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Prepared for:

Newcastle Port Corporation

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Preliminary Environmental Assessment: Proposed Port Terminal Facilities, Mayfield

Final

ENSR Australia Pty Ltd (ENSR)

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Distribution

Preliminary Environmental Assessment: Proposed Mayfield Port Terminal Facilities, Newcastle

18 February 2009

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1.0 Introduction

1.1 Background

ENSR Australia Pty Ltd (ENSR) has been engaged by Newcastle Port Corporation (NPC) to prepare this Preliminary Assessment for the proposed redevelopment of land in Mayfield along the South Arm of the Hunter River, Newcastle, for port related activities. The site is referred to as the Mayfield Port-Side Land and is proposed to be recognised as an area of State significance due to its critical location as a port facility for freight and cargo handling (as detailed in the recent Department of Planning's Three Ports study).

NPC intends to manage the redevelopment of the site, which was previously utilised in part by the former BHP Steelworks (known as the Closure Area). NPC has recently gained ownership of the port side land of the BHP Closure Area, while the Hunter Development Corporation (HDC) is managing the remainder of the Closure Area for redevelopment as an Industrial Estate. The proposed NPC redevelopment would facilitate upgraded port related activities and represents a complex and significant project which will require a number of important stages in an approval process.

Development consent has already been granted for remediation of contaminated land on the site and for part of the redevelopment proposal, being a Multi Purpose Terminal (MPT). However, NPC considers that a concept approval for the whole site will ensure a coordinated and environmentally sustainable approach to the significant development opportunity. A concept approval would provide a level of certainty, a framework and defined parameters for future development.

This Preliminary Assessment outlines the purpose for seeking concept approval for the Mayfield Port-Side Land and presents a summary of the anticipated environmental impacts that future development may incur.

1.2 Development Context

1.2.1 Ports Growth Plan

Newcastle is Australia's largest port in bulk terms and the world's largest coal exporting port. In 2006/07 the value of trade moved through the Port of Newcastle was $8.3 billion. Newcastle Port is expected to grow further through the implementation of the NSW Ports Growth Plan

Concept planning for the Newcastle Port was undertaken by the Department of Planning (DOP) Newcastle Regional office (previously DIPNR) in 2003, being the 'Newcastle Port Environs Concept Proposal'. That concept plan provides a strategic overview of the Newcastle Port Environs and identifies key developmental and environmental issues, categorising land areas for their potential use of either industry or conservation.

A core direction of the Ports Growth Plan is for the former BHP steelworks site at Newcastle Port to be secured for port use. When Port Botany reaches capacity, Newcastle is intended to be the State's next major container facility. This is supported by funding through the State Infrastructure Strategy Plan and by planning through the Lower Hunter Regional Strategy.

1.2.2 Proposed Planning Regime

The NSW government is proposing a planning regime for the three ports of Botany, Newcastle and Wollongong, that will provide for their expansion and preserve these areas for port related activities and industry. It is intended that greater certainty, through the proposed planning regimes, will equip industry and the community with the confidence to invest in the infrastructure required to maintain and expand port activities.

The Minister for Planning and Minister for Ports and Waterways consider the ports and related industrial land should be State significant sites, to be listed in Schedule 3 of State Environmental Planning Policy (Major Projects) 2005. The State significant site status would protect the ports and associated nearby transport corridors from encroaching residential and commercial land uses and spot rezonings. This proposal has recently been exhibited for public comment.

1.2.3 Role of the Newcastle Port Corporation (NPC)

In 2007, the former BHP Steelworks site, under the control of the Regional Land Management Council (RLMC), was transferred to the Hunter Development Corporation (an amalgamation between RLMC and the Honeysuckle Development Corporation). In December 2007, the Budget Committee of Cabinet (BCC) endorsed the principle that to facilitate the growth of the port, NPC should own and/or manage port related land in Newcastle. BCC approved the transfer of ownership of several parcels of land at the port to implement this policy (Department of Premier and Cabinet, 2007).

A land allocation process has commenced with a transfer of ownership of the some of the HDC lands to the NPC. Consolidation will see 470 hectares of land pass onto the NPC which includes the 90 hectares of waterfront land at the former BHP site at Mayfield. The adjacent Intertrade Industrial Park (IIP) will continue to be managed by the HDC with the intention to provide for development facilitating port related activities, logistics and distribution services as well as general industrial and commercial development. Proposals have been called for the land lease/sale of all or part of the remaining HDC IIP site. Buildev Intertrade Consortium Pty Ltd has been selected to redevelop over a third of the 150 hectare IIP.

The NPC is currently considering its long term options for the Mayfield Port Site land. The NPC is seeking to ensure the following:

- The port has sufficient berth sites, back up land and transport connections to accommodate the next major container facility in NSW, as well as to accommodate future and expanding bulk commodity needs including bulk liquids and cement; and
- The site at Mayfield is effectively planned for optimal use.

1.2.4 Current Projects

Planning for the Mayfield Port Site lands commenced with the closure of the BHP iron and steel making operations at the Steelworks Main Site. A remediation strategy and redevelopment proposal for the construction of a Multi Purpose Terminal (MPT) was proposed and an environmental impact statement (EIS) was prepared (URS, 2000) on behalf of BHP under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

Impact of the proposed site preparation and remediation activities within the Closure Area, together with the impacts of the construction and operation of a MPT along the waterfront were considered in the EIS. The design and operation of the MPT facility was in keeping with the framework provided by the NSW Ports Growth Plan and once constructed would provide for an increase in capacity for container and general cargo within the Port of Newcastle which would be of benefit to port capacity within NSW. The MPT is to be developed in stages being:

- Stage 1- a Container Terminal and General Cargo Handling Facility
- Stage 2 - a Bulk Handling Terminal.

Development consent for Stage 1 of the project was granted by the Minister for Planning April 2001 (DA293-08-00) subject to a number of conditions. Stage 1 includes:

- the remediation of the BHP Closure Area, including the demolition and removal of structures and
- the development of a MPT, comprising a container terminal and a general cargo handling facility and associated road, rail and wharf infrastructure; and
- dredging of the South Arm of the Hunter River.

