

# 1. Introduction

## 1.1 Project Proponent

North Queensland Bulk Ports Corporation Limited (NQBP) (formerly Ports Corporation of Queensland Limited) is the proponent for the Abbot Point Coal Terminal X110 Expansion: Infrastructure Development Project (the Project), which forms part of the greater X110 Expansion Project. NQBP is the responsible party for obtaining the relevant approvals to facilitate the development of the Project.

As of 1 July 2009, the Queensland Government restructured the Queensland Sea Port Network. A new company was formed, called North Queensland Bulk Ports Corporation (NQBP). NQBP is a Government Owned Corporation (GOC) and is the Port Authority for the ports of Abbot Point, Hay Point, Mackay, Weipa and Maryborough.

As a Government Owned Corporation, NQBP operates according to commercial principles, raises its own revenue and makes dividend payments to the Queensland Government. NQBP also has a number of statutory responsibilities inferred on it as a port authority for the ports it manages.

NQBP has an Environment Management System that is externally certified as compliant with the international standard AS/NZS ISO 14001: 2004. NQBP has an Environment Policy which covers all of its activities. A copy is provided in Appendix A.

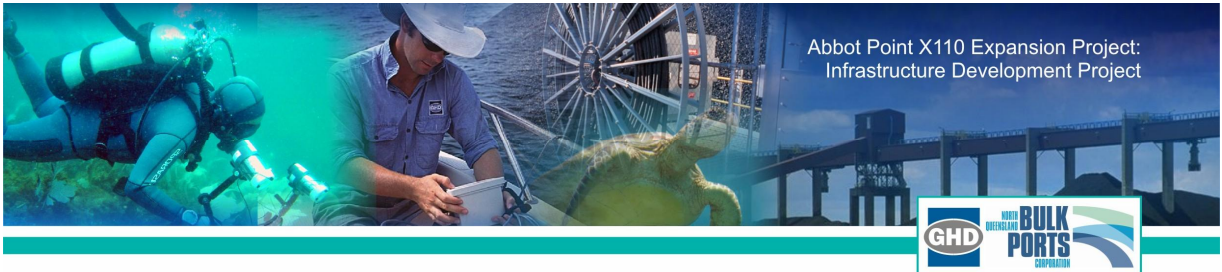
## 1.2 Environmental Assessment Scope and Objectives

The Abbot Point Coal Terminal X110 Expansion Project comprises two separate components, that is, the Apron and Berth Capital Dredging Project and the Infrastructure Development Project. The X110 Apron and Berth Capital Dredging Project involves the dredging of two new berth pockets and an associated apron area. This project is subject to a separate assessment which is currently being progressed.

The X110 Infrastructure Development Project involves the construction of offshore and onshore infrastructure associated with the expansion of the Abbot Point Coal Terminal (APCT). This draft Voluntary Environmental Assessment (VEA) is for the X110 Infrastructure Development Project and has been prepared for NQBP. Terms of Reference (ToR) for this environmental assessment were developed based on the outcomes of the Initial Advice Statement (IAS), the requirements of relevant government agencies and submissions from stakeholders and the community. A copy of the final ToR is attached in Appendix B. The approval process applicable to the Project is described in Section 1.4 and Section 2.

The objectives of the environmental assessment are to:

- » to provide information on the proposal and development process to the community and decision makers;
- » to comprehensively identify and evaluate all relevant issues associated with the proposal;
- » to identify all potential environmental, cultural and social impacts of the proposal and recommend construction and operational measures required to minimise or compensate for adverse impacts and enhanced benefits;
- » to consult with the community and relevant stakeholders in the process of identifying, assessing and responding to the impacts of the proposal;



- » to identify all necessary planning, environmental approvals and licences; and
- » to provide input to the approval agencies' decision-making processes.

The implications of not proceeding with the project are detailed in Section 1.3.7.

NQBP are currently undertaking the X50 Expansion which involves onshore expansion of the coal stockpiles and offshore expansion of a second berth. The expansion will result in an increase of the coal terminal capacity to 50 million tonnes per annum (Mtpa). An environmental impact assessment for this project was conducted by NQBP and approved with Commonwealth and State conditions.

As a separate project, NQBP are also currently investigating options for the development of a sheltered harbour at the Port of Abbot Point. The proposed Abbot Point Multi Cargo Facility (MCF) involves the development (in stages) of a 12 berth sheltered port to facilitate the import and export of bulk resources. The MCF was determined to be a controlled action by the Department of the Environment, Water, Heritage and the Arts (DEWHA) and is being assessed by an environmental impact statement under the provisions of the *Environment Protection and Biodiversity Act 1999* (EPBC Act).

