Preliminary Environmental Assessment Report
Vopak Terminals Sydney Pty Ltd
Site B4 Expansion
Port Botany
20 March 2015

Glossary of Terms

Acronym	Terms
ADO	Automotive Diesel Oil (Fuel)
AHIMS	Aboriginal Heritage Information Management System
OEH	Office of Environment and Heritage
DCP	Development Control Plan
DP&E	NSW Department of Planning and Environment
EECs	Endangered Ecological Communities
EIS	Environmental Impact Statement
EPA	Environment Protection Authority
EPL	Environment Protection Licence
EP&A Act	Environmental Planning and Assessment Act 1979
EP&A Regulation	Environmental Planning and Assessment Regulation 2007
EPBC Act	Environment Protection and Biodiversity Conservation Act 1997
ha	Hectare
km	Kilometre
LEP	Local Environmental Plan
LGA	Local Government Area
MHF	Major Hazard Facility
ML	Megalitre
Mt	Million tonnes
NES	National Environmental Significance
NGER Act	National Greenhouse and Energy Reporting Act 2007
PAC	Planning Assessment Commission
PEAR	Preliminary Environmental Assessment Report
PFM	Planning Focus Meeting
POEO	Protection of the Environment Operations Act 1997

Acronym	Terms
RMS	NSW Roads and Maritime Services
SEARs	Secretary's Environmental Assessment Requirements
SEPP	State Environmental Planning Policy
SSD	State Significant Development
TSC Act	Threatened Species Conservation Act 2005
WWTP	Waste Water Treatment Plant

Executive Summary

Introduction

This Preliminary Environmental Assessment Report (PEAR) has been prepared by PlanCom Consulting Pty Ltd (PlanCom) and is submitted to the Department of Planning and Environment (DP&E) on behalf of Vopak Terminals Sydney Pty Ltd ("Vopak").

Purpose of the Report

This PEAR has been prepared to describe the proposed Project. It provides background to the proposal and the market context within which the Project would operate, provides justification for the Project, conducts a brief environmental assessment and outlines the potential environmental issues that need to be considered in more detail in the EIS.

The Project

Vopak's proposed B4 Expansion Project (the Project) in Port Botany comprises:

- **Stage 1 (B4A)**
  - Construction of 3 Storage Tanks/Bunds dedicated to ADO (Diesel Fuel with a nominal total capacity of 105,000 m^3.
  - Construction of new pipelines/culvert to inter-connect with the Site B (B1) Manifold.
  - Installation of Manifold/Transfer Pumps, connection to utilities.
  - Site B Fire Protection system to be extended to the B4A site.
- **Stage 2 (B4B)**
  - Construction of 4 Storage Tanks (nominal total capacity of 95,000m^3 capable of storing any Class 3 /Combustible product.
  - Construction of additional transfer pipelines (to Site B Manifold systems).
  - New Fire Protection system (complying with AS1940 requirements).

Key Environmental Issues

The key environmental issues that have been identified for the Project and which would be assessed in more detail during preparation of the EIS, include:

- Hazard and Risk
- Traffic and Access
- Air Quality, Odour and Greenhouse Gas
- Noise and Vibration
- Soil and Water
- Waste Management
- Cumulative Impacts.

Other Environmental Issues

Other environmental issues which would be considered in the EIS include:

- Social and economic effects
- Land Use
- Visual
- Flora and Fauna
- Heritage
- Sustainability and Climate Change.

As part of the preparation of the EIS, further assessments would be carried out to refine the potential environmental impacts of the Project and to identify mitigation and management measures to minimise impacts to the environment during construction and operation of the Project.

Table of Contents

Glossary of Terms i
Executive Summary iii
1 Introduction 1
1.1 Overview 1
1.2 Scope and Structure of the Report 1
2 Site and Surrounding Area 2
2.1 Study Area 2
2.2 Surrounding Area 3
3 The Proposal 4
3.1 Summary 4
3.2 The Proponent 4
3.3 Existing Operations 5
3.4 Proposed Development 5
4 Planning Considerations 7
4.1 Overview 7
4.2 Commonwealth Legislative Requirements 7
4.2.1 Environmental Protection and Biodiversity Conservation Act 1999 7
4.2.2 National Greenhouse and Energy Reporting Act 2007 8
4.3 NSW Legislative Requirements 8
4.3.1 Environmental Planning and Assessment Act 1979 8
4.3.2 Contaminated Land Management Act 1997 8
4.3.3 Protection of Environmental Operations Act 1997 9
4.3.4 Threatened Species Conservation Act 1995 9
4.3.5 Work Health and Safety Act and Regulation 2011 9
4.3.6 Heritage Act 1977 10
4.3.7 Water Management Act 2000 10
4.3.8 Ports Assets (Authorised Transactions) Act 2012 10
4.4 State Environmental Planning Policies 11
4.4.1 State Environmental Planning Policy No.33 - Hazardous and Offensive Development 11
4.4.2 State Environmental Planning Policy (State and Regional Development) 2011 12
4.4.3 State Environmental Planning Policy (Major Development) 2005 12
4.4.4 State Environmental Planning Policy 55 – Remediation of Land 12
4.4.5 State Environmental Planning Policy (Three Ports) 12
4.5 Other Strategic Policy Developments 13
4.5.1 A Plan for Growing Sydney 2014 13
4.6 Ports Lessor/NSW Ports Land 13
5 Project Consultation 14

6 Key Environmental Issues 15
6.1 Hazard and Risk 15
6.2 Traffic and Access 15
6.2.1 Existing Environment 15
6.2.2 Assessment of Impact 16
6.2.3 Proposed Assessment Methodology 17
6.3 Air Quality, Odour and Greenhouse Gas 17
6.3.1 Existing Environment 17
6.3.2 Assessment of Impact 18
6.3.3 Proposed Assessment Methodology 18
6.4 Noise and Vibration 19
6.4.1 Existing Environment 19
6.4.2 Assessment of Impact 19
6.4.3 Proposed Assessment Methodology 20
6.5 Soil and Water 20
6.5.1 Existing Environment 20
6.5.2 Assessment of Impact 21
6.5.3 Proposed Assessment Methodology 23
6.6 Waste Management 23
6.6.1 Assessment of Impact 24
6.6.2 Proposed Assessment Methodology 24
6.7 Cumulative Impact Assessment 24
7 Other Environmental Issues 25
7.1 Social and Economic Effects 25
7.2 Land Use 25
7.3 Visual Assessment 26
7.4 Flora and Fauna 26
7.5 Heritage 27
7.6 Sustainability and Climate Change 27
8 Conclusion 28

1 Introduction

1.1 Overview

Vopak is seeking approval for the construction and operation of a Petroleum Tank Farm (known as B4) which will serve as a satellite terminal to the existing Vopak Site B Petroleum Terminal located on the opposite side of Friendship Road, Port Botany.

The proposed development will comprise 7 storage tanks with a total nominal capacity of 200,000 m^3.

The B4 Tank Farm will be located on a section of the land formerly occupied by the Qenos Hydrocarbon Terminal.

Qenos have recently demolished the Propane and Butane Storage tanks and associated infrastructure and the resulting 4.2 hectares (ha) of land will be leased by NSW Ports to Vopak for the proposed development.

Vopak Site B is located at 20 Friendship Road.

Through its Terminal in Port Botany Vopak's customers supply in excess of 20% percent of Sydney's and New South Wales' petroleum requirements.

1.2 Scope and Structure of the Report

The purpose of this report is to characterise the proposed works and to provide an overview of its potential effects on the environment and the community.

