground conditions. Longer duration activities include the construction of waterway crossings and structures. Major tunnel bores may also take up to two years to complete, depending on the tunnel configuration and method chosen.

Major tunnel bores required for the NPI Stage 2 include:

- the Woombye tunnel bore—this crossing of Nambour Connection Road will be achieved by tunnelling under Nambour Connection Road to minimise the impact of construction on the SunCoast Christian College and Christian Outreach Centre; and

- the Pringle Hill tunnel bore—due to hydraulic limitations and construction constraints over this prominent ridge, a corridor within the easement requires the construction of a tunnel through the ridge. Three options are currently being investigated to determine the most appropriate tunnel configuration in this area.

Construction works with the potential to impact on community infrastructure, such as the Woombye tunnel bore and the Yandina Sports Complex, will be timed to minimise the impact on the community. Major waterway crossings will also generally be timed for construction during the drier months of the year to minimise the potential for erosion and impacts on water quality.

Environmental Management Plan (EMP)

The EIS has provided an overall planning environmental management plan (PEMP) framework that provides the basis for minimising the environmental effects of the project development and operation. Construction of the project will be in accordance with a detailed construction environmental management plan (CEMP), prepared in consultation with the Queensland Environmental Protection Agency (EPA). Specific management plans will be incorporated into this overall document and address such factors as soil and water management (including waterway crossings), flora and fauna, weed and pest management, cultural heritage, dust, noise and vibration and waste management.

Commissioning, Operation and Maintenance

Once constructed, the NPI Stage 2 will be hydrostatically tested for strength and integrity. The pipe will also be cleaned or 'pigged' and disinfected prior to commissioning.

As part of the testing, commissioning, operation and ongoing maintenance of the NPI Stage 2, water will be discharged from the pipeline and associated infrastructure into the environment. These discharges would primarily comprise planned discharges, which are the result of scheduled maintenance of the pipeline and associated facilities.

All planned discharges of water to the environment will be managed in accordance with the Operational Guidelines for Water Discharge adopted by LinkWater for projects of this nature.

Description of the Study Area and Potential Impacts

The following provides a summary of the key characteristics of the area likely to be affected by the NPI Stage 2 pipeline, the potential impacts and an overview of mitigation measures.

Geology, Landform and Soils

The majority of the pipeline route traverses low-sloping rural lands. However, the preferred corridor traverses some steep terrain around Nambour and at the southern extent of the route at Eudlo, with other moderately steep areas occurring along the route. These areas are considered risk zones for soil erosion as a result of trenching

and earthworks for pipeline construction. There is also some potential for erosion of alluvial soils as a result of flooding around waterways during construction or destabilisation of creek and river banks.

The potential for erosion in high risk areas will be higher during the summer months, when rainfall is generally higher, or during localised flooding. Mitigation strategies will include timing construction to avoid works in steep sections of the route between December and February and implementing site-specific intensive sediment and erosion control measures in risk areas.

Land Tenure and Land Use

The predominant tenure type affected by the project is land held in private freehold. Other affected tenure types include leasehold, reserves, state-owned land, road reserves and unallocated state land present along most watercourses.

Land for above-ground facilities associated with the NPI Stage 2 project will be acquired in freehold. Permanent easements up to 30 m wide may be established for the pipeline project under the SDPWOA in the following ways:

- through the declaration of critical infrastructure easements (CIE) where the corridor coincides with existing public utility easements; and
- by issuing a notice of intention to resume (NIR) where the corridor traverses previously unencumbered freehold land.

The NPI Stage 2 easement establishes the infrastructure owner's right of access to the affected land for continued operation and maintenance of the pipeline. The easement will be a permanent encumbrance on the land title. Once construction works are complete, activities that involve deep excavations or quarrying will be not be allowed over the pipeline. Similarly, no planting of deep-rooted vegetation will be permitted within 5–10 m of the pipe. Other activities will be able to resume with the permission of the easement owner.

Disruptions to existing land uses that will occur as a result of the project will generally be localised and temporary.

Terrestrial Flora

Remnant vegetation in the study area is now largely restricted to hill tops, ridgelines and narrow, discontinuous riparian fringing forests. The route intersects a number of these remnant areas supporting vegetation or fauna associations now uncommon in the region. While clearing of native vegetation will be minimised by locating the route within existing cleared easements, it is estimated that clearing approximately 20 ha of remnant vegetation will be required for the NPI Stage 2 project.

Riparian vegetation communities in particular were identified as having high conservation values. Four listed EVR plant species were located in the study area, three of which occur along waterways within or adjacent to the preferred corridor. These species are listed in Table 1

Table 1 EVR flora species in the study area

Xanthostemon oppositifolius, Southern Penda	*Alyxia magnifolia*, Large-leaved Chain Fruit
Phaius tancarvilleae, Swamp Orchid	*Symplocos harroldii*, Hairy Hazelwood

Damage to riparian vegetation will be minimised by locating waterway crossing points at areas of existing disturbance and minimising the clearing width where intact communities are present. Detailed flora surveys will be carried out in key locations to map the location of individual plants of the species listed in Table 1 prior to finalising the corridor, and translocation plans will be prepared where damage to individual plants cannot be avoided. Where possible, these plants will be propagated for use in revegetating the corridor.

Terrestrial Fauna

The preferred corridor traverses habitats suitable for a wide range of native fauna, including 13 EVR fauna species. A number of migratory bird species also utilise the study area; however, these are highly mobile species that will not be impacted by the project. The species considered most relevant to the NPI Stage 2 are summarised in Table 2.

Table 2 Key EVR fauna species in the study area

Mixophyes iteratus, Giant Barred Frog	*Calyptorhynchus lathami lathami,* Glossy Black-cockatoo
Adelotus brevis, Tusked Frog	*Eroticoscincus graciloides,* Elf Skink

No significant impacts on populations are anticipated to result from the NPI Stage 2 project. Localised impacts on terrestrial fauna will be mitigated by minimising disturbance to habitat areas and particular habitat features, such as stream banks and riparian vegetation or tree hollows. Licensed fauna handlers will be employed during clear and grade activities for the duration of construction to relocate individual animals if required.

Waterway Crossings

The NPI Stage 2 traverses two major catchment areas—the Maroochy River catchment and the southern extent of the Mary River catchment. The project requires the construction of crossings across a number of rivers and creeks in both catchments.

Three waterways in the study area were identified as having high environmental values. The crossing locations of Six Mile Creek, Paynter Creek and Petrie Creek are located outside existing cleared easements, support intact riparian vegetation or contain other environmental features which may be impacted by construction.

A number of streams within existing cleared easements were identified as having moderate environmental value, with the remainder supporting no significant environmental features at the crossing point.

It is proposed to construct trenched crossings of all waterways. To minimise the potential for erosion as a result of heavy rain or flooding events, construction of major waterway crossings will be timed to occur during the drier months of the year or to take advantage of forecast favourable weather conditions. Clearing of riparian vegetation will only be undertaken immediately prior to construction, especially at streams with moderate or high ecological values, with reinstatement occurring as soon as possible after completion.

Native Title and Cultural Heritage

The proposed project corridor falls predominantly within the boundaries of the Gubbi Gubbi People #2. A native title compliance schedule has been prepared for the NPI Stage 2 project to fulfil the procedural rights of native title parties under the *Native Title Act 1993*.

A number of cultural heritage sites have been identified by the traditional owners which will be managed in partnership with the proponent. The primary mechanism for mitigating impact to indigenous cultural heritage will be the implementation of the approved cultural heritage management plan (CHMP) for the project.

Air and Noise

Nuisance impacts with respect to the existing air and noise environment in the study area will be primarily associated with the construction phase. The most likely impacts will result from dust emissions from the ROW and construction traffic, and noise associated with pipe laying and tunnelling activities. These impacts will be minimised by undertaking dust suppression on the ROW and limiting construction hours where feasible.

Pump stations will be the primary source of operational noise emissions for the project. Pump houses will incorporate acoustic design features to ensure that these emissions are minimised.