The consent has been modified on numerous occasions with the most recent modification approved in 2008 to alter the alignment of the railway line and relocate two major stormwater drainage lines on the site.

The Closure Area priority remediation works commenced in May 2006 and are on schedule to be completed during 2008/9. The remainder of remediation works will be completed in line with development, by no later than 2012.

The conditions of the existing planning consent provide that Stage 2 requires a further approval from the Minister, through submission of further detailed information, as required by the Director General and other approving authorities.

The Stage 1 planning approval recognises a site concept layout plan, which identifies preferred generic port related activities. The NPC has adopted this plan as part of its marketing strategy, however there is no formal approval for the concept, nor is there a coordinated approach to development on the site.

1.2.5 Future Planning

According to NPC, as stated within the *Vision 2030 – A Strategic Development Plan for the Port of Newcastle*, the site will be dedicated predominately to containers, break bulk and Roll on - Roll off cargo (Ro Ro). There will also need to be provisions for bulk, including solid and liquids. The entirety of the waterfront may ultimately be required for berths. Road and rail freight infrastructure will be required service the site.

NPC is seeking to ensure the Mayfield Port-Side Lands are developed in accordance with the Ports Growth plan and the 2030 Vision, in a coordinated manner that promotes highest and best use of the site whilst minimising adverse impacts with interface activities, particularly nearby residential development. Future planning for the site should:

- consolidate the vision for the site as described by the:
  - ‘Ports Growth Plan’,
  - the Lower Hunter Regional Strategy,
  - the ‘Vision 2030 – A Strategic Development Plan for the Port of Newcastle’,
  - the ‘Newcastle Port Environs Concept Proposal’,
  - Intertrade master plan (RLMC); and
  - the Stage 1 Development consent;

- avoid a fragmented and ad hoc process which would threaten NPC's ability to manage the redevelopment of the site in an efficient and sustainable manner;
- set the base criteria for future project development
- respond to the complex interface issues;
- assist in providing certainty to prospective project applicants, and
- enable flexibility in long term development of the site

1.3 Approval Regime

Approval for the proposed port terminal facilities is sought under the *Environmental Planning and Assessment Act 1979* (EP&A Act), which provides the framework for the development assessment process in NSW. The proposed redevelopment is classified as a Major Project under *State Environmental Planning Policy (Major Projects) 2005* (SEPP 2005), and therefore requires assessment under Part 3A of the EP&A Act.

1.4 Purpose of Concept Approval

It is perceived that the most efficient means to secure the desired outcomes for the future development of the Mayfield Port-Side Lands for the purposes of Port terminal facilities, is to seek Ministerial Concept approval (under the provisions of SEPP 2005).

A Concept Plan represents a strategic overview of future works likely for the site. A Concept Approval can provide certainty for future activities to be established within a structured framework, allowing further time for detailed design and project planning. This approach is intended to provide agencies and the community with an understanding of where the future works may occur.

The assessment of environmental effects associated with the Concept Plan is based on a more strategic approach and deals with key issues only.

1.5 The Proponent

The Proponent of the proposed development is Newcastle Port Corporation, a State owned corporation whose primary function is to provide safe, effective and sustainable port operations at Newcastle and to deliver port development that enhances the economic growth of the Hunter Region and NSW.

1.6 Purpose of this Preliminary Assessment

This Preliminary Assessment forms the preliminary environmental assessment of the proposed concept. The purpose of the report is to provide the Minister with an outline of information and background environmental data on the site and the proposed concept, sufficient to establish the key environmental issues of significance and the level of environmental assessment required for the application.

1.7 Structure of the Report

To inform relevant government agencies and the local council of the scope of the project, such that the level and detail of environmental assessment required is understood, this Preliminary Assessment has been structured to provide information on broad areas as follows:

- Section 1 – provides a background to the concept, including information about the proponent;
- Section 2 – outlines a description and justification for the concept;
- Section 3 – describes the planning context, including the approvals required;
- Section 4 – details stakeholder consultation and involvement in the process;
- Section 5 – reports on the potential environmental implications and anticipated impacts;
- Section 6 – prioritises environmental issues for the EA; and
- on 7 – presents a summary of the findings and recommendations.

2.0 Concept Description

2.1 Location

The land proposed for port terminal facilities is located on the former BHP Steelworks site, approximately 7 km northwest of the Newcastle CBD comprising an area of approximately **90 ha,** as shown in **Figure 1**. The site is currently part of Lot 33 DP 1116571 (formerly Lot 3 DP 1032755).

The site is located within an existing industrial port area. Residential land uses are located in the nearby suburbs of Mayfield, Tighes Hill, Carrington and Stockton. The nearest residential receivers are located at Mayfield approximately 900 m from the site.

The land surrounding the site is predominantly used for industrial and port related activities including the following:

- North – Kooragang Island industrial area including Kooragang Island Berths, Port Waratah Kooragang coal loading terminal;
- West – Intertrade Industrial Park, OneSteel, Koppers Coal Tar Products;
- South – Port Waratah Carrington coal loading terminal; and
- East – Kooragang Island comprising of varied industry including ammonium nitrate production (Orica), alumina and coke unloading and storage facilities, fertiliser storage and despatch facility (Incitec Pivot).

2.2 Concept Outline

NPC will be seeking Ministerial Concept Approval for the proposed terminal facilities at the Mayfield Port-Side Land. The project will be described conceptually, and will include:

- A concept layout plan identifying the arrangement of port related land uses which includes:
  - existing approved container site;
  - bulk cargo facilities;
  - liquid berthing facilities;
  - other port related activities;
  - likely transport routes and interchanges; and
  - nominal berth locations.
- Representation of the potential best locations/interaction for activities nominated for the site, based on State and regional visions, market analysis, known and predicted infrastructure provision, and other barriers to development.
- Environmental interactions, known and predicted for the site and potential uses.
- Environmental performance criteria, based on environmental objectives and numerical standards to be met by future developments.

- Due to the long term development potential for the site and likely changing port technology a high level of flexibility is anticipated for the project. It is not possible to indicate a detailed subdivision of land on the subject site. Such a pattern will emerge and evolve as successive activities are attracted to the site one by one. Each incoming future activity will lodge a separate application in respect of its own needs such as its land and its building requirements, to fit within an overall framework determined by the environmental capacity of the whole site.