The Preliminary Environmental Assessment Report (PEAR) is intended to provide the New South Wales Department of Planning & Environment (DP&E) and other statutory agencies with sufficient information to establish the key environmental issues associated with the proposed project.

The information contained in this report would be used by the DP&E to develop the Secretary's Environmental Assessment Requirements (SEARs) for the Environmental Impact Statement (EIS) and to determine whether the Project is to be assessed as State Significant Development (SSD).

The structure of the PEAR is outlined below:

- Sections 1 and 2 provide an introduction to the proposed project including a description of the site and surrounding area.
- Section 3 includes a description of the proposal and its main components.
- Section 4 describes the legislation applying to the proposed project.
- Section 5 provides details of preliminary consultation undertaken or planned with statutory agencies.
- Section 6 identifies potential environmental issues and assesses the potential environmental risks associated with the proposed project and prioritises them.
- Sections 7 and 8 discuss the potential environmental impacts of the proposal, including the existing conditions and anticipated environmental impacts and outline methodologies for further assessment.

2 Site and Surrounding Area

2.1 Study Area

The Project site is located at Friendship Road, Port Botany.

The B4 Expansion site area is 4.2 hectares (ha) of the original 9 hectare (ha) site formerly occupied by the Qenos Hydrocarbon Terminal (Gate B40, 39 Friendship Road).

Both the B4 site and the remaining sections of the Qenos Hydrocarbon Terminal site are zoned as SP1 under the State Environmental Planning Policy (Three Ports) 2013.

Port Botany is located on the north-eastern edge of Botany Bay, approximately 12 km southeast from Sydney's Central Business District .The Port was developed in the 1970s to meet the growing trade and port requirements for Sydney and NSW and continues to expand to meet growing demands of the area. The Qenos Hydrocarbon Terminal was located on approximately 9 ha within the northeast corner of Molineux Point, Port Botany ("Site") under a lease from NSW Ports (previously Sydney Ports Corporation).

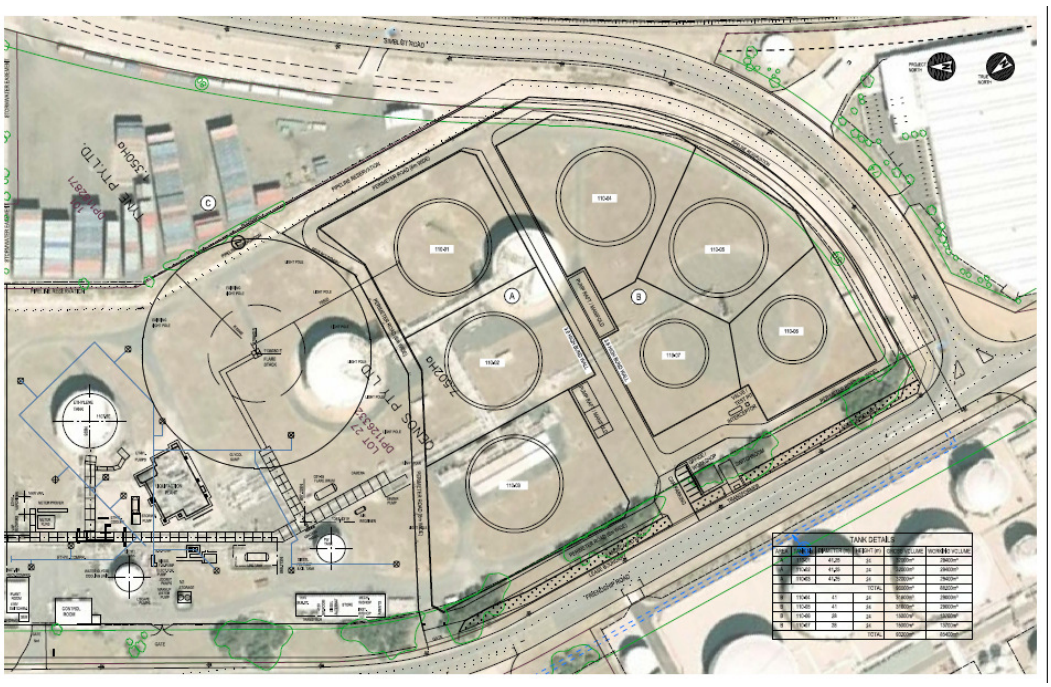
The B4 Site is encompassed by Simblist Rd to the south and Friendship Rd to the west refer (Figure 2.1 for proposed site layout). Prince of Wales Drive and Simblist Road separate the Site from Yarra Bay, which lies to the east and is part of the larger Botany Bay. The property north of the Site is composed of the remaining sections of the Qenos Hydrocarbon Terminal.

The B4 Terminal will be owned and operated by Vopak Terminals Australia Pty Ltd.

Vopak also leases the parcels of land at the following facilities:-

- Vopak Site B — Lot 21 DP 1045324, Lot 10 DP 1126332
- Vopak Bitumen — Lot 14 DP1126332, Part Lot 12 DP1126332.

Figure 2.1 Site Layout Plan



2.2 Surrounding Area

The area surrounding the Vopak Terminal is comprised of industrial properties.

Port Botany is the major NSW port for the handling of containers, bulk liquids and petrochemicals with Sydney's international and domestic airports located nearby to the north.

Businesses present in close proximity to Vopak are involved in port related activities such as Dangerous Goods Storage and Handling and Container Storage and Handling Facilities.

The former Qenos Hydrocarbon Terminal site is located in an industrial zoned area, with the nearest residential premises being the caretaker's residence at the Botany cemetery, located approximately 1.4 km away (refer Figure 2.2). The closest residential properties to the southeast are located in Yarra Road and Elaroo Avenue, Philip Bay, approximately 1.8 km away from the Qenos Hydrocarbon Terminal site across Yarra Bay. (Source: EMS 2013: *Qenos Statement of Environmental Effects Demolition of LPG Storage Tanks at Hydrocarbon Storage Terminal*)

Figure 2.2 Surrounding Area

3 The Proposal

3.1 Summary

Historically, the NSW fuel demand was supplied by its two refiners. Now NSW has more competitive fuel markets as the Sydney refineries are closing.

Vopak is a warehouse for fuels. Its customers can discharge their vessels into rented tank storage space and they can load their fuel onto trucks or export the fuel by pipeline.

Through Vopak, NSW has access to fuels from across the world.

This terminal expansion proposal recognises the increased demand for fuel imports after closure of NSW refineries.

The terminal expansion will allow existing Vopak customers to improve their competitiveness as they can bring in larger vessels.

Additionally, new customers can enter the market and this will allow for more competitive markets.

The B4 Expansion comprises:

- Stage 1 (B4A)
  - Construction of 3 Storage Tanks/Bunds dedicated to ADO (Automotive Diesel Fuel with a nominal total capacity of 105,000 m^3.
  - Construction of new pipelines/culvert to inter-connect with the Site B (B1) Manifold
  - Installation of Manifold/Transfer Pumps, connection to utilities
  - Site B Fire Protection system to be extended to the B4A site.
- Stage 2 (B4B)
  - Construction of 4 Storage Tanks (nominal total capacity of 95,000m^3) capable of storing any Class 3 /Combustible product.
  - Construction of additional transfer pipelines (to Site B Manifold systems)
  - New Fire Protection system (complying with AS1940 requirements).

3.2 The Proponent

Royal Vopak is the world's largest independent tank storage company by capacity, specialised in the storage and handling of oil products, liquid chemicals and gasses.

Vopak operates 80 terminals in 28 countries with a combined storage capacity of 34.0 million cbm, with another 4.0 million cbm under development, to be added by 2017.

