Sydney Port Botany Terminal 3 Project Phase 2 & 3

SICTL Main Works Construction Environmental Management Plan Phase 2 & 3

Project Title	Sydney Port Botany Terminal 3 Project Phase 2 & 3
Project Address	Gate B150-160 Foreshore Road, Port Botany NSW 2036

Revision History

Rev	Date	Description	Reviewed	Authorised
0	12/11/13	Initial Draft, Incorporate Phase 2 & 3	NB	KM
1	18/11/13	Final	NB	KM
2	10/09/14	Audit review update	Eladio Perez	Karl McCarthy

Terms and Definitions

The following terms, abbreviations and definitions are used in this plan:

Terms	Explanation
SICTL	Sydney International Container Terminals Pty Ltd
SPBT3	Sydney Port Botany Terminal 3
CEMP	Construction Environmental Management Plan
EPA	Environment Protection Authority
OEH	Office of Environment and Heritage
MSDS	Material Safety Data Sheet
OOH	Out of Hours
MCOA	Minister's Conditions of Approval
EMS	Environmental Management System
ESC	Erosion and Sediment Controls
DNR	Department of Natural Resources
EM	Environmental Manager
SACL	Sydney Airport Corporation Limited
DOP	NSW Department of Planning and Infrastructure
PEHEP	Penrhyn Estuary Habitat Enhancement Plan

Distribution

The master 'controlled' CEMP document will be held on the site computer network server where it can be accessed by personnel as necessary.

The controlled copy will be retained in iTWOcx, which is the Sydney International Container Terminal Pty Ltd (SICTL) document management system, where it can be accessed by personnel as necessary. A copy will be posted on the SICTL project website to satisfy the public inspection requirements of MOCA B1.3.

All paper copies of this CEMP will be considered as 'uncontrolled' unless they have been allocated a 'copy number' in a colour other than black.

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- Energy Management Action Plan
- Water Resource Management Plan

1. Introduction

The Sydney Port Botany Terminal 3 Project (SPBT3) follows on follows on as part of the terminal infrastructure planning approval of the Port Botany Expansion Project. The SPBT3 Project involves the creation of a new container terminal by Sydney International Container Terminals (SICTL) the new terminal operator.

The SPBT3 Project is located within the City of Botany Bay, 12 kilometres south of the Sydney CBD. The Project site is adjacent to the existing Patricks Terminal at Port Botany. The site is bounded by the existing terminal, Penrhyn Road, Foreshore Road, Sydney Airport and Botany Bay. The SPBT3 project is broken down into three phases.

1.1 Background to this document

The construction of phase 1 of the project which commenced in September 2012 under another two approved CEMP's. One CEMP was predominantly for ground improvements, earthworks, services and pavement for terminal storage areas and the other for crane assembly and ancillary installations.

This CEMP is a combined update of the those two existing approved documents to ensure environmental management and compliance for the two next main works future phases, which similarly combine these activities as described in the scope below.

1.2 Purpose

This updated main works Construction Environmental Management plan (CEMP) has been specifically developed for Phase 2 and 3 of the SPBT3 project in order to:

- Ensure that the Project meets contractual, legal and other environmental requirements including industry codes of practice.
- Incorporate requirements of the Project Environmental Impact Statement (EIS) into the Construction Environmental Management Plan for relevant scope of works.
- Comply with the relevant requirements of the Project Planning Determination and Ministers Condition of Approval (MCoA's).
- Provide relevant contractors undertaking works on the Terminal 3, Phase 2 and 3 portion of the Port Botany Expansion with a framework that outlines systems, procedures and documentation necessary to undertake the construction of this Project and to minimise the impact on the natural environment.

This main works CEMP provides the high level governance framework for environmental management on the Project and is supported by a number of issue specific Sub-Plans.

Note: multiple contractors will be working under this CEMP as part of the Terminal 3 construction project. There will be a coordinated approach to manage common project issues such as traffic, noise, dust, complaints, incidents, and community consultation. SICTL and its project representatives will coordinate this approach.

2. Scope of Main Works

The SPBT3 Project involves the creation of a new container terminal by SICTL. The construction of phase 1 of the project commenced in September 2012 and will be followed by Phase 2 in 2014 Phase 3 will be in some years depending on demand.

Phase 2 and 3 will have similar scope and this CEMP applies to the construction in Phase 2 and 3 as follows:

- Ground improvement, regrading and earthworks as needed to adjust final levels for the site which has been previously filled and consolidated. Excavation will be required to provide trenches for services and utilities.
- Construction of the Terminal includes internal roads, heavy duty rigid and flexible port pavements, rail siding works, crane footings, high mast and bollards lighting, (including foundations), traffic signage and road markings, fencing, noise walls, landscaping, services, conduits and drainage
- Construction of the container stacking yard including piling, container stacking beams, rail beams and rails, reefer access gantries, container tunnels, lane identification gates and entrance/exit area gates, fencing and all associated services and drainage
- Construction and installation of foundations, facilities and services for the operation, maintenance and manoeuvring of automated stacking cranes (ASC), reach stackers and other container handling equipment as required for the terminal operations
- Supply and installation & Commissioning of Automated Stacking Cranes (ASC) Cranes which includes but is not limited to:
  - Delivering Cranes components by land and sea
  - Unloading crane components
  - Erection of Crane Components
  - Commissioning of crane.
- Supply and installation of Quay Cranes (QC) Cranes which includes but is not limited to;
  - Delivering Cranes components by land and sea
  - Unloading crane components
  - Erection of Crane Components
  - Commissioning of cranes.
- Supply and installation and commissioning of Information, communication and Technology infrastructure which includes but is not limited to;
  - Pulling cables
  - Jointing cables
  - Installation of cable tray
  - Installation of Racks
  - Installation of Video messaging sign
  - Installation of CCTV cameras
  - Installation of security access systems.
- Delivery and fabrication of shuttle carriers which includes but is not limited to;
  - Delivering shuttle carrier components by land and sea
  - Unloading shuttle carrier components
  - Erection of shuttle carrier Components
  - Commissioning of shuttle carrier.

It is noted that the scope above does not include bulk earthworks, excavations, stockpiling loose material or works within Penrhyn Estuary.

Expected durations of construction activities for upcoming Phase 2 are outlined below. Phase 3 timing is depending on demand within ten years and this plan will be updated as required.

Description / Activities Phase 2 & 3	Start Date	Completion Date	Associated Monitoring
Civil Infrastructure Construction	January 2014	January 2015	Dust Noise
Installation of Information, Communication &Technology Infrastructure	January 2014	January 2015	Dust Noise
Automated Stacking Crane installation	January 2014	January 2015	Dust Noise
Phase 3	Demand Dependant	Jan 2023*	Dust Noise

Expected durations of construction activities at time of CEMP submission* (estimate)

2.1 Objectives and Targets

Objectives and targets for this Project are as follows:

Objective	Target	Reporting / Monitoring
Effective site environmental controls	Environmental controls are developed and implemented prior to starting work on site. Complete an effective and regular inspection and maintenance regime.	Regular Environmental Inspection Checklists Quantitative environmental monitoring and monthly reporting.
Environmental performance	Zero major environmental incidents and no breaches.	Monthly Environmental Monitoring Report.
Effective implementation environmental systems	Full compliance with Planning Approval requirements.	Monthly implementation auditing, Quarterly system auditing, Annual auditing as per MCoA B4.5 Annual Environmental Management Report (AEMR) as per MCoA B4.2
Community issues carefully managed	Zero valid complaints.	Complaints handling to be handled in conjunction with NSW Ports

2.2 Site Location and Plan

The SPBT3 Project is located on 45 hectares of reclaimed land within the City of Botany Bay, 12 kilometres south of the Sydney CBD. The Project is adjacent to the existing Patricks Terminal at Port Botany and Penrhyn Road. The site is accessed via the bridge from Foreshore Road. It's east of the Sydney Airport third runway and partially surrounded by the waters of Botany Bay and the Penrhyn Estuary.

Lot and Plan Number	Street address
Lot 6 DP 1053768	Gate B150 – 160 Foreshore Road Port Botany, NSW 2036 Australia
Lot 2 DP1009870	
Lots 301 & 302 DP 712992, Part of Crown Reserve R91288	
Lots 203 & 205 DP 712991	
Lot 401 DP 816961	

Figure A site plan with phase .

3. Legal and Other Requirements

All personnel associated with the Project will comply with all relevant requirements including:

- All relevant laws and legislative criteria
- All relevant licences and permits
- Relevant industry standards/codes
- NSW Minister for Planning Conditions of Approval for the Port Botany Expansion Project
    - MOD 1 – MOD-107-9-2006-i approved 11 September 2007
    - MOD 2 – MOD-134-11-2006-i approved 11 September 2007
    - MOD 3 – MOD-149-12-2006-i approved 11 September 2007
    - MOD 4 – MOD-78-9-2007-i approved 17 September 2007
    - MOD 5 – MOD-60-9-2008 approved 21 September 2008
    - MOD 6 – MOD-68-12-2008 approved 12 December 2008
    - MOD 7 – MOD-08-03-2009 approved 20 March 2009
    - MOD 8 – 494-11-2003-i MOD 8 approved 30 May 2009
    - MOD 9 – DA-494-11-2003-i MOD 9 approved 18 June 2009
    - MOD 10 – DA-494-11-2003-i MOD 10 approved 13 July 2009
    - MOD 11 – DA-494-11-2003-i MOD 11 approved 21 November 2011
    - MOD 12 – DA-494-11-2003-i MOD 12 approved 6 June 2012
    - MOD 13 – DA494-11-2003-i MOD 13 approved 31 October 2012
    - MOD 14 – DA494-11-2003-i MOD 14 approved 11 June 2013
    - MOD 15 – DA494-11-2003-I MOD 15 approved 8 July 2013

    Environment Protection Biodiversity and Conservation Act approval - reference 2001/543. The environmental assessment undertaken as part of the project planning modification 12, allowing a change in design to the first flush stormwater system, includes an assessment of significance of the proposed works. It has been assessed that no referral will be required and that modification to the EPBC conditions of approval for the project. It is documented within this same environmental assessment that Department of Sustainability, Environment, Water, Population and Communities advised that the modification to the stormwater first flush system does not necessitate any variations to the conditions of approval for the Port Botany Expansion under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC 2002/543).
- Port Botany Expansion Environmental Impact Statement
- Penrhyn Estuary Habitat Enhancement Plan
- Future modifications to the approval under Section 75W of the Environmental Planning and Assessment Act 1979
- The Project will be constructed in accordance with relevant standards, codes, acts and regulations (Refer Appendix 1).

An assessment of legal requirements has been conducted and recorded in Appendix 1. A list of relevant Permits, Licences and Development Consents will be kept on site (Refer Appendix 5).

3.1 Approved work hours

Approved construction hours that will apply to the entire project:

- 7:00 am to 6:00 pm, Mondays to Fridays, inclusive
- 8:00 am to 1:00 pm on Saturdays
- At no time on Sundays or public holidays.

The contractor will seek the Director-General's (DG's) approval to conduct construction activities audible at residential premises outside the hours specified above on a case by case basis. In seeking the Director-General's approval, the contractor will demonstrate a need for activities to be conducted during varied hours and how local acoustic amenity will be protected, as well as detail how the EPA's requirements with respect to the variation of hours have been addressed. An out of hours works register will be kept on site to record requests for out of hours work and assess if works proposed out of hours will be audible at residential premises and seek DG's approval as required.

4. Responsibilities and Authorities

Key responsibilities and authorities include:

4.1 SICTL Project Manager:

- Ensure that Project responsibilities and authorities are defined and communicated
- Provide adequate resources to meet environmental objectives
- Ensure that the CEMP is effectively implemented and maintained
- Approve the CEMP
- Ensure contractors comply with requirements
- Take action to resolve environmental non-conformances and incidents
- Report environmental incidents to local authorities as required.

4.2 Project Environment Representative:

- Environmental Representative shall be nominated and approved by the Director-General.
- The Environmental Representative shall be employed for the duration of the construction and the on-going management, mitigation and monitoring associated with the civil construction works
- As per MCoA B4.3, the Environmental Representative shall be:
    - the primary contact point in relation to the environmental performance of the construction phases;
    - responsible for all Management Plans and Monitoring Programs required under this consent, in relation to the construction phases;
    - responsible for considering and advising on matters specified in the conditions of this consent, and all other licences and approvals relating to the environmental performance and impacts of the construction phases;
    - responsible for the management of procedures and practices for receiving and responding to complaints and inquiries in relation to the environmental performance of the construction phases;

- required to facilitate an induction and training program for relevant persons involved with the construction phases; and
- given the authority and independence to require reasonable steps be taken to avoid or minimise unintended or adverse environmental impacts, and failing the effectiveness of such steps, to direct that relevant actions be ceased immediately should an adverse impact on the environment be likely to occur.

4.3 Contractors:

- Comply with all legal and contractual requirements
- Comply with site environmental requirements
- Comply with management/supervisory directions
- Comply with CEMP requirements
- Participate in induction and training as directed
- Report all incidents
- Ensure adequate resources are implemented to meet environmental objectives
- Ensure that the CEMP requirements are effectively communicated to all personnel
- Ensure that the CEMP requirements are incorporated into construction planning
- Take action within limits of authority to resolve environmental non-conformances and incidents
- Ensure environmental requirements are incorporated into the construction planning and process documentation.
- Ensure suppliers and subcontractors comply with environmental requirements
- Report environmental incidents as required

4.4 Engineering and Supervisory Personnel:

- Take action to resolve environmental non-conformances and incidents
- Ensure contractors comply with requirements
- Report all environmental incidents.

4.5 All Personnel:

- Comply with the relevant Acts, Regulations and Standards
- Comply with the requirements of this CEMP
- Promptly report to management any non-conformances, environmental incidents and/or breaches of the system
- Undergo induction and training in environmental awareness as directed by SICTL
- Report all incidents
- Act in an environmentally aware and responsible manner as per induction trainning
- Use authority to stop work on activities that are (or have the potential to) causing an environmental non-conformance.

5. Environmental Risk Assessment and Control

An environmental risk assessment has been completed for the relevant scope of works. Environmental aspects and impacts have been identified, assessed and documented in Appendix 2 of this CEMP.

Significant risks from an environmental protection, regulatory and a community perspective is summarised below:

- Capturing and understanding the statutory requirements from planning instruments and other regulatory authorities
- Verification of compliance with all instruments
- Engaging contractors and ensuring compliance with the requirements
- Protection of water quality in the surrounding bay and estuaries
- Traffic impacts
- Waste management
- Management of chemicals and fuels.

Issue specific sub-plans have been prepared for the following;

- Soil and Water Quality Management Plan
- Air Quality and Dust Management Plan
- Construction Noise and Vibration Management Plan
- Waste Management Plan
- Emergency Response and Incident Management Plan
- Construction Traffic Management Plan
- Acid Sulphate Soils Management Plan
- Shorebird Management Plan
- Bird Hazard Management Plan
- Feral Animal Management Plan
- Energy Management Action Plan
- Water Resource Management Plan

Other specific environmental aspects for the works include heritage, energy usage, bird hazard and are outlined in chapter 37 of the EIS. Relevant aspects and associated mitigation measures will be managed as per the project EIS.

6. Training, Awareness and Competence

In support of MCoA B4.4, all employees will receive suitable environmental induction/training to ensure that they are aware of their responsibilities and are competent to carry out the work.

Environmental requirements will be explained to all personnel during site induction and on-going training via site based meetings, tool box talks, briefings, notifications and other forums as required.

All personnel (including subcontractors) will receive induction/training in the following:

- Understanding individual authorities and responsibilities
- Site environmental rules
- Emergency procedure and response (e.g. spill clean-up)
- Basic understanding of their legal obligations;

  heritage finds,
  contamination,
  odour,
  pollution prevention,
  concrete washout locations,
  noise and
  dust management

An outline of environmental training is provided below and may be amended to reflect project requirements during the relevant construction phase. The list below does not include the list of toolbox topics to be discussed during the project which can be made available on request.