'Environmental Envelopes' are intended to identify the potential cumulative impact which the developed site will have on the local environment. Prior to seeking approval, individual activities proposing to locate within the Mayfield Port-Side Lands would need to demonstrate that its emission impacts will not likely cause any of the environmental criteria to be exceeded.

Environmental standards will be established by:

- market analysis to determine potential activities on the site (as supplied by NPC);
- the scale of potential development
- modelling (such as air quality and acoustic emissions modelling) for the various identified uses. These models will be based on examples of known data from existing similar activities; and
- Best practice guidelines

Key environmental issues will be addressed within the Environmental Assessment (EA) for the Concept Approval. In the future, it is intended that applicants for individual activities on the site will be required to demonstrate that other environmental and social impacts from the proposal are minimal. However, it will not be possible for the proposed development to proceed to that level of investigation if it does not meet with the requirements of the concept approval environmental envelope.

2.3 Other Options

2.3.1 Do Nothing

Under the current Development consent for the site there is the possibility for port related development to occur and for Stage 2 to proceed, with additional information required by the minister (as discussed in section 1.2.4). A broad based site layout plan describing 'precincts' has been developed for the site and utilised by both HDC and NPC in future planning for the area. However, under this arrangement the following impacts are likely to occur:

- ad hoc development,
- limited capacity for desirable interrelationships,
- minimising capacity for highest and best use,
- limited potential for best practice
- interface conflicts
- lack of certainty, limiting commitment to infrastructure provision and private investment in the site.

The do nothing approach will likely limit potential for development to respond to the State & nationally significant outcomes for the site.

2.3.2 Development Control Plan

The preparation of a Development Control Plan (DCP) for the site would support the intent of the proposed zoning provisions as outlined by the Three Ports study as well as identify preferred development standards and environmental criteria. While the environmental envelope approach could be utilised in a DCP, the following issues limit the opportunity for the site to be developed to its best and highest use in accordance with State objectives, due to:

- Lack of development certainty, therefore limits potential for investment and infrastructure provision in a timely manner.
- Development 'controls' are guidelines only – such controls can be manipulated.
- Development controls are open to interpretation by proponents and the court.
- DCPs are not usually based on detailed environmental investigations and assessments

2.4 Concept Justification

Seeking concept approval for the development of the site, which will set environmental criteria to be met by any future project, will enable the following:

- Entrenches future Vision for development, consistent with State and local strategies;
- Certainty but with flexibility for proposed future uses;
- Assists approval authorities by establishing predetermined environmental performance;
- Promotes Symbiotic interrelationships for development;
- Encourages 'best practice' development;
- Limits interface conflict; and
- Promotes social responsibility by limiting adverse environmental impact on community.

2.5 Potential Activities

The following activities are known to or may potentially occur at the site:

- Berthing facilities (up to 7 berths);
- NPC activities (may include an Operations Centre for all water and land side activities. This may include buildings, small wharf facilities and a heliport for marine pilot transfer. (This is not forecast for 5-10 years);
- Port handling, loading and cargo facilities for Ro Ro, break & bulk;
- Container terminal;
- Port related industries such as cement, biodiesel storage;
- Freight Rail Infrastructure, including loading/unloading; and
- Road infrastructure.

Adjacent to the site will be the proposed ITIP with port related industry and commercial development.

2.6 Justification of Site Location

The main advantages of the location are:

- The existing port infrastructure and availability of land close to berthing facilities;
- Easy access to locations throughout the Hunter Region from the port;
- Population growth;
- The growing industrial base; and
- supportive business development environment.

These advantages have been outlined in the Ports Growth Plan, the Three Ports Study and are recognised through the State Infrastructure Strategy.

3.0 Statutory Planning

3.1 Introduction

There are several levels of legislation and environmental planning instruments that need to be considered for this project. These include:

- Commonwealth matters;
- State matters, including the EP&A Act as well as State Environmental Planning Policies;
- Regional matters; and
- Local matters.

3.2 Commonwealth Matters

Actions that may significantly affect matters of National Environmental Significance (NES) require approval from the Commonwealth under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC). The EPBC Act lists seven matters of NES which are considered in the table below:

Table 1: Matters of NES considered in the EPBC Act

Matter of NES	Commentary
World Heritage properties	There are no World Heritage properties in the vicinity of the proposed project
National Heritage places	There are no National Heritage places in the vicinity of the proposed project
Ramsar wetlands of international significance	There is a Ramsar wetland within the vicinity of the proposal. However, the project is not anticipated to have a significant impact on the wetland.
Threatened species and ecological communities	No threatened plant species have been identified at the site. Four threatened fauna species have been recorded in the area. However, the proposal site has been highly modified and has very little habitat value.
Migratory species	There are migratory species associated with the Ramsar wetland.
Commonwealth marine area	There are no Commonwealth marine areas in the vicinity of the proposed project
Nuclear actions (including uranium mining)	This matter is not applicable to the proposed project

No matters of NES are considered to be applicable to the site and therefore the requirements of the EPBC Act in relation to NES are considered not relevant to the proposed activity.

The EPBC Act also requires Commonwealth approval for any activities that will, or are likely to have, a significant impact on Commonwealth land (Part 3, Division 2, section 26). The land on which the project will be constructed is not Commonwealth land. Nor is there any Commonwealth land within close proximity of the project which could be secondarily impacted by its construction or operation. As such, this section of the Act is not applicable.

3.3 State Matters

3.3.1 Environmental Planning and Assessment Act 1979

The EP&A Act and the EP&A Regulation provide the framework for environmental planning in NSW and include provisions to ensure that proposals which have the potential to impact the environment are subject to an appropriate level of assessment, and provide opportunity for public involvement.

The proposed redevelopment is classified as a Major Project to which Part 3A applies under *State Environmental Planning Policy (Major Projects) 2005* (SEPP 2005). Concept approval for the proposal is therefore sought under Part 3A of the EP&A Act.

