

Development Consent

Section 89E of the *Environmental Planning and Assessment Act 1979*

As delegate for the Minister for Planning under delegation executed on 16 February 2015, I grant consent to the development application referred to in Schedule 1, subject to the conditions in Schedule 2.

These conditions are required to:

- prevent, minimise, and/or offset adverse environmental impacts;
- set standards and performance measures for acceptable environmental performance;
- require regular monitoring and reporting; and
- provide for the ongoing environmental management of the Development.



Ben Lusher
A/Executive Director
Key Sites and Industry Assessments

Sydney

9 SEPTEMBER

2016

SCHEDULE 1

Application No.:	SSD 7264
Applicant:	TQ Holdings Australia Pty Ltd
Consent Authority:	Minister for Planning
Land:	Lot 301 DP 1148391 Lot 2 DP 1125445 Lot 11 DP 1182111 Lot 70 DP 1182824, Tom Thumb Road, Port Kembla
Development:	Construction and operation of a bulk liquids fuel terminal including berth infrastructure

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DEFINITIONS

Applicant, the	TQ Holdings Australia Pty Ltd, or anyone else entitled to act on this consent
BCA	Building Code of Australia
Bulk Liquids	Bulk liquids including gasoline, diesel and ethanol to be imported and distributed from the site as described in the EIS
Certifying Authority	Means a person who is authorised by or under section 109D of the Act to issue certificates
Construction	The demolition of buildings or works, the carrying out of works, including bulk earthworks, erection of buildings and other infrastructure covered by this consent
Council	Wollongong City Council
Day	The period from 7 am to 6 pm on Monday to Saturday, and 8 am to 6 pm on Sundays and Public Holidays
Department	Department of Planning and Environment or its successors
Development	The Development to which this consent applies, the scope of which is described in Schedule 1
DPI	NSW Department of Primary Industries
DPI Water	NSW Department of Primary Industries - Water
EIS	Environmental Impact Statement titled, <i>Port Kembla Bulk Liquids Terminal</i> , prepared by Cardno (NSW/ACT) Pty Ltd, dated 4 December 2015
ENM	Excavated Natural Materials
EPA	Environment Protection Authority
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulation	<i>Environmental Planning and Assessment Regulation 2000</i>
EPL	Environment Protection Licence under the POEO Act
Evening	The period from 6 pm to 10 pm
Feasible	Feasible relates to engineering considerations and what is practical to build
FRNSW	Fire and Rescue NSW
Heavy vehicle	Any vehicle with a gross vehicle mass of 5 tonnes or more
Incident	A set of circumstances that: • causes or threatens to cause material harm to the environment; and/or • breaches or exceeds the limits or performance measures/criteria in this consent
INP	<i>NSW Industrial Noise Policy</i> , EPA 2000
Management and Mitigation Measures	The Management and Mitigation Measures at Appendix 3 of this consent
Minister	Minister for Planning
Mitigation	Activities associated with reducing the impacts of the Development prior to or during those impacts occurring
Night	The period from 10 pm to 7 am on Monday to Saturday, and 10 pm to 8 am on Sundays and Public Holidays
NSW Ports	Botany Operations Pty Limited as trustee for the Port Botany Unit Trust
OEH	Office of Environment and Heritage
Operation	The import, storage and distribution of bulk liquids, as described in the EIS
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
PHA	Preliminary Hazard Analysis titled <i>Preliminary Hazard Analysis Port Kembla Bulk Liquids Terminal</i> prepared by Sherpa Consulting, dated 4 December 2015
Reasonable	Reasonable relates to the application of judgement in arriving at a decision, taking into account: mitigation benefits, cost of mitigation versus benefits provided, community views and the nature and extent of potential improvements
RMS	Roads and Maritime Services
RTS	Response to Submissions titled <i>Port Kembla Bulk Liquids Terminal – Response to Submissions</i> , prepared by Cardno (NSW/ACT) Pty Ltd, dated 7 April 2016
Secretary	Secretary of the Department of Planning and Environment, or nominee
Site	Land referred to in Schedule 1
VENM	Virgin Excavated Natural Material

SCHEDULE 2

PART A - ADMINISTRATIVE CONDITIONS

OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT

- A1. In addition to meeting the specific performance criteria established under this consent, the Applicant shall implement all reasonable and feasible measures to prevent and/or minimise any harm to the environment that may result from the construction or operation of the Development.

TERMS OF CONSENT

- A2. The Applicant shall carry out the Development in accordance with the:
- (a) State Significant Development Application SSD 7264;
 - (b) EIS;
 - (c) RTS;
 - (d) *Biodiversity Assessment Report – Development site (Version 1.0)*, prepared by Ecoplaning Pty Ltd and dated 28 January 2016;
 - (e) the plans and drawings at Appendix 1; and
 - (f) the Management and Mitigation Measures at Appendix 3.
- A3. If there is any inconsistency between the plans and documentation referred to in Condition A2 above, the most recent document shall prevail to the extent of the inconsistency. However, conditions of this consent prevail to the extent of any inconsistency.
- A4. The Applicant shall comply with any reasonable requirement(s) of the Secretary arising from the Department's assessment of:
- (a) any reports, plans or correspondence that are submitted in accordance with this consent; and
 - (b) the implementation of any actions or measures contained within these documents.

LIMITS OF CONSENT

- A5. This consent lapses five years after the date from which it operates, unless the Development has physically commenced on the land to which the consent applies before the date on which the consent would otherwise lapse under Section 95 of the EP&A Act.
- A6. The Applicant shall ensure the throughput of bulk liquids at the site does not exceed 2,900 mega litres (ML) a year.

STATUTORY REQUIREMENTS

- A7. The Applicant shall ensure all licences, permits and approvals are obtained and kept up to date as required throughout the life of the Development. No condition of this consent removes the obligation of the Applicant to obtain, renew or comply with such licences, permits or approvals.

STRUCTURAL ADEQUACY

- A8. The Applicant shall ensure all new buildings and structures on the site are constructed in accordance with the relevant requirements of the BCA.

Note:

- *Under Part 4A of the EP&A Act, the Applicant is required to obtain construction and occupation certificates for the proposed building works.*
- *Part 8 of the Regulation sets out the requirements for the certification of the Development.*

STAGED SUBMISSION OF PLANS AND PROGRAMS

- A9. With the approval of the Secretary, the Applicant may:
- (a) submit any strategy, plan or program required by this consent on a progressive basis; and/or
 - (b) combine any strategy, plan or program required by this consent.

EVIDENCE OF CONSULTATION

- A10. Where consultation with any public authority is required by the conditions of this consent, the Applicant shall:
- (a) consult with the relevant public authority prior to submitting the required documentation to the Secretary or the Certifying Authority for approval, where required;
 - (b) submit evidence of this consultation as part of the relevant documentation required by the conditions of this consent; and
 - (c) include the details of any outstanding issues raised by the relevant public authority and an explanation of disagreement between any public authority and the Applicant or any person acting on this development consent.

DISPUTE RESOLUTION

- A11. In the event of a dispute between the Applicant and a public authority, in relation to an applicable requirement in this consent or relevant matter relating to the Development, either party may refer the matter to the Secretary for resolution. The Secretary's determination of any such dispute shall be final and binding on the parties.

UTILITIES AND SERVICES

- A12. Utilities, services and other infrastructure potentially affected by the construction and operation of the Development shall be identified prior to construction to determine requirements for access to, diversion, protection, and/or support. Consultation with the relevant owner and/or provider of services that are likely to be affected by the Development shall be undertaken to make suitable arrangements for access to, diversion, protection, and/or support of the affected infrastructure as required. The cost of any such arrangements shall be borne by the Applicant.

DILAPIDATION REPORT

- A13. Prior to commencement of construction, the Applicant shall:
- (a) prepare a dilapidation report of the port infrastructure in the vicinity of the site (including roads, gutters and footpaths); and
 - (b) submit a copy of this report to the Secretary and NSW Ports.
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PART B - ENVIRONMENTAL PERFORMANCE

HAZARD AND RISK

- B1. The Applicant shall:
- (a) implement all control measures proposed in the PHA;
 - (b) implement all actions in response to the recommendations from the Buncefield incident investigation report as listed in Appendix A of the PHA; and
 - (c) implement all recommendations of the PHA.
- B2. Prior to the completion of detailed design of the Development, or within such further period as the Secretary may agree, the Applicant shall prepare a Surge Study for the Development. The Study shall:
- (a) be prepared in consultation with SafeWork NSW prior to commencement of the study;
 - (b) consider scenarios including, but not limited to, pump trips and operation of the dry break coupling on marine loading arms;
 - (c) take into account the maximum pumping and tank filling rates when evaluating the pressures that can occur in the pipeline in a surge scenario; and
 - (d) evaluate the controls such as valve closing times and pressure rating of pipes and related equipment.

The findings of the Surge Study shall be included in the Final Hazard Analysis (FHA) under Condition B4(d).

- B3. Prior to finalising the detailed design of the Development, the Applicant shall consult with SafeWork NSW regarding any requirements under the *Work Health and Safety Act 2011* and *Work Health and Safety Regulation 2011*.