Vopak's mission is to ensure safe, reliable and effective storage and handling of bulk liquid products at key marine locations that are critical to its customers around the world. The majority of its customers are companies operating in the oil, chemicals and gas sector, for which Vopak stores a large variety of products destined for a wide range of industries.

The Australian headquarters of the company are located in Port Botany, NSW.

Vopak has been operating in Australia since 1995 and currently employs around 75 people.

Vopak is listed on the AEX index of Euronext Amsterdam and generated revenues of €1.3 billion in 2013. The company has close to 6,000 employees.

3.3 Existing Operations

The main business activity of Vopak in Australia is the storage of fuels for customers. Vopak itself does not own the fuels, it is a warehouse. Customers can discharge fuels from a vessel into tanks they rent at Vopak and therefore allows fuel suppliers to import fuels into NSW.

The State of NSW has no refineries, so imports are critical for the State's security of fuel supply.

3.4 Proposed Development

Details of the B4 Expansion are as follows:

- **Stage 1 (B4A)**
  - Construction of 3 Storage Tanks/Bunds dedicated to ADO (Automotive Diesel Oil (Fuel) which is classified Combustible C1) with a nominal total capacity of 105,000 m^3.
  - Construction of new pipelines to inter-connect with existing Bulk Liquid Berths, ADO Import/Export, CTP pipeline and existing Site B ADO tanks via the Site B (B1) Manifold to be expanded for B4 Import/Export.
  - Installation of Valved Manifold/Transfer Pumps.
  - Site B Fire Protection and minor utility piping (compressed air, nitrogen, wastes) systems to be extended to the B4A site.
  - Connection to Utilities – power, town water, stormwater drainage and vehicular accessways.
  - Use of existing culvert under Friendship Road for pipeline access.
  - Electrical switch-room, site lighting, amenities and maintenance shed, waste water treatment system, automated security gates and CCTV, car-parking, perimeter and internal roadways, security fencing and landscaping.
- **Stage 2 (B4B)**
  - Construction of 4 Storage Tanks (nominal total capacity of 91,000m^3) capable of storing any Class 3 /Combustible product.
  - Construction of additional transfer pipelines (to Site B (B1) Manifold).
  - New Fire Protection system (complying with AS1940 requirements).
  - New Road Culvert under Friendship Road for pipeline access.

It should be noted that Vopak is intending to lodge a S75W Request for Modification to Conditions of Consent (to DA06_0089 dated 27th February 2007) for the existing Vopak Site B Terminal. The modification requests include the following items that are both relevant and complementary to the Vopak B4 Project proposal:

- A significant increase in total Terminal Throughput (from an approved 3950ML per year to 7800ML/year). The B4 terminal is anticipated to host 2500ML/year of the proposed total of 7800ML/year. The B4 terminal is functionally a satellite tank farm that services the existing Site B terminal. Product would be received from ships via the Site B Manifold system and then, in turn, pumped back to the Site B distribution points (Road Tanker Loading Tanks, Pipeline Transfer Tanks).
- Three (3) extra Road Tanker Loading Bays on Site B to cater for future (B4) throughput increases together with new entry roadways to accommodate all Road Tankers on-site.
- General flow-rate improvements (i.e., removing restrictions in pipework, manifolds and tank appurtenances) to maximise discharge rates from both BLB1 and BLB2 during shipping operations.

There are also other modifications requested in the above S75W application that are related only to current Site B operations and are therefore not listed here.

The project has an estimated current capital value in excess of $100 million.

4 Planning Considerations

4.1 Overview

This section identifies the legislative requirements and planning controls relevant to the Project and outlines the key policy and statutory considerations that would be addressed in more detail in the EIS.

The Project would be undertaken in accordance with the requirements of relevant environmental and planning legislation.

All associated environmental and planning approvals would be obtained as required for a State Significant Development (SSD) under Part 4 of the EP&A Act, including but not limited to:

- Commonwealth and State Government planning approvals
- Local government development approvals
- Operational approvals (such as an Environment Protection Licence)
- Other potential approvals required under relevant environmental and planning legislation and regulations.

4.2 Commonwealth Legislative Requirements

4.2.1 Environmental Protection and Biodiversity Conservation Act 1999

The Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) requires the approval of the Commonwealth Minister for the Environment for actions that would have, or are likely to have, a significant impact on matters of National Environmental Significance (NES).

The EPBC Act lists seven matters of NES which must be addressed when assessing the impacts of a proposal, which are:

- World Heritage properties
- National Heritage places
- Wetlands of International Importance
- Listed threatened species and ecological communities
- Migratory species protected under international agreements
- Commonwealth Marine Areas
- Nuclear actions.

If potential significant impacts on a matter of NES are identified, then a referral to the Minister would be made in accordance with the requirements of the EPBC Act for a determination as to whether the Project is a Controlled action. There are no RAMSAR wetlands located close to the site.

A search of the EPBC Protected Matters Search Tool identified no world or national heritage properties, no threatened ecological communities, no threatened species and no migratory species within 5km of the terminal.

The assessment of the proposed Project's impacts on matters of NES and the environment of Commonwealth land found that there is unlikely to be a significant impact on relevant matters of NES.

Accordingly, it is anticipated that the Project would not need to be referred to the Commonwealth Department of the Environment.

4.2.2 National Greenhouse and Energy Reporting Act 2007

The National Greenhouse and Energy Reporting Act 2007 (NGER Act) came into effect in September 2007 and introduced a single national reporting framework for the reporting and dissemination of information about greenhouse gas emissions, greenhouse gas projects and energy use and production by corporations. The NGER Act makes registration and reporting mandatory for corporations whose energy production, energy use or greenhouse gas emissions meet specified thresholds.

Vopak would continue to report emissions from the terminal operations which would not be significantly higher than those reported currently.

4.3 NSW Legislative Requirements

4.3.1 Environmental Planning and Assessment Act 1979

The Environmental Planning and Assessment Act 1979 (EP&A Act) and the Environmental Planning and Assessment Regulation 2000 (EP&A Regulation) provide the framework for environmental planning in NSW and include provisions to ensure that proposals that have the potential to impact on the environment are subject to detailed assessment and provide opportunity for public involvement.

In NSW, development that is of State significance is assessed under the State significant assessment system which provides separate assessment pathways for State Significant Development (SSD) and State significant infrastructure (SSI). Development may be declared to be SSD under Part 4 Section 89C of the EP&A Act and the State Environmental Planning Policy (State and Regional Development) 2011 (SRD SEPP).

The site is currently a Major Hazard Facility (MHF) under the OH&S Act by reason of its storage and use of dangerous goods and would continue to be classified as an MHF following its expansion.

This MHF classification triggers the B4 Expansion as a SSD within the definition of the State Environmental Planning Policy (State and Regional Development) 2011, Clause 8(1)(b) and Schedule 1 Clause 10(3)

In addition, the expansion will also satisfy the criteria set out in Clause 10(2)(a) as development for the purposes of a liquid fuel depot with a capital investment value of more than $30m.

4.3.2 Contaminated Land Management Act 1997

The primary objective of the Contaminated Land Management Act 1997 (CLM Act) is to establish a process for investigating and remediating land areas where contamination presents a significant risk of harm to human health or some other aspect of the environment. Where land is identified as potentially contaminated, consultation with the Environment Protection Authority (EPA) should be undertaken.

The expansion will take place on land that will be leased from NSW Ports and the potential for contaminated soil exists at the site.

4.3.3 Protection of Environmental Operations Act 1997

Under the Protection of the Environment Operations Act 1997 (POEO Act), it is an offence to cause water, air or noise pollution without authorisation for such under an Environment Protection Licence (EPL).

Additionally, Schedule 1 of the POEO Act identifies "scheduled activities" which are required to be licensed by the EPA.