3.3.2 State Environmental Planning Policy (Major Projects) 2005

SEPP 2005 identifies developments that are considered to be Major Projects under Part 3A of the EP&A Act 1979. The primary aim of SEPP 2005 is:

> *To identify development of economic, social or environmental significance to the State or regions of the State so as to provide a consistent and comprehensive assessment and decision making process for that development.*

Under the current planning regime applying to the site, port related facilities are provided as Major Projects under Schedule 1 include the following:

- Shipping berths or terminals or wharf-side facilities (and related infrastructure) that have a capital investment value of more than $30 million;
- Chemical/petroleum plants/storage that have a capital investment value of more than $20 million;
- Other industry that has a capital investment value of more than $30 million; and
- Freight terminals that have a capital investment value of more than $30 million.

The proposed project includes activities that fit within all the above categories. Hence the project is a candidate for declaration by the minister for Planning as a Major Project.

3.3.3 State Environmental Planning Policy (Infrastructure) 2007

The *State Environmental Planning Policy (Infrastructure) 2007* (SEPP 2007) consolidates and updates a range of previous State planning instruments which included infrastructure provisions. It also includes specific planning provisions and development controls for particular infrastructure works or facilities.

SEPP 2007 has specific planning provisions and development controls for port, wharf and boating facilities rail infrastructure facilities road and traffic facilities as detailed in Division 13,. This division details that development for port related facilities that can be permitted with and without consent and also identifies exempt and complying development. Some components of the project are likely to fall within the provisions of SEPP 2007

Schedule 3 of this SEPP provides the Roads and Traffic Authority (RTA) with the opportunity to provide feedback on certain traffic-generating developments before a consent authority makes a determination about a development application.

Schedule 3 lists types of development to which this policy applies, including:

> *Transport terminals, bulk stores, container depots or liquid fuel depots 8,000m2*
>
> *"industry" with a site size of 20,000 m^2 with access to any road or of 5,000 m^2 "with access to classified road or to road that connects to classified road (if access within 90m of connection, measured along alignment of connecting road)".*

The Environmental Assessment (EA) to be prepared for the proposed project would therefore assess the potential impacts of traffic on nearby RTA owned roads and the EA will be forwarded to the NSW RTA and Newcastle City Council (NCC) for comment.

3.3.4 State Environmental Planning Policy (SEPP) 33 - Hazardous and Offensive Development

SEPP 33 was designed to ensure that sufficient information is provided to consent authorities to determine whether a development is hazardous or offensive. The document *Applying SEPP 33 – Hazardous and Offensive Development Application Guidelines* (DUAP, 1994) provides guidelines to assist in the implementation SEPP 33. Developments considered to be potentially hazardous or offensive require a Preliminary Hazard Analysis (PHA) to be undertaken to identify and assess potential effects to both people and the environment.

The proposed redevelopment would be considered in the context of SEPP 33 potentially requiring the preparation of a PHA in accordance with SEPP 33.

3.3.5 State Environmental Planning Policy (SEPP) 55 – Remediation of Land

SEPP 55 promotes the remediation of contaminated land to reduce the risk of harm to human health or other environmental systems. Clause 7 of SEPP 55 requires a consent authority to consider whether the land is contaminated and whether it is suitable (or can be made suitable) for the proposed development.

The redevelopment site is currently being remediated in accordance with a previous development consent and voluntary remediation agreement under the *Contaminated Land Management Act 1997* (CLM Act). The potential impact of contamination will be assessed as part of the EA.

3.3.6 State Environmental Planning Policy (SEPP) 71 – Coastal Protection

SEPP 71 aims to ensure that development in the NSW coastal zone is appropriate and suitably located, so that there is a consistent and strategic approach to coastal planning and management, and to ensure a clear development assessment framework for the coastal zone.

Clause 4 stipulates land to which SEPP 71 applies, being land which is within the coastal zone. The site is situated in the coastal zone, as defined under the *NSW Coastal Protection Act 1979,* therefore the provisions of SEPP 71 apply.

3.3.7 Ports and Maritime Administration Act 1995

The *Ports and Maritime Administration Act 1995* (PMA Act) established the three state-owned Port Corporations, including NPC, and the Maritime Authority of NSW (NSW Maritime). The PMA Act sets out the objectives and functions of Sydney, Newcastle and Port Kembla Port Corporations.

The PMA Act states that a Port Corporation may:

- Provide facilities or services that are ancillary or incidental to its principal functions; and
- Conduct any business (whether or not related to its principal functions) that it considers will further its objectives.

The proposed redevelopment is consistent with the objectives of the PMA Act.

3.4 Regional Matters

The Regional Environmental Plan of relevance to the subject site is the *Hunter Regional Environmental Plan 1989* (Hunter REP).

Part 5 (Division 2) of Hunter REP states objectives relating to planning strategies concerning ports. The objectives primarily relate to the provision of adequate infrastructure to allow efficient operation of the Port of Newcastle with minimal impact to the environment.

The objective of Part 7 (Division 1) of the Hunter REP is to control development such that air, noise and water pollution are minimised. Therefore, the proposed project would need to satisfy surrounding threshold limits for air, noise and water pollution. The project will be assessed in terms of the objectives of the REP.

3.5 Local Matters

The area of the proposed project is located within the Newcastle Local Government Area (LGA), and is subject to the provisions of the *Newcastle Local Environmental Plan 2003* (LEP 2003). The proposed redevelopment is located within the 4(b) Port and Industry Zone. The objectives of the 4(b) zone relate to the accommodation of port and related industries requiring waterfront access and distance separation from sensitive land uses. The project is permissible within the zone.

The State Significant Site Planning Proposal incorporates a proposed zoning regime under which two zones are proposed – SP1 – Special Activities (Port Industry) and IN1 – General Industrial. The redevelopment site would be zoned SP1 – Special Activities (Port Industry). The proposed planning regime also incorporates a transitional area between Industrial Drive and the proposed redevelopment site which would permit port related commercial land uses, and act as a buffer between port related land uses and residential areas. The State Significant Site status will also ensure land uses which are incompatible to port industries do not encroach into these significant industrial areas.