Pre-construction

- B4. At least one month prior to the commencement of construction of the Development (except for construction of those preliminary works that are outside the scope of the hazard studies), or within such further period as the Secretary may agree, the Applicant shall prepare and submit for the approval of the Secretary the studies set out under subsections (a) to (d) (the pre-construction studies). Construction, other than of preliminary works, shall not commence until approval has been given by the Secretary and, with respect to the Fire Safety Study, approval has also been given by Fire and Rescue NSW (FRNSW).
- (a) **CONSTRUCTION SAFETY STUDY**
A Construction Safety Study prepared in accordance with the Department's *Hazardous Industry Planning Advisory Paper No. 7, 'Construction Safety Study Guidelines'*. For developments in which the construction period exceeds six months, the commissioning portion of the Construction Safety Study may be submitted two months prior to the commencement of commissioning.
 - (b) **FIRE SAFETY STUDY**
A Fire Safety Study for the Development. This study shall cover the relevant aspects of the Department's *Hazardous Industry Planning Advisory Paper No. 2, 'Fire Safety Study Guidelines'* and the New South Wales Government's *'Best Practice Guidelines for Contaminated Water Retention and Treatment Systems'*. The study shall also be submitted for approval, to FRNSW.
 - (c) **HAZARD AND OPERABILITY STUDY**
A Hazard and Operability Study (HAZOP) for the Development chaired by an independent qualified person approved by the Secretary prior to the commencement of the study. The study shall be carried out in accordance with the Department's *Hazardous Industry Planning Advisory Paper No. 8, 'HAZOP Guidelines'*. The study report must be accompanied by a program for the implementation of all recommendations made in the report. Safety related recommendations must be included into the final design of the Development. If the Applicant intends to defer the implementation of a recommendation justification must be included.

In addition, the following shall be covered in the HAZOP:

- (i) surge issues for the various operating scenarios; and
- (ii) the ullage (in the tanks) above the high alarm/ESD level, taking into account the slow closing time assigned to the ESD valves by the Surge Study required under Condition B2 above.

(d) **FINAL HAZARD ANALYSIS**

A FHA of the site, consistent with the Department's *Hazardous Industry Planning Advisory Paper No. 6, 'Hazard Analysis'*. The FHA shall report on the implementation of the recommendations of the PHA. The FHA shall:

- (i) re-evaluate and confirm all relevant data and assumptions from the PHA, in particular, the outcomes of the Surge Study that may result in changes in the risk assessment (refer to Condition B2);
- (ii) re-evaluate and confirm all control measures proposed for the prevention and mitigation of incidents;
- (iii) re-evaluate, confirm and provide evidence that the risk of propagation is managed and contained onsite. If the risk of propagation based on the detailed design still extends into surrounding land uses, a Risk Reduction Program shall be implemented within twelve months of the commencement of operation to ensure the Development does not limit the future use of adjacent land to the Development; and
- (iv) report on implementation of the recommendations of the PHA.

Pre-commissioning

B5. The Applicant shall develop and implement the plans and systems set out under subsections (a) to (c). No later than two months prior to the commencement of commissioning of the Development, or within such further period as the Secretary may agree, the Applicant shall submit, for the approval of the Secretary, documentation describing those plans and systems. Commissioning shall not commence until approval has been given by the Secretary.

(a) **TRANSPORT OF HAZARDOUS MATERIALS**

Arrangements covering the transport of hazardous materials including details of routes to be used for the movement of vehicles carrying hazardous materials to or from the Development. The routes selected shall be consistent with the *Department's Hazardous Industry Planning Advisory Paper No. 11, 'Route Selection'*. Suitable routes identified in the study shall be used except where departures are necessary for local deliveries or emergencies.

(b) **EMERGENCY PLAN**

A comprehensive Emergency Plan and detailed emergency procedures for the Development. This plan shall include consideration of the safety of all people outside of the Development who may be at risk from the Development. The plan shall be consistent with the *Department's Hazardous Industry Planning Advisory Paper No. 1, 'Emergency Planning'*.

(c) **SAFETY MANAGEMENT SYSTEM**

A document setting out a comprehensive Safety Management System (SMS), covering all on-site operations and associated transport activities involving hazardous materials. The document shall clearly specify all safety related procedures, responsibilities and policies, along with details of mechanisms for ensuring adherence to the procedures. Records associated with the SMS shall be kept on-site and shall be available for inspection by the Secretary upon request. The Safety Management System shall be consistent with the *Department's Hazardous Industry Planning Advisory Paper No. 9, 'Safety Management'*.

An inspection, testing and preventive maintenance program should be developed, implemented and maintained to ensure the reliability and availability of the key safety critical equipment is, at a minimum, consistent with the data estimated in the PHA.

Pre-startup

B6. PRE-STARTUP COMPLIANCE REPORT

One month prior to the commencement of operation of the Development, the Applicant shall submit to the Secretary, a report detailing compliance with Conditions B1 to B5, including:

- (a) dates of study/plan/system submission, approval, commencement of construction and commissioning;
- (b) actions taken or proposed, to implement the recommendations and safety-related control measures in the studies/plans/systems;
- (c) a pre-startup safety review/checklist; and
- (d) responses to each requirement imposed by the Secretary under Condition B8.

Ongoing

B7. HAZARD AUDIT

Twelve months after the commencement of operation of the Development and every three years thereafter, or at such intervals as the Secretary may agree, the Applicant shall carry out a comprehensive Hazard Audit of the Development and within one month of each audit submit a report to the Secretary.

The audits shall be carried out at the Applicant's expense by a qualified person or team, independent of the project, approved by the Secretary prior to commencement of each audit. Hazard Audits shall be consistent with the Department's *Hazardous Industry Planning Advisory Paper No. 5, 'Hazard Audit Guidelines'* (HIPAP No. 5). The audit reports shall, in addition to the requirements provided in HIPAP No 5:

- (a) verify implementation of all actions proposed by the Applicant in response to the recommendations from the Buncefield incident investigation report as contained in the Appendix A of the PHA;
- (b) verify that an inspection, testing and preventative maintenance program has been developed, implemented and maintained to ensure the reliability and availability of key safety critical equipment;
- (c) confirm the throughput and storage quantities of potentially hazardous materials are consistent with the PHA; and
- (d) verify implementation of any measures arising from the reports submitted in respect of Conditions B1 to B6 of this Schedule.

The audit report shall be accompanied by a program for the implementation of all recommendations made in the audit report. If the Applicant intends to defer the implementation of a recommendation, reasons must be documented. This audit report must also be submitted to SafeWork NSW.

Further Requirements

- B8. The Applicant shall comply with all reasonable requirements of the Secretary in respect of the implementation of any measures arising from the reports submitted in respect of Conditions B1 to B7 inclusive, within such time as the Secretary may agree.

AIR QUALITY AND ODOUR

Air Quality Discharges

- B9. The Applicant shall install and operate equipment in line with best practice to ensure the Development complies with all load limits, emission limits, air quality criteria and air quality monitoring requirements as specified in the EPL for the site.

Storage Tank Controls

- B10. The Applicant shall ensure all large storage tanks are constructed and operated in accordance with the control equipment requirements as specified under Clause 63 of the *Protection of the Operations (Clean Air) Regulation 2010*.

Odour

- B11. The Applicant shall ensure the Development does not cause or permit the emission of any offensive odour beyond the boundary of the site (as defined in the POEO Act).

Leak Detection and Reduction Program

- B12. During operation, the Applicant shall operate a site-wide Leak Detection and Reduction Program for the Development in accordance with the requirements of the EPL for the site.

Dust Management

- B13. The Applicant shall carry out all reasonable and feasible measures to minimise dust generated by the Development.
- B14. During construction and operation of the Development, the Applicant shall ensure:
- (a) all vehicles on-site do not exceed a speed limit of 20 kilometres per hour;
 - (b) all loaded vehicles entering or leaving the site have their loads covered;
 - (c) all vehicles leaving the site are cleaned of dirt, sand and other materials before they leave the site, to avoid tracking these materials on public roads; and
 - (d) all heavy vehicles do not use engine brakes.

Meteorological Monitoring

- B15. During the operational life of the Development, the Applicant shall ensure there is a suitable meteorological station on the site that complies with the requirements in the latest version of the *Approved Methods for Sampling of Air Pollutants in New South Wales* guideline. The meteorological station must be maintained so as to be capable of continuously monitoring the following parameters: air temperature, wind direction, wind speed, rainfall and relative humidity and any other requirements specified in the EPL.

Operating Conditions

- B16. The Applicant shall:
- (a) implement all reasonable and feasible dust and odour mitigation measures to prevent and minimise odour and dust emissions from operations;
 - (b) prevent and minimise the air quality impacts of the Development during adverse meteorological conditions and extraordinary events;
 - (c) minimise any visible off-site air pollution; and
 - (d) minimise surface disturbance of the site, other than as permitted under this consent.