Transport

Construction traffic will use the ROW wherever feasible to minimise temporary disturbance to road users, local residents and physical impact to roads. However, haulage of pipe, plant and materials will require the use of the Bruce Highway, state and local government-controlled collector roads and local roads. For the majority of the roads affected by the project, noticeable increases in construction traffic will occur over relatively short time frames as the work front progresses. Traffic management plans will be prepared in consultation with relevant authorities where impacts on existing road infrastructure are anticipated.

Social Environment

The overall aim of the SEQ water grid, of which the NPI Stage 2 project is part, is the provision of a secure water supply for the SEQ region. This is a positive outcome for communities currently facing critical water shortages, as well as those communities that may face potential shortages in the future.

However, establishment of the NPI Stage 2 easement will impact on landholders and communities along the route. The primary impact will be on directly affected landholders, who will be compensated for any permanent loss of the use or enjoyment of their land. Impacts on nearby residents and communities, such as temporary access restrictions or nuisance impacts from dust and noise emissions, would occur primarily as a result of the construction phase of the project.

Community consultation will be undertaken to identify and manage potential issues arising from the construction phase of the project.

Economics

Construction of the NPI Stage 2 project is anticipated to cost in the order of $400 million. At the peak of the construction phase, the project is expected to generate employment for 330 workers, comprising 80 staff and 250 skilled and semi-skilled workers. It is estimated that around one-third of the workforce will be sourced from the Sunshine Coast, with the remaining two-thirds employed from the SEQ region. Training opportunities will be made available to all personnel, and it is anticipated that a number of employees will leave with additional qualifications.

Capital expenditure for the project will stimulate economic activity throughout the Sunshine Coast and wider SEQ region, and is anticipated to generate a total employment impact of 1280 full-time equivalents (FTEs).

Ferntree Special Investigation Area

Two potential sites for the Ferntree balance tank are being investigated adjacent to the Ferntree bioreactor site proposed by Sunshine Coast Regional Council at Kulangoor. These sites must be able to accommodate future infrastructure (ultimately, two 35 ML balance tanks) associated with increased flow volumes from the Traveston Crossing Dam, should that project be approved. Both sites were identified through desktop and preliminary surveys as having potentially high environmental values and flagged for further detailed investigation.

The Ferntree special investigation area (SIA) encompasses both proposed balance tank options and potential pipeline routes. The site encompasses a number of different landforms and associated variation in vegetation and habitat types, and forms part of a regional wildlife corridor. The south-eastern extent of the SIA is located within the boundaries of the Ferntree Creek National Park.

Additional engineering and environmental investigations are being undertaken to determine the most appropriate tank site.

Cumulative Impacts

When considered individually many development activities may appear to have relatively minor environmental impact. However, when considered collectively the impacts may be more significant. Cumulative impact assessment focuses on the emergent effects of these individual impacts in combination.

The assessment of cumulative impacts has been undertaken for the key environmental issues associated with the NPI Stage 2. The desktop investigation identified that cumulative impacts of the project could be minimised where appropriate efforts are made to reduce environmental impact for any or all environmental aspects. Cumulative impacts will also be mitigated through the implementation of the CEMP.

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1 INTRODUCTION

LinkWater Projects is developing a drought contingency pipeline to connect existing and future water infrastructure on the Sunshine Coast with the Brisbane network. The Northern Pipeline Interconnector (NPI) will be constructed in two stages and will allow the transfer of up to 65 ML/d of potable water between the Sunshine Coast and Brisbane. Stage 1 of the NPI project—between Landers Shute water treatment plant (WTP) and Morayfield—is due for completion by 31 December 2008.

This environmental impact statement (EIS) has been prepared to address the potential environmental impacts relating to the construction, operation, commissioning and decommissioning of the NPI Stage 2 and associated facilities. This section presents a brief overview of the project and provides information about state and federal assessment processes and other requirements associated with the preparation of an EIS.

The EIS has been prepared to inform directly affected landholders, native title parties, advisory agencies, the Commonwealth Minister for the Environment, Water, Heritage and the Arts and other interested parties about the need for the NPI Stage 2 project, the potential impacts associated with the project and how these impacts will be managed. The Coordinator-General (CG) and the Department of Environment, Water, Heritage and the Arts (DEWHA) are the decision-making authorities for the EIS process.

1.1 Project Proponent

The proponent for the NPI Stage 2 is the Southern Regional Water Pipeline Company Pty Ltd trading as LinkWater Projects. LinkWater Projects is a company incorporated under the *Corporations Act 2001* (Cwlth). On 27 June 2007, 100% of the shareholder base was purchased by the state government. On 16 November 2007 LinkWater was established as a water entity under the *South East Queensland Water (Restructuring) Act 2007* and will retain ultimate ownership of the NPI Stage 2 asset.

Water entities were established as part of state government reforms in accordance with the National Competition Policy and National Water Initiative (NWI) to improve the management, delivery, security and customer service of water supplies in south-east Queensland (SEQ).

LinkWater has a commitment to effective environmental management and lists the environment as a key component of its overall vision ‘to become an effective partner in delivering water security to SEQ’, with an underlying principle of ‘Sustainability and positive environmental outcomes’. As stated on their website, LinkWater Projects and their alliance partners adhere to the following key environmental practices:

- Erosion and sediment controls, water quality protection and continuous improvement in testing methods to reduce water contamination are practised on site.
- Vegetation removed during clearing is stockpiled in rows alongside the edge of easements for mulching and re-spreading during restoration.
- Topsoil is stripped before excavation and preserved for later re-spreading. This topsoil contains soil nutrients and a natural seed bank.
- Environmental impacts are minimised during works through a construction environmental management plan (CEMP) to ensure new projects comply with current legislation and industry best practice.

LinkWater's commitment to sustainability is expressed on its website as follows:

> LinkWater and LinkWater Projects seek to reduce their environmental footprint.
>
> We strive to add value to the management of the natural and built environments by adhering to all appropriate Local, State and Federal environmental guidelines.
>
> Recognising the importance of current trends in climate change policies ie Queensland ClimateSmart 2050 and the South East Queensland Regional Infrastructure Plan and Program 2008-2026, LinkWater are working to minimise and monitor our own carbon footprint whilst delivering water to where it is needed most.
>
> LinkWater is conscious of the legacy we leave and our work life supports this philosophy. We vigorously encourage smart waste management policies including recycling, re-use and reduction both in their offices and at work sites. Reducing energy and water consumption during operations and maintenance work is a priority.

For further information regarding LinkWater and LinkWater Projects, please contact:

LinkWater Projects
Level 4
200 Creek Street
Brisbane QLD 4000
(07) 3270 4000
http://www.linkwater.com.au

LinkWater Projects was initially established to manage and oversee the Southern Regional Water Pipeline (SRWP) project, a 100 km long bulk transport pipeline from Mt Crosby in the western suburbs of Brisbane to Molendinar on the Gold Coast. The projects the proponent is currently managing include:

- Southern Regional Water Pipeline (SRWP); construction due for completion in November 2008;
- Northern Pipeline Interconnector (NPI) Stage 1; construction due for completion in December 2008;
- Eastern Pipeline Interconnector (EPI); construction due for completion in December 2008; and
- Toowoomba Pipeline Project (TPP); construction due for completion in late 2009.

There are no current or former proceedings under a law of the Commonwealth or a state for the protection of the environment or the conservation and sustainable use of natural resources against LinkWater Projects, any board member or its senior management.

LinkWater Projects' alliance partner for the NPI Stage 2 project is the Northern Network Alliance (NNA). The NNA has prepared this EIS on behalf of the proponent.

1.2 Project Description

The NPI is a drought contingency project that will provide a fresh water supply volume target of 65 ML/d between the Sunshine Coast and Brisbane. The project is to be completed in two stages and relies on the collection and transportation of available spare capacity from existing water allocations at supply sources throughout the Sunshine Coast.

The NPI Stage 2 project is defined, for the purposes of the Water Regulation 2002, as that project summarised in the *Report on the Drought Contingency Projects*, prepared by the Department of Infrastructure and Planning (DIP 2008a). The project is part of the south-east Queensland drought emergency strategy and is intended as an interim supply measure until other bulk water sources can be developed. Further, the project is authorised and directed under a regulation made under s.100 of the *State Development and Public Works Organisation Act 1971*.