3.6 Other Approvals Required

3.6.1 Protection of the Environment Operations Act 1997

The Protection of the Environment Operations Act 1997 (POEO Act) prohibits any person from causing pollution of waters or air, and provides penalties for air, water and noise pollution offences.

Chapter 3 of the POEO Act contains provisions relating to requirements for Environment Protection Licences (EPLs) for activities licensed by the Environment Protection Authority (now part of DECC). EPL 1708 currently applies to a portion of the site, and permits the treatment of contaminated soil.

It is unlikely that the Concept Plan will require an EPL. However, individual operators are likely to require there own EPLs for the site.

3.6.2 Roads Act 1993

Any new access roads to the site will require permits under the *Roads Act 1993.* It is likely that the two existing entry routes will be utilised. Selwyn Street will provide an acces route to the facility, while Ingall St / Steelworks Road will enable access to the proposed Bulk Liquids Precinct. There is unlikely to be any new access points from Industrial Drive.

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4.0 Consultation

The EA would be prepared in accordance with Part 3A of the EP&A Act and the EP&A Regulation. Part 3A of the EP&A Act ensures that the potential environmental effects of a proposal are properly assessed and considered in the decision making process.

In preparing the EA, the requirements of the Director-General would be addressed as required by Clause 75F of the EP&A Act.

Consultation with the relevant government and non-government agencies and stakeholders as well as the local community would form part of the EA process. The following agencies and stakeholders would be included in the consultation process:

- Department of Planning;
- Department of Environment and Climate Change;
- Department of Water and Energy;
- Newcastle City Council;
- Roads and Traffic Authority, NSW;
- WorkCover NSW;
- NSW Fire Brigade;
- Local Community (Stockton Community Group, Mayfield Community Consultative Committee)
- Industrial neighbours, including OneSteel;
- Rail (Australian Rail Track Corporation)
- Hunter Development Corporation;
- NSW Health;
- Maritime; and
- Other Port Authorities (Sydney/Wollongong).

It is likely that further relevant agencies and stakeholders would be identified during the preparation of the EA and consultation would be undertaken accordingly.

The primary purpose of this consultation would be:

- to provide an overview of the project to relevant agencies, stakeholders and the community;
- to seek local knowledge to assist with community consultation in the area; and
- to seek input into matters stakeholders would like to see addressed in the EA.

Comments from relevant statutory agencies are likely to be sought by DoP to assist with the preparation of the Director-General's Environmental Assessment Requirements (EARs) and during public exhibition of the EA.

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5.0 Potential Environmental Effects

5.1 Physical and Pollution Effects

5.1.1 Air Quality

Air quality in Newcastle is dominated by motor vehicle emissions, but is also affected by the major industry located around the port area. Local sources of air emissions include the Orica and Incitec plants, and the Tomago aluminium smelter. Additional pollutant sources include dust emissions from the coal and grain terminals, and odour from seed processing.

The pollutants of prime concern in the Newcastle LGA include particulate matter (measured as PM_{10}) and photochemical smog (primarily ozone), with levels of these pollutants approaching or exceeding the national standards prescribed in the National Environment Protection Measure for Ambient Air Quality (NEPM), on occasion. Pollutant levels in Newcastle, however, are generally acceptable, with few exceedances noted (NSW State of the Environment 2006, DEC).

The Newcastle Air Inventory Report (NAIR) (Newcastle City Council, 2004) identifies significant sources of air pollutants in the Newcastle LGA, and groups significant sources of air emissions on the basis of land use, major industrial point sources (i.e. industrial facilities reporting emissions to the National Pollutant Inventory (NPI)) and mobile sources (road, rail and marine transport emissions). Of the pollutants of prime concern in Newcastle, the NAIR estimated that approximately 72% of all industrial PM_{10} emissions, and 52% of the total PM_{10} emissions from all sources, were attributable to industrial point sources during the 2000-01 reporting period used for the study. Primary contributors to PM_{10} were OneSteel Bar and Rod operations at Mayfield and Orica operations at Kooragang Island.

The Vision 2030 – A Strategic Development Plan for the Port of Newcastle identified likely port-related land uses for the site including containers, break bulk, roll on/roll off cargo and solid and liquid bulk. The Concept Plan would provide detail on potential types of development on the site, and likely air emissions that could potentially affect air quality surrounding the site. An air quality assessment would be undertaken for the Concept Plan, which would consider the existing land uses surrounding the site, location and proximity of sensitive receivers and existing ambient air quality.

Air quality modelling would be carried out using a range of hypothetical scenarios based on potential future land uses to determine maximum emission levels that could be emitted from the site without significantly impacting nearby sensitive receivers. Based on this modelling, a set of air quality criteria would be developed for the redevelopment area, as well as each precinct based on potential future land use. Criteria would then be applied to potential future developments on the site.

Future development within each of the precincts would be required to demonstrate compliance with criteria developed as part of the Concept Plan, which would take into consideration cumulative air quality impacts with other land uses on the redevelopment site, as well as cumulative impacts associated with industrial land uses in the vicinity of the site. This could be measured through ongoing operational monitoring at emission points, as well as air quality testing following commencement of operations at the site to verify emission levels.

5.1.2 Noise

The acoustic environment of existing residential areas in the vicinity of the site has been studied extensively as part of the assessment process for other major industrial projects. The recent noise monitoring program undertaken as part of a noise assessment for the proposed third coal loader on Kooragang Island (Resource Strategies, 2006) described the existing noise environment of the residential and industrial areas surrounding the port. Acoustic environments at sensitive receivers in the vicinity of the redevelopment site are currently influenced by industrial land uses, however noise levels are generally below acceptable criteria.

Sensitive receivers with the potential to be adversely impacted by noise from development on the NPC site include residential receivers in Mayfield, Mayfield West and Carrington. Given the proximity of the site to residential areas, and the existing and proposed industrial land uses in the area, noise impacts from future potential land uses require consideration in a cumulative context, both from a site-wide perspective as well as on a precinct by precinct basis.

An assessment of existing noise levels would be undertaken as part of the Concept Plan to determine ambient noise levels at sensitive receivers. Noise emissions from potential land uses for each of the precincts would be modelled based on a range of potential operational scenarios using typical noise emissions for each respective type of activities. Potential cumulative noise emissions from the whole redevelopment site would be calculated and assessed in the context of noise emissions from existing and approved industrial developments proximate to the redevelopment site.