Operational Air Quality Management Plan

- B17. Prior to commencement of operation, the Applicant shall prepare an **Air Quality Management Plan** for the Development, to the satisfaction of the Secretary. The AQMP shall form part of the OEMP in Condition C4 and be prepared in accordance with Condition C7. The AQMP shall:
- (a) be prepared by a suitably qualified and experienced expert;
 - (b) be prepared in consultation with the EPA;
 - (c) detail and rank all emissions from all sources of the Development;
 - (d) describe an air quality and odour monitoring program that is capable of evaluating the performance of the operation and determining compliance with key performance indicators agreed in consultation with the EPA;
 - (e) nominate the following for each of the proposed controls:
 - (i) key performance indicator;
 - (ii) monitoring method;

- (iii) location, frequency and duration of monitoring; and
- (iv) record keeping;
- (f) identify the control measures that will be implemented for each emissions source;
- (g) detail odour response requirements to be implemented in the event of an adverse odour event; and
- (h) include record keeping, a complaints register and response procedure and compliance reporting.

TRAFFIC AND TRANSPORT

Site Access, Internal Roads and Parking

B18. The Applicant shall ensure:

- (a) internal roads, driveways and parking (including grades, turn paths, sight distance requirements, aisle widths, aisle lengths and parking bay dimensions) associated with the Development are constructed and maintained in accordance with the latest versions of AS 2890.1 and AS 2890.2;
- (b) the sweep path of the longest vehicle entering and exiting the subject site, as well as manoeuvrability through the site, is in accordance with *AUSTROADS – Guide to Road Design*;
- (c) all heavy vehicular traffic movements to and from the site are made in a forward direction;
- (d) the Development does not result in any vehicles parking or queuing on the public road network;
- (e) heavy vehicles associated with the Development do not park or stand on Morton Way or Tom Thumb Road;
- (f) all vehicles are wholly contained on site before being required to stop;
- (g) all loading and unloading of materials is carried out on site; and
- (h) the proposed turning areas in the car park are kept clear of any obstacles, including parked cars, at all times.

Heavy Vehicles turning into Morton Way

B19. The Applicant shall, in consultation with NSW Ports, ensure conflicts do not arise between heavy vehicles turning into Morton Way from Tom Thumb Road and other users of Morton Way.

Construction Traffic Management Plan

B20. Prior to the commencement of construction, the Applicant shall prepare a **Construction Traffic Management Plan** (TMP) for the Development to the satisfaction of the Secretary. The plan shall form part of the CEMP required under Condition C1 and be prepared in accordance with Condition C7. The TMP shall:

- (a) be prepared in consultation with NSW Ports;
- (b) detail the measures that would be implemented to ensure road safety, network efficiency and access during construction;
- (c) detail construction vehicle routes, number of trucks and access;
- (d) include details of how construction workers would be transported to and from site and any alternative parking arrangements and locations;
- (e) contain a driver's code of conduct to:
 - (i) minimise the impacts of construction on the local and regional road network;
 - (ii) minimise conflicts with other road users;
 - (iii) ensure truck drivers use specified routes;
- (f) describe the measures that will be implemented to ensure:
 - (i) the nominated construction vehicle route is used; and
 - (ii) drivers adhere to the code of conduct and comply with the relevant conditions of this consent.

Operational Traffic Management Plan

B21. Prior to the commencement of operation, the Applicant shall prepare an **Operational Traffic Management Plan** (TMP) to the satisfaction of the Secretary. The plan shall form part of the OEMP required under Condition C4 and be prepared in accordance with Condition C7. The TMP shall:

- (a) be prepared in consultation with NSW Ports and RMS;
- (b) detail the heavy vehicle routes and access arrangements to and from the site;
- (c) include details of driver traffic awareness to minimise noise, particularly from reversing alarms and compression braking;
- (d) detail procedures for managing operational traffic, including adherence to the *Australian Code for Transport of Dangerous Goods by Road and Rail, January 1998* or its latest version; and
- (e) detail traffic management measures for heavy vehicles turning into Morton Way from Tom Thumb Road including but not limited to details of any signage, pavement line markings and directional arrows.

NOISE AND VIBRATION

Hours of Work

- B22. The Applicant shall comply with the construction and operation hours in Table 1, unless otherwise agreed by the Secretary.

Table 1: Hours of Work

Activity	Day	Hours
Construction	Monday - Friday	7 am to 6 pm
	Saturday	8 am to 1 pm
	Sunday & Public Holidays	Nil
Operation	Monday to Sunday	24 hours

- B23. Construction outside of the hours identified in Condition B22, may be undertaken in the following circumstances:
- (a) works that are inaudible at the nearest sensitive receiver;
 - (b) works agreed to in writing by the EPA or Secretary;
 - (c) for the delivery of materials required outside these hours by the NSW Police or other authorities for safety reasons; or
 - (d) where it is required in an emergency to avoid the loss of lives, property and/or to prevent environmental harm.

Construction Vibration

- B24. The Applicant shall aim to achieve the following construction vibration goals:
- (a) for structural damage, the vibration limits set out in the German *Standard DIN 4150-3: Structural Vibration – effects of vibration on structures*; and
 - (b) for human exposure, the acceptable vibration values set out in the *Environmental Noise Management Assessing Vibration: A technical Guideline* (Department of Environment and Conservation, 2006).

Construction Noise and Vibration Management Plan

- B25. Prior to the commencement of construction, the Applicant shall prepare a **Construction Noise and Vibration Management Plan (CNVMP)** for the Development, to the satisfaction of the Secretary. The CNVMP shall form part of the CEMP in Condition C1 and be prepared in accordance with Condition C7. The CNVMP shall:
- (a) be prepared in consultation with the EPA;
 - (b) describe the measures that will be implemented to minimise noise and vibration including:
 - all reasonable and feasible measures being employed on site;
 - maintenance of equipment to ensure that it is in proper and efficient condition;
 - procedures to ensure that all construction equipment including any vibration generating equipment does not operate simultaneously, where practicable;
 - traffic noise is effectively managed;
 - a consultation strategy with adjoining neighbours;

- identification of high noise and vibration generating construction works (including piling works), including proposed times when these works will be carried out (including respite periods if required) and mitigation measures to minimise adverse impacts from these activities;
- (c) include a construction Noise and Vibration Monitoring Program to evaluate the performance of the Development including but not limited to, the vibration trials to validate piling impacts during initial piling works; and
- (d) include a protocol to determine the occurrence of an exceedance of the criteria in this consent should such an exceedance occur.

Operational Noise Limits

B26. The Applicant shall ensure noise from the operation does not exceed the limits in Table 2 below.

Table 2: Noise Limits (dB(A))

Locality	Location	Noise Limits dB(A)			
		Day	Evening	Night	
		L _{Aeq} (15min)	L _{Aeq} (15min)	L _{Aeq} (15min)	L _{Fmax} (15min)
Wollongong (south of Swan Street)	The most affected residential sensitive receiver south of Swan Street in Wollongong	37	37	37	45
Wollongong (north of Swan Street)	The most affected residential sensitive receiver north of Swan Street in Wollongong	36	36	36	45
Coniston	The most affected residential sensitive receiver in Coniston	36	36	36	45
Mount Saint Thomas	The most affected residential sensitive receiver in Mount Saint Thomas	35	35	35	45

Note:

- To identify a noise receiver location, refer to the figure in Appendix 2.
- Noise generated by the Development is to be measured in accordance with the relevant procedures and exemptions (including certain meteorological conditions) of the Industrial Noise Policy.

Operating Conditions

B27. The Applicant shall:

- implement all reasonable and feasible noise management and mitigation measures to prevent and minimise operational, low frequency and traffic noise generated during operation;
- maintain the effectiveness of any noise suppression equipment or plant at all times and ensure defective plant that may generate offensive noise is not used operationally until fully repaired; and
- regularly assess noise monitoring data and relocate, modify and/or stop operations to ensure compliance with the relevant conditions of this consent.

Post-commissioning Noise Verification Report

B28. Within three months of the commencement of operation, the Applicant shall submit a post-commissioning Noise Verification Report to the EPA. The report shall:

- be prepared by a suitably qualified acoustical consultant;
- include a noise monitoring program to confirm the findings of the *Noise and Vibration Impact Assessment for the Proposed Port Kembla Bulk Liquids Terminal*, prepared by Pacific Environment Limited, dated November 2015 in the EIS;
- demonstrate compliance with noise limits presented in Condition B26;
- detail what additional measures would be implemented to ensure compliance if exceedances are recorded; and
- detail additional measures that could be implemented to further reduce emissions.

Operational Traffic Noise Management Plan

- B29. Prior to the commencement of operation, the Applicant shall prepare an **Operational Traffic Noise Management Plan**, to the satisfaction of the Secretary. The Plan shall form part of the OEMP in Condition C4 and be prepared in accordance with Condition C7. The plan shall:
- (a) be developed in consultation with the EPA;
 - (b) include details of an annual Truck Noise Auditing Program, including but not limited to, the type of testing to be undertaken and reporting requirements; and
 - (c) identify, consider and implement feasible and reasonable management strategies to achieve the highest noise emissions standards for vehicle movements associated with the Development.

SOIL, WATER QUALITY AND HYDROLOGY

Water Licences

- B30. The Applicant is required to obtain any necessary water licences for the Development under the *Water Act 1912* and/or the *Water Management Act 2000*.