Once completed, Stage 2 will have the capacity to deliver up to 6500 ML/a (18 ML/d) of potable water to the SEQ water grid from existing utilised entitlements (up to 55% or 3600 ML/a has been used by Noosa Shire in the past) authorised under the *Water Resource (Mary Basin) Plan 2006* (Mary

Basin WRP). Water transported by the NPI Stage 2 will supplement supplies from the Baroon Pocket Dam transported by the NPI Stage 1. Additional yields may be available for transport by the completed NPI provided through the implementation of water use reduction strategies, such as restrictions, for the Sunshine Coast.

The current proposed NPI Stage 2 system configuration (for the purpose of this EIS) will require:

- approximately 48 km of underground pipe between Noosa water treatment plant (WTP) and the termination point of NPI Stage 1 at Eudlo;
- a balance tank with a 5 ML capacity;
- three new pump stations; and
- a new water quality management facility (WQMF) and upgrades to an existing WQMF at Landsborough.

In summary, NPI Stage 2 will involve the construction of new pipelines and infrastructure to provide linkages between existing treatment facilities at the Noosa WTP and the termination of Stage 1 of the NPI near Eudlo.

1.3 Project Rationale

South-east Queensland is one of the fastest growing areas in Australia. However, unprecedented growth over the last decade has coincided with the worst drought on record (see the draft SEQ Water Strategy (QWC 2008) at <http://www.qwc.qld.gov.au/SEQWS)>.

This has placed increasing pressure on the management and use of regional water sources and highlighted the vulnerability of the region's water supplies. If drought conditions were to persist and water restrictions were the sole means of moderation, available water supplies could become severely depleted in many parts of the region.

The NPI Stage 2 will connect with NPI Stage 1 and bulk water supply sources on the Sunshine Coast, with the objective of supplying potable water to existing facilities for distribution to localities in the greater Brisbane region. The NPI Stage 2 will augment the supplies transported by NPI Stage 1 so as to reduce the reliance on a single water source, providing greater security of supply until a bulk water source becomes operational.

The NPI (Stages 1 and 2) will be designed to integrate with the proposed Northern Regional Pipeline (NRP), which will transfer water from existing and future bulk water sources on the Sunshine Coast, including the proposed Traveston Crossing Dam, if approved. Works required to connect the NPI to

other bulk water sources, including the dam, are not included in this EIS. However, the infrastructure requirements necessary to support bulk flows have been considered (ie pipeline facilities have been designed to accommodate future bulk flows).

Provision will be made along the NPI Stage 2 for connections to supply future customers in the Sunshine Coast region, such as the localities of Nambour, Yandina and Eumundi. These works are required to support the long-term water planning for the region commencing from 2016. In addition, both stages of the NPI will be designed with a reverse-flow capacity to transport water from Brisbane to the Sunshine Coast under different demand scenarios in the future. However, this design feature is not necessary for delivery of the drought contingency scope detailed in the Water Regulation 2002.

1.3.1 Need for the Project

Recent extended drought conditions in SEQ and the strong growth of the region have highlighted the vulnerability of the region's water supplies. To secure long-term water supply for SEQ over the next 50 years, the Queensland Water Commission (QWC) has developed the draft SEQ Water Strategy 2008. The strategy outlines a range of demand management measures and planning for the building of new water infrastructure.

The SEQ water grid is an initiative under the draft SEQ Water Strategy (see <http://www.qwc.qld.gov.au/Water+Grid> and Figure 1.1) for the connection of new and existing water supply sources via a network of interconnecting pipelines. The NPI (Stages 1 and 2) will form a key component of the grid. The objective of the grid and the NPI project is to provide an interconnected water distribution system that will allow water to be transferred to where it is most needed in the region and ultimately provide water security for SEQ.

The completed NPI Stages 1 and 2 will supply up to 65 ML/d of potable water to existing facilities at Caboolture for distribution to localities in the greater Brisbane region. The Water Regulation 2002 requires the completion of the NPI Stage 2 by 31 December 2011. Initially the NPI will transport drought flows from supply sources on the Sunshine Coast to Brisbane. However, the pipe is designed to accommodate flows from future bulk water sources on the Sunshine Coast, including the Traveston Crossing Dam, should it be approved.

Figure 1.1
SEQ WATER GRID

Construction of the NPI Stage 2 is likely to represent a major economic stimulus to the Sunshine Coast regional economy (see Section 3.11 and Appendix P). The project is expected to stimulate significant economic activity across SEQ, some of which would occur on the Sunshine Coast.

Construction of the NPI Stage 2 has the potential to result in some short-term environmental impacts that will be mitigated through the implementation of the environmental management plan (EMP).

1.3.2 Costs and Benefits of the Project

Economic stimulus associated with the NPI Stage 2 will be generated through inter-industry purchases in both the construction phase and the operation and maintenance phase. Anticipated social impacts include increases in employment, and the use of accommodation and local hospitality services.

Construction of the NPI Stage 2 is anticipated to cost in the order of $400 million. Based on current estimates from the SRWP, it is estimated that maintenance of the overall NPI (Stages 1 and 2) will cost approximately $7.6 million per annum. Detailed estimates of capital expenditure will require approval from LinkWater Projects and the state government. Should the NPI Stage 2 be approved, funding will be provided through a committed budget.

The NPI Stage 2 project will provide the following key economic and social benefits and costs for the Sunshine Coast and the SEQ region:

Benefits

- *Provide long-term security of potable water supply in SEQ:* The project has the ability to provide up to 18 ML/d in the short term and up to 200 ML/d once a bulk water source becomes available for an operational life of approximately 75–100 years.
- *Generate expenditure and stimulate local and regional economies:* Construction of the project is expected to generate approximately $200 million of expenditure in SEQ region.
- *Create direct and indirect sources of employment:* The project is expected to generate up to 1280 full-time equivalent positions.
- *Support regional growth on the Sunshine Coast through provision of a potable water supply:* Population of the Sunshine Coast is expected to increase by an average of 2.5% per annum.
- *Provide flexibility in water supply for Sunshine Coast*: The project provides for future connections to supply Sunshine Coast customers.

- *Provide flexibility in water supply for SEQ:* Opportunity for future implementation of a reverse-flow capacity in the SEQ water grid.

Costs

- *Loss or limitations of residential, commercial and agricultural property uses, eg restrictions on certain activities within an easement*: Approximately 24% of the route has been classified as 'highly productive' agricultural land.
- *Potential indirect impacts on agricultural landholders:* These could result from a decline in surface or groundwater quality.
- *Restricted access to local residents and businesses*: Construction vehicular traffic and possible traffic diversions could restrict access at times.
- *Potential for local traffic congestion*: Congestion could occur around high density areas.
- *Temporary amenity impacts for businesses and residents*: These include potential dust and noise impacts.
- *Associated social impacts:* These include stress or anxiety for affected landholders and community members.

The overall aim of the SEQ water grid, of which the NPI project is part, is the provision of a secure water supply for the SEQ region. This is a positive outcome for communities currently facing critical water shortages, as well as those communities that may face potential shortages in the future.

1.4 Alternatives to the Project

Alternatives to the development of a treated water pipeline include:

- the 'do nothing' or 'no drought contingency pipeline' option;
- development of a water pipeline which would transfer raw water directly to Brisbane for treatment;
- construction of a facility to purify recycled water;
- application of high level water restrictions to the Sunshine Coast Region;
- construction of a dam;
- use of groundwater as a water supply source; and
- construction of a desalination plant with connection to the SEQ water grid via a pipeline, eg Gold Coast Desalination Project.

The primary objective of the NPI Stage 2 as a drought contingency project is to secure additional treated water supplies in the short term in case of ongoing drought conditions in Brisbane's catchment areas prior to water from the proposed Traveston Crossing Dam becoming available in 2011. At this stage, NPI Stage 2 becomes a component of the Northern Regional Pipeline (NRP) which is a key to the long-term water security of SEQ.