Based on the cumulative impact assessment for hypothetical land use scenarios for each of the precincts, a set of noise criteria would then be developed based on maximum L_{eq} noise levels, which would represent the maximum allowable noise contribution from each activity and from the whole site as a single entity. The criteria could then be applied to future proposed land uses in each of the precincts during the Project Approval stage. The application of these criteria would not preclude different types of development, but would allow a range of land uses within each precinct as long as it could be demonstrated that the development could achieve the criteria.

5.1.3 Hazard and Risk

The redevelopment site is situated within an existing industrial area predominantly surrounded by residential land uses. Given the proximity of the site to sensitive land uses, and the predominantly industrial and port related nature of land uses expected to occupy each of the redevelopment precincts, an assessment of hazards and risks associated with future land uses would likely be required in accordance with *State Environmental Planning Policy 33 – Hazardous and Offensive Development* (SEPP 33).

SEPP 33 requires that a Preliminary Hazard Analysis (PHA) is undertaken where a development is deemed to be potentially hazardous. The purpose of the PHA is to:

- Identify all potential hazards associated with a proposal;
- Analyse all hazards in terms of their consequences (effects) to people and the biophysical environment and their likelihood of occurrence;
- Quantify the analysis and estimate the resultant risks to surrounding land uses and the environment; and
- Assess the risks in terms of the location, land use planning implications and existing criteria and ensure that the proposed safeguards are adequate and thus demonstrate that the operation will not impose an unacceptable level of risk.

The preparation of a PHA is project specific and requires quantitative information about processes undertaken on a site, types and quantities of hazardous or dangerous goods stored and proximity to site boundaries, and proximity to other potentially hazardous activities and sensitive receivers. As this proposal is for a Concept Plan, the final land use and therefore the parameters required to undertake a PHA are not known at this stage of the redevelopment.

The Concept Plan would incorporate a qualitative assessment of potential hazards associated with land use precincts. In 2007 the DoP released the *Hazardous Industry Planning Advisory Paper No 10: Land Use Safety Planning (Consultation Draft)* (DoP, 2007) (HIPAP 10). HIPAP 10 provides qualitative risk criteria for use in land use safety planning which would be considered in respect of potential land uses within each of the redevelopment precincts. The qualitative assessment would identify potential hazards, appropriate assessment criteria, nearby sensitive receivers, and proximity of site boundaries to sensitive receivers.

The qualitative assessment would inform subsequent project approvals for development within respective land use precincts at the site.

5.1.4 Water Quality

The EIS prepared for the remediation and MPT established that the steel making operations at the former BHP Steelworks resulted in the discharge of surface water runoff (stormwater) and process waters to the Hunter River, and that the discharge of stormwater also provided a mechanism for the release of contaminated suspended sediments to the river.

Following the closure of the BHP Steelworks, the discharge of contaminated process waters was eliminated as a source of contamination. The proposed works that formed part of the remediation and MPT at the site included decommissioning of the existing site drainage, and installation of an upgraded stormwater management system to effectively control discharge of contaminated suspended sediments and stormwater.

Groundwater quality was assessed as part of the EIS prepared for the remediation and MPT, which identified elevated concentrations in some areas of PAHs, and lower concentrations of phenolic compounds and BTEX. While some of these areas discharged directly to the Hunter River, the EIS stated that following closure of operations at the site, the continued discharge of groundwater would not be expected to have an adverse effect on the surrounding environment.

The Concept Plan for the proposed redevelopment would include an assessment of existing surface water and groundwater conditions and stormwater management at the site, and would determine a set of water quality criteria based on ANZECC guidelines that would apply to future land uses within each of the precincts on the site. Operators of future land uses would need to comply with the criteria derived in the Concept Plan, as well as relevant DECC and Hunter Water Corporation requirements with respect to process and other water discharges from the site.

5.1.5 Geology and Soils

The site of the proposed development is situated on land comprising part of the former BHP Steelworks. Soils in the area are highly disturbed and are characterised by fill material underlain by marine and estuarine sediments. There has been extensive investigation of this area, and a remediation program in accordance with a voluntary remediation agreement (VRA) is currently being undertaken on parts of the site. The remediation program involves the regrading and capping of the site to provide a physical barrier which minimises the potential for human contact with contaminated materials.

Specifically, the remediation program includes construction of a subterranean barrier wall on part of the site, recontouring and capping, management of onsite drainage, and environmental works to reduce groundwater recharge and control sediments in stormwater runoff. The DECC has appointed an Auditor to the site who is responsible for ensuring the remediation works are undertaken in a manner consistent with the outcomes of the program, and to an extent that ensures the site is suitable for the planned future land uses on the site so as to minimise risk of harm to people and the environment.

The Concept Plan would provide an assessment of the completed remediation works in respect of the proposed land uses to ensure that the level of remediation is consistent with the proposed future activities on the site. The Concept Plan would also identify a management framework to ensure that construction and operation of future land use activities are managed in order to minimise potential impacts to geology and soils.

5.2 Biological Effects

5.2.1 Ecology

The redevelopment site is located within 5 km of the Kooragang Island Nature Reserve, which forms part of the Ramsar listed Hunter Estuary Wetlands. The wetlands are an important area for migratory and Australasian wetland species, including species protected under international treaties and State and Commonwealth legislation.

The proposed project is unlikely to have a significant effect on native flora and fauna. The site is already highly modified and, as such, contains little habitat value for native species. The proposed redevelopment is unlikely to affect the Kooragang Nature Reserve or other native flora and fauna in the areas surrounding the site.

5.3 Community Effects

5.3.1 Social and Economic

The proposed project would generate positive economic benefits for Newcastle and the Hunter Region through the significant capital investment and establishment of port infrastructure. The facility will support the development and growth of the Hunter region, and fits with the Regional Economic Development Strategy, by:

- Providing key infrastructure for the region, indirectly strengthening employment opportunities;
- Stimulating business growth and development through the cost-effective supply of fuel and biofuels;
- Creating port infrastructure that reinforces the region as a strategic eastern seaboard gateway; and
- Making the Hunter Region a more environmentally sustainable trading hub by placing fuels storage closer to the end user, thereby reducing the amount trucked from Sydney and lowering overall supply chain costs.