Note: Licences are required for groundwater bores, excavations that may intercept groundwater, dewatering activities and extraction or interception of surface water.

Surface Water Discharge Limits

- B31. The Applicant shall ensure all licensed surface water discharges from the site comply with all requirements as specified in the EPL for the site.

Imported Soil

- B32. The Applicant shall:
- (a) ensure that only VENM or ENM or other material approved in writing by the EPA is used as fill on the site;
 - (b) keep accurate records of the volume and type of fill to be used; and
 - (c) make these records available to the Department upon request.

Construction Soil and Water Management

- B33. Soil and water management measures consistent with *Managing Urban Stormwater - Soils and Construction Vol. 1* (Landcom, 2004) (the Blue Book) shall be employed during the construction of the Development to minimise soil erosion and the discharge of sediment and other pollutants to land and/or waters.

Bunding and Storage of Liquids

- B34. The Applicant shall store all chemicals, fuels and oils used onsite in appropriately bunded areas in accordance with the requirements of all relevant Australian Standards, and/or EPA's *Storing and Handling Liquids: Environmental Protection – Participants Handbook*.

Water Management Plan

- B35. Prior to commencement of operation, the Applicant shall prepare a Soil and Water Management Plan (WMP) to the satisfaction of the Secretary. The SWMP shall form part of the OEMP in Condition C4 and be prepared in accordance with Condition C7. The WMP shall:
- (a) be prepared in consultation with the EPA and DPI Water;
 - (b) include mitigation measures for managing surface and groundwater, including but not limited to the Management and Mitigation Measures in Appendix 3;
 - (c) describe the surface water management systems onsite, including plans of the stormwater system and oily/water wastewater system; and
 - (d) detail the procedures for testing, dewatering, storage, movement and treatment of any groundwater.

CONTAMINATION

- B36. Prior to the commencement of construction, the Applicant shall obtain a Site Audit Statement for the Development, prepared by an accredited Site Auditor under the *Contaminated Land Management Act 1997*, verifying that the site is appropriate for the Development. The cost of the site audit shall be borne by the Applicant.

WASTE MANAGEMENT

Classification

- B37. The Applicant shall ensure that any waste generated on the site is classified in accordance with the EPA's *Waste Classification Guidelines* (DECCW, 2009) or any superseding document and disposed of to a facility that may lawfully accept the waste.

Waste Management

- B38. For the life of the Development, the Applicant shall:
- (a) implement all reasonable and feasible measures to minimise waste generated on site by the Development; and
 - (b) ensure any waste generated by the Development is appropriately stored, handled and disposed of.

BIODIVERSITY

Biodiversity Offset Strategy

- B39. Prior to the commencement of construction, the Applicant shall purchase and retire 1 Green Gold and Golden Bell Frog species credit in accordance with the offset strategy contained in the *Biodiversity Assessment Report – Development site (Version 1.0)* prepared by EcoPlanning Pty Ltd and dated 28 January 2016 and referred to in Condition A2(d).

Biodiversity Management Plan

- B40. Prior to the commencement of construction, the Applicant shall prepare a Biodiversity Management Plan (BMP) to the satisfaction of the Secretary. The BMP shall form part of the CEMP in Condition C4 and be prepared in accordance with Condition C7. The BMP shall:
- (a) be prepared in consultation with OEH;
 - (b) include measures to be taken to minimise impacts on flora and fauna; and
 - (c) include an updated *Plan of Management: Green and Golden Bell Frog, National Biodiesel Site Port Kembla, 2012* incorporating specific measures to be implemented such as frog-proof fences to exclude Green and Golden Bell Frogs from construction areas and establishment of safe movement areas for Green and Golden Bell Frogs in and around the site.

HERITAGE

Unexpected Finds Protocol

- B41. If any archaeological relics are uncovered during the course of construction of the Development, then all works shall stop immediately in that area and the OEH Heritage Branch contacted. Depending on the possible significance of the relics, an archaeological assessment and an excavation permit under the *NSW Heritage Act 1977* may be required before further work can continue in that area.
- B42. If any Aboriginal objects are uncovered during work, excavation or disturbance of the work area, work must stop immediately and the OEH is to be contacted by calling Environment Line on 131 555. If Aboriginal objects/places will be harmed, the Applicant will need to apply for, and be issued, an Aboriginal Heritage Impact Permit (AHIP) by the OEH to comply with the *National Parks and Wildlife Act 1974*.

VISUAL

External Lighting

- B43. All external lighting associated with the Development shall be mounted, screened, and directed in such a manner so as not to create a nuisance to the surrounding environment, properties and roadways. The lighting shall be designed in consultation with the Port Kembla Harbour Master and be the minimum level of illumination necessary and shall comply with Australian Standard AS4282 1997 – *Control of the Obtrusive Effects of Outdoor Lighting*.

GREENHOUSE GAS

- B44. The Applicant shall implement all reasonable and feasible measures to minimise energy use on site and greenhouse gas emissions produced on-site.
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PART C - ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING

ENVIRONMENTAL MANAGEMENT

Construction Environmental Management Plan

- C1. The Applicant shall prepare a **Construction Environmental Management Plan (CEMP)** to the satisfaction of the Secretary. The Plan shall:
- (a) be approved by the Secretary prior to the commencement of construction;
 - (b) identify the statutory approvals that apply to the Development;
 - (c) outline all environmental management practices and procedures to be followed during construction works associated with the Development;
 - (d) describe all activities to be undertaken on the site during construction of the Development, including a clear indication of construction stages;
 - (e) detail how the environmental performance of the construction works will be monitored, and what actions will be taken to address identified adverse environmental impacts;
 - (f) describe the roles and responsibilities for all relevant employees involved in construction works associated with the Development; and
 - (g) include the management plans under Condition C2 of this consent.
- C2. As part of the CEMP for the Development, required under Condition C1 of this consent, the Applicant shall include the following:
- (a) Dust Management;
 - (b) Traffic Management;
 - (c) Noise and Vibration Management;
 - (d) Construction Soil and Water Management;
 - (e) Biodiversity Management; and
 - (f) Community Consultation and Complaints Handling.
- C3. The Applicant shall carry out the construction of the Development in accordance with the CEMP approved by the Secretary (and as revised and approved by the Secretary from time to time), unless otherwise agreed by the Secretary.

Operational Environmental Management Plan

- C4. The Applicant shall prepare an **Operational Environmental Management Plan (OEMP)** for the Development to the satisfaction of the Secretary. The OEMP shall:
- (a) be submitted to the Secretary for approval prior to the commencement of operation;
 - (b) be prepared by a suitably qualified and experienced expert;
 - (c) provide the strategic framework for environmental management of the Development;
 - (d) identify the statutory approvals that apply to the Development;
 - (e) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the Development;
 - (f) describe the procedures that would be implemented to:
 - (i) keep the local community and relevant agencies informed about the operation and environmental performance of the Development;
 - (ii) receive, handle, respond to, and record complaints;
 - (iii) resolve any disputes that may arise;
 - (iv) respond to any non-compliance;
 - (v) respond to emergencies; and
 - (g) include the management plans under Condition C5 of this consent.
- C5. As part of the OEMP for the Development, required under Condition C4 of this consent, the Applicant shall include the following:
- (i) Air Quality;
 - (ii) Noise and Vibration Management;
 - (iii) Traffic and Transport; and
 - (iv) Water Management.

- C6. The Applicant shall operate the Development in accordance with the OEMP approved by the Secretary (and as revised and approved by the Secretary from time to time), unless otherwise agreed by the Secretary.

Management Plan Requirements

- C7. The Applicant shall ensure that the environmental management plans required under Conditions C1 and C4 of this consent are prepared by a suitably qualified person or persons in accordance with best practice and include:
- (a) detailed baseline data;
 - (b) a description of:
 - (i) the relevant statutory requirements (including any relevant approval, licence or lease conditions);
 - (ii) any relevant limits or performance measures/criteria; and
 - (iii) the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the Development or any management measures;
 - (c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;
 - (d) a program to monitor and report on the:
 - (i) impacts and environmental performance of the Development;
 - (ii) effectiveness of any management measures (see (c) above);
 - (e) a contingency plan to manage any unpredicted impacts and their consequences;
 - (f) a program to investigate and implement ways to improve the environmental performance of the Development over time;
 - (g) a protocol for managing and reporting any:
 - (i) incidents;
 - (ii) complaints;
 - (iii) non-compliances with statutory requirements; and
 - (iv) exceedances of the impact assessment criteria and/or performance criteria; and
 - (h) a protocol for periodic review of the plan.

Revision of Strategies, Plans and Programs

- C8. Within three months of:
- (a) an incident report submitted under Condition C11;
 - (b) an audit submitted under Condition C13; or
 - (c) a modification to the development consent,

the Applicant shall review, and if necessary revise, the strategies, plans, and programs required under this consent to the satisfaction of the Secretary.

Note: This is to ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the Development.