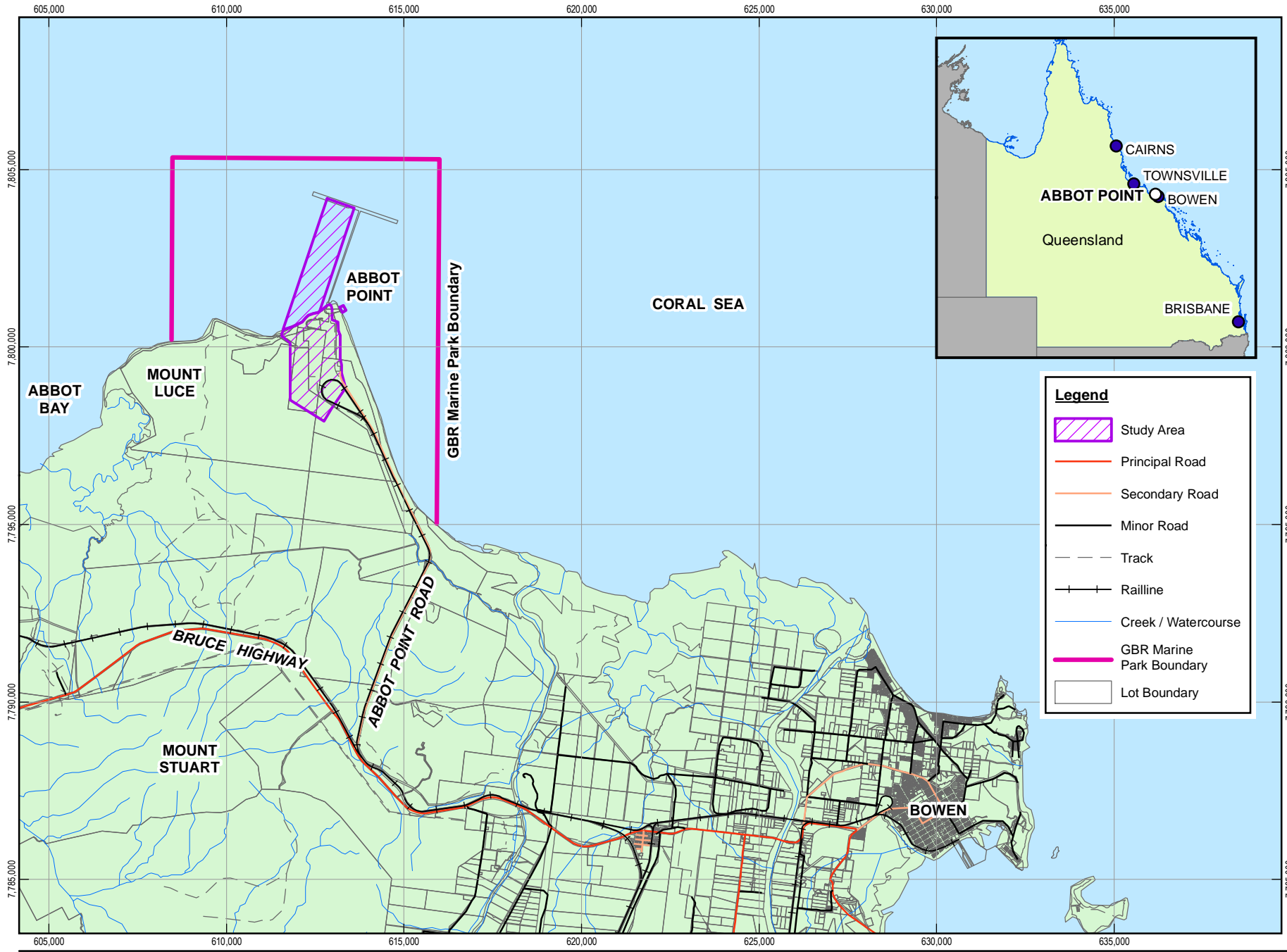
## 1.3 Project Overview

### 1.3.1 Location










As shown in Figure 1-1, Abbot Point is located approximately 25 kilometres (km) north of Bowen on the Central Queensland Coast. It is a strategic asset to Queensland, due to the large tracts of land available for industrial development, its remote location and access to a deep water port. The current Port is purpose-designed for the export of coal with the Abbot Point Coal Terminal (APCT) and the tug berths in Bowen being the only facilities at the Port.

The Port limits, as defined in the *Transport Infrastructure Act 1994*, extend from Abbot Bay (to the west) to Gloucester Head (to the southeast). The Port is wholly contained within the Great Barrier Reef World Heritage Area.

The existing berth facilities are located approximately 2.8 km off-shore. Port limits overlap with the Great Barrier Reef Marine Park (GBRMP), but the area surrounding the offshore jetty and berth is excluded from the Marine Park.

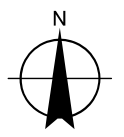


**Legend**

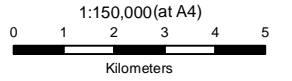
-  Study Area
-  Principal Road
-  Secondary Road
-  Minor Road
-  Track
-  Railline
-  Creek / Watercourse
-  GBR Marine Park Boundary
-  Lot Boundary