5.3.2 Heritage and Cultural

A heritage assessment was undertaken for the redevelopment during the preparation of the EIS prepared for the remediation and MPT (URS, 2000). The assessment concluded that Indigenous heritage would not be affected by the proposal, however a number of non-Indigenous heritage items located on the former BHP Steelworks were listed as having both regional and State significance.

Statements of Heritage Impact (SOHI) were prepared for a number of State significant heritage items proposed for demolition within the MPT footprint. The SOHIs concluded that the heritage significance of items related to the iron and steel making processes which occurred at the location over time, rather than the built fabric of the structures. It was concluded that as the former operations on the site had been decommissioned, this had an impact on the interpretation of the significance of the item. Furthermore, retaining these structures, which could not be re-used or regenerated, would require significant expenditure to maintain and stabilise. These items were demolished in accordance in accordance with the development consent issued in respect of the development application.

The EIS identified that potential impacts to heritage items outside the MPT footprint would require assessment as part of future development proposal on the site. The EIS specifically referred to several buildings which could potentially form part of a heritage precinct on the site, including Delprat's Quarters, ex-Tool Room building and adjacent lightly wooded area, the administration building, Laboratory Technical Services, Information Technology and General Office buildings. The heritage precinct, located on the western portion of the site, would act as repository for heritage items as an alternative for preserving items *in situ*.

The Concept Plan would include a desktop assessment of potential heritage impacts on the remainder of the redevelopment site, and identify constraints for potential future land uses.

5.3.3 Visual

Visual assessment of the proposed MPT was undertaken by URS (2000) as part of the original EIS for the project. URS (2000) considered that the proposed state-of-the-art Container Terminal, General Cargo Handling Facility and Bulk Handling Terminal would provide the site with a modern, clean appearance. They concluded that the proposed MPT was in keeping with the existing industrial character of the Port and was not anticipated to have an adverse effect on the visual amenity of the area, provided safeguard measures to mitigate visual issues were implemented.

As future development on the site would be in context with the predominantly industrial nature of surrounding land uses, industrial land uses are unlikely to represent a visually intrusive element on the landscape.

5.4 Resource Implications

5.4.1 Traffic & Transport

The site is located in an existing industrial area directly serviced by road, rail and sea transport modes. The site is connected to the regional arterial road network by Industrial Drive located to the south of the site, which intersects with Maitland Road providing access to the F3 Freeway, Pacific Highway and New England Highway. Industrial Drive is a designated heavy vehicle route. Rail infrastructure is located along the southern portion of the site, and currently provides rail access to the Newcastle and Central Coast Line. The site is also located within the Port of Newcastle, and is serviced by berths along the northern boundary of the site.

The EIS prepared for the remediation and MPT provided an assessment of existing traffic volumes for the surrounding road network, rail transport volumes, and an overview of shipping activities within the Port of Newcastle, and potential impacts on traffic associated with the remediation and MPT. The project would result in the generation of additional traffic associated with land uses within each of the precincts.

The Concept Plan would build upon the assessment of the existing transport network undertaken for the EIS. In particular, the assessment would focus on the road transport network, as surrounding land uses are most likely to be affected by this mode of transport. The assessment of the transport network would include consideration of existing traffic volumes for road, rail and shipping transport modes, and the existing infrastructure capacity of each of the transport modes to accommodate additional traffic.

Potential scenarios likely to be generated by each of the land use precincts would be considered in respect of the existing traffic volumes and predicted capacity. Based on the traffic assessment and the existing infrastructure capacity, a set of criteria would be formulated that could be applied to future project approvals.

5.4.2 Waste

The proposed redevelopment of each of the precincts would result in the generation of wastes associated with both construction and operation. Construction wastes may include demolition wastes, materials potentially contaminated with asbestos, excess construction materials and other scrap material. Future land uses within each of the precincts on the redevelopment would result in the generation of wastes, however the type and quantity of wastes would be dependent on the various operations which may occur at the site.

The Concept Plan would provide an assessment of potential future land uses and likely sources of operational waste that may be generated by each of the respective land uses.

5.4.3 Energy

The proposed redevelopment of the site would require energy resources for both the construction and operation of future land uses. The Concept Plan would provide a qualitative assessment of the likely energy requirements of potential future land uses, and the potential impacts on resources, as well as local air quality.

6.0 Prioritisation of Potential Environmental Issues

6.1 Issue Identification

As identified in **Section 5**, the potential environmental issues associated with the project have been identified as:

- Air quality;
- Noise;
- Hazard and risk;
- Water quality;
- Geology and soils;
- Ecology;
- Social and economic;
- Heritage and cultural;
- Visual;
- Traffic;
- Waste; and
- Energy.

6.2 Prioritisation of Issues

6.2.1 Approach

The prioritisation of issues for the proposed project was based on the need to recognise that a higher degree of assessment is required for the issues with the highest severity and greatest consequences. **Table 2** shows the issues prioritisation matrix used to identify priorities. Each issue was given a ranking between one and three for the severity of effects and the perceived consequences of those effects if left unmanaged. These two numbers were added together to provide a numerical ranking for the issue that was used to categorise each issue into high, medium and low priorities.

Table 2: Issues Prioritisation Matrix

Severity of Effects	Consequence of Unmanaged Effects		
	3 High	2 Medium	1 Low
1 Low	4 (Medium)	3 (Low)	2 (Low)
2 Medium	5 (High)	4 (Medium)	3 (Low)
3 High	6 (High)	5 (High)	4 (Medium)

6.2.2 Assessment

The prioritisation of environmental issues related to the proposed project is shown in **Table 3**. This assessment aims to allow the prioritisation of issues for assessment and does not consider the application of mitigation measures to manage environmental effects. In all cases, appropriate and proven mitigation measures, chosen based upon the experience of regulators and other similar projects, would be used to minimise potential impacts. These measures would be described in detail in the EA prepared for the proposed project.