Aspect	Training Inclusion	Personnel Required	Means
Emergency Land/Marine Spill Response	• Report and clean up all spill • Use and location of spill kits • Emergency response procedures	Site based personnel	Project Induction Site briefings
Erosion and Sediment Control	• Implementation of controls on site	Site based personnel	Project Induction Site briefings
Environmental Legal Obligations	• POEO Act (Sections 120 & 129) and other project requirements • Applicable fines and prosecutions	Site based personnel	Project Induction
Deliveries	• Traffic Handbooks distributed including haulage routes, approved delivery hours, site access and behaviours.	Delivery drivers Site based personnel	Project Induction Site briefings
Community / Stakeholder Awareness	• Adjacent community and Project involvement • Relevant Project stakeholders • Accepted behaviours • Approved hours of work	Site based personnel	Project Induction Site briefings
Biodiversity	• Wildlife status of project and surrounds (Penrhyn Estuary, Botany Bay) • Stop work and reporting protocols for injured wildlife • Bird hazards and requirements to stop ponding water on site • Measures to stop feral animals coming to site	Site based personnel	Project Induction Site briefings
Airport Exclusion Zones	• Project site boundaries and exclusion zones	Site based personnel	Project Induction Site briefings

6.1 Reporting

An Annual Environmental Management Report will be developed for the project as per MCoA B4.2. The Annual Environmental Management Report will:

- detail compliance with the conditions of the project planning approval;
- contain a copy of the project complaints register (for the preceding twelve-month period, exclusive of personal details) and details of how these complaints were addressed and resolved;
- include a comparison of the environmental impacts and performance predicted in the EIS and additional information documents provided to the DOP and Commission of Inquiry;
- detail results of all environmental monitoring required under the development consent and other approvals, including interpretations and discussion by a suitably qualified person;
- contain a list of all occasions in the preceding twelve-month period when environmental performance goals have not been achieved, indicating the reason for failure to meet the goals and the action taken to prevent recurrence of that type of incident;
- be prepared within twelve months of the commencement of construction, and every twelve months thereafter;
- be approved by the Director-General DOP; and
- be made available for public inspection.

Within one year of the commencement of construction and every year thereafter for the duration of construction a full independent environmental audit shall be undertaken by a suitably qualified person/team approved by the Director-General DOP in accordance with Ministers Condition B4.5.

The contractor will provide SICTL with monthly environmental monitoring reports and will upload to the project website in accordance to requirements.

6.2 Environmental Control Map

An Environmental Control Map(s) is to be prepared by each contractor to assist in the planning and delivery of the project. This map is to be submitted in each contractor construction methodology. It is specific to the site or work area and outlines the location of protection measures, monitoring requirements and environmentally sensitive areas. It is the practical application of the proposed control measures.

The project Environmental Control Map shall include but not limited to:

- The worksite layout and boundary, including entry/exit points and internal roads
- Location of site offices
- Location of spill containment and clean-up equipment
- Location of worksite waste management facilities
- Location of environmentally sensitive areas (e.g. threatened species, critical habitat, contaminated areas, heritage zones, vegetation and trees to be protected, etc.)
- Location of stormwater drainage and watercourses leading to / from the worksite
- Key environmental risk issues and the specific mitigation measures

6.3 Plant and Equipment

Plant and equipment will be maintained in a safe and serviceable manner.

The following rules apply:

- Plant will be serviced, re-fuelled and washed-down only in approved areas where hydrocarbons can be captured and then properly disposed of. Preference is given for all servicing to be undertaken off site with only large plant items and minor service to be serviced on site
- Major servicing is not to be undertaken on site
- Plant and equipment will be maintained to prevent/fix oil leaks
- Plant and equipment will have regular maintenance to ensure optimum operations & fuel efficiency
- Plant will be driven and operated only in approved areas
- Plant will have effective pollution control and sound attenuation devices fitted.
- Throttle down and switching off construction plant and equipment when not in use or attended
- Plant noise levels are to be monitored and recorded in accordance with the EIS commitments.

7. Emergency Preparedness and Response

The types of environmental emergencies which could occur on this site are shown in Appendix 4.

The relevant statutory and regulatory authorities will be informed as outlined in Section 12 of this CEMP.

An Emergency Response and Incident Management Plan (Appendix 8) has been developed for the project and details procedures and protocols for emergency situations. Environmental incidents and complaints will be handled as follows:

- Immediately report all incidents to the project supervisor who will assess the situation and manage the subsequent steps
- Immediately take all reasonable steps to contain further damage or danger to personnel and the environment
- Contact emergency service personnel as necessary (e.g. fire dept., spill clean-up services).
- Inform SICTL's representative and other relevant authorities as necessary
- Contractors are to liaise with the SICTL's representative regarding corrective and preventive actions required and the timeframes within which these actions must occur
- Designated personnel will undertake the corrective and preventive actions.
- Review and revise existing procedures and control measures where required
- Ensure information on the handling of hazardous materials is contained in the SDS file
- Ensure emergency services contact numbers are displayed in the main site office.

8. Monitoring and Measurement

Key characteristics of the Project operations and activities which have a significant impact on the environment will be regularly monitored and measured. Ongoing environmental management and reporting will be required for the full duration of the works. Environmental monitoring will be generally completed through the Project. A combined environmental monitoring program will be undertaken among the relevant contractors working on the Project to satisfy the commitments in the EIS including noise and air quality monitoring. Results will be distributed among the relevant contractors and reported monthly. Any exceedances to project specific targets will result in investigation by all relevant contractors on site and their respective client to determine the likely source of the exceedance and develop a plan to rectify any issues. Any such rectification will be made available to other contractors to avoid repeat issues.

This will include:

- Quantitative environmental monitoring
- Monitoring environmental controls

Quantitative environmental monitoring will be undertaken as outlined below:

Aspect	Target	Means	Location	Construction Stage	Time-frame	Responsibility
Water Discharge	No pollution of waters <25ntu, (or as described in the EIS for various weather conditions), pH 6.5-8.5, no visible oil and grease.	Water quality meter Laboratory testing and assessment if required	As required during works.	Whole Project	Prior to any discharge from site.	Contractor
Construction Noise	Compliance with OEH Construction Noise Requirements and the MCoA's And noise goal that activities should not exceed the background by 5 dB(a) at residential receivers	Attended sensitive receptor monitoring	As per the project EIS; Location 1 - Chelmsford Avenue Location 2 - Dent Street Location 3 - Jennings Street Location 4- North of Golf Course Location 5- Australia Avenue Location 6- Military Road	Whole Project	Monthly	Contractor
Construction Vibration	Compliance with OEH Construction Vibration Requirements vibration limit of 3 mm/s at residential	Attended monitoring	Determined by works	As required	During vibration intensive activities within safe structural working zones. In response to	Contractor

Aspect	Target	Means	Location	Construction Stage	Time-frame	Responsibility
	receivers No valid vibration complaints Targets are outlined in the Noise and Vibration sub-plan				complaints.	
Air Quality	Dust Deposition <4g/m2/month PM10 < 50µg/m3 averaged over 24 hours (equivalent) -Trigger level for stop work/investigation set at 45µg/m3	Dust deposition gauges Real time dust monitoring using 'Dust Track' monitor for targeted real time monitoring	Dust deposition locations outlined in the Air Quality Management sub-plan. Real-time PM10 monitoring (Botany Golf Club)	Whole Project	Dust deposition gauges monthly Real-time monitoring ongoing	Contractor

- All monitoring, management and reporting documents required under the project development consent shall be made publicly available
- Specific details on the potential treatment measures to be implemented where monitoring results indicate an exceedance to the requirements are addressed in the relevant sub-plans.

8.1 Community Notifications Procedure

Community members identified as being impacted by Project works will be issued with a written notification two weeks prior to the commencement of works. The notification will be distributed via letterbox drop and include residents/businesses identified as being impacted. The CCC will be given construction notifications and updates monthly.

Where appropriate (for example, if the construction programme necessitates significant changes to established mitigation strategies), the notification will include ‘door knocking’ residents to advise them of the Project impacts and provide face-to-face information regarding the works. This may take place at the time of the letterbox drop or one week prior to the commencement of works. Where residents cannot be contacted in this way, a calling card will be left with the Project's 1800 contact information.

Notifications will include information regarding:

- Time of works
- Date of works (duration)
- Specific information regarding likely impacts - for example, traffic, visual amenity, noise and dust
- Mitigation strategies (where relevant)
- Project 1800 number and enquiries email address

All notifications will be recorded in the Project communications database.

This Framework Construction Environmental Management Plan will be made publicly available via the project website once approved by the Director General.

8.2 Enquiries and Complaint Response

Community members and other stakeholders will be able to contact the Project team using a number of methods including email, 1800 project number, letter and verbal / face-to-face inquiries. The project contacts are given below.

Contact	Details
General Enquiries	Noel Storan
Complaints Line	1800 177 722
E-mail	noel.storen@eprm.com.au
Media Enquiries	Please contact Manager Public Affairs Hutchison Ports Australia on (02) 8268 8000
Website	http://www.hutchisonports.com.au/port-botany-expansion

NSW Ports co-ordinates the inquiries and complaints 1800 number and then distribute to the relevant project personnel who will respond immediately at all times to such inquires and log all relevant information on the Project communications database. Where an immediate response is not possible, (due to the need to source relevant information from personnel within the Project team for example), project personnel will record the inquirer's details and advise them that a response will be provided within 24 hours (or earlier if possible).

Where a written response is required, the relevant contractor will provide SICTL with a draft response. It is anticipated that SICTL would provide approval for the response within 24 hours or as agreed with the resident/community member. Written responses to community complaints will be provided within 7 days.

Project personnel will ensure that the inquirer is satisfied with the response provided and close the action on the Project communications database. If the inquirer is not satisfied with the response, project personnel should further attempt to resolve the inquiry. If a satisfactory resolution is not reached, project personnel should refer the inquiry to the Site Supervisor and advise the SICTL representative.

Information to be recorded on the Project communications should include:

- Date and time of contact / inquiry
- Name of inquirer (if agreed by the inquirer)
- Inquirer's contact details (if agreed by the inquirer)
- Nature of inquiry (for example, information request)
- The means by which the comment, inquiry or complaint was made (telephone, fax, mail, email or in person
- Proposed follow up action/s (for example immediate verbal response, letter, other). This may require one or more actions
- If no action is taken by the project team in relation to the inquiry, the reason(s) for this are to be documented
- Content of response

- Status of the inquiry (open / closed).

The project will provide quarterly reports to the DOP and EPA in conjunction with NSW Ports, where relevant, outlining details of complaints received.

Management system non-conformances and recurring environmental incidents will be handled in accordance with the Environmental Rules in Non-conformances, Incident Investigation and Complaints Management.

Corrective and preventive actions may include:

- Site remediation and rehabilitation
- Increased site inspections and monitoring
- Increase environmental awareness (re-training)
- Review and improve existing environmental controls and job safety analyses/ work method statements.

9. Incidents, Complaints, Corrective and Preventative Action

All incidents and complaints, (including potential incidents), must be reported so that they can be investigated and prevented from recurring.

Ensure that non-conformances and environmental incidents are recorded and written reports provided to the Clients Representative and Environmental Manager within 24-hours. Liaise with the required stakeholders to confirm the nature of the corrective action required and comply with the timeframe within which corrective actions must occur.

SICTL shall be notified of any environmental incidents and complaints relating to the Project by the contractor. Preliminary notification will be provided as soon as prossible of the incident to the SICTL representative and Environmental Representative.

All project construction complaints and inquires will be logged in the Construction Information and Complaints Database that will be managed by the contractor.

9.1 Incident and Complaints Reporting

Environmental incidents and complaints are to be investigated, documented, actioned and closed out as per the relevant contractor's investigation process.

Where an environmental non-conformance or incident is identified, corrective and preventive actions shall be developed and may include:

- Review and improve existing environmental controls and job safety analyses/work method statements
- Site rehabilitation
- Increased site inspections and monitoring
- Modify construction or installation methods
- Increase environmental awareness including re-training.

9.2 External Incident Notification

The EPA must be notified immediately of all pollution incidents that cause or threaten material harm to the environment.

Harm to the environment is "material" if the effect (or potential effect) from an incident on the health or safety of humans or ecosystems is not trivial and or results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding $10,000.

Incidents requiring notification to the EPA must also be immediately notified to the Southern Region HSEQ Manager and the Head of Legal.

If an incident presents an immediate threat to human health or property, emergency services are to be contacted via 000 phone number.

The EPA Environment Line is to be contacted on 131555.

The notification will need to include information on:

- The time, date, nature, duration and location of the incident
- The location of the place where pollution is occurring or is likely to occur
- The nature, the estimated quantity or volume and the concentration of any pollutants involved
- The circumstances in which the incident occurred (including the cause of the incident, if known)
- The action taken or proposed to be taken to deal with the incident and any resulting pollution or threatened pollution
- Other information prescribed by the regulations.

In addition to notifying the EPA of pollution incidents other authorities as outlined below must also be notified immediately:

- The Ministry of Health (via the local Public Health Unit - 02 9391 9000)
- The Work Cover Authority (13 10 50)
- Botany City Council - (02) 9366 3666
- Fire and Rescue NSW on 000.

Regardless of the actual or potential impact, these authorities must be notified under the amended legislation for all notifiable pollution incidents.

Further information in relation to the incident must be provided immediately if it becomes available after the initial notification.

The Director-General shall be notified of any incident with actual or potential significant off-site impacts on people or the biophysical environment within 12 hours of the Applicant, or other relevant party undertaking the development, becoming aware of the incident. Full written details of the incident shall be provided to the Director-General within seven days of the date on which the incident occurred. The Director-General may require additional measures to be implemented to address the cause or impact of any incident, as it relates to this consent, reported in accordance with this condition, within such period as the Director-General may require.

Pollution complaints and incidents must be maintained for a minimum of four years.

9.3 Corrective and Preventative Action

Post incident corrective and preventive actions may include:

- Site remediation and rehabilitation
- Increased site inspections and monitoring

- Increase environmental awareness (re-training)
- Review and improve existing environmental controls and job safety analyses / work method statements.

10. Environmental Management System Audit

Audits will be conducted to determine compliance with this CEMP. The audits will evaluate compliance with this CEMP, environmental monitoring and associated documentation including legal, contractual and other requirements. Monthly implementation auditing and quarterly system auditing will be performed on the contractor.

It is also expected that an internal audit will be undertaken by all contractors within three months of commencing on site and every three months thereafter. The Contractor will also track and assess compliance against the predictions made and conclusions drawn in the development application, EIS and the contractor will review the effectiveness of environmental impact mitigation works in preparation for the Annual Audit. An audit report from the relevant contractor will be issued to SICTL.

Within one year of the commencement of construction and every year thereafter for the duration of construction a full independent environmental audit shall be undertaken by a suitably qualified person/team approved by the Director-General of Department of Planning and Infrastructure in accordance with Ministers Condition B4.5.

11. Document Control and Review

The master 'controlled' CEMP document will be held on the site computer network server where it can be accessed by personnel as necessary.

The controlled copy will be retained in ProjectCentre, which is the SICTL's document management system, where it can be accessed by personnel and contractors as necessary.

All paper copies of this CEMP will be considered as 'uncontrolled' unless they have been allocated a 'copy number' in a colour other than black.

Revisions of this CEMP may be required throughout the duration of the project to reflect changing circumstances or identified opportunities for improvement. Revision may result from:

- Management review
- Audits findings (internal or external)
- Incident investigations
- Complaints or non-conformance reports or preventative actions

Appendix 1 Legal and Other Requirements

The relevant legal and other requirements are shown in the table below.

Legal and Other Requirements	Summary of Obligations	Relevance to the Project/ Notes and System
Protection of the Environment Operations Act 1997	This Act is of most relevance to work being carried out under this contract. It integrates into one Act all the controls necessary to regulate pollution and reduce degradation of the environment, provides for licensing of scheduled development work, scheduled activities and for offences and prosecution under this Act. Of particular note is Section 120 of the act which relates to water pollution.	High Relevance The Act provides for the issuing of environmental protection notices to control work and activities not covered by licences. Section 148 of the Act requires a pollution incident causing or threatening material harm to the environment to be notified to the EPA. The relevant protocols are outlined within this CEMP.
Environmental Planning and Assessment Act 1979	This Act establishes a system of environmental planning and assessment of development proposals for NSW.	High Relevance Port Botany Expansion to be "State significant development" under section 76A(7) of the EP&A Act due to their environmental planning significance for NSW. As such, the Minister for Infrastructure and Planning will be the "consent authority". Port Botany Expansion is also an "integrated development" under section 91 of the EP&A Act. Integrated development is development that, in order for it to be carried out, requires development consent and one or more of certain approvals or permits from other government authorities
Local Government Act 1993 Local Government (General) Regulation 2005	The Local Government Act and Local Government (General) Regulation provide a legal framework for an environmentally responsible system of Local Government including the responsibility to administer various regulatory systems (e.g. Environmental Planning, Development Consents and Conditions of Approval).	Low Relevance The project is wholly outside of their jurisdiction from a planning framework. Notwithstanding, Botany Bay City Council and Randwick City Council are significant stakeholders of the project and ongoing consultation will be undertaken.
Roads Act 1993 Roads (General) Regulation 2000	This Act and Regulation primarily provide for such things as the opening and closing of public roads, identification of road boundaries and road widening, road levels, classification of public roads, road work, protection of public road and regulation of traffic, regulation of work, structures and activities.	High Relevance This Act is mostly an administrative Act for the NSW RMS. Relevance relates to activities undertaken on the project that may impact on traffic on RMS designated roads. RMS are to be consulted on project plans as per the project determination.
Soil Conservation Act 1938	This Act makes provision for the conservation of soil resources, farm water resources and the mitigation of erosion. The Act is binding on the Crown, however the Crown is not liable for prosecution. The Act provides for notification in the government gazette catchments where erosion is liable to cause degradation of rivers, lakes etc (i.e. protected land).	Medium Relevance This Act has medium relevance as the site is located within Botany Bay.