# ABBOT POINT X110 EXPANSION



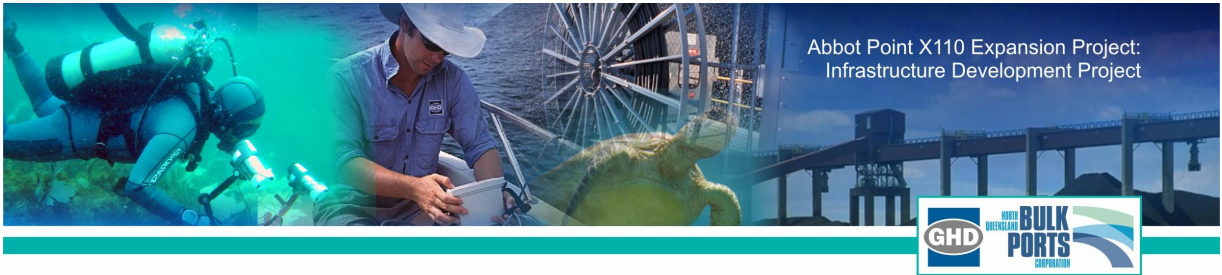
Job Number | 41-20175  
 Revision | B  
 Date | 06 OCT 2009



Map Projection: Universal Transverse Mercator  
 Horizontal Datum: Geocentric Datum of Australia (GDA)  
 Grid: Map Grid of Australia 1994, Zone 55

## LOCALITY MAP

FIGURE 1-1



### 1.3.2 Project Description

The APCT was initially built in 1984, with a coal export capacity of 15 Mtpa. The expansion of the terminal to 21 Mtpa (X21 Project) was completed at the end of 2007. In 2007, NQBP gained both State and Commonwealth environmental and planning approvals to expand the terminal to a capacity of 50 Mtpa. The proposed X110 Infrastructure Development Project includes both on-shore and off-shore development. It will expand APCT to 110 Mtpa. The key on-shore components include (refer Figure 1-2):

- » The development of two rail dump stations and in-loading conveyors from each to the stockyard;
- » Installation of new stockyard capacity involving up to 10 new bunds (10 stockpile rows);
- » Installation of up to 15 new stockyard machines, which will be stackers, reclaimers or combined stacker/reclaimers, chosen to optimise efficiency of the stockyard operations;
- » Installation of transfer towers, surge bins and sampling plant for the new stockyard;
- » Potential installation of additional fuel facilities for refuelling terminal vehicles and machinery;
- » Provision of cleared and level area for the lay down, storage and preparation of equipment for the construction phases;
- » Possible provision of a helipad for marine pilot transfers;
- » Operation of a number of Environmentally Relevant Activities during the construction stages, which (refer Table 2-1).

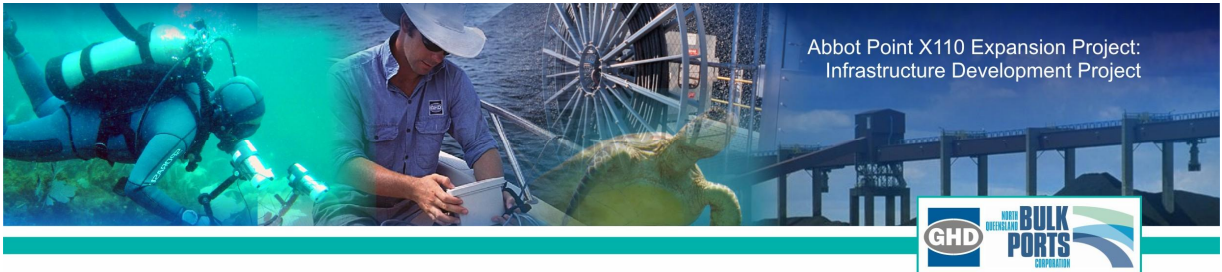
Two additional rail loops will also be developed within the Port as part of expansion. This work will be subject to a separate assessment and approvals process by the proponent of the rail infrastructure, Queensland Rail.

New power supply will be required, but this work will be subject to a separate assessment and approvals process by the energy network supplier.

The key off-shore components of the X110 project include (refer Figure 1-2):

- » Installation of a second off-shore jetty structure to the west of the existing off-shore structures, with two out-loading conveyors to take product to the offshore berths.
- » Installation of two new offshore wharf/berth structures with two new ship-loaders on the new berths. The marine structures are expected to be piled structures, similar to the existing structures, however, the type of structure will be reviewed to ensure the most economic design.
- » Extension of the service jetty structure (to the east of the terminal).
- » Upgrade of the existing construction wharf or new temporary wharf for construction.

Prior to the construction of the new offshore wharf structures, the berth pockets and associated apron area need to be dredged, with material proposed to be relocated to the existing offshore disposal site. Onshore disposal is also being investigated. This work is defined as the X110 Apron and Berth Capital Dredging Project and does not form part of the aforementioned X110 Infrastructure Development Project scope of works. The dredging project is subject to a separate assessment process by both the State and Commonwealth.



The total cost for expanding APCT from 50 Mtpa to 110 Mtpa is expected to be approximately \$3.6 billion plus financing costs.