Under the short-term drought contingency scenario, the NPI Stage 2 will transport up to 18 ML/d from the Sunshine Coast to Brisbane. However, once a bulk source becomes available, the volume able to be transported is likely to increase to approximately 200 ML/d. The capacity for the NPI Stage 2 to transport short and long-term volumes is critical to the future establishment of the NRP. Any comparison of a viable alternative must therefore accommodate a capacity to support both short and long-term transport options.

Do Nothing

Even with demand reduction measures currently being implemented by the State Government, if no action were to be taken and drought conditions were to return, Brisbane's water supplies could become severely depleted. The 'no pipeline' option is therefore unacceptable and does not support the regional water planning initiatives of the QWC.

Raw Water

A raw (untreated) water pipeline was initially considered as an alternative method of delivering water to Brisbane; however, this option was not pursued because:

- there was no spare treatment capacity in existing water treatment schemes (at Landers Shute WTP and Image Flat WTP);
- transporting raw water is far less energy efficient as treatment would still be required before water could be distributed to local consumers;
- a raw water pipeline would have higher maintenance requirements due to frequent cleaning of biological deposits associated with untreated water; and
- by treating water at the source, it is possible to supply customers with potable water en route to Brisbane, thereby maximising the number of customers receiving water from the NPI and improving supply efficiency.

Overall, a raw water solution would offer less flexibility to accommodate future bulk supply requirements. In addition to the costs associated with construction of a pipeline to transport raw water (this would be comparable to

the NPI Stage 2 proposal), there is the additional cost for treatment of the raw water prior to distribution to local consumers. Current estimates of these treatment costs are estimated at $1.3 million per megalitre (ML).

Recycled Water Facility

Similar to the concept underlying the Western Corridor Recycled Water Project, it could be possible to construct a pipeline and associated facilities that could provide similar volumes of water as the NPI Stage 2 (in both the short and long term). The costs of construction of the pipeline would be in excess of NPI Stage 2 as the pipeline would need to be duplicated for the 47 km traverse to Brisbane where the NPI Stage 1 is currently constructed. In addition, the design and construction of an advanced water treatment plant of a size suitable to meet the intended short and long-term requirements for the NPI Stage 2 would make this option cost inhibitive. Based on the published QWC reports for similar projects, these costs could be in excess of $575m.

The location of the pipeline and facilities would need to be in proximity to existing waste water treatment plants on the Sunshine Coast. The treatment plants are currently located close to the coast and therefore any connecting pipeline would traverse ecologically sensitive marine and tidally influenced areas. The combination of economic and environmental costs associated with this alternative make it an unviable option compared to the NPI Stage 2.

Water Restrictions

Under high level water restrictions in the Sunshine Coast Region, it may be possible to augment the supply of water from Brisbane. This could be achieved by localised restrictions in areas that are currently supplied with water north from Brisbane. This would result in the provision of additional capacity within the system, but not a volume equivalent to the NPI Stage 2. Further, this option could only be implemented as a short-term supply strategy due to the significance of social, economic and industry impacts that would result if restrictions were sustained in the long term.

Construction of a Dam

Regardless of the location of an alternative bulk water source (such as the Traveston Crossing Dam proposal), a transport pipeline and associated facilities would be required. The selection of a preferred corridor for construction of the pipeline, water treatment plant, balance tanks, pump stations and other facilities would need to consider the full range of environmental factors such as those discussed in this EIS. The costs associated with a regional water network capable of transporting both short and long-term bulk water supplies would be in the order of $900m (this would include the estimated costs for the NPI Stage 2). In order for a dam option to

be a viable alternative to the NPI Stage 2, it must have the capability to supply up to 200 ML/d, based on current and future demand requirements for the Sunshine Coast region.

Groundwater

Previous investigations by the Department of Natural Resources and Water (NRW) into the viability of the Landsborough aquifers identified a low potential for use of local groundwater systems as interim drought supply water sources. The impacts associated with the dewatering and treatment of water sourced from groundwater is incomparable to those for a potable water pipeline. It is likely that these impacts would occur at a greater spatial and temporal scale than those for the NPI Stage 2 pipeline, with increased potential for long-term effects on economic and agricultural resources.

Desalination

Construction and operation of a desalination plant as an alternative method of water supply for Brisbane is not considered a viable alternative to the Stage 2 pipeline for the following reasons:

- The QWC is currently undertaking siting studies into the possible locations for desalination on the Sunshine Coast. Depending on the selection of a preferred site, these locations could be up to 15 km or 20 km away from a connection to the NPI.
- The capital expenditure for a desalination plant capable of producing 18 ML/d yield (similar to the short-term requirements for NPI Stage 2) would be approximately $300 million. In order to produce bulk flows (up to 200 ML/d and the long-term solution for NPI Stage 2) this cost could exceed $1 billion and would be comparable to the Gold Coast desalination plant.
- In addition to the capital cost for construction of a desalination plant, the estimated cost for the connecting pipeline would be approximately $8 million per kilometre. This cost would include major waterway and highway crossings and other associated facilities or construction requirements.
- The location of a desalination plant on the Sunshine Coast is yet to be determined. However, based on the sites being investigated by the QWC, the construction and connection of a desalination plant to the NPI could result in additional costs ranging from $430 million to $470 million.
- The costs involved in providing potable water via desalination are levelised at approximately $3000 per ML/a yield, which includes capital and operational cost (QWC 2008). The desalination plant option is considered to be cost-inhibitive compared with a pipeline only.

- Similar to the recycled water facility option, a connecting pipeline would need to traverse marine and tidally-influenced environments. Further, the selection of a desalination plant would need to consider the impacts associated with production and marine disposal of by-products resulting from the treatment process. The current NPI Stage 2 proposal does not influence or traverse these environmental systems.
- Energy consumption and greenhouse gas (GHG) emissions generated are substantial, eg operation of the Gold Coast Desalination Plant will produce an estimated 235,000 t of CO_2-e per annum, with energy consumption for the NPI Stage 2 (including direct and indirect energy use during construction) estimated to produce a total of approximately 11,600 t of CO_2-e per annum.

Route Options

The NPI Stage 2 project is the preferred option for securing additional treated water supplies under both short-term drought contingency and future bulk flows to Brisbane catchment areas. In addition, construction of the Stage 2 pipeline would benefit the future implementation of a reverse-flow capacity in the system, providing water to the Sunshine Coast if required.

Detailed investigation has been conducted to determine the preferred pipeline route for NPI Stage 2 (see Section 2). Three broad options for the pipeline route were developed on the basis of broad engineering, environmental, geotechnical, topographic and community constraints:

- Eastern corridor option (east of the Bruce Highway through low-lying agricultural land, rejoining the highway near Eerwah Vale);
- Central corridor option (west of the Bruce Highway and North Coast Railway Line); and
- Western corridor option (through the power easement in steep terrain).

These route options are shown on Figure 2.3 in Section 2.3.1. Options were assessed using a multi-criteria analysis which compared the engineering, social, environmental, operational and constructability constraints across all options. Although broad constraints were considered, no detailed consideration of local environmental or social impacts was carried out in developing or assessing these options. However, detailed assessment of local community and environmental issues was undertaken as part of the evaluation of the preferred corridor, which has subsequently resulted in minor route modifications.

A summary of the results of the multi-criteria analysis, including key constraints identified for the corridor options, are outlined in Table 1.1.