Legal and Other Requirements	Summary of Obligations	Relevance to the Project/ Notes and System
Environment Protection and Biodiversity Conservation Act 1999 (Cwth)	The main purpose of this Act is to provide for the protection of the environment especially those aspects that are of national environmental importance and to promote ecological sustainable development. The Act binds the Crown. Do not take, use, keep or interfere with "nationally significant" cultural and natural resources, protected wildlife and protected plants without Approval.	High Relevance The Commonwealth Minister for the Environment and Heritage pursuant to section 75 of the EPBC Act has declared that the proposal is a Controlled Action. The controlling provisions were set out by Environment Australia (EA) as follows: • under Part 3 Division 1: − sections 16 and 17B (Wetlands of international importance); − sections 20 and 20A (Listed migratory species); and • under Part 3, Division 2: − sections 26 and 27A (Protection of the environment from actions involving Commonwealth land).
Native Vegetation Act 2003 Native Vegetation Regulation 2005	This Act and Regulation provide for the conservation and management of Native Vegetation by requiring Development Consent to be obtained for the clearing of Native vegetation. Section 19 (1) Clearing of non-protected regrowth permitted Section 12 of the Native Vegetation Act 2003 excludes the clearing of land carried out in accordance with consent under Division 3 of Part 9 of the Roads Act 1993. Any clearing of native vegetation required for construction of the work under the contract would be covered by such consent.	Low Relevance Clearing of native vegetation is not required for the relevant works covered by this CEMP.
Land and Environment Court Act 1979	The Land and Environment Court is constituted under this Act. The jurisdiction of the Court is divided into numerous classes. The relevant classes for the project covers matters such as the prosecution for offences under the various environmental legislation and to appeal against conditions of approvals, permits or orders.	Medium Relevance The relevance of this Act would only apply to work under the contract if SICTL and/or contractors were prosecuted for an Environmental Offence.
Greenhouse Gas (GHG) Emissions National Greenhouse and Energy Reporting Act 2007	Corporations emitting more than 50kT of carbon dioxide equivalent units in the financial year of 2010-11 must register by 31 August 2010 and report Scope 1 and Scope 2 emissions by 31st October 2010.	Low relevance SICTL Contractors will not trigger the requirements of this Act.
Contaminated Land Management Act 1997	This Act provides for a process to investigate and remediate land that has been contaminated and presents a significant risk of harm to human health. Section 60 of the Act is a "Duty to Report Contamination". This duty applies to owners of land and persons who become aware their activities have contaminated the land. The site contains contaminated land and the provisions of this act must be complied with during the	Medium Relevance The relevance of this Act to the project will be relevant if suspected or contaminated ground is found during construction activities.

Legal and Other Requirements	Summary of Obligations	Relevance to the Project/ Notes and System
	works.	
Environmentally Hazardous Chemicals Act 1985	This Act prohibits the manufacturing, processing, keeping, distributing, conveying, using, selling or disposing of an environmentally hazardous chemical or waste (prescribed activity) except under the provisions of a chemical control or a licence. The OEH is required to prepare inventories of environmentally hazardous chemicals and declared chemical wastes. The OEH designates chemicals that are subject to a Chemical Control Order. There are currently 5 chemical control orders and it is not expected that any site activities will require these chemicals.	Low Relevance It is not anticipated any environmentally hazardous chemicals or declared chemical waste will be used or stored on the site.
Road and Rail Transport (Dangerous Goods) Act 1997	The purpose of this Act is to regulate the transport of Dangerous Goods by road and rail in order to promote public safety and protect property and the environment. The transport of Dangerous Goods is required to be appropriately licensed (both vehicle and driver).	Medium Relevance The proposed construction of the Port Botany Expansion design incorporates features and management systems for the on-site storage and transport of dangerous goods, including the transfer of dangerous goods between water, road and rail vessels.
Water Management Act 2000 Water Management (General) Regulation 2004	This Act and Regulation provide for the protection, conservation and ecologically sustainable development of water sources of the State and in particular to protect, enhance and restore water sources and their associated ecosystems.	High Relevance Among other matters, the WM Act has provisions for environmental protection that would require approvals for activities that impact upon water. These provisions would replace the RFI Act permits with controlled activity approvals in „waterfront land" which includes the beds, banks (where applicable) and foreshores of rivers, estuarine and coastal water bodies. However, the provisions of Part 3A of the RFI Act still apply.
Management of Waters and Waterside Lands Regulations – NSW	This regulation includes provision for Vessel Occupation Licences within navigable waters in NSW. The regulation requires that a licence be held for commercial vessels occupying navigable waters in NSW.	High Relevance A vessel occupation licence under section 34 of the regulation would be required if a barge was proposed to be used for transporting materials to the site 3 deliveries to arrive by sea.
Coastal Protection Act 1979	This Act requires public authorities to notify the Coastal Council of NSW of any information, proposed activity or work that in the opinion of the public authority is relevant to the exercise of the function of the Coastal Council. It further empowers the Minister for the Department of Commerce to require public authorities to obtain consent prior to carrying out development in the coastal zone or giving consent to a person to occupy or carry out development in the coastal zone.	Low Relevance Project activities do not trigger the requirements of this Act.
National Parks and Wildlife Act 1974	The relevance of this Act is firstly in respect to the protection and preservation of aboriginal artefacts. Discovery of material on site suspected as being of aboriginal origin must be reported and protected pending assessment of a specialist. Secondly it is an offence under Part 8A of this Act to pick or harm threatened species. (Refer to the notes	Low Relevance No aboriginal artefacts have been identified within the construction area. No threatened species are to be picked or harmed for the scope of works

Legal and Other Requirements	Summary of Obligations	Relevance to the Project/ Notes and System
	under the Threatened Species Conservation Act for more information)	covered by this CEMP.
Threatened Species Conservation Act 1995 Threatened Species Conservation Regulation 2002 Threatened Species Conservation (Savings and Transitional) Regulation 1996	This Act and Regulations provide for obtaining licenses to harm or pick threatened species populations or ecological communities whether plant or animal or to damage any critical habitat. The offence of picking or harming any threatened species is covered under the National Parks & Wildlife Act Part 8A. It is a defence under Part 8A of that Act if the offence was essential to carrying out development that is in accordance with a Development Consent within the meaning of the EP&A Act or an approval within the meaning of Part 5 of the EP&A Act.	Medium Relevance Planning aspects of the TSC Act are implemented through the EP&A Act. Section 79B(3) of the EP&A Act provides that in a development where a Minister is the consent authority (as in the case of the proposed Port Botany Expansion), the concurrence of the Director-General of the NPWS in respect of the SIS is not required. Instead the Minister is required to formally consult with the Minister for the Environment (the Minister who administers the TSC Act), prior to granting consent. No threatened species are to be picked or harmed for the scope of works covered by this CEMP.
Fisheries Management Act 1994	This Act is applicable to all waters within the state including private and public waters and all permanent and intermittent waters. The Act is most relevant in respect to maintaining water quality and ensuring no polluted water from site works enters streams, creeks and waterways. This Act also has relevance in relation to the reclamation activities associated with the works.	Medium Relevance Along with the POEO Act, water discharging from the site or as part of project activities must not pollute the watercourses.
Noxious Weeds Act 1993	This Act provides for the classification and control of noxious weeds. Declared noxious weeds are classified as Class 1, State Prohibited Weeds; Class 2, Regionally prohibited Weeds, Class 3 Regionally Controlled Weeds, Locally Controlled Weeds and Class 5 Restricted Plants. The characteristic of each class is given in Section 8 (2) of the Noxious Weeds Amendment Act 2005. Class 1, 2 & 5 weeds are referred to in the Act as “Notifiable Weeds”.	Low Relevance No noxious weeds identified within the work site. Bitou Push is common on the nearby Foreshore and is to be controlled as Class 3 Weed if translocated to site.
Water Act 1912	This Act provides for licences to extract water for construction purposes either from surface or artesian sources. Should construction water be extracted from surface (other than sedimentation ponds) or artesian sources a licence may be required.	Low Relevance As the lands on which the Port Botany Terminal 3 Expansion Project lie are not currently included within the boundaries of the Water Sharing Plan for the Greater Metropolitan Region Unregulated River Water Sources, the licensing requirements revert to the Water Act 1912 rather than the Water Management Act 2000. It has been determined in consultation with NSW Office of Water that a licence is not required under Part 5 of the Water Act 1912, and therefore the expansion project may proceed without the need for a groundwater licence from the NSW Office of Water.
Heritage Act 1977	This Act provides for the preservation and conservation of heritage items such as building, works, relic, places of historic interest, scientific, cultural,	Medium Relevance Section 139 prohibits disturbance of a relic unless an excavation permit is

Legal and Other Requirements	Summary of Obligations	Relevance to the Project/ Notes and System
	social, archaeological, architectural, natural or aesthetic significance. Under this Act a relic means any deposit, object or material evidence which is 50 or more years old and relates to the settlement of the area (not being an aboriginal settlement). It is an offence under this Act to wilfully and knowingly damage or destroy items of heritage value.	obtained from the Heritage Council. Section 148 requires that the discovery of a previously unknown relic be reported to the Heritage Council within a reasonable time of its discovery. The remains of the former Government Jetty are the only known heritage item existing in the project area.
Australian Heritage Council (Consequential & Transitional Provisions) Act 2003 Australian Heritage Council Act 2003 (Cwth)	The Australian Heritage Council (Consequential and Transitional Provisions) Act 2003 repealed the Australian Heritage Commission Act 1975. The Australian Heritage Council Act 2003 establishes the Australian Heritage Council. The Council is required to identify places to be included in the National Estate and to maintain a Register of the National Estate of places.	No Relevance The site is not on Register of the National Estate of places.
Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (Cwth)	This Act provides for the preservation and protection from injury or desecration to areas and objects of particular significance to Aboriginals. Areas and objects can be protected by Ministerial Declaration and it is then and offence to contravene such a declaration.	Low Relevance No areas or objects within the works site have been identified as being subject to such a declaration and this Act is of low relevance to the project.
Ozone Protection Act 1989	This Act provides for a system of controls and to regulate and prohibit the manufacture, sale, distribution, use, emission, re-cycling & disposal of stratospheric ozone depleting substances and articles that contain these substances. The impact is that appropriately qualified people in accordance with this Act must undertake all servicing and maintenance of this type of equipment.	Low Relevance The relevance of this Act will relate to the use of refrigerators and air conditioning units in site buildings and vehicles which still contain CFCs. Such items are unlikely to be found on site.
Pesticides Act 1999 Pesticides Regulation 1995	This Act and Regulation establish a legislative framework to regulate the use of pesticides. They have the objective to promote the protection of human health, the environment, property and trade in relation to pesticides. It is an offence under this Act and Regulation to wilfully or negligently misuse pesticides.	Low Relevance It is not envisaged that pesticides will be used on the project.
Waste Avoidance and Resource Recovery Act 2001	This Act repeals the Waste Minimisation and Management Act, 1995.The purpose of the Act is to encourage the most efficient use of resources and to reduce environmental harm in accordance with the principles of ecological sustainable development. The Act provides for the making of policies and strategies to achieve these ends. It is an offence under the Protection of the Environment Operations Act to wilfully or negligently dispose of waste in a manner that harms or is likely to harm the environment.	Medium Relevance The relevance of the Act to this project is to implement the strategies by adopting the hierarchy of avoidance; avoidance of unnecessary resource consumption; resource recovery (including reuse, reprocessing, recycling and energy recovery), disposal (as a last resort).
Airports Act 1996	The Airports Act defines any activity resulting in an intrusion into an airport's protected airspace to be a “controlled activity” (section 182), and requires that controlled activities cannot be carried out without approval. The APA Regulations provide for the Department of Transport and Regional Services (DoTARS) or the airport operator to approve applications to carry out controlled activities, and to impose conditions on an approval.	High Relevance The OLS will be entered during delivery of cranes and final position of cranes. SACL approval procedure will be followed to gain relevant approval. Approval from SACL is required to undertake works to specified heights.

Legal and Other Requirements	Summary of Obligations	Relevance to the Project/ Notes and System
Quarantine Act 1908	The Quarantine Act 1908 aims to prevent the introduction or spread of diseases or pests affecting human beings, animals and plants. It outlines measures such as the inspection, exclusion, treatment and disinfection of vessels, installations, persons, goods, animals and plants, which will prevent the introduction or spread of diseases.	Medium Relevance AQIS will be informed of all deliveries by sea.
Sydney Water Act 1994	The Sydney Water Act 1994 (SW Act) established Sydney Water Corporation, a State owned corporation, to provide the supply of water and the disposal of wastewater in Sydney and other regions.	Low Relevance. Required for operational port trade waste agreement.

Appendix 2 Risk Assessment

All environmental issues have been assessed in accordance with the table below:

Risk Assessment Rankings: E = Extreme H = High M = Medium L = Low

The risks must be reassessed following the consideration of control measures.

Issues or activities that represent an Extreme risk after the application of control measures are not to be undertaken.

Aspect	Potential Environmental Impact	Initial Risk Rating			Control Measures	Residual Risk Rating		
		P X	C =	Risk		P X	C =	Risk
Approvals and Licensing								
Not identifying appropriate approvals / licenses required or proceeding without them.	Works delayed, infringements, and reputational loss.	U	5	H	Check Environmental Assessment / REF / EIS and statutory documentation. Check contract documentation. Document requirement approvals in CEMP. Establish a register of approvals, licenses, permits.	R	5	M
Noise								
Noise from general construction activities resulting in impact to residents.	Disturbance to residents or neighbouring businesses. The project is located within approximately 400m of sensitive noise receptors and the proposed duration of works and activities have the potential to cause impact. In particular there are residential receivers adjacent to the works in Banksmeadow and Matraville. Potential for complaints.	L	3	H	Develop and implement a Construction Noise and Vibration Management Plan. Consult with the community in relation to upcoming activities that may result in concern (Consultative Community Committee). Provide clear and precise community notifications where required. Monitor noise for compliance as the works progress at receiver locations. Provide periods of respite for high noise generating activities. Apply noise mitigation measures during entire project.	P	3	M

Aspect	Potential Environmental Impact	Initial Risk Rating			Control Measures	Residual Risk Rating		
		P X	C =	Risk		P X	C =	Risk
					Noise efficient equipment to be used on site. Utilise non-tonal reverse alarms for site based equipment where practical.			
Noise during works required to be undertaken out of standard construction hours.	Disturbance to residents or neighbouring businesses with potential for complaints.	L	3	H	Gain approvals required to work outside standard approved hours from regulatory authority. Implement noise mitigation strategies for out of standard hours work. Monitor noise for compliance to project goals.	P	3	M
Vibration								
Vibration intensive activities undertaken on the site	Disruption, annoyance and nuisance to residents. Potential damage to adjacent residential and commercial residences and structures. Disruption to businesses as a result of vibration nuisance.	U	3	M	Develop and implement a Noise and Vibration Management Plan. Determine vibration limits Consult with potentially affected parties prior to commencement of works on their upcoming activities that may be impacted by construction vibration. Ongoing vibration monitoring during vibration intensive works.	R	3	L
Water Quality, Erosion & Sedimentation								
Sediment laden runoff from construction works leaving site.	The project will involves work in close proximity to Botany Bay and construction works in close proximity to the foreshore itself. Degradation of local watercourses (Botany Bay and Penrhyn Estuary). Increased turbidity in local water ways resulting in impact on aquatic life. Fines for sediment escaping site.	L	3	H	Develop Soil and Water Quality Management Plan. Develop and implement sediment and erosion control measures. Ensure controls are inspected and maintained as the works progress and also prior to and post rainfall events. Provide training and awareness on the need to prevent pollution. Test water prior to discharge (TSS, pH/Oil and Grease).	U	3	M