The Vopak Site B Terminal in Port Botany is currently operating under EPL 570. This licence could be broadened for the expanded B4 operations.

4.3.4 Threatened Species Conservation Act 1995

The Threatened Species Conservation Act 1995 (TSC Act) identifies and protects threatened native plants and animals and provides for species recovery and threat abatement programs. The objectives of the Act are to conserve biological diversity and promote sustainable development, prevent the extinction of native plants and animals, protect habitat that is critical to the survival of endangered species, eliminate or manage threats to biodiversity, properly assess the impact of development on threatened species and to encourage co-operative management in the conservation of threatened species. These objectives are achieved through:

- Listing of threatened species, populations and communities
- Requiring recovery and threat abatement actions to be undertaken where threatened species are impacted.
- Providing a vehicle to improve degraded environments, and to protect areas of high conservation value to threatened species.

It is anticipated that impact on threatened species will be low due to the fact the works program will be confined to a relatively small footprint on a site which has been used for industrial purposes.

4.3.5 Work Health and Safety Act and Regulation 2011

The Vopak Site B Terminal in Port Botany is currently classified as a Major Hazard Facility (MHF) under the Work Health and Safety Regulation 2011, and therefore WorkCover NSW requires notification of the proposal.

MHFs are industrial sites such as oil refineries, chemical processing plants and large LP gas depots that store, handle or process specific hazardous materials in quantities above threshold limits as defined in Schedule 8.

Chapter 6B of the Regulation required operators of MHFs to minimise the likelihood and consequences from a major accident by having in place a range of additional safety controls such as:

- Hazard identification and risk assessment
- Safety management system
- Emergency plans and security plans

- Preparation and submission of a safety report.

The National Standard for the Control of Major Hazard Facilities [NOHSC: 1014(2002)] (MHF National Standard) provides the framework to achieve a harmonised approach for safety controls at a MHF.

The B4 Terminal (Stage 1 and Stage 2) will be an MHF in its own right as it will have the capability to store more than 50,000 tonnes of Class 3 Flammable materials. However, the management, maintenance and risk controls will be identical to those already in place in the existing Terminal.

The B4 Terminal is essentially an extension of the existing Terminal and therefore consideration should be given by NSW WorkCover that the B4 development be considered as an integral part of the existing MHF. Early discussions on this issue have been initiated with NSW WorkCover.

4.3.6 Heritage Act 1977

The Heritage Act 1977 aims to protect and conserve non-Aboriginal cultural heritage, including scheduled heritage items, sites and relics. The Heritage Act is administered by the Office of Environment and Heritage.

Nothing on or adjacent to the Project Site is heritage listed under Randwick LEP 2012. The nearest heritage conservations items are C5 - Botany Bay National Park (Botany Bay National Park, La Perouse Headland, Yarra Bay and Frenchmans Bay and C8 - Bunnerong Power Station.

A desktop search of the NSW State Heritage Register identified the Chinese Market Garden at 1-39 Bunnerong Road La Perouse as being the nearest item of the State Heritage Register to the site.

4.3.7 Water Management Act 2000

The Water Management Act 2000 provides the legislative basis for water use, management and planning. It is gradually replacing the planning and management frameworks in the Water Act 1912.

The Act provides for a range of water transactions known as access licence dealings or dealings and the Act also stipulates that a controlled activity approval may be required under the Water Management Act 2000 if works are to be undertaken within 40 metres of a water body/ watercourse.

No controlled activity approval will be sought.

4.3.8 Ports Assets (Authorised Transactions) Act 2012

The following extracts of the Ports Assets (Authorised Transactions) Act 2012 are of relevance to the B4 Project as they impose no cargo throughput limits for Port Botany:

32 No cargo throughput limits for Port Botany

(1) A planning control is of no effect to the extent that it would operate to impose a cargo throughput limit for Port Botany.

(2) A **"cargo throughput limit"** for Port Botany is any direct or indirect limit or other restriction on the amount of cargo that can be received or handled at or transported from Port Botany and includes (without limitation) the following:

(a) a limit or other restriction on the number of cargo containers that can be received or handled at or transported from Port Botany,

(b) a limit or other restriction on the nature, number or frequency of transport movements to or from Port Botany,

(c) a limit of the kind imposed by condition A1.4 (Port Throughput Capacity Limits) of the planning approval for the construction and operation of a new container terminal and associated infrastructure at Port Botany as granted on 13 October 2005.

(3) The following provisions apply to the operation of this section:

(a) this section does not apply to a planning control until the planning control has been imposed, so that it limits the effect of the planning control once imposed but does not prevent the planning control from being imposed,

(b) this section does not invalidate a planning control or any planning approval that imposes a planning control,

(c) this section does not prevent planning approval being granted merely because a planning control to be imposed by the planning approval will be rendered wholly or partially ineffective by this section.

(4) In this section:

"Planning Act" means the Environmental Planning and Assessment Act 1979 and the regulations under that Act.

"planning approval" means a consent, approval, permission or other authority under the Planning Act and includes any condition of or the terms of any such consent, approval, permission or other authority.

"planning control" means any requirement or other control imposed (before or after the commencement of this section) by or under:

(a) the Planning Act, or

(b) an environmental planning instrument under the Planning Act, or

(c) a planning approval.

"Port Botany" means land in the local government areas of the City of Botany Bay and the City of Randwick (including land covered by water) leased to the private sector for the purposes of an authorised transaction.

4.4 State Environmental Planning Policies

4.4.1 State Environmental Planning Policy No.33 - Hazardous and Offensive Development

The State Environmental Planning Policy No.33 – Hazardous and Offensive Development (SEPP 33) aims to amend the definitions of hazardous and offensive development where used in environmental planning instruments, to ensure that in determining whether a development is a hazardous or offensive industry, any measures proposed to be employed to reduce the impact of the development are taken into account and to

ensure that in considering any application to carry out potentially hazardous or offensive development, the consent authority has sufficient information to assess whether the development is hazardous or offensive and to impose conditions to reduce or minimise the adverse impact.

The current hazard profile of Vopak in Port Botany will remain unchanged. The Site, however, will still remain classified as a Major Hazard Facility and a Preliminary Hazard Analysis will still be required as part of the planning application to assess the show and assess the risk profile of the proposed development.

4.4.2 State Environmental Planning Policy (State and Regional Development) 2011

The State Environmental Planning Policy (State and Regional Development) 2011 aims to identify development that is State Significant Development (SSD) and State significant infrastructure.

Projects which are declared in either of these categories are to be assessed by the Department of Planning and Infrastructure or may be referred to the Planning and Assessment Commission.

Section 4.3.1 has identified the B4 Project as an SSD.

As an SSD, the proposed development of the expansion of the terminal is to be assessed under Division 4.1, Part 4 of the EP&A Act (SSD), and is likely to be determined by the Minister for Planning.

4.4.3 State Environmental Planning Policy (Major Development) 2005

A number of amendments to the State Environmental Planning Policy (Major Development) 2005 have been made by the commencement of the State and Regional Development SEPP.

Notwithstanding those amendments, numerous clauses of the Major Development SEPP may be of relevance to the proposal.

4.4.4 State Environmental Planning Policy 55 – Remediation of Land

According to clause 7(1) of SEPP 55 - Remediation of Land (SEPP 55), a consent authority must not consent to the carrying out of any development on land unless:

a) it has considered whether the land is contaminated, and

b) if the land is contaminated, it is satisfied that the land is suitable in its contaminated state (or will be suitable, after remediation) for the purpose for which the development is proposed to be carried out, and

c) if the land requires remediation to be made suitable for the purpose for which the development is proposed to be carried out, it is satisfied that the land will be remediated before the land is used for that purpose.