ANNUAL REVIEW

- C9. Each year, unless otherwise agreed by the Secretary, the Applicant shall review the environmental performance of the Development to the satisfaction of the Secretary. This review must:
- (a) describe the Development that was carried out during the reporting period and the Development that is proposed to be carried out over the next reporting period;
 - (b) include a comprehensive review of the monitoring results and complaints records of the Development during the reporting period, which includes a comparison of these results against the:
 - (i) the relevant statutory requirements, limits or performance measures/criteria;
 - (ii) requirements of any plan or program required under this consent;
 - (iii) the monitoring results of previous years; and
 - (iv) the relevant predictions in the EIS;
 - (c) identify any non-compliance during the reporting period, and describe what actions were (or are being) taken to ensure compliance;
 - (d) identify any trends in the monitoring data over the life of the Development;

- (e) identify any discrepancies between the predicted and actual impacts of the Development, and analyse the potential cause of any significant discrepancies; and
- (f) describe what measures will be implemented over the next reporting period to improve the environmental performance of the Development.

C10. After reviewing the report submitted under Condition C9, the Secretary may require the Applicant to address certain matters identified in the report. The Applicant must comply with any reasonable requirements of the Secretary.

REPORTING

Incident Reporting

C11. Upon detecting an exceedance of the limits/performance criteria in this consent or the occurrence of an incident that causes (or may cause) material harm to the environment, the Applicant shall immediately (or as soon as practical thereafter) notify the Secretary and other relevant agencies of the exceedance/incident.

Within seven days of the date of the incident, the Applicant shall provide the Secretary and any relevant agencies with a detailed report on the incident, and such further reports as may be requested.

Regular Reporting

C12. The Applicant shall provide regular reporting on the environmental performance of the Development on its website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this consent.

AUDITING

Independent Environmental Audit

C13. Within two years of the date of this consent, and every three years thereafter, unless the Secretary directs otherwise, the Applicant shall commission and pay the full cost of an Independent Environmental Audit of the Development. This audit shall:

- (a) be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary;
- (b) include consultation with the relevant agencies;
- (c) assess the environmental performance of the Development and assess whether it is complying with the requirements in this consent, and any other relevant approvals, relevant EPL(s) (including any assessment, plan or program required under these approvals);
- (d) review the adequacy of any approved strategy, plan or program required under the abovementioned consents; and
- (e) recommend measures or actions to improve the environmental performance of the Development, and/or any strategy, plan or program required under these consents.

Note: This audit team must be led by a suitably qualified auditor, and include relevant experts in any other fields specified by the Secretary.

C14. Within three months of commissioning this audit, or as otherwise agreed by the Secretary, the Applicant shall submit a copy of the audit report to the Secretary, together with its response to any recommendations contained in the audit report.

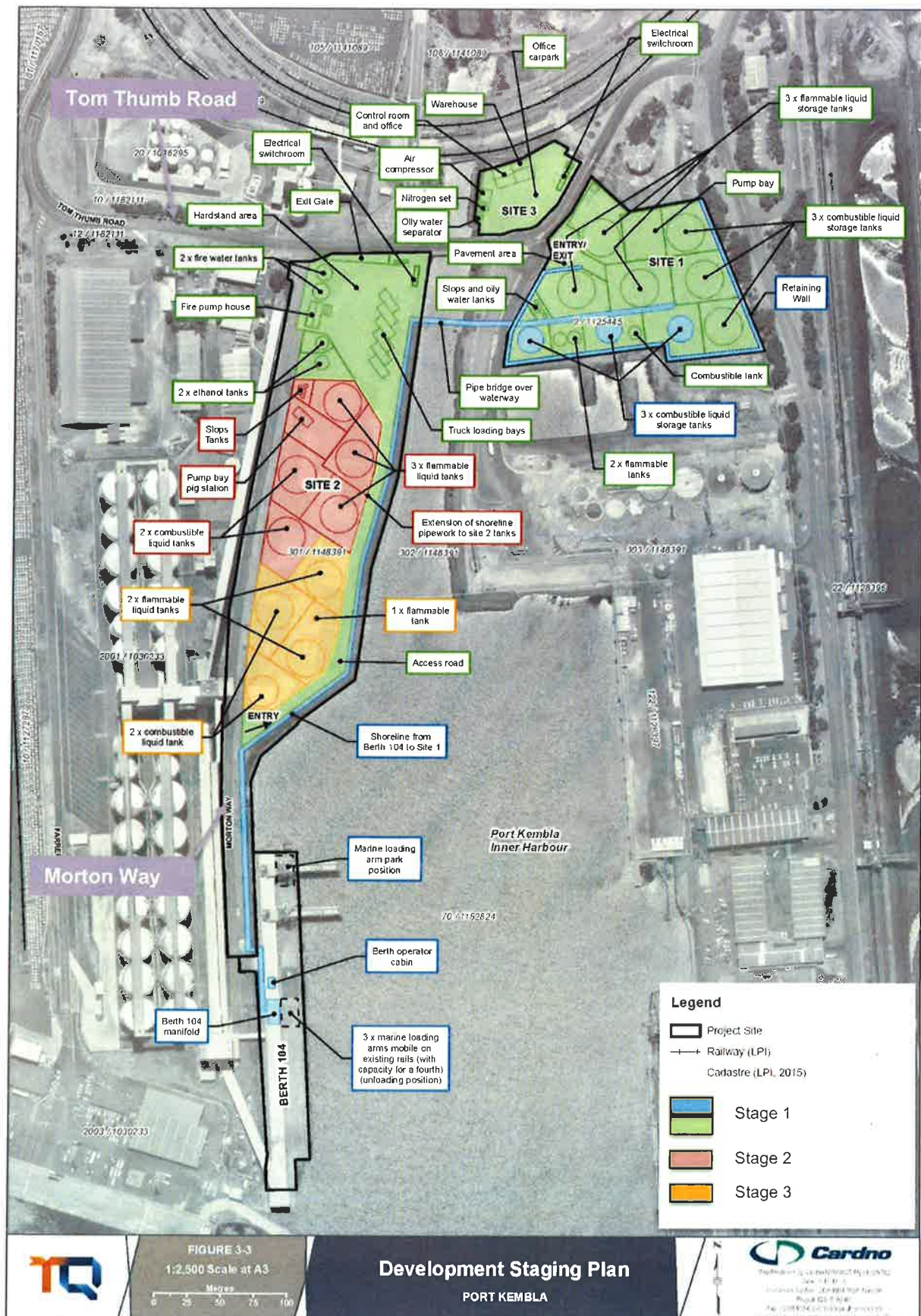
ACCESS TO INFORMATION

C15. The Applicant shall make the following information publicly available on its website and keep the information up to date:

- (a) the EIS;
- (b) current statutory approvals for the Development;
- (c) approved strategies, plans or programs;
- (d) a complaints register, updated on an annual basis; and
- (e) any other matter required by the Secretary.

Note: This condition does not require any confidential information to be made available to the public

APPENDIX 1: DEVELOPMENT LAYOUT PLANS



APPENDIX 2: SENSITIVE RECEIVERS



Figure 2: Sensitive Receptor Locations, including Additional Receptors 15-23 at the Site Boundary