Aspect	Potential Environmental Impact	Initial Risk Rating			Control Measures	Residual Risk Rating		
		P X	C =	Risk		P X	C =	Risk
Stockpiling spoil.	Wind and water erosion causing impacts offsite.	L	3	H	Appropriate locations for stockpiling (away from waterways, watercourses, drains). Stabilise stockpiles if left for extended periods.	U	3	M
Water discharge	Non-compliant water entering stormwater system waterways (i.e. polluting - not compliant with discharge criteria). Spills or discharge from hydraulic equipment operating over waterways Deleterious or contaminated material washed or blown offsite. Rain during concrete/pavement works polluting waterways, increasing pH levels and water pollution from curing compounds.	P	3	M	Develop Soil and Water Quality Management Plan. Induction and toolbox talks. Educate site staff on approval conditions and POEO Act consequences of prosecution. Environmental Manager/representative to approve all water discharges from site. Provide and implement water treatment and testing to ensure any discharge complies with the requirements. Test water prior to discharge (TSS, pH/Oil and Grease). Ensure emergency response procedures are well trained and correct equipment is kept on site. Plan concrete pours during good weather. Concrete wash out bays located away from water and regularly cleaned. Curing compound to be stored in a bunded area when not in use. Application of curing compound to be supervised	U	3	M
Waste								
Waste disposal during construction.	Incorrect disposal of waste, further costs incurred for classifications and disposal, fines may be issued. Pollution of the land and waterways by waste that has been washed, blown, deposited or otherwise from the site. Illegal waste disposal.	P	2	H	Develop a Waste Management Plan. Provide facilities on site for source separation and recycling. Ensure accurate waste records are retained. Removal of wastes from the site would only be undertaken by a licensed contractor as required by the POEO Act and with appropriate approvals, if	U	2	M

Aspect	Potential Environmental Impact	Initial Risk Rating			Control Measures	Residual Risk Rating		
		P X	C =	Risk		P X	C =	Risk
	Waste of natural resources.				required, for contaminated materials, etc. All material to be recovered off-site to be appropriately classified in accordance with the Resource Recovery Exemptions. All material that requires off-site disposal to be appropriately tested and classified against the Waste Classification Guidelines (DECC, 2008).			
Earthworks spoil disposal.	Incorrect classification of waste (spoil) resulting in incorrect / illegal disposal/re-use.	P	2	H	Inductions, toolbox talks and training on recycling facilities and waste segregation practices. Separation of waste on site. Tracking of disposal processes. All contamination hotspots would be clearly marked in the field. Undertake pre-classification of soils on site.	U	2	M
Washout of concrete in undesignated areas.	Sediment laden/alkaline water polluting surrounding stormwater system / watercourses.	P	2	H	Concrete washout areas clearly delineated and designated concrete washout areas will be note at inductions. Contractor agreements to include project compliant waste management principles.	U	2	M
Contamination								
Management of contaminated or untreated materials	Non-compliant material and contaminated water entering surrounding waterways. Decrease in health of nearby ecosystems (Botany Bay, Penrhyn Estuary). The historical surrounding land use at the site has involved significant and varied industrial activities although no	P	2	H	Develop contamination management procedures and protocols. These will be incorporated into the Waste Management Plan. Identify any contamination hotspots and incorporate procedures for these locations into construction documentation. Develop unexpected finds procedures. Report all spill and odours.	U	2	M

Aspect	Potential Environmental Impact	Initial Risk Rating			Control Measures	Residual Risk Rating		
		P X	C =	Risk		P X	C =	Risk
	contaminated materials have been indicated in the reclaimed area of the project.							
Potential for discovery of unexpected contaminated spoil during construction.	Health effects resulting from airborne contamination, e.g. asbestos. Complaints received from odours released during excavations. Classification of spoil is changed and disposal options altered, costs incurred associated with disposal of higher classification of waste.	P	3	M	If contaminated soil is encountered, all works are to stop in the vicinity of the find and investigations commence. Induct personnel on location, type, nature, concentration of contaminants on site if found. Develop unexpected finds procedures.	U	3	M
Encountering asbestos / contaminated material on site.	Transfer of material into previously uncontaminated area (outside work site) causing new contamination.	U	2	M	Contaminated soils would not be stockpiled on the structural fill layer or formation layers to avoid cross contamination.	R	2	M
Hazardous Materials								
Storage of hazardous substances, leaking plant and equipment and spillage from refuelling.	Localised ground contamination / pollution of stormwater and requiring cleanup and/or receiving fines. Risk of igniting volatile substances. Unauthorised access to site / potential vandalism/damage leading to pollution.	U	3	M	Induction and training on appropriate handling and storage of liquids. All storm water drains should be identified prior to works. Storage areas to be away from sensitive areas and appropriately bunded. MSDS approved prior to bringing hazardous substances on site including risk assessment. Plans showing storage locations and associated controls e.g. spill kits, etc. Train in use of spill kits. Contingency plans would be developed to deal with any spills which might occur during construction. Clearly label all containers.	R	3	L

Aspect	Potential Environmental Impact	Initial Risk Rating			Control Measures	Residual Risk Rating		
		P X	C =	Risk		P X	C =	Risk
					Regular auditing and inspection of storage areas and materials. Make storage areas restricted access areas. Reduce/eliminate need for hazardous substances. Ensure all work sites are secure before leaving the site. All liquids i.e. fuels, paint etc are to be securely locked away at the end of each day.			
Spills of hazardous materials	Soil contamination/water pollution as a result of spills of hazardous substances, hydrocarbons during works. Spills to ground resulting in contamination. Spills in marine environment. The project will involve the use of various types of plant and equipment. As a result there is the potential for spills of hydraulic oils, diesel, curing compound and other hydrocarbons. Spills may occur to the hardstand, ground or adjacent waterways.	P	2	H	Measures must be implemented throughout the project to prevent the occurrence of spills on site and to prevent mitigation of escaped materials into the surround bay and waterways. Appropriate, bunded storage. Storage and use of these materials in accordance Delivery and Storage of Chemicals, Fuels & Oils and Hazardous Substances ERAP. Spill kits located at strategic locations on the site in close proximity to activities. Emergency response procedures in place. Biodegradable Panolin oils used for plant and machinery where possible.	U	2	M
Fuel contaminated runoff from construction works leaving site	Fuel contaminated runoff entering stormwater or waterways (i.e. polluting - not compliant with discharge criteria).	U	3	M	All storm water drains should be identified prior to works and controls implemented. Refuelling of vehicles away from culverts, water courses. Appropriate bunding/storage of substances. Toolbox on site procedures for sediment controls and chemical storage.	R	3	L

Aspect	Potential Environmental Impact	Initial Risk Rating			Control Measures	Residual Risk Rating		
		P X	C =	Risk		P X	C =	Risk
					Educate site staff on project conditions and consequences of prosecution.			
Biodiversity								
Vegetation trimming / clearing required outside approved work area.	Unauthorised works / removal of vegetation outside defined work area, possibility of removing threatened species, fines incurred.	U	3	M	Induction and tool box training on work zones and required protection measures. No clearing required for work scope in the CEMP.	R	3	L
Pest / rodent disturbance from site establishment	Potential for birds to roost on site, causing airport risk Health associated risks with increased rodents.	U	4	L	A Feral Animal management Plan (FAMP) will be prepared for construction.(EIS 20.8.4) Ensure all waste is well secured and covered to minimise available food sources for birds/ rodents. If issue is problematic during construction activities, pest control services to be implemented as soon as possible	R	4	L
Construction activities impacting surrounding environment ; traffic, noise, lights, activities out of bounds, etc	Breach of procedures and legislation. Fines for non-compliance. Injury and or damage to foreshore birdlife, aquatic and marine species.	U	3	M	Due to the nature of the site and the scope of works, it is unlikely that any native flora or fauna will be impacted during the works. Notwithstanding there is the potential for interaction with marine and aquatic species and foreshore flora and fauna. Provide information during site induction process on flora and fauna issues. Temporary construction lighting would use tinted lights where possible to minimise the attraction of insects on which birds are likely to feed.(EIS 28.4.1)	R	3	L
Ponding of water on site	Attracting birds to roost on site leading to bird strikes at the airport runway	U	2	M	Prepare Bird Hazard Management Plan. Ensure drainage is adequate to minimise pooling of stormwater on site. Install effective covering over any sediment ponds, such as chicken wire, to stop birds roosting on site.	R	2	M

Aspect	Potential Environmental Impact	Initial Risk Rating			Control Measures	Residual Risk Rating		
		P X	C =	Risk		P X	C =	Risk
					Monitor excavations, dust suppression applications and other works with the potential to hold water to minimise pooling of water.			
Air Quality								
General construction works; site establishment, earthworks, stock piling , piling, traffic movements etc	The project is located near sensitive receptors. Complaints from workers / public / community for dust leaving the site. Negative project perception by community. Repairs and clean up as needed.	L	3	H	Develop Air Quality Management Plan. Inductions and toolbox training on Dust and Air Quality Management. Include provision for air quality monitoring during the works. Provide dust mitigation measures through water sprays/misting. Use of water carts during dry weather on haulage roads and excavations/batters. Install dust controls immediately and continually through the project; _ Surface sealants _ Water carts _ Street sweepers _ Seal haulage/access roads Implement controls from Air Quality Management Plan Erosion and Sediment Control Plans approved before works commence. Controls are then reviewed for maintenance.	U	3	M
Exhaust from plant and equipment.	Emissions resulting in air pollution.	U	4	L	Well maintained plant used on site, prestart checks and regular servicing Non-complaint vehicles removed from site / repaired.	R	4	L

Aspect	Potential Environmental Impact	Initial Risk Rating			Control Measures	Residual Risk Rating		
		P X	C =	Risk		P X	C =	Risk
Archaeology & Heritage								
Unexpected heritage items encountered. Construction impacts to Government Pier.	Exposure, loss or damage of artefacts or items of heritage value previously unidentified Work delays, additional studies, approvals required, damage to heritage item.	U	3	M	Should any items be discovered, works will cease in the area immediately and SICTL representative advised. General inductions toolbox training on heritage management protocols. Set exclusion zones for any known heritage items (Government Pier). If suspected heritage item encountered. Works to stop immediately and SICTL representative to be contacted.	R	3	L
Acid Sulphate Soils								
Disturbance of Potential Acid Sulphate soils and Actual Acid Sulphate Soils during excavations.	The works are located in an area know to contain potential acid sulphate soils. Excavation works are required and may encounter these soils. Mobilisation of metals within runoff to levels toxic to natural systems. Release of acidic runoff.	U	3	M	Develop and implement Acid Sulphate Soils Management Plan. Awareness training in the identification and management of ASS. Provide containment and treatment facility on site. Ensure ASS material is left underwater, disposed off site or appropriately treated in a bunded area with sump.	R	3	L
Traffic								
General construction traffic disturbing public access between local roads.	Disturbance to local residents resulting in complaints being made, limited access, potential for delays at local road access points resulting in complaints.	P	4	M	Approved Traffic Management Plan in consultation with relevant authorities. Clear notifications / signage. Traffic Handbook; approved access routes, detailed Traffic Control Plans.	U	4	L

Aspect	Potential Environmental Impact	Initial Risk Rating			Control Measures	Residual Risk Rating		
		P X	C =	Risk		P X	C =	Risk
Management of heavy vehicles / haulage routes.	Complaints from sensitive receivers due to increased level and frequency of noise.	P	4	M	Designated haulage routes. Approved Traffic Management Plan. Community Notifications where required. Pedestrian management with traffic controller in place where required.	U	4	L
Truck deliveries out of normal working hours	Non-conformance with project requirements. Noise impact to community / potential complaints.	P	4	M	Induction on Construction Hours for deliveries. Communication of delivery times to suppliers. Community Notifications on project activities occurring locally. Provide designated areas for OOH delivery to prevent cueing outside site. Code of conduct / selection criteria in place for subcontractors. Out of hours works approval where required (Planning Approval/ Council) Approved traffic/haulage routes. Planning and staging of works in approved hours as much as practical.	U	4	L
Resources and Energy Use								
Energy consumption by construction plant & operation of site compound facilities.	Inappropriate energy use, waste of energy recourses, energy wastage costs, increased greenhouse gas emissions.	L	4	M	Inductions and toolbox training on waste management and energy saving practices in construction plant and equipment and during office work. Minimise idling of plant equipment where possible.	U	4	L

Aspect	Potential Environmental Impact	Initial Risk Rating			Control Measures	Residual Risk Rating		
		P X	C =	Risk		P X	C =	Risk
Water usage during construction activities.	Excess usage of potable water for construction activities	L	4	M	Develop Water Resource Management Plan. Use of potable water for construction activities to be minimised. Reuse concrete wash water where possible. Capture and reuse rainfall and runoff for site activities. Utilise water from dewatering activities as dust suppression to ease use of potable water resources.	U	4	L
Resource usage (e.g. building materials, water, fuels, packaging), waste generation and disposal .	Depletion of resources due to wastage (e.g. wastage of water / no recycling, poor management of procurement, ineffective removal of off-cuts, waste, i.e. no recycling).	L	4	M	Inductions and toolbox talks on recycling facilities and waste segregation, training/education on how to recycle. Procurement of materials (selection of materials) to be considered. Waste management undertaken in accordance with the Waste Avoidance and Resource Recovery Act 2001.	U	4	L
Airport								
Airport exclusion zones	Breach airport approval Interfere with airport operations; temporary construction lights and breaches of the OLS	P	3	M	Ensure design specifications of any construction lighting conform to the requirements of Regulation 94 of the Civil Aviation Regulations 1988. Ensure all construction lighting is minimal and facing downwards. Ensure an approval/permit is sort before breaching the OLS.	R	3	L

Environmental Risk Assessment Rankings

This table may be used as a guide in determining the level of risk for each environmental issue.

For each identified issue, consider the 'maximum credible' (not absolute worst case) risk that could result with minimal or no controls other than existing and using normal construction practices.

Note: Any one of the listed consequences must result in the use of the applicable consequence grading.

Select a letter and a number from each column. Plot letter and number selections on the Risk Ranking Matrix to determine applicable ranking:

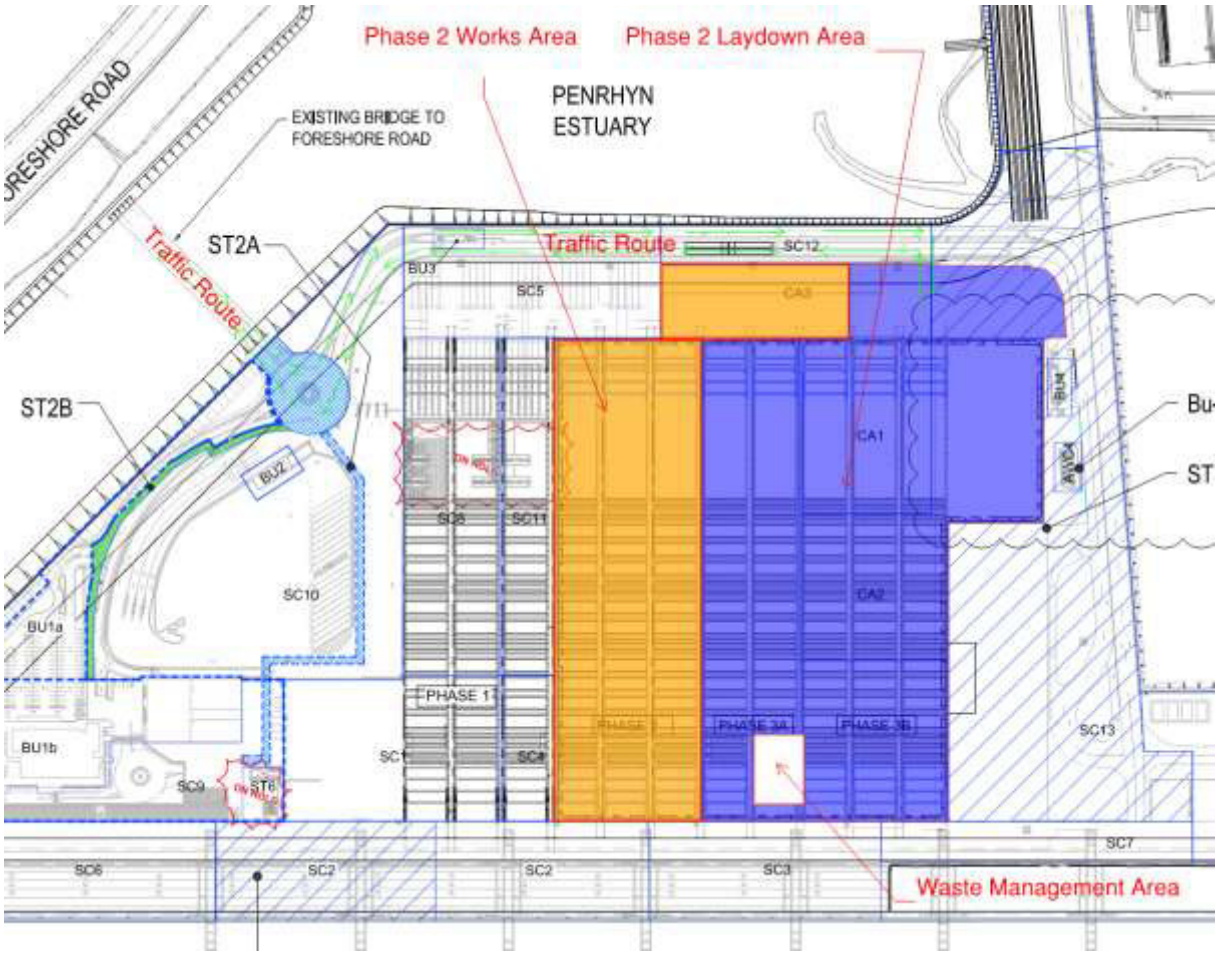
Likelihood (Probability & Frequency of Occurrence)			**Consequence (Outcome or Severity of Occurrence)**		
C	Certain	Common or repeating occurrence	1	Major	Major pollution incident causing significant damage or potential to health or the environment
L	Likely	Known to have occurred / "has happened"	2	Significant	Significant pollution incident causing damage or potential damage to health or the environment external to the site. Potential for prosecution. Numerous substantial complaints
P	Possible	Could occur / "heard of it happening"	3	Moderate	Reportable incident to EPA or other authority. Substantial breach of legislative, licence or guideline requirements. Possible fine. Will cause complaints.
U	Unlikely	Not likely to occur	4	Minor	Pollution incident that marginally exceeds licence conditions or guidelines for acceptable pollution. Fine unlikely. Potential for complaints.
R	Rare	Practically impossible	5	Insignificant	Insignificant pollution incident. Fully contained on site and can be fully remediated. Little potential for fine or complaints.