### 1.3.3 Project Need

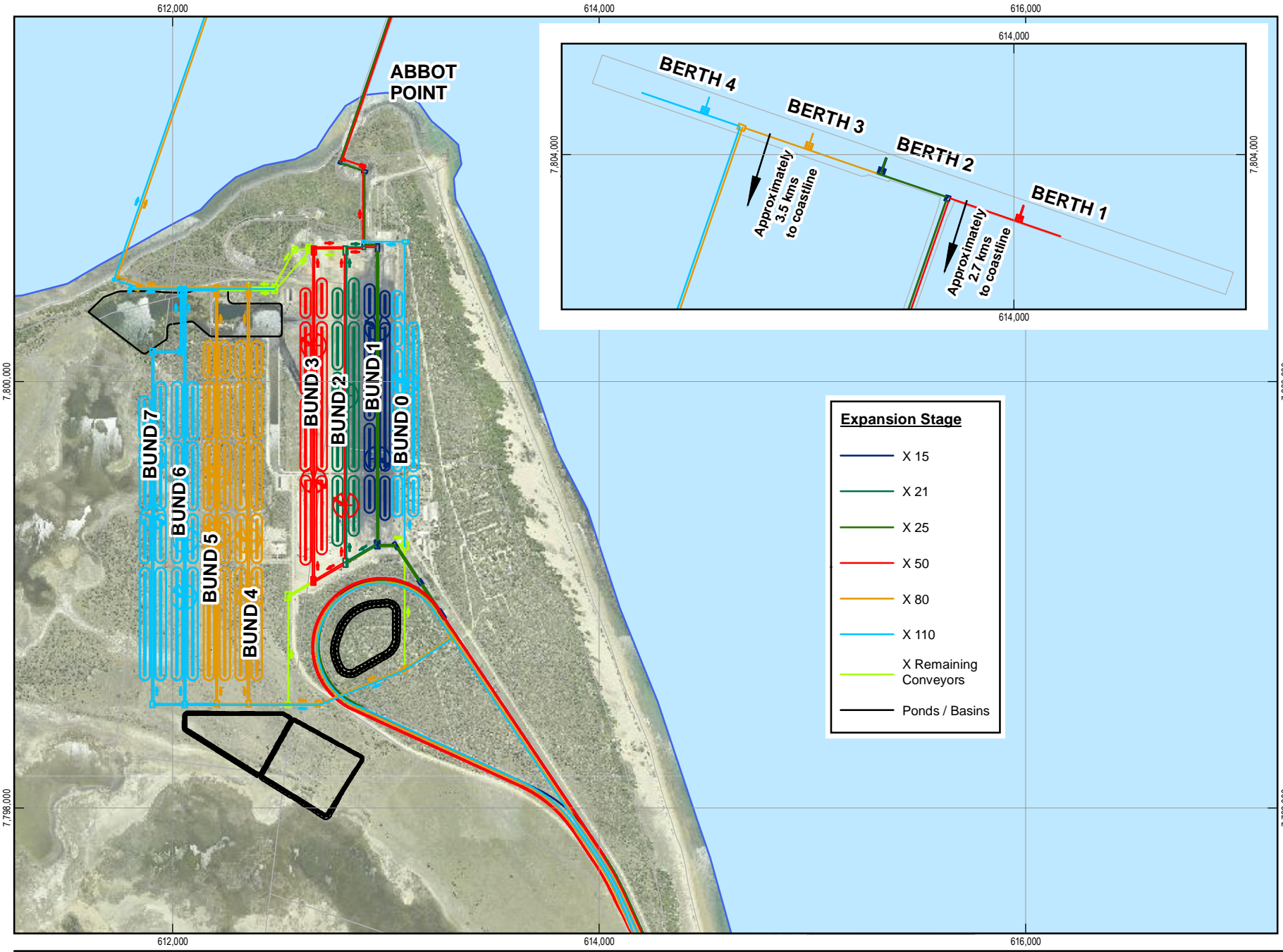
Coal is considered to be Queensland's most valuable export earner, representing about 30 % of Queensland's export of goods by value (DNRM 2005). There has been a very strong growth in demand for coal exports from Australia due to the industrial growth of China and India. Coal mines in Queensland's Bowen Basin are increasing their production levels to meet this customer need and require port infrastructure to export their product. New mines are being considered for the Galilee Basin, which is further west. Coal terminal expansions have recently occurred or are being studied in the ports of Hay Point, Gladstone and Abbot Point. All of these expansions are required to meet the predicted future export needs of the Queensland coal mines.

The demand for coal exports through Abbot Point comes primarily from the need for coking coal used in the manufacture of steel and also thermal coal requirements to supply increasing electricity demands of these countries. Exports of iron ore from Western Australia are expected to increase significantly in coming years to meet steel production increases in these countries, which will continue to support a strong coking coal market for many more years.

The Port of Abbot Point has been identified as a key export port for coal from the northern Bowen Basin, as well as new mines that may be built in the Galilee Basin. The main type of coal currently exported from Abbot Point is the higher value coking coal, which is used in conjunction with iron ore as an ingredient in the manufacture of steel. The Port of Abbot Point is close to the mines, yet is well distanced from residential communities, enabling storage and export of coal to occur without significant community impacts.

Queensland Rail's (QR) proposed Northern Missing Rail Link will open up the Port of Abbot Point to mines in the northern Bowen Basin coal fields. This proposed new rail link will also allow development of new mines that previously were not viable without rail and port connections.

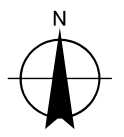
The APCT is currently undergoing an expansion from 21 Mtpa to 50 Mtpa. However, NQBP has received further requests for exports in excess of 50 Mtpa and is now seeking the environmental approvals for an expansion to 110 Mtpa in stages.