APPENDIX 3: MANAGEMENT AND MITIGATION MEASURES

Table 6-1 Summary of Mitigation and Management Measures

Parameter	Discussion	Mitigation Measures
1 Hazards and Risk	Materials to be handled at the PK BLT include biofuels as well as petroleum based hydrocarbons and small quantities of additives with similar properties to fuels. Due to fencing and natural barriers such as waterways, there will not be a constant presence of people within these areas. This coupled with an absence of flammable and combustible material in these areas results in the offsite fatality risk due to PK BLT operators identified by the PHA as tolerable.	▪ Ongoing consultation with PKCT is recommended to ensure that fatality and escalation risks are minimised and agreed measures are developed ▪ To apply the relevant recommendations arising from the final Buncefield Investigation to PK BLT site as detailed in Appendix G of the PHA (see Appendix D of this report) ▪ Include in a surge analysis study during detailed design, the scenarios of high surge pressures if the ship's pumps stop working during a power failure and activation of the MLA emergency release coupling while unloading a ship. ▪ An Emergency Plan will be developed for the PK BLT. This plan should include the associated hazards arising from ships close to shore.
2 Air Quality	There are no privately owned receptors, recreation areas or on-site locations predicted to exceed the NSW EPA's average criteria for the air quality metrics assessed or the NSW EPA's nose-response criteria for odour. The results indicate that the operation of the bulk liquids terminal will have negligible impact on the air quality in Port Kembla and surrounding townships.	Construction ▪ An Air Quality Management Plan will be developed as part of the CEMP including: ▪ Methods to monitor the effects of construction activities ▪ Measures required to minimize dust and vehicle emissions during the construction of the project. ▪ The number and sizes of stockpiles will be kept to a minimum. ▪ Dust suppression shall be undertaken during construction and clearing activities, particularly during high wind conditions. Haul roads and other unsealed areas may be watered to suppress dust. ▪ Ensure that all vehicles and machinery are fitted with appropriate emission control equipment, maintained frequently and serviced to the manufacturers' specification. ▪ Minimise construction equipment idling time. Operations ▪ Each shore line will be equipped with a pig launcher and receiver in order to clear fuel product into the tank and leave the line clear for the next product. Pig propulsion will be via nitrogen pressure using a recirculation system from the terminal nitrogen tank. ▪ The pigging facilities will be equipped with containment and sump for hydrocarbon pump out. Once pigged clear, the line is depressurised into a cyclone column that separates hydrocarbon droplets and vapours vented from the shore lines. The collected liquid is then pumped across to the slops tank, and the vapour fed into the Vapour Recovery Unit to recover the remaining hydrocarbon vapours. ▪ When the vessel has finished pumping and the surveyor has confirmed the ship's tank is empty and dry, the ships manifold valve is closed and the MLA cleared by draining and pumping in a closed system. The shore pipeline is then pigged to the tank, the line depressurised (as detailed above), pig removed from the receiver and the line left in nitrogen at atmospheric pressure. ▪ These processes are included to mitigate against potential emissions from product unloading. The pigging operations and vapour recovery underlie the assumption of not including this phase of the operational process in the emissions estimation. ▪ The piping design will minimise the potential for surge overpressure via the provision of expansion loops, valve closure times, check valves in tanks and product pigging. Product pumps will have variable speed drives with soft start up and shut down to prevent surging. ▪ Pipework which is normally full with product that has closed sections will be protected by thermal relief around isolation valves. This will ensure that no product (and emissions) is lost to the environment. ▪ Bunds will be utilised to ensure that in the unlikely case of leakages, fuel products will not seep into groundwater and leave the site. Bunds containing pipework and equipment that is normally full with product will include level detection and hydrocarbon detection so that any leakage can be readily detected, in addition to routine inspections by operators. These site bunds will incorporate a pump out system to drain any spilled product to a closed slops handling system. ▪ Full contact internal floating roofs will be installed on all bulk storage tanks with flammable liquids to effectively mitigate against vapour headspace emissions during tank filling operations. ▪ PK BLT will utilise a vapour recovery unit to recover vapours and minimise emissions associated with the loading of fuels into road tankers. The vapour recovery unit will be located near the truck loading gantry. The recovered product will be pumped into a nominated bulk tank. ▪ Product will be recovered by carbon absorption in either one of two absorption vessels, which are regenerated by vacuum. At any one time, it is expected that one vessel is being desorbed while the other is on the line. ▪ Vapours from the vacuum process will be passed through a liquid vapour separator vessel then into a packed absorption tower which is supplied by a cold gasoline stream from the duty gasoline tank. The gasoline absorbs the vapours within the tower and the gasoline is returned to the duty gasoline tank. Residual vapours are repassed through the active absorption vessel to recover the remaining product. ▪ Requirements outlined in Clause 63 of the Clean Air Regulation for control equipment for large storage tanks will be implemented. The following control equipment is required. ▪ A drainage system comprising of a small sump or tundish fitted under each water draw-off valve and connected to a totally enclosed drain, or ▪ For volatile organic liquid stored in a tank with a vapour pressure ≤ 75 kPa the tank must have either a floating metal roof, a floating cover constructed of material impervious to vapour that floats on the liquid surface inside a fixed roof, or a vapour disposal or recovery system that meets the requirements of the Clean Air Regulation. ▪ For volatile organic liquid stored in a tank with a vapour pressure > 75 kPa the tank must have a vapour disposal or recovery system that meets the requirements of the Clean Air Regulations. ▪ An operational odour response management plan should be prepared within the OEMP, to address potential response requirements in the event that adverse odour events were to occur

Parameter	Discussion	Mitigation Measures
3 Noise and Vibration	The majority of PK BLT related traffic is expected on Springhill Road and Masters Road. Increases in traffic noise during both construction and operation would be below the traffic noise increase criteria of 2 decibels. No significant operational vibration sources are anticipated to impact on the nearest residential areas from operations on the facility.	- The efficiency of the VRU unit will be monitored through a prescribed regime consistent with test methods as per the NSW Approved Methods for the Sampling and Analysis of Air Pollutants in NSW (EPA, 2005). - Transport companies shall have vehicles demonstrating they have 'Compliance Plate Approval' to ensure trucks meet the national standards covering safety and emission requirements known as the Australian Design Rules (ADRs). - Procurement policies should consider companies that have a commitment to operational and environmental improvements. A noise and vibration management plan within the CEMP and OEMP is recommended for the ongoing monitoring and management of potential noise impacts resulting from the Proposal. As a <i>minimum</i> the noise and vibration management plan will consider: - The nearby residences and other sensitive land uses. - The noise management identified in this assessment. - Vibration limits as identified in this assessment. - Address the potential impact from the proposed construction methods. - Develop reactive and proactive strategies for dealing with any noise and vibration complaints. - Management of acoustic impacts from vessels. - Identify a site contact person to follow up complaints. - Construction noise management measures during piling should consider consultation, noise monitoring, feasible and reasonable noise controls such as temporary acoustic screens, orientation of plant and lower noise generating methods such as pre boring - Validation of piling impacts through use of vibration trials during the initial piling works. - Vibration monitoring trials to confirm safe work distances and methods. - Develop and implement a noise monitoring and/or auditing program within the Traffic Management Plan to confirm trucks achieve noise standards during the construction and operational phases. Noise management measures will include: - Selection of quiet plant and equipment, particularly Larger Excavators and Haulage Trucks. - Limiting the times of operation for noisier plant items to the Daytime, or Evening period. - Scheduling noisier activity to regular hours and less noisy activity to non-scheduled hours. - Staff and contractor education and training of road traffic noise and appropriate driving behaviours. - Measures to minimise noise outside standard working hours that may cause sleep disturbance and subsequent potential health impacts. - Undertaking vibration trials during the initial piling works to ensure validation of the vibration modelling. - Site inductions highlighting minimisation of noise outside standard working hours. - Avoiding and minimising impact when loaded and unloading equipment. - Minimising engine start-ups and excessive revving. - Minimising the use of reversing alarms during works outside standard working hours. - Reschedule to a day time period any works that can potential cause excessive impact noise and therefore sleep disturbance. Further noise reduction measures will be considered during the detailed design phase.
4 Traffic and Transport	There are no critical capacity issues arising during the Stage 1 Operation /Stage 2 Construction scenario. The traffic generated by the PK BLT during Stage 3 Operations (full development of site) scenario would result in a negligible increase in traffic generation.	Construction - Develop a detailed Traffic Management Plan for the construction stages of the project in accordance with the Traffic Control at Worksites, version 4.0 (NSW Roads and Maritime Services, June 2010). The Traffic Management Plan would include: - Hours of haulage, which do not impose on peak periods and school drop-off and pick-up times. - Haulage routes, in accordance to the RMS restricted access to heavy vehicles. - Designated areas within the site for heavy and light vehicles turning movements, parking, loading and unloading. - Sequence for implementing traffic works and traffic management devices if required. - Safety principles for construction activities, such as speed limits around the site and procedures for specific activities. - Assessing the need for oversize/over mass vehicle and management of their movements. - The internal access and parking areas will be designed such that all vehicles, including the largest design vehicle (25m B-Double) are able to easily drive through the sites to ensure safe turning manoeuvres without requiring excessive reversing. - Parking facilities will be provided in accordance with Australian Standards (AS2890 Series). Operations - Design internal access and parking areas such that all vehicles, including the largest design vehicle (25m B-Double) are able to easily drive through the sites to ensure safe turning manoeuvres without requiring excessive reversing. - Any site entry gates installed shall also be setback from the road to accommodate the longest vehicle accessing each site to allow free flow of internal and external vehicles. - TQ will utilise a truck slot booking system to prevent queueing on internal and external roads.