Table 1.1 Review of broad pipeline route options

Review criteria	Western corridor	Central corridor	Eastern corridor*	Preferred corridor (variation of central corridor)
Length	46.7 km	44.7 km	49 km	48 km
Number of affected properties	Approximately 275	Approximately 237	Approximately 235	Approximately 233
Land access	Majority critical infrastructure easement	Critical infrastructure easement Some NIRs	Majority NIRs Potentially large landholdings	Majority critical infrastructure easement Some NIRs
Waterway crossings	5 major crossings, including one thrust bore	5 major crossings	1 major crossings (marine)	3 major crossings
Cost	High pipe-laying cost Extensive blasting	High cost crossings Extensive blasting	Expensive waterway crossings	Cost-effective waterway crossings
Construction time constraints	Difficult grade Limited access Few areas for laydowns—20.8 km hard rock Power infrastructure	Difficult grade Difficult crossings High speed traffic corridor Road safety Haulage 10.3 km hard rock Acid sulfate soils	Easy grade No extensive rock Wet trenches Acid sulphate soils All-weather access required	Moderate grade Rock present—not extensive Tunnel bore at Pringle Hill (approximately 12 months)
Construction speed	Slowest	Moderate	Fastest	Moderate
Environmental impacts	Terrestrial	Terrestrial, some marine	Marine Acid sulfate soils	Terrestrial

* *This eastern corridor option was taken to be representative of the various eastern options developed. While there are some variations between the eastern options, they are not considered to be significantly different from one another.*

Based on the key points outlined above, the NPI Stage 2 project provides a relatively cost-effective and timely solution to deliver water to Brisbane and would have less potential to result in significant long-term environmental impacts than the alternatives.

1.5 The Environmental Impact Assessment Process

The following sections outline the state and federal approvals processes.

1.5.1 Methodology of the EIS

When developing a concept and an initial advice statement (IAS) for the project, it was recognised there was potential for impacts on matters of state and federal significance. Initially a referral was made to the Department of the Environment, Water, Heritage and the Arts (DEWHA) seeking a determination of the project under the *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth) (EPBC Act). The purpose of the referral was to identify any potential impacts on matters of national environmental significance.

There are two triggers for the preparation of an EIS for the NPI Stage 2:

- the declaration of the NPI Stage 2 project as a 'significant project' pursuant to s. 26(1)(a) of the *State Development and Public Works Organisation Act 1971* (SDPWOA) (Qld); and
- the decision by the former Commonwealth Minister for the Environment that the project is a 'controlled action' under the EPBC Act.

On 21 September 2007, the NPI Stage 2 was gazetted as a 'significant project' for which an EIS is required under the Queensland SDPWOA. The EIS process for significant projects is overseen by the Coordinator-General (CG) and provides for a coordinated assessment of the potential environmental effects of the project by various government agencies.

On 24 October 2007, the then Commonwealth Minister for the Environment and Water Resources determined that the project was a 'controlled action' under the EPBC Act due to the likely impact on matters of national environmental significance (MNES).

As a result of being both a 'significant' project and a 'controlled action', the project EIS is the appropriate method of assessment and approval for the project.

A bilateral agreement between the Queensland and Commonwealth governments accredits environmental assessments under state legislation as meeting the standards required to assess the impacts of the project required under the EPBC Act. As an EIS prepared under the SDPWOA, this document will be assessed at both the state and federal levels.

The environmental impact assessment process for this project is summarised in Figure 1.2.

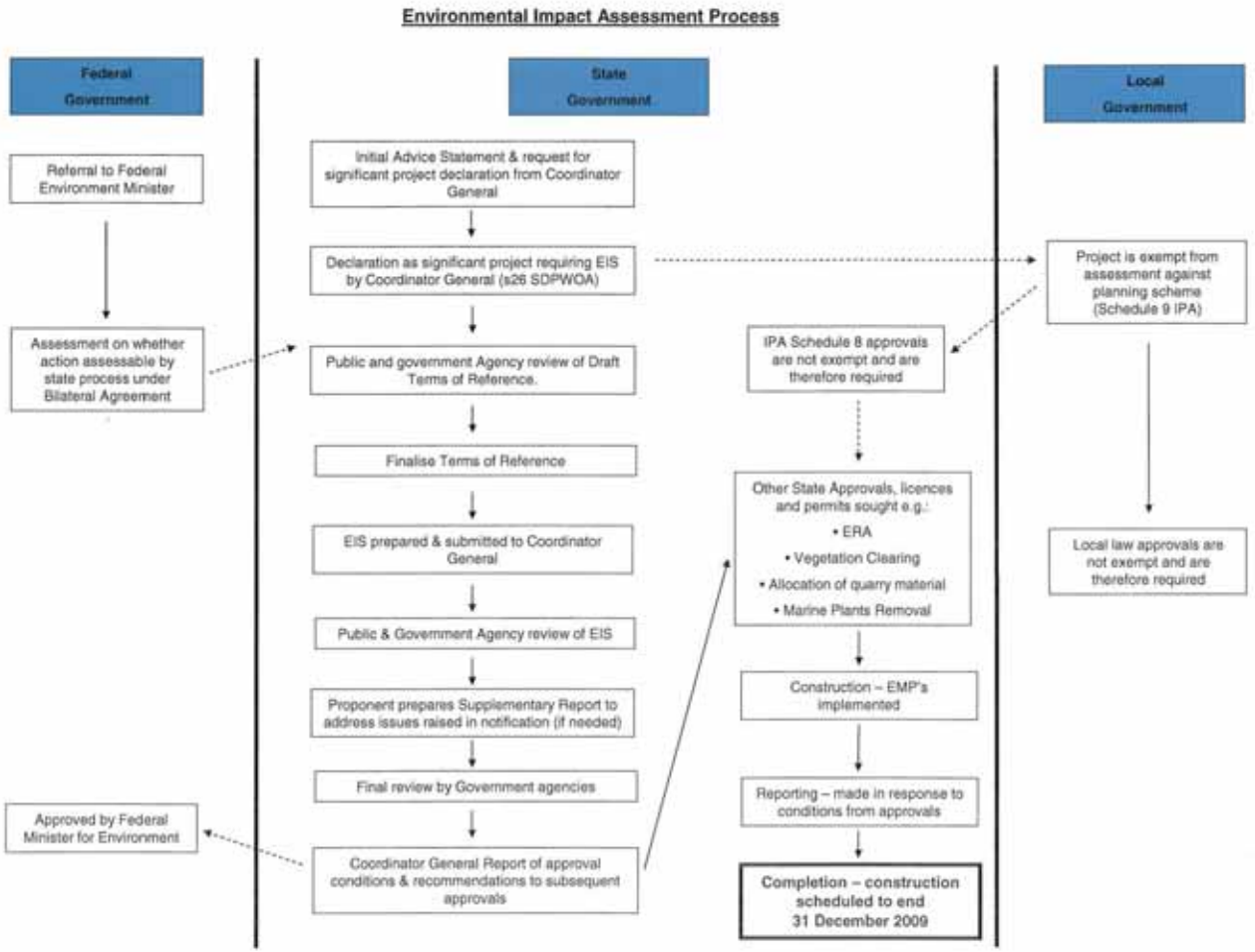

Figure 1.2
ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

It is important to note in this figure that there are three opportunities for formal public comment within the EIS process. The period for public comment in each of these instances is in accordance with a statutory requirement.

Initially DEWHA published the referral for the project, seeking public comment. Preparation of the draft terms of reference (ToR) included a one-month period where comment was sought formally from the public and other government agencies. Following receipt of these comments, the ToR were finalised. Once the CG is satisfied that the EIS addresses the ToR, the public and other government agencies will again be invited to provide formal submissions on the project.

A comprehensive description of other statutory approvals required for the project can be found in Section 1.7.

1.5.2 Objectives of the EIS

The content of the EIS is determined by the requirements of the EPBC Act, the SDPWOA and the project TOR prepared by the Department of Infrastructure and Planning (DIP) (refer to Appendix A). The ToR include the results of submissions received from the public and other government agencies.

The primary objective of this EIS is to ensure all potential environmental values, social and economic impacts of the NPI Stage 2 project are identified, and appropriate mitigation measures are recommended. The EIS will be structured to provide the following elements:

- a description of the project proponent, a description and rationale for the project, need for the project, costs and benefits, alternatives to the project, the environmental impact assessment, and the public consultation process and project approvals (Section 1);
- an overview of the project, describing the location, construction commissioning, operation, rehabilitation, associated infrastructure requirements, workforce and accommodation, transport, water supply and distribution, electricity and telecommunications (Section 2);
- a description of the existing values and an assessment of the potential impacts and mitigation measures on all elements of the environment, including its natural, social, cultural and economic aspects (Section 3); and
- conclusions and recommendations (Section 5).