Probability ► ▼Consequence	Certain	Likely	Possible	Unlikely	Rare
1 – Major	H	H	H	H	M
2 – Significant	H	H	H	M	M
3 – Moderate	H	H	M	M	L
4 – Minor	M	M	M	L	L
5 – Insignificant	M	L	L	L	L

Risk Assessment Rankings: H = High M = Medium L = Low

Appendix 3 Site Location and Map

Site layout may be subject to change throughout the project.



Appendix 4 Emergency Preparedness and Response

The types of environmental emergencies that could occur on this site are tabulated below.

Type of Emergency	Preparation for Emergency	Response to the Emergency	Responsibility
Minor spill of hazardous or toxic substance (< 20L)	Awareness training of appropriate response and procedures to be incorporated into site induction MSDS on site for all materials and kept up to date Adequate supply of absorbent materials available in the site compound and on vehicles at work location	Report all spills immediately to Site Manager and/or the Project Environment Representative Attempts to be made to limit or contain the spill using sand bags to construct a bund wall, use of absorbent material from spill kits, temporary sealing of cracks or leaks in containers, use of geotextile or silt fencing to contain the spill. Contractors to coordinate the response, clean up and disposal of the material Material to be disposed of in accordance with the manufacturers' recommendations and applicable legislation.	Contractor
Major spill of hazardous or toxic substance (> 20L)	Awareness training of appropriate response and procedures to be incorporated into site induction MSDS on site for all materials and kept up to date Adequate supply of absorbent materials available in the site compound and on vehicles in work location Emergency telephone numbers prominently displayed around office and issued to supervisors	Report all spill immediately to Site Manager. Notify SICTL representatives immediately. Attempts to be made to limit or contain the spill using sand bags to construct a bund wall, use of absorbent material, temporary sealing of cracks or leaks in containers, use of geotextile or silt fencing to contain the spill, righting overturned containers, transferring remaining material. Implement procedures to notify the relevant authorities (see section 12 of this CEMP). Contractor to coordinate the response, clean up and disposal of the material If spill is regarded to be outside the onsite resources, then the fire brigade should be called (see section 12 of this CEMP). Where appropriate, evacuation procedures are to be implemented to remove non-essential personnel from the affected area Access and egress to the area is established to ensure the appropriate vehicles have effective access and congestion is minimised. If the fire brigade attends, their senior officer assumes control of the operation with contractor personnel assisting as required. A full investigation report of the event is to be completed by the contractor as soon as practicable after the area has been secured.	Contractor

Type of Emergency	Preparation for Emergency	Response to the Emergency	Responsibility
Severe Storm / High Wind	Monitor storm warnings for the area. Awareness training of appropriate response and procedures to be incorporated into Environmental and Safety Induction. Ensure First Aid supplies are well stocked and adequate.	Remove all nonessential personnel Secure all plant, equipment and materials Remove plant and equipment from flood prone areas If plant cannot be removed ensure it is secured and in a position where it is unlikely to cause damage Stow all minor and small equipment into containers, which are to be sealed. Ensure all other materials are either removed from flood prone areas or stowed and secured. All chemicals will be in secured containers and stored within a sealable shipping container or similar.	Contractor
Fire (other than bushfire)	Fire extinguishers maintained, clearly labelled and distributed around site compound and vehicles Training in the use of fire extinguishers and which one to use for each type of fire First Aid supplies are stocked and adequate	For small fires, attempts to be made to extinguish the fire or limit its spread with available fire extinguishers or water hoses if appropriate. Contractor to contact SICTL representatives and external services where necessary (fire, ambulance) as a precautionary measure. All personnel in the vicinity to be assembled in the Evacuation Assembly Area and a head count performed Any resulting fuel or chemical spill to be handled as detailed above Contractor to coordinate with emergency services and provide assistance as required.	Contractor
Significant adverse dust event due to weather conditions: High winds	Monitor meteorological conditions for the area - develop contingency for wind speeds in excess of 16m/s (55km/hr) High wind 'stop works' protocols in place Establish contingency strategy for additional dust control measures, additional water carts, dust suppressants, stockpile covers etc	Dust generating activities will cease under direction of the Contractor's Supervisor until adverse conditions subside.	Contractor
Temporary erosion and sediment controls are damaged during rainfall.	Plan controls to be suitable for expected conditions Ensure sufficient materials, labour and plant are available for additional controls.	Controls to be repaired or replaced within 24 hours of detection, immediately if inclement weather current.	Contractor
Vibration causing structural damage	Choose correct plant when working near structures; minimise size and impact Use safe working distances during planning phase Implement vibration monitoring at commencement of vibration generating works to ensure compliance with standards	Activities causing vibration would cease. Any occupants of buildings may be evacuated with due consideration to safety, and the area secured to prevent unauthorised access. A structural assessment to be undertaken; and if any damage is associated with construction, rectification work would be agreed.	Contractor

Type of Emergency	Preparation for Emergency	Response to the Emergency	Responsibility
Unapproved clearing / damage to protected vegetation – threatened/endangered species	Clearly demarcate site boundaries Clearly demarcate clearing areas and brief site personnel Identify/mark vegetation to be retained or that is protected. Identify species that may be impacted, include material within the project induction	Immediately cease activities Engage consultant to assess damage to vegetation and presence of any endangered or threatened communities.	Contractor
Injury/death to protected/endangered/threatened fauna	Identify potentially impacted species prior to commencement on site. Identify species that may be impacted, include material within the project induction Review/inspect vegetation to be cleared prior to clearing – utilise ecologist/spotter where there is the potential for endangered/threatened species Engage with local vet/WIRES representative on the appropriate contact/procedure Site procedure for the short term management of injured fauna	Immediately cease activities upon discovery of injured fauna Implement procedure for short-term stabilisation and transport to Vet or WIRES Undertake additional vegetation inspection to identify any remaining fauna prior to recommencement.	Contractor
Unauthorised discharge of water that does not meet criteria	Awareness training of appropriate response and procedures to be incorporated into site induction.	Discharge to immediately cease. Water to be treated to meet acceptable criteria prior to release. Water monitoring to be undertaken if not in place during incident. Incident report to be completed by the environmental manager and corrective and preventative action implemented prior to discharge recommencing.	Contractor

Appendix 5 Permits and Licences

The list of licenses and consents is provided below. These will be tracked on the Project Permits and Licences Register by the contractor:

- NSW Minister for Planning Conditions of Approval for the Port Botany Expansion Project
- MOD 1 – MOD-107-9-2006-i approved 11 September 2007
- MOD 2 – MOD-134-11-2006-i approved 11 September 2007
- MOD 3 – MOD-149-12-2006-i approved 11 September 2007
- MOD 4 – MOD-78-9-2007-i approved 17 September 2007
- MOD 5 – MOD-60-9-2008 approved 21 September 2008
- MOD 6 – MOD-68-12-2008 approved 12 December 2008
- MOD 7 – MOD-08-03-2009 approved 20 March 2009
- MOD 8 – 494-11-2003-i MOD 8 approved 30 May 2009
- MOD 9 – DA-494-11-2003-i MOD 9 approved 18 June 2009
- MOD 10 – DA-494-11-2003-i MOD 10 approved 13 July 2009
- MOD 11 – DA-494-11-2003-i MOD 11 approved 21 November 2011
- MOD 12 – DA-494-11-2003-i MOD 12 approved 6 June 2012
- MOD 13 – DA494-11-2003-i MOD 13 approved 8 February 2013
- MOD 14 – DA-494-11-2003-i MOD 14 approved 11 June 2013
- MOD 15 – DA-494-11-2003-i MOD 15 approved 8 July 2013
- Commonwealth of Australia Environment, Protection and Biodiversity Conservation Act 1999 approval - reference 2001/543
- Port Botany Expansion Environmental Impact Statement.
- Sydney Port Corporation Green Port Guideline – May 2006.
- Future modifications to Sydney Container Terminal 3 under Section 75W of the Environmental Planning and Assessment Act 1979.
- SICTL Construction Environmental Management Plan (CEMP) and associated plans approval from relevant authorities
- Approval for works undertaken outside the hours approved by the Director General.
- Penrhyn Estuary Habitat Enhancement Plan
- Permit/approval to breach the OLS
- Radiation Licence (survey equipment; if required)
- Waste depot and waste transport Licence for waste contractors

Appendix 6 MCoA Compliance Tracking

The table below outlines the status of the relevant Minister's Conditions of Approval (MCoA) for the project at the time of submission of this CEMP to Department of Planning and Infrastructure. MCoA's shall be tracked during works separately to the CEMP.

EIS commitments will be tracked separately by the contractor in preparation to the annual audit.

Condition No.	Condition	Action	CEMP Ref	Status	Responsibility
A1.3	All licences, permits and approvals shall be obtained and maintained as required throughout the life of the development. No condition of this consent removes the obligation to obtain, renew or comply with such licences, permits or approvals.	Ensure all required Licences and Permits are obtained	Appendix 5	Open	SICTL and Contractors
A3.1	Commencement of the construction of terminal operations infrastructure on the area of the Stage 1 port footprint shown hatched in Schedule 3, shall not occur until such time as the Sydney Ports Corporation has submitted documentation, to the satisfaction of the Minister, by way of a copy of a contract(s) or agreement(s), by way of lease(s) or similar arrangement, between the Sydney Ports Corporation and any other party or parties, in respect of the construction and operation of new terminal facilities on that area that demonstrate that the area shall operate as a standalone terminal. The Minister may exempt areas of the approved footprint from the requirements of this condition where it can be demonstrated that option agreements relating to such areas were in force prior to consent being granted	NSW Ports has leased the Project site to Sydney International Container Terminals Limited (SICTL) for the duration of the civil construction phase.	Nil	Closed	NSW Ports SICTL
B1.1	The conditions in this Schedule of the consent relate the following aspects of the development: · development activities and works associated with the construction phase(s) of terminal footprint infrastructure including transportation and delivery of materials and construction personnel to and from the site; · development activities associated with the construction of terminal operations infrastructure; · on-going management, mitigation and monitoring associated with the development, excluding direct terminal operation matters subject to the conditions in Schedule C.	Noted. Compliance against conditions in this Schedule of the consent will be tracked			
B1.2	The conditions in this Schedule of the consent must be complied with by the Applicant, or any party undertaking the activities and works referred to under condition B1.1 on behalf of the Applicant.	Noted. Compliance against conditions in this Schedule of the consent will be tracked			
B1.3	The Applicant shall prepare a Construction Environmental Management Plan (CEMP) which, must be approved by the Director-	Development of a CEMP (this doc) has been undertaken to	SICTL CEMP	Open	SICTL

Condition No.	Condition	Action	CEMP Ref	Status	Responsibility
	General prior to the commencement of any site preparation or construction works. The CEMP must: - Describe all activities to be undertaken on the site during site establishment and construction of the development; - Describe the relevant stages/phases of construction, including a work program outlining relevant timeframes for each stage/phase. - clearly outline stages/phases of construction that require on-going environmental management monitoring and reporting up to and beyond the commencement of operations of the terminal; - detail statutory and other obligations that the Applicant is required to fulfil during site establishment and construction, including all approvals, consultations and agreements required from authorities and other stakeholders, and key legislation and policies; - include specific consideration of measures to address any requirements of the Department, DEC, DNR and the Council during site establishment and construction; - describe the roles and responsibilities for all relevant employees involved in the site establishment or construction of the development; - detail how the environmental performance of the site preparation and construction works will be monitored, and what actions will be taken to address identified adverse environmental impacts; - include all Management Plans/Studies and Monitoring Programs required in this schedule; - include arrangements for community consultation and complaints handling procedures during construction; and - be made available for public inspection after approval of the Director General. Separate CEMPs may be prepared and submitted for works associated with the construction of the terminal footprint.	submit to Department of Planning to allow the main construction works to proceed. Post CEMP on SICTL web site when approved			
B.1.4	Prior to each of the events listed from a) to c) below, or within such period otherwise agreed by the Director-General, documentation certifying that all conditions of this consent applicable prior to that event have been complied with shall be submitted to the satisfaction of the Director-General. Where an event is to be undertaken in stages, submission of compliance certification may be staged consistent with the staging of	A Compliance Certificate Report has been developed for the works to fulfil requirements of this condition.	DP&I submission	Open	SICTL

Condition No.	Condition	Action	CEMP Ref	Status	Responsibility
	activities relating to that event, subject to the prior agreement of the Director-General. (a) commencement of construction works associated with the development; (b) commencement of each phase of construction works established under the program required under condition B1.3; and (c) completion of each phase of construction works established under the program required by condition B1.3. The certifying documentation shall clearly outline any on-going environmental management, monitoring or reporting requirements associated with the concluded construction works phase.				
B1.5	Notwithstanding condition B1.4 of this consent, the Director-General may require an update report on compliance with all, or any part, of the conditions of this consent. Any such update shall meet the requirements of the Director-General and be submitted within such period as the Director-General may agree.	Noted			
B2.1	Unless otherwise permitted by an Environment Protection Licence applicable to the development, the Applicant shall ensure that construction works are undertaken in compliance with section 129 of the Protection of the Environment Operations Act 1997.	Review all project activities and ensure they are in line with the POEO Act. Provide awareness training to site personnel in environmental requirements via inductions, toolbox talks, targeted training and other forms. Report all odours.	Appendix 1	Ongoing	Contractor
B2.4	The Applicant shall prepare a Dust Management Plan in consultation with DEC, RTA, DOP, Botany and Randwick Councils. The Applicant shall address the requirements of these organisations in the Plan. The Applicant shall also consult with the Community Consultative Committee in preparation of the Plan.	Develop appropriate documentation and implement on the project site	Dust and Air Quality Management Plan. Submit the Air Quality Management Plan to appropriate stakeholders for review and comment	Open	SICTL
B2.5	The Applicant shall prepare a Soil and Water Management Plan in consultation with DEC, RTA, DOP, DNR, Botany and Randwick Councils. The Applicant shall address the requirements of these organisations in the Plan.	Develop Soil and Water Management Plan and undertake consultation a required and	Soil and Water Quality Management Plan	Open	SICTL