CLIENTS | PEOPLE | PERFORMANCE

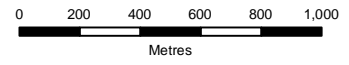


**ABBOT POINT  
X110  
EXPANSION**



Job Number | 41-20175  
Revision | B  
Date | 06 OCT 2009

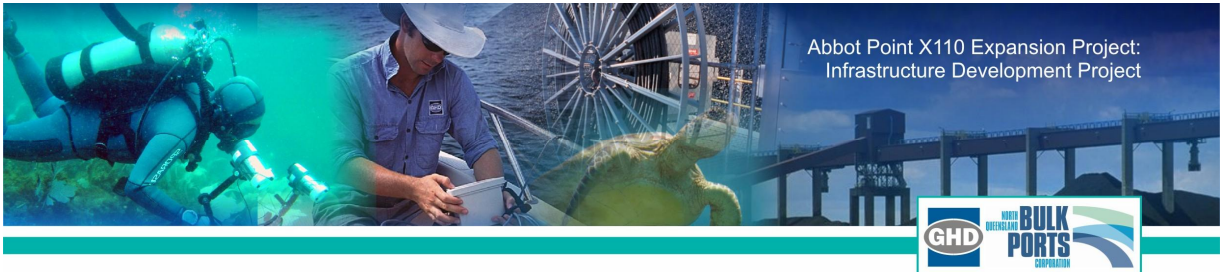
1:25,000 (at A4)



Map Projection: Universal Transverse Mercator  
Horizontal Datum: Geocentric Datum of Australia (GDA)  
Grid: Map Grid of Australia 1994, Zone 55

**GENERAL LOCATION  
OF  
INFRASTRUCTURE  
DEVELOPMENT**

**FIGURE 1-2**



#### 1.3.4 Project Benefits

The most important benefit from this expansion will be the significant economic boost that the project will bring to the State and to the Bowen region.

The expansion of APCT is required to meet the export needs of coal mines in the northern Bowen Basin coalfields and potentially the Galilee Basin. An economic impact study (PCQ 2008) showed that on average, each ship visit to the Port of Abbot Point provided the following benefits:

- » \$1,033,000 of output for Queensland;
- » \$475,000 of value added;
- » \$187,000 of household income; and
- » 3.5 full-time equivalent jobs for one year.

The expansion from 50 Mtpa to 110 Mtpa would involve around an extra 660 ship visits per year, creating the following predicted benefits from the port operations alone:

- » \$660 million of revenue;
- » \$313 million of value added;
- » \$123 million of value added; and
- » Up to 2,300 full time equivalent jobs (direct and indirect) when the terminal is operating at 110 Mtpa.
- » Up to \$739 million/annum in royalties to the State of Queensland.

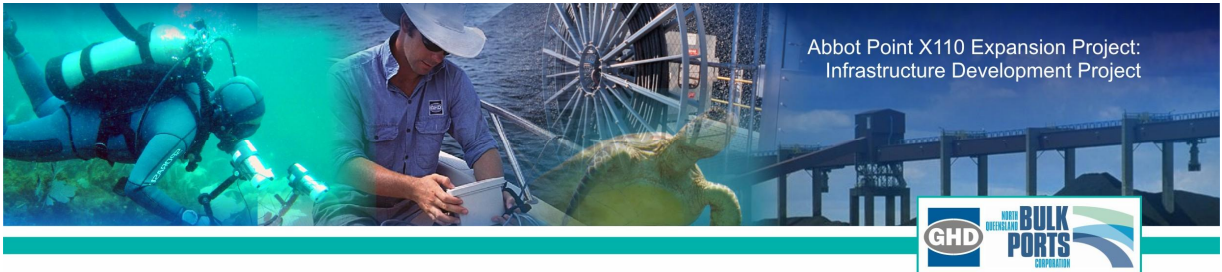
This excludes the additional benefits from coal mine operations, rail operation and revenue from the sale of the coal. Revenue from the sale of 60 Mtpa of coal is \$ 4 billion to \$10 billion based on 2009 prices.

The value added refers to the difference between the total revenue of a firm and the cost of bought-in materials, services and components. In other words, it represents payments to the primary inputs of production (labour, capital and land) and can be used to describe the contribution of an industry to gross domestic (State) product (EconSearch, 2008).

Unemployment in Bowen has been running at high levels due to lack of large businesses and industry in the area. The Abbot Point Coal Terminal is one of the larger employers of Bowen residents and the boost in terminal employment will provide a major long term benefit to Bowen.

With a construction cost of \$3.6 billion plus financing costs, the greater X110 Expansion Project construction is expected to generate over 200,000 man weeks of employment. The predicted peak construction workforce at Abbot Point is expected to be over 600 locally, with additional significant numbers employed in the regional manufacturing areas of Mackay and Townsville. Construction will be carried out in two stages (X80 and X110), with the total construction period being around five years.

Based on predictions from the EIS for an expansion to 50 Mtpa (WBM 2006), the operating and maintenance workforce at the terminal could also increase by over 100 people for the expansion from 50 Mtpa to 110 Mtpa. The current terminal workforce is 91 and the X50 expansion underway will increase the operating workforce to around 180, with X110 taking the terminal workforce to 280.