The information contained within this EIS will form the basis of the project's construction environmental management plan (CEMP) and subsequent

environmental management plans (EMPs), which are the standards to be used for the construction and operation of the project. The EMPs will address the levels of impact on environmental values.

This EIS has been prepared to inform directly affected landholders, advisory agencies, the Commonwealth Minister for the Environment, Heritage and the Arts and other interested parties about the need for the NPI Stage 2, the potential environmental impacts associated with the project and how these impacts will be managed.

1.5.3 Submissions

Comment on the EIS document is invited from all interested parties. Submissions should be in writing and received on or before the last date of the advertised public notification period. They must be signed by each person making the submission and state the name and address of each person making a submission, the grounds of the submission and the facts and circumstances relied on in support of these grounds.

Submissions made to the DIP will be provided to the proponent for consideration. The CG may request that the proponent prepare a supplement to the EIS to address the issues raised.

Submissions should be in hard copy or electronic format, signed by each person making the submission and sent to:

EIS Project Manager—Northern Pipeline Interconnector, Stage 2
Major Projects Division
Department of Infrastructure and Planning
PO Box 15009
CITY EAST QLD 4000

1.6 Public Consultation Process

As part of the project development and preparation of this EIS, a Communications and Stakeholder Relations team has been established to engage and inform key stakeholders with an interest in the project. The key stakeholder groups are identified below and quantified by tenure type in Table 1.2:

- directly affected landholders;
- other individuals potentially affected by the project;
- community, environmental and business/development groups;
- elected representatives from federal, state and local government; and
- federal, state and local government authorities.

Table 1.2 Summary of tenure types of stakeholders

Tenure type	Number of properties
Leasehold	1
Freehold	223
Reserve	6
State land	3
Total	**233**

Consultation with directly affected landholders is being achieved in collaboration with the DIP. Landholders whose properties will be traversed by the pipeline are issued with notices under s. 136 of the SDPWOA, which allows access to affected land for investigation purposes. Contact will be made by DIP representatives prior to accessing the land.

Table 1.3 summarises stakeholder facilitation activities undertaken by the Northern Network Alliance (NNA) as part of the community consultation process for NPI Stage 2 between January and October 2008. These activities are discussed in further detail in Appendix F. Consultation has also been undertaken with indigenous groups with respect to cultural heritage, which is addressed at Section 3.9 of this EIS.

Table 1.3 Summary of community consultation activities

Activity	Description
Letters to potential directly affected landholders	These letters introduced the project and advised landholders that their property was within the preferred corridor for investigation for the NPI Stage 2.
Regular email updates	Regular email updates are compiled and distributed to subscribers with an interest in the project.
Stakeholder correspondence	Stakeholders have been encouraged to provide information to the project team that would assist investigations into the project. Information provided helped to inform the team of particular sensitivities along the preferred corridor for investigations
Fact sheets	Fact sheets were developed to cover topic areas where key stakeholders had shown a particular interest in finding out further information.
Community newsletter	A community newsletter providing information about the project will be mailed to key stakeholders. The newsletter will be directly mailed to residents living in the area for the preferred corridor and adjacent communities.

Table 1.3 (continued)

Activity	Description
Media statements and releases	In a statement to local media on 21 August 2008, the Deputy Premier and Minister for Infrastructure and Planning, the Hon. Paul Lucas MP, announced the government's preference to co-locate the pipeline within existing easements wherever possible.
Freecall line—1800 243 998	The Freecall number is staffed during business hours (8.30 am to 5.30 pm, Monday to Friday) and diverted to a message bank after hours, at weekends and on public holidays. All calls are returned within 24 hours by an NNA staff member with specific knowledge about any issue identified by the caller.
Project email address	A project email address, info@nnalliance.com, was set up to provide another channel for stakeholders to contact the project team with information to assist with investigations or to ask questions of the team.
Consultation management database (CMS)	A consultation database was initiated to log and track all contact and correspondence with stakeholders during the EIS process.
Community meetings	Meetings were arranged in communities within and adjacent to the preferred corridor. These meetings provided an open forum for community members and the project team to discuss concerns and issues. Information gathered from the meetings helped to inform the EIS investigations.
Meetings with elected representatives	Meetings were held with elected representatives of local, state and federal governments to provide details on the project and the NNA.
Meetings with government agencies	Meetings were held with government agencies to provide details on the project and the NNA and facilitate a cooperative working relationship to ensure the project meets all federal, state and local government requirements.

An overview of the issues of concern that key stakeholders raised during the course of the EIS investigations is presented below.

Issues raised by the general community were:

- potential linkage with Traveston Dam;
- water take from Mary River catchment;
- potential impact on endangered flora and fauna within the area;
- public safety during construction, particularly increase in traffic;

- potential impact of the project on lifestyle and health;
- potential impact on local infrastructure such as roads;
- timing of construction, including length of time taken for construction to be completed;
- how areas will be reinstated once construction is finished; and
- the exact location of the preferred corridor and pipeline.

A more comprehensive explanation of the issues raised by the community is presented in Appendix F.

Issues raised by potential directly affected landowners were*:*

- potential impact of alignment of corridor on future development plans;
- impact of construction on existing infrastructure such as houses, sheds, fencing;
- potential impact of ongoing operation of pipeline and associated infrastructure (vents, valves, etc);
- impact of construction on business operations, particularly farming operations;
- compensation for disruption and taking an easement through the property; and
- potential impact the project will have on lifestyle and health.

A community consultation plan has been developed (Appendix F) which outlines the following:

- the types of activities to be undertaken and the timing of these activities;
- targeting of stakeholder/community representatives;
- integration with other EIS activities;
- consultation responsibilities;
- communication protocols; and
- reporting and feedback arrangements.

1.7 Project Approvals

1.7.1 Relevant Legislation

The NPI Stage 2 project is assessable under a range of local and state government approval and permitting requirements, including the *State*

*Develo*pment and *Public Works Organisation Act 1971* (SDPWOA), *Integrated Planning Act 1997* (IPA), *Water Act 2000*, Environmental Protection Act 1994 (EP Act) and associated regulations and policies.

The types of approvals, including a list of environmentally relevant activities (ERAs) required for NPI Stage 2, are detailed in Appendix G. This appendix outlines the approvals necessary under federal, state and local government authorities. The specific implications of key legislation, policy and strategies affecting the pipeline are discussed below.

State Development and Public Works Organisation Act (Qld)

The SDPWOA provides for the declaration of 'significant projects' and 'prescribed projects' to enable specific assessment processes for projects that hold particular significance to the state.

The NPI Stage 2 was declared a 'significant project' for which an EIS is required on 13 September 2007. Under s. 26 of the SDPWOA, the CG may declare by gazette notice that a project is a 'significant project'. This process allows for the appropriate level of environmental and public scrutiny. The EIS that is required under this designation may also be used to satisfy the project assessment requirements of other Acts or approval processes.

In addition to providing a mechanism for consolidating community, social, biological and environmental issues related to the project, 'significant project' declaration provides:

- the necessary justification for making an application to clear vegetation for an ongoing purpose under the *Vegetation Management Act 1999* (VMA); and
- a link with the Commonwealth Department of the Environment, Water, Heritage and the Arts (DEWHA) under a bilateral agreement for delineation of powers regarding the assessment process for actions under the EPBC Act.

Under s. 76E(1) of the SDPWOA, the Minister may declare the NPI a 'prescribed project' and a 'critical infrastructure project.' The declaration can be made in respect of a 'significant project' (under s. 26), and is effective once a gazette notice is published.

The main benefit of a prescribed project declaration is to allow the CG to have a closer involvement in the timing of approvals processes under the assessment system set up by the IPA. Specifically, the CG is able to issue progression notices, notices to decide and step-in notices.

Under s. 153B of the SDPWOA, a critical infrastructure project declaration would enable the DIP to register a critical infrastructure easement over land within an existing public utility easement. A declared critical infrastructure project may be constructed within a critical infrastructure easement made in favour of the CG.