Potential impacts would be identified and addressed in the EIS.

4.4.5 State Environmental Planning Policy (Three Ports)

The following key clauses of *State Environmental Planning Policy (Three Ports) 2013* relevant to the proposed modification have been presented and considered below.

Clause 3 provides the aims of the Policy as follows:

a) *to provide a consistent planning regime for the development and delivery of infrastructure on land in Port Botany, Port Kembla and the Port of Newcastle,*

b) *to allow the efficient development, re-development and protection of land at Port Botany, Port Kembla and the Port of Newcastle for port purposes,*

c) *to identify certain development within the Lease Area as exempt development or complying development,*

d) *to specify matters to be considered in determining whether to grant consent to development adjacent to development for port purposes,*

e) *to provide for development at Port Botany that does not, by its nature or scale, constitute an actual or potential obstruction or hazard to aircraft,*

f) *to identify certain development as State significant development or State significant infrastructure,*

g) *to ensure that land around the Lease Area is maintained for port-related and industrial uses, including heavy industry on land around Port Kembla.*

The land use zone of the site under the Policy is SP1 - Special Activities.

Under the zoning provisions the B4 Project is not prohibited under item 4 and is not permitted without consent under item 2. It would therefore be permitted with consent under item 3. The proposal is therefore consistent with the zone and its permissibility.

Clause 27 relates to State significant development and defines the term. From a review of the clause, the B4 Project appears to be regarded as an SSD.

4.5 Other Strategic Policy Developments

4.5.1 A Plan for Growing Sydney 2014

A Plan for Growing Sydney dated December 2014 identifies Port Botany as being one of the economic drivers for the South subregion. To implement the directions in *A Plan for Growing Sydney,* a number of priorities have been outlined for Port Botany and its role as one of Sydney's Transport Gateways. These would be considered further in the EIS.

4.6 Ports Lessor/NSW Ports Land

The land on which the proposed B4 development is planned is subject to a 99-year lease from the Port Lessor to NSW Ports, who is the land manager and who leases the land to Vopak (post Qenos).

The submission of the SSD application requires consent from the land owner, the Port Lessor. Prior to lodgement of the planning application with DP&E, NSW Ports will review the documentation and obtain the owner's consent from the Port Lessor.

5 Project Consultation

The following stakeholders will be consulted during the design and approvals process with regard to the proposed tank farm construction and operation.

- Environment Protection Authority (EPA)
- NSW Ports
- Qenos
- ACFS
- Elgas
- Randwick City Council
- NSW WorkCover
- Fire and Rescue NSW
- Port Botany Neighborhood Liaison Group.

A Planning Meeting has been held with NSW Ports (11 February 2015).

6 Key Environmental Issues

The key issues addressed in this Preliminary Environmental Assessment are:

- Hazard and Risk
- Traffic and Access
- Air Quality, Odour and Greenhouse Gas
- Noise and Vibration
- Soil and Water
- Waste Management
- Visual Amenity
- Cumulative Impacts

Additional environmental aspects considered in the assessment include: social and economic impacts, land use, visual, flora and fauna, heritage and sustainability and climate change

The environmental assessment in the EIS would comprises three key parts; description of the existing environmental values; identification and quantification of impacts on these values; and proposed mitigation measures to address significant impacts.

A site specific Construction Environmental Management Plan (CEMP) will be prepared by Contractor prior to commencing works. Operational mitigation measures would also be developed.

The methods of assessment that would be used in undertaking technical studies to support the EIS are also presented.

6.1 Hazard and Risk

A Preliminary Hazard Analysis (PHA) will be conducted to examine potential impacts of the project on human health, safety and the environment. The results of the PHA assessment will be provided in detail as an Appendix to the EIS. Additional hazard and operability study (HAZOP), Fire Safety Study (FSS) and a Construction Safety Study will be conducted following approval of the planning application which will provide greater details regarding project hazards and risks.

6.2 Traffic and Access

6.2.1 Existing Environment

The proposed works site is located within the Port Botany precinct, which is subject to a significant amount of heavy vehicle traffic on a daily basis. There are a number of main roads in the surrounding network including Foreshore Road, Botany Road, Beauchamp Road, Southern Cross Drive, Bunnerong Road and General Holmes Drive, which are heavy vehicle routes and heavily trafficked roads connecting the area to the Sydney CBD in the north, Cronulla and Kurnell in the south, the airport precinct and other surrounding industrial areas, such as the Botany Industrial Park.

The B4 Terminal is to be located between two roads, Friendship Road to the north-west of the Site and Simblist Road, to the south-west of the Site. Both roads are managed by NSW Ports. The entry into the Terminal is from Friendship Road, via Gate No. 1 The main entry into the Port area is from Botany Road, via the publicly accessible road, Bumborah Point Road.

Traffic is directed into Port operations via Simblist Road, which then connects in a one-way system to the right at the intersection of Friendship Road and two-way towards the left. To exit the Port, traffic must continue in the same direction out via Friendship road onto Bumborah Point Road. Friendship Road is a one way single-lane road up to the point where it reaches the intersection with Charlotte Road, with a slip lane often frequented by trucks waiting to access other areas of the port. Beyond this point the road becomes wider, however, remains one way directing traffic outside of the Port. This section of Friendship Road is separated by a median with two lanes, each with a slip lane.

A number of gates exist along the perimeter fence line which borders Friendship Road; however, at present do not have formal access.

6.2.2 Assessment of Impact

Traffic Movements

A variety of heavy vehicle and light construction vehicles would be required during the construction stages. The number of vehicles and daily traffic movements would also vary during the two separate construction stages.

During the civil construction phase, the semi-trailers would be required initially to transport in the required equipment, such as piling rigs and backhoes on to site. Once construction has commenced, tip trucks, cement trucks and light vehicles will be required. It is anticipated that during this phase there would be up to 10 vehicle movements per day and that the split of vehicles is to be six heavy vehicles to four light vehicles.

The equipment required during the tank construction phases would initially be transported in by semi-trailer. It is anticipated that at the height of tank construction there will be 10 to 15 vehicle movements per day, with approximately 10 heavy vehicle (semi-trailer / dump trucks) and up to five light vehicle movements per day.

Once vehicles and equipment are on site, all vehicles will be parked off road to avoid any impacts to traffic, within the Terminal areas which are not in use.

For the B4A Stage, the area designated for the B4B development would be utilised as a Contractor Laydown Area and Contractor vehicle car park.

For the B4B Stage, permission will be sought from NSW Ports for the temporary use of a section of Fishburn Road (directly behind Vopak Site B) as a Contractor Laydown Area and Contractor Vehicle car-park.

In the context of the large number of traffic movements through the port, the increase during either construction stage is unlikely to impact upon traffic movement within the Port, provided the required Traffic Management Plan and Traffic Control Plans are in place. Consultation will be required with NSW Ports prior to the development of the relevant plans to ensure that the appropriate management measures are in place as per their requirements.

Access

It is likely that to obtain safe construction access for the large vehicles into the Terminal, a new driveway access will be required at Gate No. 2. A new access into Gate No. 2 would make provision for vehicles to safely turn into the Site from Friendship Road and more readily avoid tight turns around plant and buildings located close to the entry at Gate No.1. Once the access requirements have been determined, the assessment of safe traffic flow entering and exiting the site will be undertaken in consultation with NSW Ports for the proposed works. The Traffic Study and subsequent Traffic Management Plan/Traffic Control Plans should be prepared in accordance with the *Austroads Guide to Traffic Management* and the *NSW RMS Traffic Control at Worksites Manual Version 4.*

6.2.3 Proposed Assessment Methodology

Consultation would be undertaken with NSW Ports in regards to the traffic management requirements during the preparation of the EIS and prior to the commencement of construction.