### 1.3.5 Project Timing

As outlined above, the Abbot Point Coal Terminal X110 Expansion comprises two separate projects, that is, the X110 Apron and Berth Capital Dredging Project and the X110 Infrastructure Development Project. In order to achieve construction and operational milestones, it was necessary to separate the two projects in terms of approvals and capital work timeframes.

Dredging of the berth pockets and associated apron area, and relocation of dredged material to either the existing offshore spoil ground or to an on-shore location is proposed to be undertaken during April – October 2010. This window avoids the turtle nesting season and also the wet season.

Dredging during the 2010 window is necessary to allow offshore construction works for the X110 Infrastructure Development Project to commence in late 2010/early 2011 as currently planned. Given the requirement to undertake the two components of the X110 Expansion works at different times, environmental studies, mitigation planning and assessment have been undertaken separately for the two projects. If customer demand for export capacity eases, commencement of the X110 works, including the dredging, could be deferred by a year or two.

Based on current customer demand information, it is expected that by mid-2013, the coal terminal will have a capacity of 80 Mtpa (i.e. expansion to X80) and that by mid-2015, expansion works to accommodate 110 Mtpa will be complete.

### 1.3.6 Project Location Alternatives

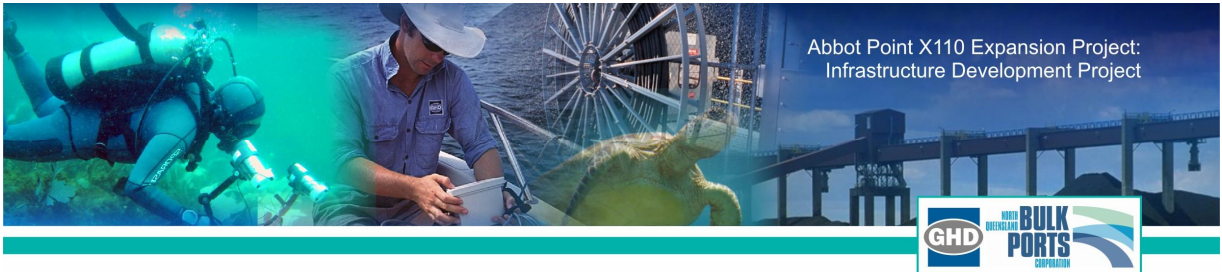
The Port of Abbot Point is the most northerly coal port in Australia. Alternative sites for handling the increased export demand for coal from the region are the Port of Hay Point, near Mackay and the Port of Gladstone.

The location of the Port of Abbot Point, proximate to the northern Bowen Basin coal mines, identifies it as the preferred port for future expansion to meet ongoing coal export demand. The Port is also less constrained in relation to surrounding land uses and distance from sensitive areas such as residential.

The Dalrymple Bay Coal Terminal in the Port of Hay Point has recently undergone expansion to increase throughput. The terminals in this port are heavily constrained on the land side and have residents living relatively close to the terminals, requiring significant work on dust mitigation as part of the expansions. Physical constraints at the port and the Goonyella to Hay Point rail system are driving infrastructure development costs. The Port of Hay Point presents less opportunity for major expansion, although options to expand are planned. For mines close to Abbot Point, APCT presents the preferred export option if rail access to the APCT can be provided at reasonable cost.

The development of the APCT is a means to reduce the overall pressure for expansions at Hay Point, as well as accommodate new mining projects proposed for development. The APCT is significantly less constrained physically than the Port of Hay Point, while its isolation from nearby residents presents a significant advantage in terms of minimising community impacts of the terminal operations (WBM 2005).

The Port of Gladstone is currently undergoing several major expansions and has proposals for a number of additional berths and stockpile areas to manage coal export, such as the Wiggins Island Project. Whilst not as constrained physically as the Port of Hay Point, the distance to Gladstone makes it less attractive for the export of the northern Bowen Basin coals. The increased haulage distance would have major implications for rail freight charges, which are normally based on a tonne/kilometre rate for coal



transported. This additional haulage distance would also have environmental implications and Gladstone may not be a viable alternative for the northern most coal mines in the Bowen Basin. Diverting more coal from either Hay Point or APCT to Gladstone would also significantly increase congestion on the rail line to Gladstone and move the need for terminal expansions to Gladstone (WBM 2005).

Expansion of the APCT brings much needed revenue and employment into the Bowen region, which has a greater need than for Gladstone or Mackay. The ability to export coal in significant quantities through APCT mitigates the risk of the bulk of Queensland coal exports going through just the Ports of Hay Point and Gladstone. This is an effective risk management strategy not only for coal mines, but also for the State of Queensland, which receives significant royalties from the coal exports.

### **1.3.7 The 'No-Project' Alternative**

The alternative of not proceeding with the expansion of APCT would see coal exports constrained due to a lack of capacity and a result, impact on the economy of the State of Queensland due the foregone benefits as listed in Section 1.3.4 and 4.17. Expansion of APCT will only proceed if there is sufficient committed customer demand and only if the expansion is economically viable.