Condition No.	Condition	Action	CEMP Ref	Status	Responsibility
	The Applicant shall also consult with the Community Consultative Committee in preparation of the Plan. The Plan must detail erosion and sediment controls, prepared in accordance with Managing Urban Stormwater: Soils and Construction (available from the Department of Housing)	implement on the project site			
B2.6	Prior to the commencement of construction activities, the Applicant must prepare an Acid Sulphate Soils Management Plan to assess and manage any Acid Sulphate Soils (ASS) or potential ASS (PASS). The Plan shall be prepared in accordance with the Acid Sulphate Soils Manual 1998 published by the NSW Acid Sulphate Soil Management Advisory Committee. In the event that ASS are encountered during the works, the Applicant shall notify the NSW Maritime Authority immediately.	Develop Acid Sulphate Soils Management Plan, implement on the project site and report ASS if encountered	Acid Sulphate Soils Management plan	Closed	SICTL
B2.7	Unless permitted through an environment protection licence applicable to the development, the Applicant must comply with section 120 of the Protection of the Environment Operations Act 1997, which prohibits the pollution of waters.	No pollution of waters permitted All environmental controls required prior to construction	Appendix 1 CEMP Sub-plans	Ongoing	Contractor
B2.13	Prior to commencement of construction, the Applicant is required to consult with Sydney Water regarding the likely requirements from Sydney Water to obtain a section 73 Compliance Certificate.	Consultation undertaken with Sydney Water, SICTL have Sec 73Compliance certificate	N/A	Closed	Closed
B2.14	Prior to the commencement of any construction works, the applicant must prepare a Construction Traffic Management Plan in consultation with RTA, DOP, Botany and Randwick Councils and SSROC. The Applicant shall address the requirements of these organisations in the Plan. The Applicant shall also consult with the Community Consultative Committee in preparation of the Plan.	Develop Traffic Management Plan, undertake consultation including CCC	TMP sub-plan	Open	SICTL
B2.15	The Applicant must undertake a safety audit in accordance with RTA guidelines upon completion of works but prior to operation to ensure the safety of any road works, traffic management facilities, cycling and pedestrian provisions undertaken as part of the proposed works.	To be undertaken at completion of construction of	Future Requirement	Open	SICTL
B2.16	Prior to construction the Applicant must prepare a handbook and distribute it to drivers of construction related vehicles providing information on accepted routes, constraints to traffic and preferred hours of use and amenities on such routes to ensure that the impact of traffic growth on local traffic is minimised.	Develop Traffic Management Handbook and distribute to haulage/delivery drivers.	TMP and related procedures will be stand alone document and send to relevant stakeholders	Open	SICTL / Contractor

Condition No.	Condition	Action	CEMP Ref	Status	Responsibility
			for review and comment		
B2.19	The Applicant shall only undertake construction activities associated with the project (with the exception of dredging construction activities) that would generate an audible noise at any residential premises during the following hours: a) 7:00 am to 6:00 pm, Mondays to Fridays, inclusive; b) 8:00 am to 1:00 pm on Saturdays; and c) at no time on Sundays or public holidays. Audible noise is defined as "noise that can be heard at the receiver". This condition does not apply in the event of a direction from police or other relevant authority for safety or emergency reasons.	Adhere to approved hours. Submit approval for out of hours works as per the project planning conditions.	Noise and Vibration Management Plan	Ongoing	SICTL / Contractor
B2.19A	The Applicant must seek the Director-General's approval to conduct construction activities audible at residential premises (with the exception of dredging construction activities) outside the hours specified under condition B2.19 on a caseby- case basis. In seeking the Director-General's approval, the Applicant shall demonstrate a need for activities to be conducted during varied hours and how local acoustic amenity will be protected, as well as details of how the EPA's requirements with respect to the variation of hours have been addressed.	Adhere to approved hours. Submit approval for out of hours works as per the project planning conditions.	Noise and Vibration Management Plan	Ongoing Open	SICTL / Contractor
B2.20	Prior to the commencement of construction, the Applicant must prepare a Construction Noise Management Plan in consultation with DEC, DOP, Botany and Randwick Councils. The Plan shall include noise mitigation for piling works for diesel powered machinery, provision of training to ensure that construction workers are aware of the noise created during construction and are appropriately trained to minimise noise where possible.	Develop a Construction Noise and Vibration Management Plan. Consult with relevant stakeholders for review and comment.	Noise and Vibration Management Plan	Open	SICTL
B2.21	The goal for noise from construction activities as the LA10 (15 minute) should not exceed the Rating Background Level (RBL) plus 5dB(A) at sensitive receivers.	Undertake noise monitoring during construction as per the Noise and Vibration Management Plan. Develop protocols for any monitoring exceedances or complaints	Noise and Vibration Management Plan	Ongoing	SICTL
B2.23	To help minimise the impact of operational noise on the surrounding area, a noise barrier shall be constructed by the Applicant along northern and	Nil Previous phase Noise Barrier	CEMP	Closed	SICTL

Condition No.	Condition	Action	CEMP Ref	Status	Responsibility
	eastern boundaries of the site prior to the commencement of operations. The applicant must seek appropriate independent expert advice to ensure the design of the noise barrier has regard to the flight path requirements of bird species using the area.	complete			
B2.23A	Subject to the alternative rail option being implemented as described within the report listed in condition A1.1l), the Applicant shall construct a three metre high noise barrier along the northern edge of the Inter-terminal Access Road Corridor prior to the commencement of operations. The bottom two metres of the barrier shall be opaque and the top one metre shall be of transparent material sufficiently patterned to minimise impacts to bird species utilising the adjacent Penrhyn Estuary.	Previous Phase Noise Barrier design and construction under First Phase CEMP	First Phase CEMP	Closed	SICTL
B2.24	The Applicant is required to identify measures to be implemented to ensure that where movement alarms are fitted to vehicles, plant or equipment entering or operating on the site, such alarms are of a type that minimises noise at noise sensitive receivers.	Non-tonal reverse alarms on site based plant and equipment	Noise and Vibration Management Plan	Ongoing	SICTL / Contractor
B2.25	The Applicant must install all physical noise management measures as early as is practicable during construction of the Port Botany Expansion project.	Controls as per Noise and Vibration Management Plan	Noise and Vibration Management Plan	Ongoing	Contractor
B2.26	The Applicant must not undertake any blasting on the premises	No blasting permitted or required	Noise and Vibration Management Plan	Ongoing	SICTL
B2.27	Within two years of commencement of terminal operations at the development, a Port Traffic and Rail Noise Management Plan shall be prepared by the Applicant in consultation with relevant stakeholders, including the Community Consultative Committee, DEC, DOP, Botany Council, SSROC and RailCorp. The Plan shall include consideration for traffic re-routing, traffic clustering and traffic rescheduling.	Future requirement for operations	N/A	Closed	SICTL/ NSW Ports
B2.33	Prior to the commencement of construction, the Applicant is required to prepare a Construction Waste Management Plan in consultation with Botany Council and DEC. The Plan must provide details of proposed waste management measures to minimise production and impact of wastes generated at the site	Develop Waste Management Plan and Consult with relevant stakeholders for review and comment and minimise waste generated on site	Waste Management Plan	Open	SICTL
B2.34	Management of waste must be in accordance with the environment protection licence issued by EPA under the Protection of the Environment	No EPL issued	Waste Management Plan	Closed	SICTL

Condition No.	Condition	Action	CEMP Ref	Status	Responsibility
	Operations Act 1997				
B2.35	All wastes and material generated on the site during construction and operation shall be classified in accordance with the DEC's Environmental Guidelines: Assessment, Classification and Management of Liquid and Non-Liquid Wastes prior to transporting the waste off site and be disposed of to a facility that may lawfully accept the waste.	Develop Waste Management Plan and send to relevant stakeholders for review and comment. Assess and classify waste and dispose of accordingly.	Waste Management Plan	Open	SICTL
B2.36	Except as expressly permitted by a licence issued by the EPA under the Protection of the Environment Operations Act 1997, only the hazardous and/or industrial and/or Group A waste listed below may be generated and/or stored at the premises: - waste oil/water, hydrocarbons/water mixtures or emulsions; and - grease trap waste.	Develop Waste Management Plan and send to relevant stakeholders for review and comment.	Waste Management Plan	Open	SICTL / Contractor
B2.37	Prior to the commencement of construction, the Applicant is to prepare a Visual Amenity Management Plan in consultation with Botany and Randwick Councils, SSROC and the Community Consultative Committee. The Plan shall include a Public Recreation and Ecological Plan as described in the EIS, and details of other measures to reduce the visual impact of the development. The Plan shall include details of: - landscaping plans; - design of pedestrian bridge linking Foreshore Beach with Sir Joseph Banks Park; - quay crane specification; - container stacking heights; - terminal lighting; - materials and colours; and - noise wall design.	Port Botany Expansion Public Realm Concept Design Report and Visual Amenity Management Plan – dated March 2007, previously approved.	N/A	Closed	NSW Ports
B2.38	The Applicant shall develop measures to protect remains of Government Pier in consultation with the NSW heritage Office and incorporate those measures into Construction Environmental Management Plan.	No works near Government Pier area Exclusion zone is set around estuary and Government Pier	Risk Assessment Site Protocol and induction to be delivered to contractors	Ongoing	SICTL / Contractor
B2.39	If an Aboriginal object is discovered during the construction of the development , works should cease in the subject area and the Applicant shall notify DEC immediately.	Stop works protocols in place	Risk Assessment Site Protocol to be delivered to	Ongoing	SICTL / Contractor

Condition No.	Condition	Action	CEMP Ref	Status	Responsibility
			contractors		
B2.41	The Applicant shall prepare a Construction Safety Study prior to the commencement of construction of the terminal operations infrastructure, in accordance with Hazardous Industry Planning Advisory Paper No. 7 – Construction Safety Study Guidelines (DoP, 1992). The commissioning portion of the Construction Safety Study may be submitted two months prior to the commencement of commissioning. The Study shall be submitted for the approval of the Director-General prior to the commencement of construction of the terminal operations infrastructure.	Phase 2 Construction aspect to be completed by SICTL	Outside CEMP scope. This will be submitted to the Director General	Open	SICTL
B2.42	The Applicant shall prepare a Fire Safety Study prior to the commencement of construction of the terminal operations infrastructure, in accordance with Hazardous Industry Planning Advisory Paper No. 2 – Fire Safety Study Guidelines (DoP, 1993). The Study shall be submitted for the approval of the Director-General and the Commissioner of the NSW Fire Brigades prior to the commencement of construction of the terminal operations infrastructure.	Design aspect study to be completed by project designers	Outside CEMP scope	Open	SICTL
B2.43	The Applicant shall develop an Emergency Response and Incident Management Plan in consultation with DEC, DOP, Council and the Community Consultative Committee. The Plan must be approved by the Director-General prior to the commencement of construction	Develop emergency preparedness and responses plan	Emergency Response and Incident Management Plan	Open	SICTL
B2.44	The Applicant shall ensure that all aspects associated with the construction of the development considers the required lateral separation distances to minimise the interference to Sydney Airport radar and navigational systems.	Ensure construction equipment is under the OLS or seek approval prior to piercing OLS SACL have been consulted on the civil works package and provided approval for the Terminal 3 Phase 2 site	Compliance Certificate Report	Ongoing	SICTL / Contractor
B2.46	The Applicant shall ensure that all construction equipment is below the obstacle limitation surface, unless otherwise permitted by an approval under the Airports (Protection of Airspace) Regulation 1996 and following consultation with the Department of Infrastructure, Transport, Regional Development and Local Government, Civil Aviation Safety Authority and Sydney Airport Corporation Limited.	Ensure construction equipment is under the OLS or seek approval prior to piercing OLS As above	Compliance Certificate Report	Ongoing	SICTL / Contractor

Condition No.	Condition	Action	CEMP Ref	Status	Responsibility
B2.47	The Applicant shall ensure design specifications of any construction lighting conform to the requirements of Regulation 94 of the Civil Aviation Regulations 1988.	Ensure all construction lighting is minimal and facing downwards.	Risk Assessment	Ongoing	SICTL / Contractor
B2.48	Construction may not commence until details regarding the steps and timeframes for resolution of aviation issues, including certification, has been endorsed by Air Services Australia and to the Minister for and Planning.	Completed previously by others. Letter from SPC to DoP regarding this condition dated 25 June 2007, documents that an agreement establishes that Sydney Port Authority will provide funding to Airservices Australia regarding resolution of radar and air navigation issues. Response from DoP had confirmed that the agreement satisfied the requirements of the Condition of Consent B2.48 dated 14 August 2007	Outside CEMP scope	Closed	NSW Ports
B3.1	The Applicant must meet the following requirements in relation to community consultation and complaints management: - all monitoring, management and reporting documents required under the development consent shall be made publicly available; - provide means by which public comments, inquiries and complaints can be received, and ensure that those means are adequately publicised; and - includes details of a register to be kept of all comments, inquiries and complaints received by the above means	Implement community management measures in conjunction with NSW Ports	Section 11 and 12 of this CEMP Complaints Register	Ongoing	SICTL / Contractor/ NSW Ports
B3.2	Within 6 months of this consent or prior to commencement of construction, whichever is earlier, the Applicant shall establish a Committee to oversee the environmental performance of the development.	Committee already established SICTL/Contractors to assist as required	Section 11	Ongoing	SICTL / Contractor /NSW Ports
B3.3	The Applicant shall, at its own expense: (a) ensure that 2 of its representatives attend the Committee's meetings; (b) provide the Committee with regular information on the environmental performance	Ensure correct personnel involved in committee proceedings in conjunction with NSW Ports	Section 11	Ongoing	SICTL / Contractor/ NSW Ports

Condition No.	Condition	Action	CEMP Ref	Status	Responsibility
	and management of the development; (c) provide meeting facilities for the Committee; (d) arrange site inspections for the Committee, if necessary; (e) take minutes of the Committee's meetings; (f) make these minutes available on the Applicant's website within 14 days of the Committee meeting, or as agreed to by the Committee; (g) respond to any advice or recommendations the Committee may have in relation to the environmental management or performance of the development; and (h) forward a copy of the minutes of each Committee meeting, and any responses to the Committee's recommendations to the Director-General within a month of the Committee meeting.				
B4.1	The Director-General shall be notified of any incident with actual or potential significant off-site impacts on people or the biophysical environment within 12 hours of the Applicant, or other relevant party undertaking the development, becoming aware of the incident. Full written details of the incident shall be provided to the Director-General within seven days of the date on which the incident occurred. The Director-General may require additional measures to be implemented to address the cause or impact of any incident, as it relates to this consent, reported in accordance with this condition, within such period as the Director-General may require.	Establish incident response procedures	Section 12 Emergency Response and Incident Management Plan	Ongoing	SICTL / Contractor
B4.2	The Applicant must prepare an Annual Environmental Management Report for the development. The Annual Environmental Management Report must: - detail compliance with the conditions of this consent; - contain a copy of the Complaints Register (for the preceding twelve-month period, exclusive of personal details) and details of how these complaints were addressed and resolved; - include a comparison of the environmental impacts and performance predicted in the EIS and additional information documents provided to the Department and Commission of Inquiry; - detail results of all environmental monitoring required under the development consent and other approvals, including interpretations and discussion by a suitably qualified person;	Relevant compliance information to be provided by due date Liaise with NSW Ports	Section 9.1	Ongoing	SICTL

Condition No.	Condition	Action	CEMP Ref	Status	Responsibility
	- contain a list of all occasions in the preceding twelve-month period when environmental performance goals have not been achieved, indicating the reason for failure to meet the goals and the action taken to prevent recurrence of that type of incident; - be prepared within twelve months of the commencement of construction, and every twelve months thereafter; - be approved by the Director-General; and - be made available for public inspection.				
B4.3	Prior to the commencement of construction, a suitably qualified and experienced Environmental Representative(s) shall be nominated and approved by the Director-General. The Environmental Representative(s) shall be employed for the duration of the construction and the on-going management, mitigation and monitoring associated with the development, excluding direct terminal operation matters subject to the conditions in Schedule C, or as otherwise agreed by the Director-General	ER has been nominated for the project	Section 7	Closed	SICTL
B4.4	Prior to the commencement of any dredging, reclamation and construction an Environmental Training Program shall be developed and implemented to establish a framework in which relevant employees will be trained in environmental NSW Government Department of Planning management and the operation of plant and equipment, including pollution control equipment, where relevant.	Implement appropriate environmental induction training. Project ER to review	Section 9	Open	Contractor
B4.5	Within one year of the commencement of construction and every year thereafter for the duration of construction a full independent environmental audit shall be undertaken by a suitably qualified person/team approved by the Director-General.	Approved independent auditor will be nominated. Audit scheduled for September 2014	Section 13	Open	SICTL

SICTL - Sydney International Container Terminals Ltd

Contractor - Relevant contractor on site undertaking works

Mott MacDonald - Project Designer

Appendix 8 Sub-plans

- Soil and Water Quality Management Plan
- Air Quality and Dust Management Plan
- Construction Noise and Vibration Management Plan
- Waste Management Plan
- Emergency Response and Incident Management Plan
- Construction Traffic Management Plan
- Acid Sulphate Soils Management Plan
- Shorebird Management Plan
- Bird Hazard Management Plan
- Feral Animal Management Plan
- Energy Management Action Plan
- Water Resource Management Plan

Sydney Port Botany Terminal 3 Project Phase 2 & 3
SICTL Soil and Water Quality Management Plan

Terms and Definitions

The following terms, abbreviations and definitions are used in this plan:

Terms	Explanation
SPBT3P2	Sydney Port Botany Terminal 3 Phase 2
ANZECC	Australia New Zealand Environment and Conservation Council
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes
CEMP	Construction Environmental Management Plan
EPA	Environmental Protection Agency
NATA	National Association of Testing Authorities
OEH	Department of Climate Change and Water
PAH	Polycyclic aromatic hydrocarbons
SWQMP	Soil and Water Quality Management Plan
TSS	Total Suspended Solids
EIS	Environmental Impact Statement
MCoA	Ministers Conditions of Approval

Distribution

This Soil and Water Quality Management Plan (SWQMP) forms part of the project's CEMP as an Appendix.