Parameter	Discussion	Mitigation Measures
		- Provide parking facilities in accordance with Australian Standards (AS2890 Series). - Risk management strategies should be considered when planning for the transportation of hazardous materials. - Risk management strategies have several aspects, including: - choice of the best routes - identification of the main risk contributors - identification and implementation of risk reduction measures; - measures to avoid avoidable risk; - adoption of the most cost beneficial safeguards; and - ensuring appropriate and comprehensive emergency plans.
5 Surface Water	The Surface Water Assessment concluded that the Site is mostly free from constraints of flooding and stormwater. The Proposal is not likely to impact on the water quality of adjoining waterways and wastewater will be suitably managed to reduce any potential adverse impacts.	Construction - Development of an Erosion and Sediment Control plan (ESCP) with measures to be in place prior to any works commencing at the site. The ESCP will be prepared as part of the CEMP in accordance with the Landcom Managing Urban Stormwater, Soils and Construction Manual 2004. The ESCP would be maintained for the duration of construction, to prevent any polluted water and sediment entering receiving waterbodies. - Installation of erosion and sedimentation control devices prior to commencement of any site works. Erosion controls would remain in place until the bare soils and surfaces are stabilised (by revegetation or other means) and removed when redundant. This needs to include the diversion of 'clean' water around the site in order to avoid treating it and also to avoid potential additional erosion from off-site sources. - Appropriate erosion and sediment control devices would be placed down-slope of all excavation works, spoil stockpiles or works that would disturb the ground surface, down-slope of access roads that are highly utilised as well as in other areas as appropriate. - Sedimentation is likely to be due to sheet flows occurring within the site. This type of sedimentation can be effectively controlled by using vegetated buffers (e.g. turf where appropriate), sediment barriers and sediment fences. - Minimise the extent and duration of disturbance by means of work planning and staging. - Disturbed areas would be restored (sealed or covered with pebbles/gravel or vegetated, as appropriate) upon the completion of the works in that area to ensure that the exposure of soils is minimised. - Embankments and other areas subject to earthworks and grading would be revegetated with an appropriate cover crop or stabilised with other means as soon as possible following achievement of final levels. - Where revegetation is required and where deemed feasible, locally indigenous plant species, including shrubs, grasses and other groundcovers, would be planted in appropriate locations to assist in soil stabilisation following completion of construction. Maintenance of these plantings would include regular watering and appropriate weed control to ensure the plants survive and continue to enhance the site. - Daily visual inspections of erosion and sediment control devices to determine the condition and effectiveness of control measures. Immediate action would be taken to repair any control devices that have failed to work adequately. Operations - All water which has been in contact with potentially hydrocarbon-soiled surfaces within the bunded area is contained and processed to Environmental Protection Agency (EPA) standard by using an Oil Water Separator (OWS) that will be strategically located on Site 3. - Sites 1 and 2 will have centralised collection sumps that will include a gravity oil separation and oil recovery system. Before an intermediate bund sump transfers water to the centralised collection sump, the pump must be locally started so that inspection for potential oil spills can take place. If a spill is detected in an intermediate bund sump the spill can be redirected away from the centralised collection sump for recovery. - Bund walls (1.8m high) will be established around the storage tank areas on Site 1 and 2. In addition, separate intermediate bunds (0.6m high) will be constructed to contain most tanks individually. All product spillage and stormwater runoff would be contained inside the bunded area. Each intermediate bund has a sump that can be drained individually into a central bund water collection pit for the site. Free hydrocarbons are recovered in these central sumps and water from the central bund water collection pit on either Site 1 or Site 2 can then be pumped into the two stage gravity settling pit on Site 3, prior to being treated by OWS-3 and then discharged from site in accordance with an EPA license. - Recovered hydrocarbons from the OWS system are directed to the waste oil decanter tank where they can be recovered or transferred to a waste collection vehicle for disposal. - Hydrocarbon and waste collection piping will be designed to run above ground so that any potential leaks are visible and can be detected and repaired, rather than underground where a leak poses a potential ground contamination issue. - Any underground stormwater pipes that may potentially be exposed to hydrocarbon contaminated water will be equipped with hydrocarbon compatible sealed joints to prevent infiltration into ground. - In order to mitigate the impacts, runoff from external catchments will be captured and conveyed into the Inner Harbour via upgraded road drainage on Morton Way. This may include upsizing existing pipes and pits as well as installing new stormwater lines. The upgrade works will increase the total inlet capacity on Morton Way and reduce the risk of pit inlets becoming blocked by debris. - Water from the central bund water collection pit on either Site 1 or Site 2 will be pumped into the two stage gravity settling pit on Site 3, prior to being treated by an OWS and then discharged from site in accordance with an EPA license. An underground Gross Pollutant Trap (GPT) will be installed on Site 3 for the treatment of stormwater flows from the existing Tom Thumb Road drainage network prior to discharging the treated stormwater into Gungahy Waterway (non-licensed discharge point). In addition to gross pollutants and sediments, the treatment system will be designed to capture oil and grease. The GPT treatment system will be sized for the full road catchment including the western extent of Tom Thumb Road connecting to Site 3 across the bridge. Runoff from the PK BLT sites will bypass the GPT and be directed to an OWS on Site 3 instead.

Parameter	Discussion	Mitigation Measures
		- The access road on the southern and eastern extent of Site 2 will be used as a truck staging area for empty trucks waiting for loading. Runoff from this area will be discharged directly into Inner Harbour via stormwater treatment system consisting of a GPT and oil capture system to collect oil and grease from runoff. In case of spill, a clean-up will also be initiated using spill kits. - A designated overland flow path will be provided at the low point for flows in excess of the drainage system. - Leakage, spillage and wash down water within the bunded truck loading bays will be collected in grated pits at each bay. The bunded area at each truck bay will be sized to contain the contents of a tanker compartment as well as normal wash down water. Any waste collected from the truck loading bay will be pumped to the above ground slops tank. All waste piping from each truck loading bay remains above ground to eliminate the possibility of undetected subsurface contamination. - A detailed Fire Safety Study and fire system design will be undertaken to determine optimal type and methods for collection and dewatering of foams within bunded areas. The study and design will include: - Selection of the firefighting foams to be handled, stored or used (not containing perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA)). - Justification for the foams selected - Characterisation of any potential discharges to surface or groundwater waters - An assessment of the likely impacts in the event of any discharge of contaminated fire water; and - An assessment of all feasible and reasonable measures to minimise any discharge of contaminated fire water. - TQ will implement emission capture and abatement technology throughout the detailed engineering design and equipment procurement processes. This will include specification of floating roof tank designs, vapour recovery units and associated fuel emission capture and abatement technology to ensure the PK BLT is built to standard industry practices. - It is also suggested by TQ that the form of transportation may incorporate rail once new infrastructure is developed to meet the demand criteria, thus reducing future greenhouse emissions from this process. - TQ will attempt to utilise freight companies which commit to sourcing vehicles with Compliance Plate Approval. This ensures trucks meet the national standards covering safety and emission requirements known as the Australian Design Rules (ADRs). TQ will also attempt to utilise companies which have a commitment to operational and environmental improvements.
6 Green House Gas and Climate Change	The GHG Assessment (Appendix E) concluded that the proposed development would produce a very small portion of GHG. Consequently, the PK BLT design has been developed to address potential Climate Change impacts, with no adverse impacts anticipated.	
7 Biodiversity	Green and Golden Bell Frog (<i>Litoria aurea</i>) as the only species to have either a 'high' or 'moderate' potential to use the subject site. A Commonwealth Significant Impact Assessment and NSW Assessment of Significance found that there will be no significant impacts to Green and Golden Bell Frogs from the proposal, and a referral to the Commonwealth is therefore not required. An assessment in accordance with the Framework for Biodiversity Assessment (FBA) has been undertaken to determine the biodiversity offset requirements of the project. Mitigation measures are proposed to ensure there will be no significant impact on neighbouring aquatic ecology or habitat.	Construction - A frog-exclusion fence should be put in place along the fence line to the rail corridor and around the western boundary of Site 3, limiting access for the frogs during this period. This fence should be consistent with the Green and Golden Bell Frog Best Practice Guidelines and the Green and Golden Bell Frog Survey (BEC 2015). It can be attached to the existing fence lines or the proposed retaining wall and should have a lip to ensure frogs do not jump over it. - Pre-clearance surveys are recommended consistent with the Management Plan for the site (BES 2012) - If extended periods occur between erection of the fence and construction work further pre-clearance survey is advised to clear any stranded frogs. - If extended periods occur between erection of the fence and construction work further pre-clearance survey is advised to clear any stranded frogs. - During construction activities at Site 3 construction contractors should be made aware of the position of the mangrove seedling so as to reduce the potential to cause damage. - Sediment control devices including silt curtains should be used during bank stabilisation works at Site 3 to prevent runoff causing increased turbidity within Gurungaty waterway and the greater port area. - Remove and dispose of bitou bushes within the construction area via methods described within the Weeds of national Significance 'Bitou bush Current management and controls options for bitou bush (<i>Chrysanthemoides monilifera</i> spp. <i>rotundata</i>)' in Australia' (Winkler et al., 2008). - Appropriate hydrocarbon spill kits should be in the vicinity of construction activities to contain any spills. In the event that the spill kit is unable to control a spill and hydrocarbons enter the waterway an absorbent boom should be deployed to reduce the spread of any such spill. - Machinery and equipment associated with construction activities should be cleaned within a designated wash down area that ensures wastewater does not enter the waterway - Sediment control devices such as hay bales and geofabrics should be deployed throughout the construction area in the vicinity of storm water drains to reduce mobilised sediments entering the waterway - Follow the measures to be provided in the Pollution Incident Response Management Plan developed for the project as part of the Construction Environment Management Plan (CEMP). - Ensure training and inductions for all personnel include Green and Golden Bell Frog awareness aspects and response requirements. Green and Golden Bell Frog management and response requirements need to be outlined within the Construction Environment Management Plan (CEMP). Operations - Potential for frog migration through the site is most likely at night-time during the summer months after heavy rain. Staff and contractors should be made aware of the Green and Golden Bell Frog Management Plan prepared by BES (2012), which should be amended to reflect future operational risks and requirements prior to operations commencing - Bund and sump management procedures should consider the potential for Green and Golden Bell Frog breeding within bunds - Ensure training and inductions for all personnel include Green and Golden Bell Frog awareness aspects and response requirements. Green and Golden Bell Frog management and response requirements need to be outlined within the OEMP. - The site manager should be made aware of any discoveries and contact an ecologist or the Wollongong Office of Environment and Heritage so that appropriate relocation of the frog/s can be undertaken if necessary.