### **1.3.8 Project Development Alternatives**

A number of options have been considered in the development of the proposed plan for the X110 Expansion Project. In particular, the layout of stockpiles has been reviewed on several occasions to minimise impact on areas of environmental value. Bund 0 (see Figure 1-2) was relocated further south and reduced in size to minimise impact on significant vegetation at the north eastern corner of the development area. The water balance for the operation of the X110 expansion has also undergone a number of iterations to improve water management and minimise the potential for impacts on the Caley Valley Wetland.

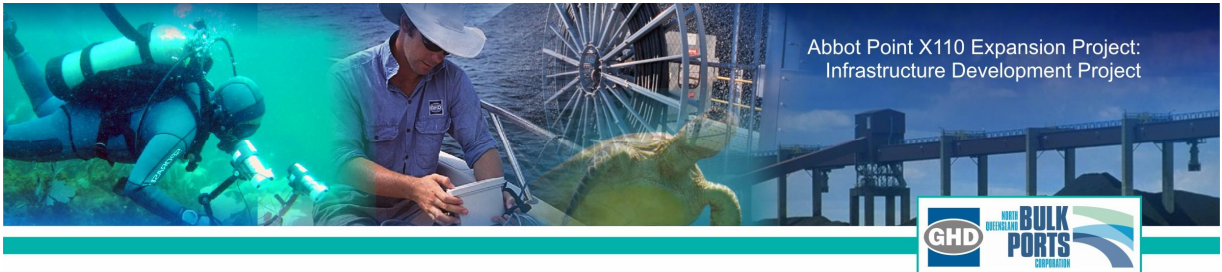
## **1.4 Voluntary Environmental Assessment Process**

### **1.4.1 Objectives of the Voluntary Environmental Assessment**

The aim of the VEA process is to identify potential beneficial and adverse impacts associated with the Project and to ensure that adverse impacts are avoided where possible. Where adverse impacts are unavoidable, they must be further investigated and addressed, so that the development is based on sound environmental protection and management criteria.

The objectives of the draft VEA are as follows:

- » to provide information on the proposal and development process to the community and decision makers;
- » to comprehensively identify and evaluate all relevant issues associated with the proposal;
- » to identify all potential environmental, social, cultural, transport and land use planning impacts of the Project and recommend design and operational measures required to minimise or compensate for adverse impacts and enhance benefits;
- » to consult with the community and relevant stakeholders in the process of identifying, assessing and responding to the impacts of the proposal;



- » to identify all necessary licences, planning and environmental approvals; and
- » to provide input to the decision-making process.

#### 1.4.2 Methodology of the Voluntary Environmental Assessment

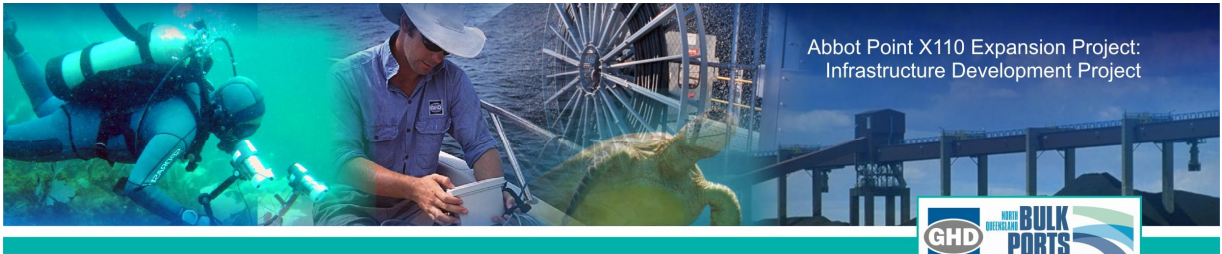
The proposed Project does not trigger the requirement for an Environmental Impact Statement (EIS) under relevant Commonwealth and State legislation (see Section 2). However, NQBP has elected to prepare a Voluntary Environmental Assessment (VEA) to accompany any approvals for the Project as detailed in Section 2.

The draft VEA provides:

- » a description of the development proposal and means of achieving the development objectives;
- » a framework against which decision-makers can consider the environmental aspects of the proposal and set conditions for approval to ensure environmentally sound development;
- » a description of the relevant aspects of the existing social, economic, natural and built environment;
- » definition and analysis of the likely impacts of the development on the environment;
- » definition of all significant impacts and measures proposed to mitigate adverse effects; and
- » recommendations on the need for, and contents of, any environmental management plans and/or operational plans to mitigate adverse effects.

The draft VEA has been developed in the following phases:

- » **Data Collection and Review:** This included collation of all available relevant data for the Project area from previous studies, specific to development at Abbot Point, or general studies within the region. New data was also collected where existing information was insufficient.
- » **Specialist Studies:** Several specialist studies were undertaken to provide input into the EIS. These included:
  - Hydrodynamic and water quality modelling;
  - Water quality monitoring;
  - Benthic survey of Abbot Point;
  - Flora and fauna assessment;
  - Social Impact Assessment; and
  - Economic Impact Assessment.
- » **Description of the Environment Values:** Based on the data collected and specialist studies conducted for the Project, a detailed description of the existing environment values, including the areas to be developed, was prepared. The purpose of this phase is to provide a baseline from which to determine potential impacts associated with the Project.
- » **Description of Potential Environmental Impacts:** The identification and quantification of potential impacts that may result from development of the Project is based on an analysis of known impacts associated with the proposed works, from previous knowledge and experience and the characteristics of the areas to be impacted. From this analysis, potential impacts can be identified and quantified



(where possible) and possible mitigation strategies developed where necessary to minimise the potential impacts.