Issue, Revision and Re-issue

Revisions of this SWQMP may be required throughout the duration of the project to reflect changing circumstances or identified opportunities for improvement. Revisions may result from:

- Management Review
- Changes to the Company's standard system
- Audit (either internal or by external parties)
- Client complaints or non-conformance reports.

Revision History

Rev	Date	Description	Reviewed	Authorised
0	03/10/13	Initial Draft for internal review	NB	KM
1	18/11/13	Final	NB	KM

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1. Introduction

This Soil and Water Quality Management Plan (SWQMP) has been developed to address the construction activities associated with the Sydney Port Botany Terminal 3 Phase 2(SPBT3P2) Project. In particular, the plan has been developed to address the requirement for a Stormwater and Water Management Plan as outlined in the conditions of approval.

The key components covered by this plan include:

- Ground improvements and consolidation measures
- Temporary and permanent access roads, pedestrian paths and line markings
- Drainage, utilities, services
- Container yards and substation
- Supply and installation of Automated Stacking Cranes (ASC) Cranes
- Supply and installation of communication infrastructure

Note; multiple contractors will be working under this SWQMP as part of the Terminal 3 Phase 2 construction project. There will be a coordinated approach to manage soil and water quality. SICTL, its project representatives and other relevant parties will coordinate this approach. Combined dust monitoring will occur for the Port Botany Expansion project as part of this approach.

1.1 Objective

The objective of this SWQMP is to ensure that all risks associated with erosion and sediment control, water quality, site wastewater, potential water contamination and licensing and monitoring issues are considered and managed effectively during construction to avoid any environmental incident.

This SWQMP aims to satisfy the following objectives:

- Address the requirements of the planning approval for the SPBT3P2 Project
- Address the requirements of the Environmental Impact Statement (EIS) for the Port Botany expansion
- Address the requirements of the relevant environmental legislation as it applies to this project
- Summarise potential impacts on the environment from the proposed works
- Document environmental procedures to control potential environmental impacts.

1.2 Targets

The following targets have been identified in terms of soil and water management for the project:

- No significant decrease in water quality of the outflow environment during construction
- Water quality shall conform to all approval conditions stipulated by the EIS and the MCoA
- Implementation of best practice erosion, drainage and sediment controls
- Ensure construction activities are managed to meet water quality objectives.
- Maximise the trapping of sediment on site
- Prevent contamination of offsite areas and waterways
- Water discharged from site to meet the all relevant requirements
- Prevent mud and litter from being deposited on roadways

- Monitor the effects of activities and the effectiveness of mitigation measures
- Ensure all works with potential risk to surrounding waters are well contained and controlled to minimise impacts to the surrounding waters

1.3 Statutory provisions and guidelines

The following statutory provisions and guidelines are applicable to the Project, with regards to water quality:

- Project Planning Approval
- Australian Standards, NSW Dangerous Goods (General) Regulations 1999 and NSW EPA guidelines
- Managing Urban Stormwater: Soils and Construction Vol 4 (Landcom)
- POEO Act 1997
- Water Management Act 2000.

1.4 Ministers Conditions of Approval

MCoA's relevant to soil and water quality management are outlined below.

MCoA Reference	MCoA Detail
B2.5	The Applicant shall prepare a Soil and Water Management Plan in consultation with DEC, RTA, DOP, DNR, Botany and Randwick Councils. The Applicant shall address the requirements of these organisations in the Plan. The Applicant shall also consult with the Community Consultative Committee in preparation of the Plan. The Plan must detail erosion and sediment controls, prepared in accordance with Managing Urban Stormwater: Soils and Construction (available from the Department of Housing) and must: • Identify the management responses to activities that could cause soil erosion or result in the discharge of sediments and/or other pollutants from the site; • Specify standards/performance criteria for erosion, sediment, and pollution control including water sediment basin locations and discharge points, for example parameters, frequency, duration location and method; and • Describe what actions and measures will be implemented, the effectiveness these actions and measures and how they will be monitored during the works, clearly indicating who will conduct the monitoring, how the results of this monitoring would be recorded; and, if any non-compliance is detected. The Plan shall be approved by the Director-General prior to commencement of construction.
B2.7	Unless permitted through an environment protection licence applicable to the development, the Applicant must comply with section 120 of the Protection of the Environment Operations Act 1997, which prohibits the pollution of waters.

2. References

- Port Botany Expansion Environmental Impact Statement
- Aurecon Framework Construction Environmental Management Plan Sydney Terminal 3 Sydney International Container Terminals Pty Limited, Revision 3
- NSW Landcom publication Managing Urban Stormwater - Soils and Construction Edition 4 March 2004 (Blue Book).
- NSW EPA (1997), Managing Urban Stormwater – Treatment Techniques
- Penrhyn Estuary Habitat Enhancement Plan
- Botany Bay & Catchment Water Quality Improvement Plan - April 2011

- Reference is also made to the NSW *Protection of the Environment Operations Act* which integrates into one Act all of the controls necessary to regulate pollution and reduce degradation of the environment. The Act also provides for licensing of scheduled development work, scheduled activities and for offences and prosecution under this Act which has specific relevance to this plan with regards to the potential for pollution of waters resulting from erosion and sedimentation. In particular, Section 120 of the Act provides for the prohibition of pollution of waters and outlines the associated offence of pollution of waters.

3. Scope

The SPBT3 Project involves the creation of a new container terminal by Sydney International Container Terminals (SICTL). The SPBT3 Project is located within the City of Botany Bay, 12 kilometres south of the Sydney CBD. The Project site is adjacent to the existing Patricks Terminal at Port Botany. The site is bounded by the existing terminal, Penrhyn Road, Foreshore Road, Sydney Airport and Botany Bay. The SPBT3 project is broken down into phases. Construction of phase 1 commenced in September 2012 under its own CEMP. This CEMP applies to phase 2 & 3 of the SPBT3 project which covers the construction of an additional automatic stacking Crane blocks. The scope of works for Phase 2 & 3 of the SPBT3 Project includes;

- Ground improvement to previously filled and consolidated land including excavation, regrading, compaction and general earthworks as required achieve final levels for construction
- Installation of a network of underground services such as low Voltage, High Voltage, Communications, Sewer, Potable Water and Fire Water main.
- Construction of drainage infrastructure including, grated drain, inlet pits, SQIDs, and connection into existing drainage which runs out to headwalls and rock lined channels in the Estuary.
- Construction of internal roads, heavy duty rigid and flexible port pavements, pedestrian pavement, kerbing, traffic signage and road markings, fencing and landscaping.
- Construction of the automatic container stacking yard including piling, rail beam foundations, concrete container stacking beams, rail beams and rails, structural steel reefer access gantries and walkways, structural steel signage portals, identification gates and entrance/exit area gates, fencing and all associated services and drainage.
- Construction of substations within the automatic container stacking yard including the building structures, building services and all testing and commissioning required to connect into the existing site HV network.
- Installation of ASC crane rail systems including but not limited to fixings, stow pins, earthing and buffer stops
- Construction of temporary access roads for construction traffic
- Construction of new potable water & fire services water lines and connection into existing terminal water main and all associated works in compliance with Sydney Water standards.
- Construction of terminal lighting columns and connection into the existing terminal low voltage network.

- Site clearance including removal of construction waste and construction material.
- Supply and installation & Commissioning of Automated Stacking Cranes (ASC) Cranes which includes but is not limited to; delivering Cranes components by land and sea, unloading crane components, erection of Crane Components, and commissioning of cranes.
- Supply and installation and commissioning of information, communication and technology infrastructure, which includes but is not limited to; pulling cables, jointing cables, installation of cable tray, installation of Racks, installation of Video messaging sign, installation of CCTV cameras and installation of security access systems.

4. Strategic Approach

4.1 Potential Impacts

4.1.1 Activity Specific Risks

Activity	Risks
• Earthworks construction areas, ground treatment works	• Erosion during storm and heavy rain events before stabilisation causing siltation constriction or blockage of the existing drains
• Drainage works excavation	• Sedimentation of drains and SQUIDs • Sediment laden water leaving site
• Pavements and concrete works	• Concreting in the rain can produce high pH waters that may enter water ways
• Stockpiling	• Erosion during storms and heavy rain events
• Supply and installation of Automated Stacking Cranes (ASC) Cranes	• Fuel / Chemical spills • Dirty water runoff from the site • Erosion from diverted water runs
• Supply and installation of communication infrastructure	• Fuel / Chemical spills • Dirty water runoff from the site • Erosion from diverted water runs

4.1.2 Permanent Controls Erosion and Sediment Transport

The stage of construction covered by this plan will involve some activities with the potential to impact water quality, sedimentation and erosion. The majority of these works will be undertaken in the centre of the site and on hardstand areas.

Considering the sensitivity of the surrounding environment of Botany Bay and Penrhyn Estuary, potential risks resulting from erosion, sedimentation and loss of construction material during the construction phase include the following:

- Construction areas may be subject to erosion/sedimentation during storm and heavy rainfall events causing siltation, constriction or blockages to the existing drains in this area
- Surface erosion can occur as a result of the removal of stable surfaces and shaping for construction
- Sediment removed during this erosion may block drains or deposit in the adjacent waterway
- Construction activities may divert water into new areas and subject them to erosion
- Contamination of surface water runoff from the site
- There is a potential for spills and leaks from plant and equipment and onsite liquid storage during construction

4.2 Water Quality Control Measures

Contractors are to ensure that control measures which minimise the impact on water quality are implemented on the project to prevent construction activities from impacting upon the surrounding environment. They shall be installed prior to, or in conjunction with, disturbance of any area of work and as per the erosion and sediment control plans developed on site. The location of control measures may change. Plans will be regularly reviewed as the works progress to ensure they match the current construction requirements.

Spill kits shall be kept at various locations on site and will cater for both marine and land environments. Emergency response procedures will be developed for any spill into the waterways.

Stormwater Quality Improvement Devices (SQIDS) will be implemented as per the specifications and drawings for the Terminal 3 expansion project. Permanent drainage will be installed prior to the scope of this plan to ensure a controlled stormwater system is utilised.

Inlets and outlets of all drainage structures shall be protected as required throughout the project.

4.3 Temporary Controls

4.3.1 Temporary Sediment Ponds

Temporary sediment ponds shall be constructed in accordance with the requirements of the Blue Book.

Water will be captured and sent to the sediment basins via temporary drainage structures and hose lines. The water will be left to allow settlement of solids. If required, treatment of collected site runoff water will be via initial flocculation with a suitable potable grade polyelectrolyte. The current proposal is to utilise Ultrion 7157 polyelectrolyte, a potable grade flocculent. Typical dosage will be 5ppm with a maximum of 20ppm. Final confirmation of the flocculent will be subject to satisfactory jar testing on site. All material safety data sheets are filed within the project safety system and kept inside the storage containers on site.

If required, pH treatment will be achieved through the addition of acid or alkali material to achieve a pH range of 6.5-8.5. Typical pH buffering chemicals include HCl, Lime and Soda Ash. Volumes of this material will be determined on the basis of buffering requirement.

Sediment ponds will be inspected following rainfall events. If required, treatment will be initiated when the capacity has been reduced by >30% and it has been determined through in-situ inspection and testing that water will not meet the discharge requirements.

Preference will be given to utilising the treated water within the ponds for construction water and dust suppression, however where further rainfall events are predicted, it will be discharged off site following testing and approval. The need to discharge water within sediment basins will be reviewed when the basins capacity is reduced by 60%. The Environmental Manager will review the upcoming weather forecast and determine whether water is to be discharged or may be retained for construction applications.

Where water is to be discharged off site from the sediment ponds, it will be tested in accordance with Section 4.2 below. In-situ measurement and laboratory samples for the required water quality criteria will be undertaken prior to discharge.

Sediment ponds shall be de-silted when the sediment storage capacity has been reduced by 60%. Silt from sediment ponds shall be mixed or dried out and incorporated into the works.

4.3.2 Batter Protection

Exposed batters of the site during earthworks represent a significant source of readily erodible material until final stabilisation is achieved. To minimise the potential for the generation of

sediment laden run off from exposed batters during the works, material will be compacted and stabilised at the end of each shift.

4.3.3 Sediment Fences

Sediment fences or suitable equivalent operate by slowing the flow of runoff and enabling the coarse suspended solids to settle out and be trapped behind the control structure.

Design limitations are:

- Drainage area ≤0.6 ha
- Maximum grade 1V:2H
- Maximum slope length 60m.

Particular attention must be made to the potential outlet of the sediment fence during high rainfall events and the likely point at which the fence will discharge. To ensure that the fence remains in tack during high flow events and runoff discharges to the appropriate areas, a small reinforced weir may need to be constructed in the fence. This will be reviewed daily during construction. Weirs in sediment fences must outlet to stable areas.

Details on location of these structures will be verified on site, and incorporated in the working Erosion and Sediment Control Plans.

4.3.4 Sandbags and Sediment Socks

Sandbags and sediment socks are utilised to create a weir or check dam in table drains to slow the runoff water velocity and enable coarse sediment to settle. They can also be used to create diversion drains or bunds walls to contain liquids, or to supplement existing sediment controls and will be placed around any existing live stormwater pits or drop inlets prior to decommissioning of the structure. Locations will be confirmed on site and included in working sediment and erosion control plans.

Initially, sandbags and sediment socks will be provided to protect the existing operational stormwater drainage system until it is decommissioned.

Sediment socks will also be provided at the tow of the jersey barriers to prevent runoff escaping beneath and off the site.

Check dams will be carefully constructed so that they allow runoff to exit the structure via the intended flow path. A specifically constructed low point must be incorporated into the dam to direct runoff and ensure that flow is retained within its intended path.

4.3.5 Stockpiles

Temporary stockpiles shall be located more than 15m from the Botany Bay edge and as directed on-site.

Sediment barriers shall be erected on the down slope side so that any sediment laden runoff from the stockpile is captured and controlled. On the upslope, berms or catch drains shall be installed, if practicable, to divert clean water away from the stockpile.

Stockpiles will be covered when not in use to minimise erosion and dust.

4.3.6 Site Access

A wheel wash will be implemented at the site exit to prevent the tracking of mud onto public roads. To promote good environmental awareness and recycling initiatives, the wheel wash facility will use rainwater harvested from site and be self-contained – that is, all water will be recycled. A street-sweeper will be available on an on call basis to remove tracked sediment from roadways where required.

4.3.7 Silt Curtain

A geotextile silt curtain will be installed around all stormwater outlets during the construction phase. The silt curtain will be utilised as a final control measure in the event of rainfall in excess of the designed capacity of the upstream controls. The silt curtains will be inspected on a weekly basis to ensure correct operation and function.

4.3.8 Dust Controls

Water carts fitted with sprays will be used to wet down any unsealed haul roads and fill areas to minimise the amount of dust generated where required.

In-situ water spray systems will be implemented for areas that have not been stabilised.

The number and size of the water carts shall be regularly reviewed by the Environmental Manager, Site Supervisors and the Project Manager to ensure that adequate watering is taking place and dust is kept to a minimum. Care is to be exercised to limit the amount of water used to ensure run off does not occur.

Refer also to the controls nominated in the Air Quality and Dust Management Plan.

4.4 Operation and Maintenance

Construction water quality structures and sediment controls will be implemented and maintained until such times as disturbed areas have been stabilised.

Permanent and temporary sediment control structures will be inspected regularly and particularly after rain events and those which become blocked or overloaded with sediments will be cleaned.

5. SITE WASTEWATER CONTROLS

5.1 Waste Water

All site waste water will be directed to existing site sewerage facilities in compliance with the requirements of the Sydney Water Act 1994.

5.2 Mitigation Measures

Mitigation measures for soil and water quality management for the construction phase of the project are outlined below.