The allocation of risk is based upon the following considerations:

Severity of Risk

Low: localised implications; imperceptible or short term cumulative impacts.

Medium: regional implications; modest or medium term cumulation of impacts.

High: inter-regional implications: serious or long term cumulation of impacts.

Consequences of Unmanaged Effects

Low: minor environmental change; offsets readily available.

Medium: moderate adverse environmental change; offsets available.

High: important adverse environmental change, offsets not readily available.

Table 3: Prioritisation of Environmental Issues

Issue	Severity	Consequence	Priority
Aspect: Air Quality			
Construction related impacts on air quality	2	2	4
Particulate air emissions during operation	2	2	4
Odour emissions during operation	1	1	2
Greenhouse gas emissions	2	2	4
Aspect: Noise			
Temporary noise emissions during construction	2	2	4
Noise emissions during operation	2	2	4
Cumulative noise impacts with existing and future industrial operations	2	2	4
Aspect: Hazard and Risk			
Exposure of surrounding land uses and sensitive receivers to existing contamination on site	2	1	3
Exposure of employees to existing contamination on site during construction	2	1	3

Issue	Severity	Consequence	Priority
Exposure of surrounding land uses and sensitive receivers to hazards and risks associated with operation	2	2	4
Exposure of on site employees to hazards and risks associated with operation	2	2	4
Aspect: Water Quality			
Surface water and stormwater management during construction	2	1	3
Surface water and stormwater management during operation	2	1	3
Discharge of industrial process waters to Hunter River during operation	2	1	3
Aspect: Geology and Soils			
Erosion and sedimentation during construction	1	1	2
Migration of existing on site contaminants during construction	1	2	3
Migration of existing on site contaminants during operation	1	2	3
Aspect: Ecology			
Impact on flora and fauna at the site	1	1	2
Potential impact on flora and fauna off site	2	1	3
Aspect: Social and Economic			
Impact upon amenity of nearby residential land uses (i.e. noise, air quality, hazard and risk)	1	2	3
Demand for community resources, and impact on the community	1	1	2
Aspect: Heritage and Cultural			
Impact on existing non-Indigenous heritage items on the site	2	1	3
Aspect: Visual			
Intrusive visual impacts on surrounding landscape	1	2	3
Aspect: Traffic			
Cumulative impacts associated with increases in road traffic	2	2	4
Cumulative impacts associated with increases in rail and ship transport	2	2	4

Issue	Severity	Consequence	Priority
Aspect: Waste			
Generation and management of waste during construction	1	1	2
Generation and management of waste during operation	2	1	3
Aspect: Energy			
Resource availability and demand (i.e. water, gas, electricity)	2	1	3

Table 4 identifies that the prioritisation of environmental issues, and therefore the focus of assessment for the proposed project should be as follows:

Table 4: Prioritisation of Issues

High	Medium	Low
	Air quality Noise Hazard and Risk Traffic	Water quality Geology and soils Ecology Social and economic Heritage and cultural Visual Waste Energy

7.0 Findings

The environmental assessment for the proposed concept would focus on the key impacts of the environmental factors addressed in **Sections 5** The key issues identified in this Preliminary Assessment are:

- Air quality
- Noise
- Hazard and risk
- Traffic

7.1 Air Quality

Air quality modelling would be carried out using hypothetical scenarios based on potential future land uses to determine maximum emission levels based on the modelling air quality criteria would be developed for the site in consideration of potential future land use.

Future development would be required to demonstrate compliance with criteria, which would take into consideration cumulative air quality impacts with other land uses on the redevelopment site, as well as cumulative impacts associated with industrial land uses in the vicinity of the site.

7.2 Noise

Noise emissions from potential land uses would be modelled based on a range of hypothetical operational scenarios typical for the type of land use. Hypothetical cumulative noise emissions would be calculated and assessed in the context of noise emissions proximate to the redevelopment site.

A set of noise criteria would then be developed to represent the maximum allowable noise contribution from the site. The criteria could then be applied to future proposed land uses during the Project Approval stage. The application of these criteria would allow a range of land uses.

7.3 Hazard and Risk

The Concept Plan would incorporate a qualitative assessment of potential hazards which would identify potential hazards, appropriate assessment criteria, nearby sensitive receivers, and proximity of site boundaries to sensitive receivers. The qualitative assessment would inform subsequent project approvals for development within the site.

7.4 Traffic & Transport

The assessment would focus on the road transport network, as surrounding land uses are most likely to be affected by this mode of transport. The assessment of the transport network would include consideration of existing traffic volumes for road, rail and shipping transport modes, and the existing infrastructure capacity of each of the transport modes to accommodate additional traffic

7.5 Other Environmental Issues

Additional environmental impacts have been identified; however, the potential impacts associated with these are expected to be minimal. Each of these issues would require a lower level of assessment than the key environmental issues listed above; however, each would be discussed in the EA and appropriate mitigation measures and environmental safeguards, guidelines and criteria for future development would be assessed and incorporated.

7.6 Level of Assessment

This Preliminary Assessment has undertaken an initial appraisal of potential impacts associated with the proposed concept, and has identified the key environmental issues as being air quality, noise, hazard and risk, and traffic and transport.

These issues would be considered in detail in the environmental assessment to be undertaken, which would be determined by the Minister.

Figures

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Not to Scale

Figure 1 | **Site Location**

Newcastle Port Corporation

Environmental Assessment Scoping Report:
NPC South Arm Redevelopment

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ENSR | AECOM

0 200m

Figure 2 | **Site Layout**

Newcastle Port Corporation

Environmental Assessment Scoping Report:
NPC South Arm Redevelopment

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ENSR | AECOM

0 200m

- Berth precinct
- General purpose precinct
- Bulk liquid precinct
- Proposed access corridor
- Bulk and general precinct
- Container terminal precinct
- NPC operations
- Approved wharf structure and hardstand
- Preferred rail alignment

Figure 3 | **Potential Land Usage**

Newcastle Port Corporation

Environmental Assessment Scoping Report:
NPC South Arm Redevelopment

Worldwide Locations

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Belgium	+32-3-540-95-86
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