Consultation would also be undertaken with neighbouring Port operators to ensure there are no traffic conflicts with other construction works or Port operations.

The traffic assessment undertaken as part of the Section 75W Modification for Site B largely address the operational impacts of the B4 project. These operational considerations would be reviewed in consultation with Vopak.

Construction traffic impacts would be considered for both Stage 1 and Stage 2.

Consideration would also be given to operational aspects of Site B for Stage 1 construction as well and operational aspects of Site B and Stage 1 for Stage 2 construction.

Cumulative traffic impacts from other known and nearby development proposals would also be considered.

Overall the proposed works are likely to have minimal impact on local traffic within the Port throughout the duration of works. Mitigation measures would also be developed to address potential disruption to Friendship Road.

6.3 Air Quality, Odour and Greenhouse Gas

6.3.1 Existing Environment

The air quality in the Port Botany area is influenced by the industry in the area and includes emissions from ship activities, local road traffic, aircraft and local industrial emissions. A study completed by SKM (2007) for the proposed Port Botany Bulk Liquids Berth 2 expansion works (west of the Terminal) found that higher concentrations of particulate matter are generally experienced during summer months and the mean monthly NO_2 and ozone concentration vary on a seasonal basis, with higher concentrations recorded during the warmer months of the year.

The closest sensitive receivers are the caretaker's residence at the Botany Cemetery (approximately 1.4 km away) and residential properties on Yarra Road and Elaroo Avenue, Philip Bay to the southeast, approximately 1.8 km away.

6.3.2 Assessment of Impact

Air Quality

The operational emissions inventory for the B4 proposal will primarily be comprised of:-

- Storage Tank losses
- Pipeline losses

Generation of dust during construction is likely to be minimal, given the tank erection methodology and the fact that access to and from the Site is along sealed roads. Generation of spoil is limited to that excavated as part of the site preparation and structural footings works. Spoil will be stockpiled and treated to reduce airborne dust.

An increase in traffic and plant related to construction works in the general area will contribute to the generation of diesel fumes; however, given the nature of the surrounding industrial environment, this is considered to be minimal.

Greenhouse Gas Emissions

Greenhouse gas (GHG) emissions are considered based on three "scopes" – scope one (direct emissions), scope two (indirect emissions from the consumption of purchased energy) and scope three (other indirect emissions).

In general, the different scopes can be defined, in accordance with the GHG Protocol (WRI/WBCSD 2007) and ISO 14064-1 (ISO 2006) as:

Scope 1 emissions arising from the construction works include those from vehicles and machinery used for materials delivery and handling, excavation, rehabilitation works, waste transport and general construction activities. The major contributor would be the consumption of diesel fuel by transport vehicles.

It is unlikely that the works will generate Scope 2 emissions during tank construction.

Scope 3 emissions from the project would be present in the form of embedded emissions associated with construction material such as steel and concrete.

In the context of Scopes 1, 2 and 3 GHG emissions, the proposed scope of works will result in minimal GHG emissions from the Terminal.

The main operations likely to generate GHGs at the B4 development are:

- Electricity to power Plant operations such as Transfer pumps, Security Lighting and Waste Water Treatment Plant (Scopes 2 and 3)
- Delivery and Distribution of Fuels via Ship (Scope 3)
- Maintenance/Contractor vehicles to and from site.

6.3.3 Proposed Assessment Methodology

Air Quality

To determine the compliance status of the proposal, individual toxic air pollutants are to be assessed against the NSW EPA design criteria at the site boundary and at sensitive receptors where appropriate. The methodology for calculating emissions is to be based on the Emission Estimation Techniques required by the National Pollutant Inventory (NPI) industry reporting requirements.

The assessment would generally comprise the following scope of works:-

- Compilation of a detailed emissions inventory from sources associated with the operation of the B4 expansion
- Analysis of the local meteorology
- Dispersion Modelling to produce contours of predicted ground level concentration of gasoline vapour
- Partitioning of gasoline vapour into individual hazardous constituents subject to EPA design criteria
- Dispersion Modelling to assess ambient background levels of constituents.

Greenhouse Gas Emissions

Estimation of the GHG emissions associated with the operation of the B4 development will be carried out using emission factors and methods outlined in the National Greenhouse Accounts (NGA) Factors.

The project is expected to represent a very minor source of GHG emissions, both in terms of the economic sector emissions and the national (Australia) emissions and hence is not expected to significantly adversely affect the environment.

6.4 Noise and Vibration

6.4.1 Existing Environment

The Site is zoned SP1 (special activities) under the *SEPP (Three Ports) 2013* (as noted in Section 3 of this SEE) with container loading docks to the north, and bulk liquid storage tank areas to the west of the southern half of the Site. Elgas' underground hydrocarbon storage facility is situated immediately west of the northern half of the Site. The Site is surrounded by industries and distantly separated from residential areas or commercial operations.

The nearest sensitive noise receivers are the caretaker's residence at the Botany cemetery, approximately 1.4 km away and residential properties to the southeast on Yarra Road and Elaroo Avenue, Philip Bay, approximately 1.8 km away (EMS 2013).

6.4.2 Assessment of Impact

The construction works may generate additional noise and vibration sources due to the following activities:

- movement and operation of work trucks, supply vehicles and workers vehicles to and from the Site
- use of generators, compressors, welding machines and cranes
- use of heavy earthmoving equipment.

A Noise Impact Study (for both the Construction and Operational phases) was carried out for the Vopak B3 Project (DA 06_0089) as a part of the EIS process (GHD October 2006). The Vopak B3 development is very similar in nature to the proposed B4 project and therefore the noise impacts for the proposed development are expected to be

similar, that is, the construction and operational activities would comply with the relevant noise control standards.

6.4.3 Proposed Assessment Methodology

A Noise Impact Study will be carried out for the proposed development and the general scope of works would be:

Construction noise and vibration

Prepare a construction noise assessment with reference to the Interim Construction Noise Guideline (EPA 2006) and the established background noise levels. The construction noise assessment will include an assessment of major construction activities and identify potential noise issues and suitable mitigation measures.

A quantitative vibration assessment would be undertaken to provide guidance on construction vibration management.

Operational noise

Undertake an operational noise assessment with reference to the NSW Industrial Noise Policy (EPA 2000). The noise assessment would consider operational sources such as on site truck movements and mechanical plant. Predicted noise levels at nearest residential areas would be assessed with operational noise mitigation measures detailed where required.

The operational noise assessment would consider existing levels of industrial noise in the Port area and consider cumulative noise impacts.

Traffic Noise Assessment

A quantitative assessment of traffic noise generation associated with the construction and operations phases of the project would be undertaken with reference to the NSW Road Noise Policy (EPA 2011).

6.5 Soil and Water

6.5.1 Existing Environment

Soils

The landscape of the development area is generally flat. The Terminal lies within the Sydney Basin biogeographic region with the local geology of the area being Hawkesbury Sandstone, overlain with unconsolidated sand deposits (Botany Sands). Hawkesbury sandstone is a hard durable rock composed of very fine to coarse quartz sand grains cemented with silica, clay and iron oxides or carbonates to form massive sheet sandstone (Parsons Brinckerhoff 2013).

Water

Botany Bay is a major estuarine embayment with a catchment of approximately 1,165 km^2. It is fed by two major waterways, Georges River which enters the bay from the southwest and Cooks River which enters the bay from the northwest (SMCMA 2011). Contaminants enter the bay via several pathways, including discharge through the stormwater network, groundwater inflows, surface runoff from foreshore catchments or via the major and minor tributaries that feed the main two watercourses.