- » **Development of the Environmental Management Plan:** The Environmental Management Plan details the implementation strategies for the development of the Project to minimise and mitigate potential impacts.

## 1.5 Public Consultation Process

Consultation with the Bowen community and other stakeholders is being undertaken under the guidance of a Community Consultation Plan (Appendix C). The overall purpose of the Community Consultation process is to enable opportunities for the Bowen community and other stakeholders to identify issues, impacts (potential or perceived) and mitigation measures of the Project and for these to be documented for consideration as part of the environmental assessment.

To date, consultation has included the following activities:

- » Establishment of a project website which included project documents such as the Initial Advice Statement (AIS), draft Terms of Reference (ToR) and newsletters;
- » Public notification of the draft ToR;
- » State and Commonwealth agency consultation meetings during the public notification period for the draft ToR;
- » Community information session held during the public notification period for the draft ToR;
- » Development of two community newsletters providing updates on the Project; and
- » Traditional Owner meetings during public notification period for the draft ToR and after Written Notice under the *Aboriginal Cultural Heritage Act 2003*.

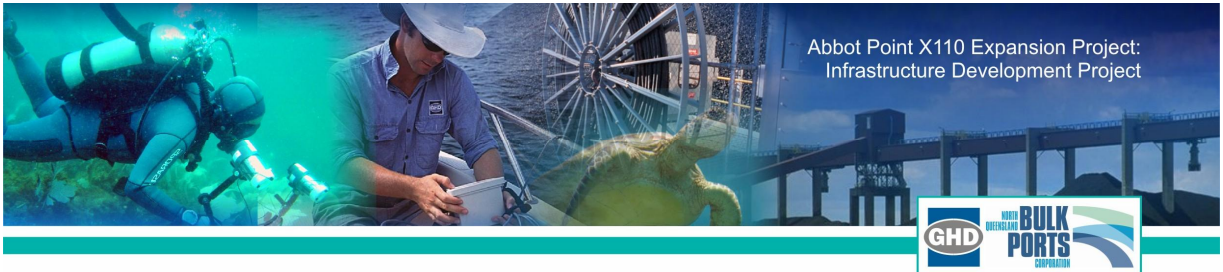
It is proposed that a second community information meeting be held during the public notification period of the draft VEA.

The public notification of the draft VEA will include an invitation to the community and stakeholders to make submissions in relation to the draft VEA. Each submission will be reviewed by NQBP and relevant changes incorporated in the development of the final VEA.

## 1.6 Overview of Legislative Process

On 18 November 2008, the Abbot Point Coal Terminal X110 Expansion: Infrastructure Development Project was declared to be a 'significant project for which an Environmental Impact Statement (EIS) is not required' under section 26(1)(b) of the *Queensland State Development and Public Works Organisation Act 1971* (SDPWO Act) by the Coordinator-General (CG).

Matters considered by the CG in making this declaration included information contained in an Initial Advice Statement (IAS), relevant planning schemes and policy frameworks, infrastructure impacts, employment opportunities, environmental effects, complexity of local, State and Commonwealth requirements, the level of investment and the Project's strategic significance. In making the declaration, the CG must also be satisfied that appropriate environmental assessments under another Act will be carried out in relation to the Project.



Having regard to the need for assessment to be carried out under another Act, NQBP made the decision to undertake a VEA to support all environmental and planning approval requirements under relevant State legislation.

The Project area is partly contained within the Abbot Point State Development Area (APSDA). The APSDA was declared by the Governor in Council and a development scheme approved on 19 June 2008. The declaration of the APSDA is a crucial component of the *Northern Economic Triangle Infrastructure Plan 2007-2012*, which is a Queensland Government commitment to establish Mount Isa, Townsville and Bowen as a triangle of mineral processing and industrial development.

All proposals within the APSDA must comply with the Development Scheme for the APSDA. Particular consideration should be given to addressing the objectives of the Development Scheme and the purpose/s of the relevant land use precinct/s, in the final VEA document. Development is managed through the APSDA Plan, which is administered by the Department of Infrastructure and Planning (DIP). Applications for material changes of use within the APSDA must be approved by the CG in accordance with the Development Scheme for the APSDA before construction can commence.

On 20 October 2008, the Australian Government Minister for the Environment, Water, Heritage and the Arts determined the Project a 'controlled action', which requires assessment and approval under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act). The controlling provisions are:

- » World Heritage area (sections 12 and 15A);
- » National Heritage places (section 15B and 15C);
- » Listed threatened species and communities (sections 18 and 18A);
- » Listed migratory species (sections 20 and 20A); and
- » Commonwealth marine (section 23 and 24A).

It was also determined that the Project should be assessed by Preliminary Documentation. A separate report has been prepared to address those issues identified by the Department of Environment, Water, Heritage and the Arts (DEWHA) and is attached as Appendix H.