A works regulation has also been made under s. 100 of the SDPWOA authorising and directing the proponent to undertake works for the NPI. The purpose of this regulation is to allow the CG to manage and facilitate critical items (such as land acquisition) for delivery of the project.

Works conducted under these designations may seek use of the CG's broad powers under ss. 136, 138 and 140 of the SDPWOA for temporary activities. This would include the ability to conduct works including watercourse crossings, and to allow site access for investigations.

Integrated Planning Act (Qld)

Schedule 9 of the IPA lists development that is exempt from assessment against a planning scheme. The NPI Stage 2 has been determined to fall within the exemptions of Schedule 9 where Table 5 Item 4 states that 'all aspects of a development a person is directed to carry out under a notice, order or direction made under State law' constitute exempt development.

The designation under the SDPWOA means that the NPI Stage 2 will not be subject to the normal integrated development assessment system (IDAS) process. There are no formal information request and notification stages. The report of the CG on the EIS is taken to replace the role of referral agencies. Further, as the NPI Stage 2 would normally be considered as 'impact assessable', any submissions received would be considered in the EIS decision stage.

While the NPI Stage 2 project is not assessable under local planning scheme provisions, local laws and Schedule 8 of the IPA continue to apply. Under Schedule 8, a listed assessable or self-assessable development remains assessable regardless of the exemptions under Schedule 9. Relevant state planning policies prepared under the IPA have been considered in preparing this EIS and are summarised in Table 1.4. A detailed description of the desired environmental outcomes (DEOs) from the Noosa and Maroochy planning schemes can be found in Section 3.2.3.

Table 1.4 State planning policies

State planning policy	Planning intent
SPP 1/92 Development and conservation of agricultural land	Sets out broad principles for the protection of good quality agricultural land from inappropriate developments.
SPP 2/02 Planning and managing development involving acid sulfate soils (ASS)	Aims to ensure that development involving ASS is managed to avoid the release of potentially harmful contaminants into the environment.
SPP 1/03 Mitigating the adverse impacts of flood, bushfire and landslide	To minimise the potential adverse impacts of flood, bushfire and landslide on people, property, economic activity and the environment.
SPP 2/07 Protection of extractive resources	Identifies extractive resources of state or regional significance not covered under the *Mineral Resources Act 1989*. Aims to protect resources from developments that might prevent or constrain future extraction.

In preparing the assessment report of the EIS, the CG will include comments and recommendations from relevant government agencies, including the Sunshine Coast Regional Council. Further, the NPI Stage 2 is working closely with the council to ensure that local policies and standards are being implemented wherever possible, eg Maroochy Manual for Erosion and Sediment Control 2007.

Water Act and Regulation (Qld)—Water Resource (Mary Basin) Plan 2006

Amendments to the *Water Act 2000* and the Water Regulation 2002 direct that works be carried out under state law to complete the NPI Stage 2 by 31 December 2011. These works are described in the Report on Drought Contingency Projects (2008) produced by the CG.

Pursuant to s. 4(2) of this Act, the requirement to seek a Riverine Protection Permit does not apply to the NPI Stage 2 project. Approval to clear riparian vegetation will be sought under the *Vegetation Management Act 1999*.

The *Water Resource (Mary Basin) Plan 2006* (Mary Basin WRP) provides a framework for the allocation and sustainable management of water as required by the *Water Act 2000*. The NPI Stage 2 water supply strategy proposes to transport water under existing utilised entitlements (up to 55% or 3600 ML/a has been used by Noosa Shire in the past) authorised under the Mary Basin WRP. The proposed supply strategy is consistent with the outcomes and strategies identified in the Mary Basin WRP.

Environmental Protection Act (Qld)

Under the EP Act, LinkWater and its contractors have a 'duty of care' not to carry out any activities that cause, or are likely to cause, environmental harm unless all reasonable and practical steps are taken to minimise that harm. Table 1.5 summarises the policies and requirements under this Act that are relevant to the NPI Stage 2 project.

Table 1.5 Application of the EP Act to the NPI Stage 2

Element	Comment
Environmental management plans (EMPs)	In accordance with LinkWater's 'duty of care' requirements, EMPs are being developed to address specific environmental issues relevant to the project.
Environmentally relevant activities (ERAs)	ERAs will also be required for chemical storage at water quality management facilities as chemicals will be stored and operated in volumes greater than the threshold amount specified in the Regulation. It is anticipated that ERAs will also be required for fuel storage and a motor vehicle workshop associated with construction site office/s.
Contaminated lands	Sites listed on the Contaminated Lands Register (CLR) and Environmental Management Register (EMR) (includes unexploded ordinances—UXO) are addressed at Section 3.2.4.
Environmental Protection (Water) Policy 1997	Sets a framework for managing environmental impacts on water and identifying environmental values and guidelines to protect the water environment.
Environmental Protection (Air) Policy 1997	Sets a framework for the assessment of air quality issues and air quality criteria.
Environmental Protection (Noise) Policy 1997	Sets a framework for the assessment of noise issues and defines relevant criteria.
Environmental Protection (Waste) Policy 1997	Provides requirements for handling specific waste streams and outlines the preferred waste management hierarchy and principles for achieving good waste management.

1.7.2 Planning Processes and Standards

SEQ Regional Plan 2005-2026

This plan allocates land within SEQ into five regional land use categories. The NPI Stage 2 alignment falls predominantly within the Regional Landscape and Rural Production Area category and the Urban Footprint category (SEQ Regional Plan 2005–2026 (DIP 2008b)).

The pipeline route will generally be contained within an existing 30 m wide permanent easement; however, the ROW may be up to 40 m wide depending on local ground conditions. It is anticipated that disruptions to existing land uses will generally be localised and temporary.

SEQ Regional Infrastructure Plan and Program 2008–2026

This plan describes the government's infrastructure priorities for the SEQ region to support the SEQ Regional Plan (DIP 2008c).

The Desired Regional Outcome 11 (Water Management) describes the need for additional water sources within the SEQ region by 2020. NPI Stage 2 has been listed as one of the regional water infrastructure projects to deliver this outcome.

Climate Change

In the spirit of the Kyoto agreement, the Australian Government has committed to reaching the 60% reduction threshold by 2050. Key mechanisms for delivering this goal are carbon pricing and the emissions trading scheme. In preparation for emission trading, the government has passed the *National Greenhouse and Energy Reporting Act 2007*. The Act came into force on 1 July 2008 and establishes a single, national system for reporting greenhouse gas emissions, abatement actions, and energy consumption and production by corporations.

The Queensland Government is committing to achieving a national target of 60% reduction in 2000 level GHG emissions by 2050. The ClimateSmart 2050 strategy is driving the actions to tackle the challenges of climate change and provide a platform for the government, community and industry to move towards a low carbon future.

Within the planning and design phases of the NPI Stage 2, options were considered for reducing GHG emissions (eg minimising energy inputs by selection of a shorter pipeline route).

National Strategy for Ecologically Sustainable Development

The National Strategy for Ecologically Sustainable Development (NSESD) adopts five key principles with respect to ESD in Australia. These include:

- integrating economic and environmental goals in policies and activities;
- ensuring that environmental assets are properly valued;
- providing for equity within and between generations;
- dealing cautiously with risk and irreversibility; and
- recognising the global dimension.

Section 18 of the NSESD addresses the water resource management sector. This section recognises that the major challenge in relation to the sector is to 'develop and manage in an integrated way, the quality and quantity of surface and groundwater resources, and to develop mechanisms for water resource management which aim to maintain ecological systems while meeting economic, social and community needs.'

The Mary Basin WRP stipulates outcomes to achieve the sustainable management of water, performance indicators and objectives and a range of strategies for achieving outcomes. The NPI Stage 2 project is consistent with the outcomes and strategies identified in the WRP and, consequently, with the implementation of the NSESD.

Native Title

The *Native Title Act 1993* allows for native title parties to be notified of 'future acts' that may affect native title rights. The construction of the NPI would be a future act for the purpose of the Act. Notification under s. 24KA of the Act allows for the provision of a water pipeline on land the subject of works. Comment has been invited from interested parties on the potential impact of the project on any rights conferred (current or potential), by the existence of native title.