The Site lies within the Sydney Metropolitan Catchment Management Authority Area.

Groundwater

Two aquifer systems are thought to be present under the Site; an unconfined aquifer with the dredged sand/Botany Sands layer and an underlying confined aquifer with the Hawkesbury Sandstone.

The shallow aquifer within the dredged sands/Botany Sands layer lies a few meters below ground level and is dominated by saline water and heavily influenced by tidal action. The main recharge for this aquifer is from precipitation and the reinjection of the Elgas cavern seepage water, which leads to natural discharge to Botany Bay (Parsons Brinkerhoff 2013).

The Hawkesbury Sands aquifer is divided into an upper and lower aquifer system, divided by a band of shale. The upper aquifer has some connectivity with the shallower Botany Sands aquifer.

The Botany Sands Aquifer, which lies beneath the Site, is a large volume of water present throughout the sandy ground around Botany Bay. Due to the permeability of the sands and generally shallow water table, the aquifer has been impacted by historic contamination and the NSW government strictly monitors use. The Site falls under Zone 4 of the established management zones for the aquifer, which restricts the domestic use of groundwater (DPI 2013).

A Groundwater Extraction Exclusion Area (Zone 1), known to be contaminated with chlorinated hydrocarbon, lies approximately 1.5 km northeast of the Site. This is being actively managed by Orica.

6.5.2 Assessment of Impact

Soils

Assessment of soils for the ethylene liquefaction system upgrade conducted in 2000 however, found a very small patch of acid sulphate soils (ASS) in a test pit at approximately 15 to 30 cm from the surface (Australian Environmental Labs 2000).

The Randwick Local Environmental Plan (2012) ASS map indicates the Terminal is located in an area that is not classified as having ASS.

A search of the NSW EPA contaminated land register was conducted for Randwick and no sites were identified within the Port Botany area (EPA 2013). A review of the Port Botany Asbestos Register (Pickford and Ryder Consulting 2011) found no record of buried asbestos containing material and the site had no prior usage before the Hydrocarbon Terminal installation.

No site specific geotechnical information is available at present. Douglas Partners and Aurecon have carried out geotechnical investigations on adjacent sites in Port Botany. The relevant investigations around the B4 site included the following:

- Proposed Storage Tanks 49 Friendship Road Vopak Site A- Geotechnical Investigation carried out by Douglas Partners in November 2011 (Provided by Vopak)
- Proposed Fuel Storage Facility at Port Botany – Geotechnical Investigation carried out by Douglas Partners in October 1994 (Provided by Vopak)
- New Bulk Storage Tanks Friendship Road, Port Botany – Geotechnical Assessment carried out by Douglas Partners in November 2005 inside the Vopak Bulk Liquid Storage Terminal (Provided by Vopak)

- Proposed Storage Tanks Vopak Site B – Stage 3A Expansion Corner Fishburn Road and Friendship Road Port Botany – Geotechnical Investigation carried out by Douglas Partners in November 2007 (Provided by Vopak).

The proposed works are not likely to have a permanent impact upon the soils or geology of the area as the entire site will be sealed.

Soil disturbance will occur during excavation for tank foundations, bund walls, stormwater drainage systems, access road construction. In general, excavation is minimal for the size of the project as the design intent is to keep all services, such as pipework and cabling, above ground.

The risk of erosion during construction works or as a result of construction is low given the flat topography.

Preliminary investigations for indicative tank settlements have been inferred from generalised ground conditions based on investigation data from adjacent sites and as such will need to be corroborated with detailed investigation and testing. However, based on the generalised data the potential settlements indicate that a gravel mound foundation alone beneath the tank is unlikely to be sufficient to reduce the settlement to a workable level.

During the preliminary review of likely settlement a number of options were discussed to address the risks of settlement. The most likely and cost effective being vibro-compaction ground improvement, which has had suitable success on the Vopak Site A - Storage Tanks located off 49 Friendship Road.

Therefore this form of ground improvement is likely to be incorporated into tank project detailed design. In order to provide the detailed geotechnical design parameters a detailed geotechnical investigation with laboratory analysis across the site to assess foundation and settlement conditions.

The risk of encountering acid sulphate soils is deemed to be low given soils along the proposed route are disturbed, laid down as part of the land reclamation works in the 1970s. In addition, there are no EPA records of declared contaminated soil sites near the project area. However, contingency measures should be identified to manage works in case either acid sulphate soils or contaminated soils are encountered.

Water Quality

Water quality within Botany Bay is heavily influenced by the tidal regime and the flow of freshwater into the bay, especially after large rainfall events. Any impacts to water quality during construction are likely to be localised and it is not anticipated that impacts would have a significant impact on sensitive habitats/communities within Botany Bay.

The proposed works will not directly impact surface waters but there is potential for sediment or contaminated runoff to enter the nearby Yarra Bay water and potentially affect water quality.

Construction

Impacts to local water quality could occur during the construction as a result of:

- potentially contaminated spoil or runoff from spoil stockpiles generated through excavation works entering the waterway
- potentially contaminated fill material brought onsite entering the waterway
- uncontained diesel/fuel spills entering the waterway.

No significant impacts to surface water quality are anticipated as a result of the proposed development; however, best practice measures for the management of runoff from the Site will be put in place as part of standard site management.

Operation

Stormwater at the B4 development will be managed in two streams (as does the existing Vopak Site B Terminal):-

- "Potentially Contaminated" stormwater, associated with the Tank /Bund areas, Manifolds and Pump Bays;
- Road/ general hardstand run-off associated with the remainder of the site.

All of the B4 storage tanks will be bunded and sealed in accordance with AS1940 requirements. "Potentially Contaminated" rainfall is captured within each tank bund at a sump. From here the captured run-off is conveyed to the on-site Waste Water Treatment Plant (WWTP). The treated run-off is discharged to Botany Bay at EPA POEO Licence standards. Any contaminated residues will be disposed of off-site to an approved disposal site.

The Waste Water Treatment Plant (WWTP) would comprise a First Flush Retaining Pit (for the open areas) together with a Parallel Plate Interceptor (to remove trace oil & grease).

Groundwater

The risk of impacting groundwater is restricted to excavation works of levelling the site, footings and foundations for structures to be constructed. The tank foundations to be constructed are approximately 1 m thick while footings for the bund walls will be approximately 1 m deep.

Impacts on groundwater are unlikely during construction due to the shallow (1 m to 1.5 m) depth to which wider excavations are required and the recorded depth of local groundwater, over 4 m below the top of the groundwater borehole casings.

6.5.3 Proposed Assessment Methodology

Readily available reports and data relevant to the project, the site and surrounding area would be reviewed and assessed for the B4 project. Mitigation measures during the construction and operational phase would be developed accordingly.

6.6 Waste Management

Waste products and waste generating processes employed during the construction works are likely to include the following:

- Surplus materials
- Spoil from excavation works, which may include contaminated soil
- Equipment and vehicle fluids (e.g., fuel and oil).
- Sewage and other waste, such as food scraps, as a result of the presence of the construction workforce.

Waste produced during operation of the B4 Terminal will be minimal in form and nature:-

- Minor product spillages (generally from maintenance/operational activities, e.g., draining of product pipelines etc).
- Waste stream generated from the WWTP (stormwater treatment).

6.6.1 Assessment of Impact

Key risks with regards to waste management include inadequate onsite waste management and incorrect waste disposal resulting in waste becoming dispersed into the environment in a detrimental manner.

Given the close proximity of the Site to Botany Bay, there is a risk of waste (particularly plastics) being easily dispersed into the water and impacting marine biota. The significance of this impact is considered to be low; however, it could be considered an offence under the POEO Act.