Parameter	Discussion	Mitigation Measures
8 Waste Management	The proposed PK BLT facility will generate both solid and liquid waste during operation. With the implementation of the identified mitigation and management measures, the waste generated by the proposed PK BLT will not have a significant adverse impact on the environment. To minimise waste generation and promote recycling, a Waste Management Strategy (WMS) has been prepared in accordance with the aims, objectives and guidelines in the <i>NSW Waste Avoidance and Resource Recovery Strategy 2007</i> and <i>NSW Waste Avoidance and Resource Recovery Strategy 2014-2021</i>.	- Ensure that appropriate hydrocarbon spill kits are placed at various locations throughout the site to contain any spills. In the event that the spill kit is unable to contain a spill and hydrocarbons enter the waterway an absorbent boom should be available to be deployed to reduce the spread of any such spill. - Gross pollutant traps and hydrocarbon capture should be a priority for stormwater catchments which service areas accessed by tanker trucks. - Implement a stormwater management plan that incorporates gross pollutant traps prior to waste water discharge. Employee and contractor induction should include a section dealing with the potential for gross pollutants to impact the site. - Clean machinery and equipment associated with construction activities within a designated wash down area that ensures wastewater does not enter the waterway. - Follow the measures to be provided in the Pollution Incident Response Management Plan developed for the project as part of the Operation Environment Management Plan (OEMP). - Ensure that all vessels comply when appropriate with the International Maritime Organisation (IMO) Ballast Water Convention to reduce the potential of harmful aquatic organisms being discharged into Australian waters. The IMO Ballast Water Convention requires that all vessels must have and comply with a 'Ballast Water Management Plan'. Construction - No contaminated soil has been identified. If any is discovered during construction, it will be disposed of in accordance with the Unexpected Finds Protocol to be incorporated into the CEMP. - All sewerage waste will be collected in a septic tank and trucked off site by licensed contractor until connection to existing rising main and agreement with Sydney Water has been established. - Timber formwork will be reused where possible. Any damaged or unusable timber will be recycled, or disposed at a licensed receiving facility. - Steel will be collected and recycled. - Standard timber pallets will be reused where possible. Any damaged or unusable timber will be recycled, or disposed at a licensed receiving facility. - Plastics will be recycled where possible. - Excess cable will be collected and reused or recycled by the electrical installation contractor. Operations - TQ will adopt a paperless document management system and actively seeks to reduce the need to print paper copies where possible. - Paper and cardboard materials will be separated and stockpiled in appropriate areas on site for collection and recycling. - Metals, plastic and timber will be separated and stockpiled in appropriate areas on site for collection and recycling. - All steel and metal strapping will be recycled. - Waste oil will be stored in appropriate container on site and removed from site by licensed contractor for re-processing, recycling or appropriate disposal. - Fuel spills will be contained and collected in bunded areas or drip trays and transferred to slops tanks for product recovery. - Remaining slops tank contents will be pumped to oily water separator for final treatment prior to clean water discharge or removed from site by a licensed contractor. - Slops will be tested and blended with product stored on site if product specifications can still be maintained. Otherwise slops to be removed from site by licensed contractor. - Waste water will be pumped from slops tank to oily water tank on each site. - Use of materials and paints to mimic the existing industrial development as far as reasonably practical. - Design and implementation of lighting in accordance with: - AS 4282 - 1997 Control of the obtrusive effects of outdoor lighting - AS 1940 The storage and handling of flammable and combustible liquids - AS/NZS 1680.5:2012 Australian and New Zealand Interior and workplace lighting, Part 5: outdoor workplace lighting Include the following mitigation measures in the CEMP and OEMP: - In the event that potential Aboriginal or European artefacts are discovered during the works, all works are to cease immediately within the direct area TQ is to immediately inform NSW Ports, the NSW Office of Environment and Heritage and a member of the Illawarra Aboriginal Land Council (if in relation to an Aboriginal place or object). Coordinate appropriate management of the site with the relevant agencies.
9 Visual Amenity	The proposed PK BLT is located in an existing industrial area of Port Kembla's Inner Harbour that operates 24 hours per day, seven days a week. The existing industrial development surrounding the proposal provides a visual environment which is not sensitive to change. Consequently, the proposed PK BLT will have minimal visual impact on the amenity of the surrounding areas.	
10 Heritage	The PK BLT site is identified as a highly disturbed and highly modified environment. There are no sites of local, state or commonwealth heritage significance identified at the site or within three kilometres of the site. Due to this lack of sites and object of historic heritage a Statement of Heritage Impact is not required for the project as the project has a low potential to impact on objects or places of European heritage.	
11 Soils and Groundwater	During construction, the risk of onsite soil erosion will increase due to the works resulting in exposure of soils through earthworks. There is a potential for ASS to occur in material greater than 5m below the surface. Potential impacts to groundwater are unlikely given that the bulk of the works are above ground.	Construction - Development of a CEMP including a Soil and Water Management Sub-plan to manage potential erosion, sediment and groundwater impacts during construction. - Sediment and erosion control devices should be installed to minimise transport of sediment in accordance with Managing Urban Stormwater, Soils & Construction, Volume 1 (Landcom, 2004). These devices should be inspected regularly and immediately after rainfall to ensure effectiveness over the duration of works. Any damage to erosion and sediment controls should be rectified immediately. - Risks associated with the disturbance of any ASS encountered during construction would be managed through an expected finds protocol outlined in the Erosion and Sediment Control Plan within the CEMP. - Construction of hardstand areas with appropriately sized bunding around fuel storage and fueling areas.

Parameter	Discussion	Mitigation Measures
		- Construction of appropriate enclosed and separated clean and oily water drainage systems which shall include the installation and operation of an oil/water separator. - If groundwater is encountered during excavation, a groundwater assessment will be undertaken to determine the volume and quality of the water to determine if appropriate permits are required. - If groundwater is to be extracted, consultation with DPI Water is required prior to extraction. Operations - Development of an OEMP to manage and monitor potential operational phase soil and groundwater impacts, such as spills and leakages. - Maintenance of hardstand areas with appropriately sized bunding around fuel storage and refuelling areas. - Operation of appropriate enclosed and separated clean and oily water drainage systems which shall include the installation and operation of an oil/water separator. - Implementation of regular maintenance inspections/audits during operation.
12 Utilities	The utility supply requirements for the PK BLT development will be designed to appropriate Australian Standards and relevant authority guidelines to consider the existing capacity and future performance of all utility servicing. The connection and augmentation of all utility works requirements will be designed, planned and carried out in a manner that will minimise impacts on the existing neighbouring operations.	General - Continue consultation with NSW Ports and relevant service providers to discuss design, supply and access for the PK BLT utility connection requirements. - Ensure all utilities are to be designed in accordance with appropriate standards and guidelines to consider the existing capacity and future performance of all utility servicing. Construction - Prior to construction, all existing utilities and their locations will be confirmed to avoid any conflicts or damage during construction. - Any associated servicing augmentation approvals and requirements will be arranged by TQ with the appropriate servicing authorities prior to construction commencing. - The connection and augmentation of all utility works requirements will be designed, planned and carried out in a manner that will minimise impacts on the existing neighbouring operations. - TQ will operate the PK BLT in accordance with any utility supply agreements. Construction - A Construction Environmental Management Plan (CEMP) will be prepared prior to construction commencing to ensure all environmental aspects associated with construction activities are appropriately managed to minimize impacts to neighbouring operators, sensitive receptors in the vicinity of the site as well as the broader community. Operations - An Operational Environmental Management Plan (OEMP) will be prepared to ensure environmental aspects are appropriately managed to minimize impacts to neighbouring operators, sensitive receptors in the vicinity of the site as well as the broader community.
13 Socio Economic	The nearest residence is located 1,200m from the proposed PK BLT project site. The surrounding area consists of a range of heavy industrial and port related operations situated within A number of potential impacts associated with the social amenity of the area were identified. However, subject to the mitigation measures listed throughout Section 9 of this document, these impacts will not be significant.	
14 Ecologically Sustainable Development	The proposed development incorporates the principles of ESD through the implementation of the recommended mitigation measures detailed within the specific environmental assessments. Consequently, the proposal aligns with the ESD requirements identified within Clause 7(4) of Schedule 2 of the EP&A Regulation and would not create a significant environmental impact. The project does not present any significant impact on the local community.	Construction - A CEMP will be prepared prior to construction and will contain procedures to address risks and incidents during construction, as well as operation. Procedures would be developed for incidents including product spills, flooding, excavation or contaminated material uncovering of heritage items or relics. Operations - An OEMP, storm water drainage plan and WMS will be prepared to ensure environmental aspects associated with the capture and management of runoff and waste, air quality and noise are appropriately managed to minimize impacts to neighbouring operators, sensitive receptors in the vicinity of the site as well as the broader community. Where access to property is to be blocked temporarily, the contractor would advise the affected parties in advance of the work.
15 Cumulative Impact Assessment	The individual impact assessments demonstrate that the Proposal, in conjunction with existing and known future developments, would not have a significant level of impact. Based on the assessment provided, the works will have minor cumulative impacts on the existing environment during the course of construction.	Works will be undertaken in accordance with the mitigation measures outlined in the EIS and the contractors CEMP and OEMP.