Australian Heritage Council

The *Australian Heritage Council Act 2003* establishes the Australian Heritage Council, which will compile and maintain the Register of the National Estate (RNE). The RNE lists important natural, indigenous and historic places throughout Australia. Searches of the register were undertaken and the project will not affect any place listed on the RNE.

Vegetation Management

The NPI Stage 2 project will require clearing of regional ecosystems classified as 'endangered', 'of concern' and 'not of concern' under the *Vegetation Management Act 1999* (VMA). As the project has been declared a 'significant project' under s. 26 of the SDPWOA, an application to clear is deemed to be for a relevant purpose under s. 22A(2). An application to clear for an ongoing purpose can be assessed under 'Part S' of the South East Queensland Bioregion Regional Vegetation Management Code ('the Code'). Section 81 of the Act (a transitional provision) provides that any clearing done under s. 269 of the *Water Act 2000* is valid under the VMA. The need to seek a riverine protection permit is no longer required (see Water Act above), and a permit under the VMA to clear vegetation is now sufficient.

Water Reform Framework, COAG Agreement 1994

The Council of Australian Governments (COAG) Agreement covers water pricing, allocations and trading, environmental and water quality issues, and public education. The agreement implements the National Competition Policy and related reforms, in which governments are committed to:

- price water and wastewater services so businesses can achieve full cost recovery, with prices set on a consumption basis where cost-effective;
- create clearly specified water entitlements separate from land;
- recognise the environment as a user of water by allocating water specifically for use by the environment;
- encourage intrastate and interstate trading in water entitlements;
- implement market based and regulatory measures aimed at improving water quality;
- integrate natural resource management and catchment management processes;
- implement a range of institutional reforms, including separating the roles of service provision and standards setting and regulation, and ensuring better commercial performance by water businesses;
- employ rigorous economic and environmental appraisal processes before new investment in rural water schemes; and
- conduct public education and consultation programs and ensure stakeholder involvement in significant change issues.

The reforms aim to promote good water management practices and ensure the development of strategies to promote water uses that make good business sense, are good for the environment and ultimately ensure the long-term sustainability of the resource.

National Water Initiative

The National Water Initiative (NWI) was established in 2004, and adopted by all state and territory governments by 2006. The NWI builds on the 1994 Water Reform Framework, and aims to achieve a nationally compatible market, regulatory and planning based system of managing surface and groundwater resources that optimises economic, social and environmental outcomes.

The NWI includes objectives, outcomes and agreed actions to be undertaken by governments across eight interrelated elements of water management. Those objectives relevant to the NPI project include:

- integrated management of water for environmental and other public benefit outcomes—to identify within water resource planning frameworks the environmental and other public benefit outcomes sought for water systems and to develop and implement management practices and institutional arrangements that will achieve those outcomes; and
- urban water reform—to ensure healthy, safe and reliable water supplies; increase water use efficiency in domestic and commercial settings; encourage the reuse and recycling of wastewater; facilitate water trading between and within the urban and rural sectors; encourage innovation in water supply sourcing, treatment, storage and discharge; and achieve improved pricing for metropolitan water.

In relation to urban water reform, the NWI requires that proposals for investment in new or refurbished water infrastructure continue to be assessed as economically viable and ecologically sustainable prior to the investment occurring. The EIS addresses the principles of the NWI by providing an assessment of the environmental, social and economic impacts of the project in accordance with the terms of reference prepared by the CG.

Nature Conservation

Previously, clearing permits under the *Nature Conservation Act 1992* and Regulation were normally required for interfering/taking protected plants. As of early 2008, the Environmental Protection agency (EPA) ordinarily requires a clearing permit made under the Nature Conservation Act. Further investigations into the proponent's obligations under this amendment are currently being undertaken.

Development in koala habitat areas is assessed by the EPA against koala conservation criteria. This process occurs at the referral stage under the IDAS, with the EPA acting as a concurrence agency to an application to clear for an ongoing purpose under the VMA. Approval will be required for the NPI Stage 2 where the preferred corridor intersects mapped koala habitat near Cooroy.

Fisheries

Permits may be required under the *Fisheries Act 1994* for the construction of waterway barriers (which may impede fish movement) that may be required during the construction program. Permits for waterway barriers will be sought if required. No marine plants that would require permits to remove have been located during field survey.

Coastal Protection and Management

No works are to be undertaken within a declared coastal management district (CMD) for the NPI Stage 2.

Land Protection (Pest and Stock Route Management)

The Act and Regulation provide for the declaration of weed or pest species as being Class 1, 2 or 3 species, with penalties for persons dealing with, releasing, feeding and supplying these species. The NPI Stage 2 will meet its obligations with regard to pest management by implementing a suitable management plan and will seek the relevant approvals if required.

Acquisition of Land

Notices of intention to resume (NIRs) will be issued under the *Acquisition of Land Act 1967,* which allows for the Crown or a person authorised under an Act to take land (except freehold leases granted under the *Land Act 1994*), or be granted an easement in their favour. Land may be taken by an entity as the 'constructing authority' for purposes stated in the Schedule, which include 'works for the conservation or reticulation of water.' A similar head of power exists under s. 125 of the SDPWOA to create a critical infrastructure easement (CIE) which allows the CG to take land. While land may be taken through the use of either Act, the process for paying compensation under the *Acquisition of Land Act 1967* will be followed.

Land

Resource entitlement or a permit to occupy under the *Land Act 1994* will be sought where the NPI Stage 2 requires construction works on unallocated state land, a reserve or a road.

Mineral Resources

The *Mineral Resources Act 1989* aims, among other things, to encourage the mining of minerals and reduce conflicts with incompatible land uses. Resources such as clay and shale are considered as minerals under the Act and are governed by mineral leases issued by NRW. Mining approval (including extractive resources such as sand and gravel), are licensed as environmentally relevant activities by the EPA under the *Environmental Protection Act 1994*. The NPI crosses land associated with mineral leases near the Cooroy region of the Sunshine Coast Regional Council. Wherever possible, the NPI route would be situated to avoid clashes with mining activities.

Transport Infrastructure Act

The *Transport Infrastructure Act 1994* aims to provide a regime that allows for and encourages effective integrated planning and efficient management of a system of transport infrastructure. This infrastructure includes (state-controlled) roads, rail, ports and busways. However, applications for works near roads and rail are dealt with differently.

Works within state-controlled road reserves can be identified within Schedule 8 of the IPA, and require an 'ancillary works and encroachments permit' under the Act. Applications for such works are made under s. 12 of the Regulation. The NPI Stage 2 corridor crosses, and aligns within, several state-controlled roads throughout its entirety. All applicable permits will be sought from Department of Main Roads as required.

Works within rail corridors can be identified within Schedule 8 of the IPA, and therefore require a 'Wayleave Approval' and 'Licence to Enter and Construct'. At present, the NPI Stage 2 corridor intersects the North Coast Rail Line in two locations. These crossings will be constructed via a tunnelling method. The applicable approvals and resource entitlement will be sought from Queensland Rail and Queensland Transport respectively.

Electricity

Energex is the region's major electricity provider. Its easements are extensive, and the NPI Stage 2 route has attempted to maximise the use of these easements where practical in order to reduce potential social and environmental impacts caused by the clearing of a corridor. The CG has authority under s. 153B of the SDPWOA to use public utility easements and has entered into a co-use agreement with Energex to this effect. As such, no formal permits are required under the *Electricity Act 1994* and the IPA for works within or adjacent to electricity easements.

Fire and Rescue Service

Depending on the nature and volume of material stored as part of the NPI Stage 2, information may be required to be provided to Queensland Fire and Rescue Service (QFRS) in addition to the approval for an ERA required under the Environmental Protection Act (see above).

Dangerous Goods Safety Management

The *Dangerous Goods Safety Management Act 2001* establishes requirements for the safe storage and handling of dangerous goods and flammable liquids, and the safe operation of major hazard facilities. The NPI Stage 2 project will require the storage of flammable and combustible liquids