With respect to the disposal of waste, the most significant impact is likely to stem from the incorrect disposal of materials such as contaminated soil, chemicals or fuels.

The key risk centres on the management of any potentially contaminated spoil generated during excavation works, as well as any specific chemicals used during works.

6.6.2 Proposed Assessment Methodology

Readily available reports and data relevant to the project, the site and surrounding area would be reviewed and assessed for the B4 project. Mitigation measures during the construction and operational phase would be developed accordingly.

6.7 Cumulative Impact Assessment

The proposal has been sited within an area of cleared and disturbed land identified as being suitable for the intended use of the proposed development.

Cumulative impacts would consider proposed development within the surrounding locality. An important part of this assessment is that cumulative impacts with the operating Site B facility would need to be considered during the construction of Stage 1 - B4. In addition cumulative impacts would need to be considered with the operating Site B and Stage 1 - B4 whilst Stage 2 - B4 is being constructed.

No significant adverse impacts are expected, based on the previous experience of the earlier Vopak Site B developments (B1, B2 and B3 stages).

It is considered that the potential environmental impacts can be adequately managed by mitigation measures for the construction and operational phases.

7 Other Environmental Issues

7.1 Social and Economic Effects

The importance of Port Botany for the Sydney Region is ratified in *A Plan for Growing Sydney* dated December 2014 which identifies Port Botany as being one of the economic drivers for the South subregion. To implement the directions in *A Plan for Growing Sydney,* the following priorities have been outlined for Port Botany and its role as one of Sydney's Transport Gateways:

- Identify and protect strategically important industrial zoned land in and near Port Botany Precinct.
- Protect Port Botany's function as an international gateway for freight and support port-related land uses and infrastructure in the area around the port.
- Facilitate good employment and transport connections and an efficient freight network to Sydney Airport and Port Botany.
- Investigate pinch-points associated with growth in the vicinity of Sydney Airport and Port Botany.

Construction of Stage 1 - B4A will take approximately 12 months and will employ, at the peak of construction, 60-80 jobs. Similarly, Stage 2 - B4B will also take 12 months to construct and will employ similar numbers as Stage 1 - B4A.

It is expected that once the terminal is operating fully, extra jobs (both full time and contractor part-time) will be created in the Vopak Operations and Maintenance teams.

The project also involves a substantial investment in the broader NSW economy with an estimated current Project cost in excess of $100 million.

As part of the preparation of the EIS, socio-economic impacts would be assessed. The assessment would identify positive and negative social and environmental impacts associated with the project and, where appropriate, measures would be recommended to mitigate any potential negative impacts.

7.2 Land Use

The land use zone of the site under the Three Ports SEPP is SP1 - Special Activities.

The Vopak Site B Terminal is located on relatively flat, stable reclaimed land with few undisturbed natural features.

There are two distinct types of cargo handling and storage trades that have established a presence in Port Botany. These two trades include import and export of container and bulk products (liquids and gas).

Industries located adjacent to Vopak Site B and the former Qenos Hydrocarbon Terminal (Ethylene and LPG gas) site include:

- Elgas (The Sydney LPG Cavern Project) (LPG gas)
- DP World Sydney Ltd (container trade)
- Patrick Port Services (container trade)
- Austate Logistics (container trade)

- QUBE Logistics (container trade)
- NSW Ports Pipeline Corridor.

The built form of the adjacent suburbs of Banksmeadow and Port Botany is characterised by a mix of port related and industrial land uses. Matraville and Phillip Bay are more diverse in built form and include industrial, commercial, residential and open spaces dedicated to recreation.

The surrounding area is primarily characterised by industrial activity neighbours. There are no significant commercial spaces, no retail centres or similar developments that routinely have a large number of people occupying them.

Consideration would be given to surrounding land uses during the preparation of the EIS.

7.3 Visual Assessment

The visual amenity aspect of the proposal will be reviewed in detail in the forthcoming EIS. In general, the B4 tanks will be of the same form and size as the existing Vopak Site B tanks (i.e. Tanks Shells painted white with Aluminium Geodesic Dome Roofs).

The B4 tanks, as viewed from the La Perouse/Yarra Bay area will form a continuous line of tanks against the existing Vopak Site B tanks (B1, B2 and B3) and will also be partially obscured by the empty Containers stacked on the Tyne site (Simblist Road).

The B4 tanks, as viewed from the Brighton side of Botany Bay will almost be obscured by the existing Vopak Site B tanks (B1, B2 and B3).

An assessment would be made from sensitive public viewpoints to identify and assess potential impacts.

7.4 Flora and Fauna

The Terminal lies within a heavily industrialised area which has undergone significant land development, including land reclamation works, and there is no natural terrestrial habitat remaining in the immediate area. A search of the Office of Environment and Heritage (OEH) Atlas of NSW Wildlife (NSW Government 2013) and the Department of the Environment (DoE) Protected Matters Reporting Tool (2013) did not return any records for threatened or protected species within the general Site. The Randwick LEP (NSW Government 2012) does not identify any areas of biodiversity value within the Port Botany peninsula.

The Site lies adjacent to Botany Bay, which contains marine and estuarine habitats of importance, including Penrhyn Estuary. The estuary lies 1.5 km to the north of the site and comprises saltmarsh, intertidal sand and mudflats and mangroves providing important habitat for migratory bird species and shorebirds. Seagrass beds are also present along the northern area of the Port of Botany Bay. The Towra Point Nature Reserve Ramsar site adjoins Kurnell Peninsula and forms the southern and eastern boundaries of Botany Bay, approximately 3 km southwest of the site. This Ramsar site is the largest wetland of its type in the greater Sydney region.

The works are adjacent to Brotherson Dock, which has been dredged to allow ships access to the port, and as such is unlikely to support sensitive marine habitat, such as seagrass communities (SKM 2007). Therefore, these impacts, should they occur are likely to be temporary and localised and are unlikely to result in a significant impact.

No impacts to local biodiversity values during Site B operations have been identified and is expected to continue with the proposed B4 Expansion.

7.5 Heritage

A search of the Heritage schedule of the Randwick LEP, the Aboriginal Heritage Information Management System (AHIMS), NSW State Heritage Inventory and the Australian Heritage Database was undertaken as part of this assessment. There are no known Aboriginal cultural heritage sites or places within 200 m of the Site (AHIMS 2013).

There are also no known European heritage sites within the project area. The nearest conservation area is located to the east of the Site associated with Philip Bay (NSW Government 2012).

Given the relatively recent history of land reclamation to develop the Port Botany area and the recent demolition activities associated with the demolition of the Qenos Propane and Butane tanks, the presence of unknown Aboriginal or European artefacts that could be disturbed during works is considered negligible.

7.6 Sustainability and Climate Change

The EIS would consider issues of sustainability and climate change relating to the B4 project. Key issues which would be considered would include potential increases in energy and water consumption requirements.

8 Conclusion

The Vopak B4 Expansion Project is proposed on the former Qenos site on Friendship Road to the east of the existing Vopak Site B Facility. The Project would be categorised as a State Significant Development under Part 4, Division 4.1 of the EP&A Act.

This Preliminary Environmental Assessment Report has described the key components of the Project and includes an initial assessment of the key environmental issues associated with the Project. It has been prepared to assist the Secretary of the Department of Planning and Environment in providing focussed Secretary's Environmental Assessment Requirements, which would form the basis for preparation of the detailed EIS for the Project.

Issues were prioritised based on their likelihood of occurrence and potential significance of consequences in the absence of mitigation and management measures. The objective of the prioritisation process was to identify the issues that require more detailed assessment in the EIS.