Mitigation Measures	Responsibility	Source of Requirement	Timing
Install and maintain temporary erosion and sedimentation controls, such as sediment fences, diversion drains, etc, where identified by Progressive ESCPs prior to commencing works in each area.	Contractor	EIS ch18; 18.5.1	Throughout construction
Minimise traffic volumes on unsealed areas within the construction site. Provide parking and hardstand areas where possible.	Contractor	EIS ch37; 37.2	Throughout construction
A member of the environmental management team to undertake environmental inspections on a weekly basis or before predicted	Contractor	EIS ch16; 16.8.1	Throughout construction

Mitigation Measures	Responsibility	Source of Requirement	Timing
and after significant rainfall events.			
Provide rumble grids for spoil trucks to pass through prior to leaving the site and accessing public roads.	Contractor	EIS ch18; 18.5.1	Throughout construction
Store all fuels, oils and chemicals in secure bunded areas. Cover all permanent bunded areas. Use temporary bunds for short-term (<7-10 days) storage where required.	Contractor	EIS ch16; 16.8.1	Throughout construction
Train field staff in the contents and use of spill kits.	Contractor	EIS ch16; 16.8.1	Throughout construction
Implement the spill management procedure in the event of a land based oil or chemical spill. Procedure contained in Emergency Response Plan.	Contractor	EIS ch37; 37.2	Throughout construction
Test rainwater collected in bunds prior to dewatering. Criteria include pH between 6.5 and 8.5, and no visible oil on the water surface. Keep records of testing in the onsite environmental filing system.	Contractor	POEO Act	Throughout construction
Report spills reaching water to SPC. Report all spills that cause or are likely to cause environmental harm to OEH's Environment Line (131 555). Report immediately.	Contractor	Contract	Throughout construction
Implement spill management procedures in the event of an oil or chemical spill.	Contractor	EIS ch37; 37.2;	Throughout construction
Diverting stormwater runoff around disturbed areas of the site where possible to prevent contamination with runoff from the disturbed areas. Where this is not possible, control measures such as diversion drains will be constructed to ensure stormwater runoff does not cause additional erosive impacts	Contractor	Best Practice	Throughout construction
Removal of soil from vehicle wheels and undercarriages before departing the site to reduce soil carried off site	Contractor	Best Practice	Throughout construction
Ensure construction activities are conducted in a manner that minimises the potential for spills or leaks, including the regular inspection and maintenance of plant and equipment, providing bunding or similar spill containment structures for onsite fuel and oil storage. Contain and clean up any spills or leaks as quickly as possible.	Contractor	EIS	Throughout construction

6. Training

All site personnel shall undergo site specific induction training that will cover specific environmental issues and shall include erosion and sediment control measures and spill reporting and clean up procedures.

6.1 Water Monitoring

All water quality control and sediment control structures will be regularly inspected and maintained.

Water monitoring will be undertaken as outlined below.

Aspect	Criteria	Means	Location	Construction Stage	Time-frame	Action by:
Discharge water quality	No pollution of waters. Turbidity <25ntu,	In-situ measurement using site water	Whole site	Whole Project	Prior to any discharge from site.	Contractor

Aspect	Criteria	Means	Location	Construction Stage	Time-frame	Action by:
	(or as described in the EIS for various weather conditions), pH 6.5-8.5, no visible oil and grease.	quality meter Laboratory testing and assessment where required				

Methods of sampling and analysis of water quality shall be in accordance with applicable method listed in the NSW EPA published Approved Methods for the Sampling and Analysis of Water Pollutants in New South Wales.

Where results indicate non-compliance with the specified water quality parameters, the water will be retreated and further testing undertaken. Retreated water will not be discharged from site until compliance with the requirements is achieved.

The contractor will report all water monitoring results in the monthly monitoring report.

6.2 Monitoring of Controls

Contractors will be responsible for providing appropriate resources in terms of labour, plant and equipment to enable the items to be rectified in the nominated timeframes.

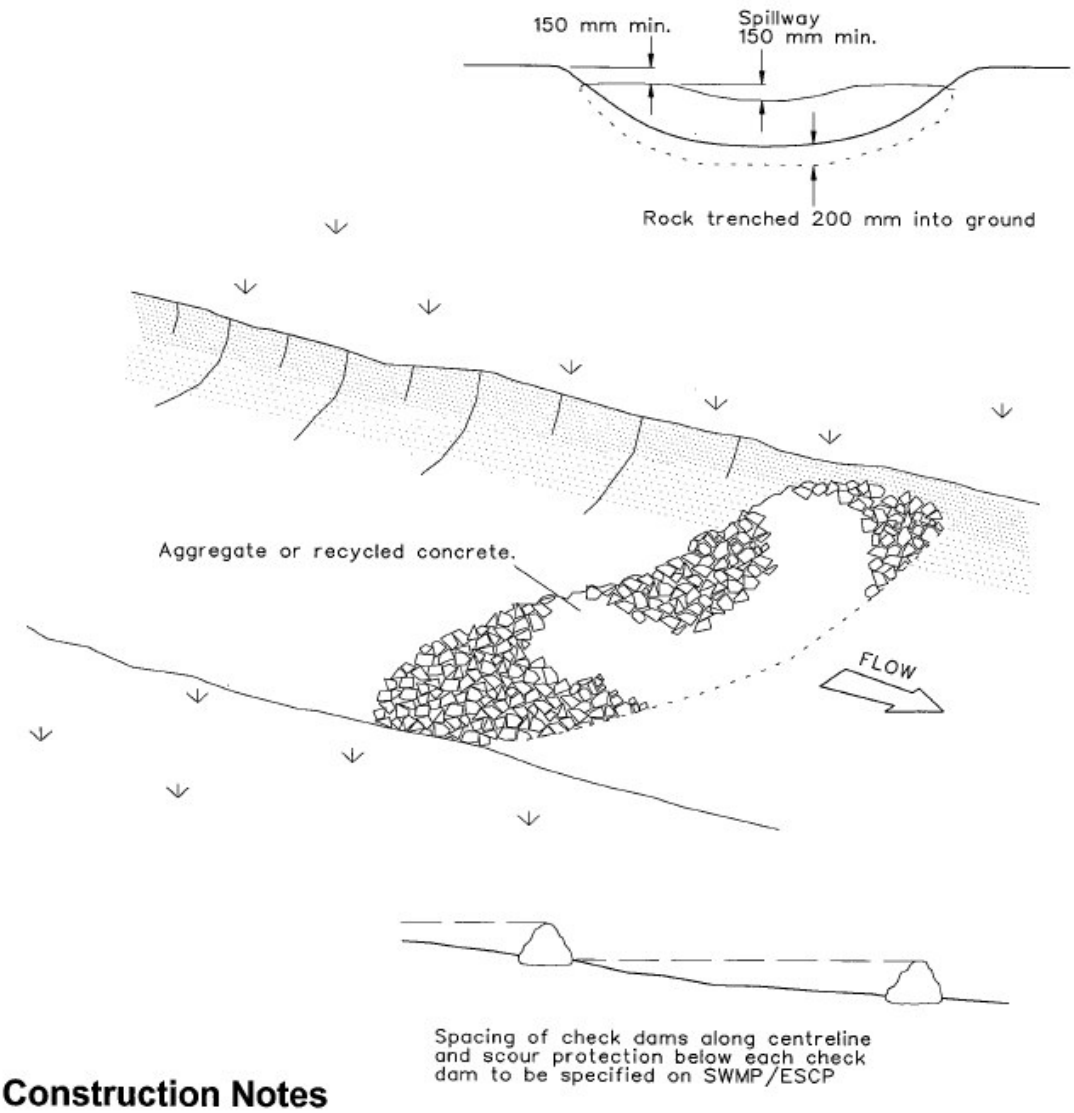
Site inspections and monitoring of controls will be recorded on Weekly Environmental Inspection Checklist and more regularly as required by rain events.

6.3 Emergency Response

For emergency response to oil or chemical spills adjacent waterways suitably trained personnel will deploy an emergency response craft that will contain an oil boom and marine specific absorbent materials. If any spill is able to make its way beyond the permanent silt curtain/floating boom, then the emergency response crew will be present to contain and clean up the affected area. All used materials will be collected, stored on site and disposed at an appropriately licensed waste facility. Incident investigation process is outlined further in the CEMP.

Appendix 1 Standard Drawings

- NSW Landcom Standard Drawing SD 5-4 Rock Check Dam
- NSW Landcom Standard Drawing SD 6-9 Alternative Sediment Fence
- NSW Landcom Standard Drawing SD 6-11 Mesh and Gravel Inlet Filter
- NSW Landcom Standard Drawing SD 6-12 Geotextile Inlet Filter

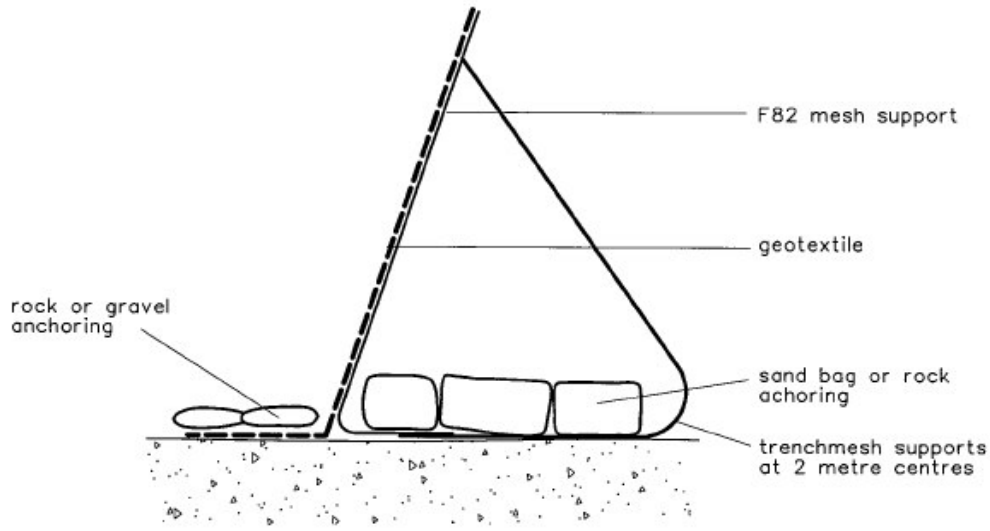


Construction Notes

1. Check dams can be built with various materials, including rocks, logs, sandbags and straw bales. The maintenance program should ensure their integrity is retained, especially where constructed with straw bales. In the case of bales, this might require their replacement each two to four months.
2. Trench the check dam 200 mm into the ground across its whole width. Where rock is used, fill the trenches to at least 100 mm above the ground surface to reduce the risk of undercutting.
3. Normally, their maximum height should not exceed 600 mm above the gully floor. The centre should act as a spillway, being at least 150 mm lower than the outer edges.
4. Space the dams so the toe of the upstream dam is level with the spillway of the next downstream dam.

ROCK CHECK DAM

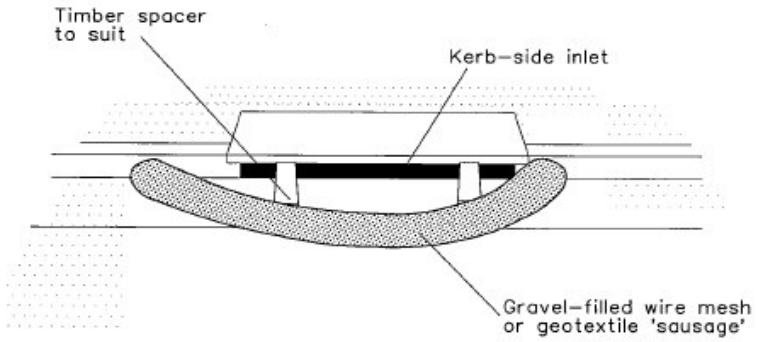
SD 5-4

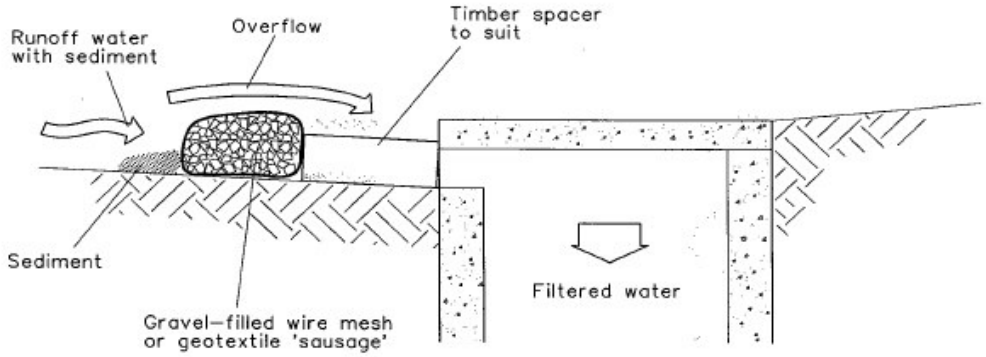


Construction Notes

1. Install this type of sediment fence when use of support posts is not desirable or not possible. Such conditions might apply, for example, where approval is granted from the appropriate authorities to place these fences in highly sensitive estuarine areas.
2. Use bent trench mesh to support the F82 welded mesh facing as shown on the drawing above. Attach the geotextile to the welded mesh facing using UV resistant cable ties.
3. Stabilise the whole structure with sandbag or rock anchoring over the trench mesh and the leading edge of the geotextile. The anchoring should be sufficiently large to ensure stability of the structure in the design storm event, usually the 10 year event.

ALTERNATIVE SEDIMENT FENCE — SD 6-9



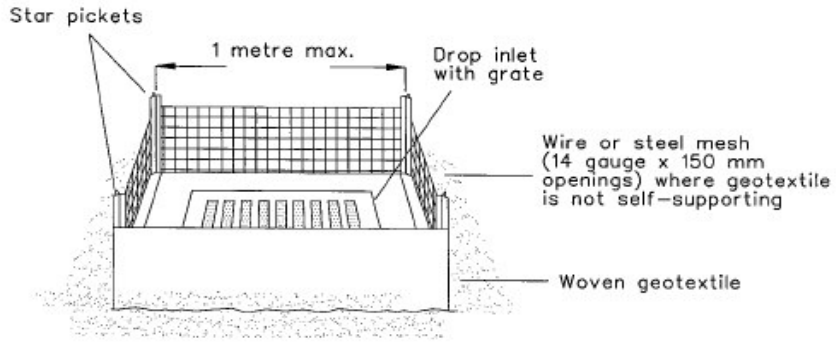


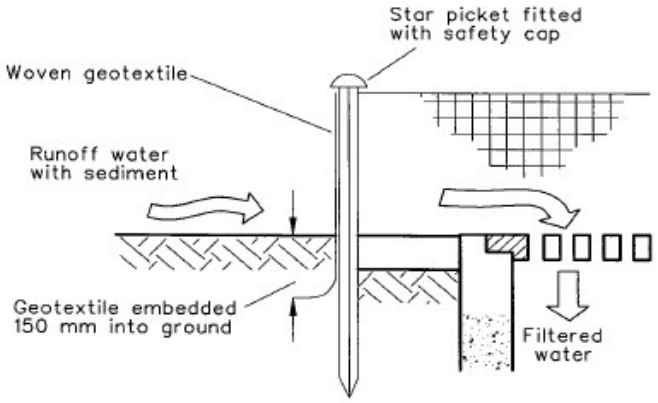
NOTE: This practice only to be used where specified in an approved SWMP/ESCP.

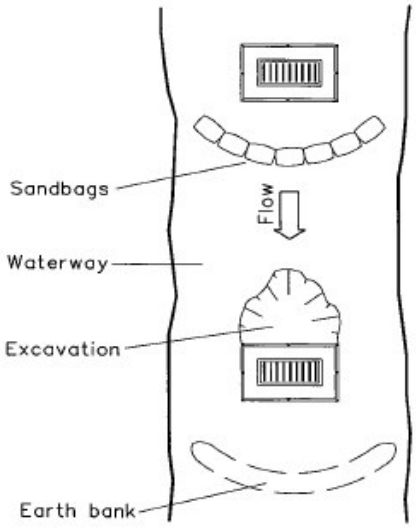
Construction Notes

1. Install filters to kerb inlets only at sag points.
2. Fabricate a sleeve made from geotextile or wire mesh longer than the length of the inlet pit and fill it with 25 mm to 50 mm gravel.
3. Form an elliptical cross-section about 150 mm high x 400 mm wide.
4. Place the filter at the opening leaving at least a 100-mm space between it and the kerb inlet. Maintain the opening with spacer blocks.
5. Form a seal with the kerb to prevent sediment bypassing the filter.
6. Sandbags filled with gravel can substitute for the mesh or geotextile providing they are placed so that they firmly abut each other and sediment-laden waters cannot pass between.

MESH AND GRAVEL INLET FILTER — SD 6-11







For drop inlets at non-sag points, sandbags, earth bank or excavation used to create artificial sag point

Construction Notes

1. Fabricate a sediment barrier made from geotextile or straw bales.
2. Follow Standard Drawing 6-7 and Standard Drawing 6-8 for installation procedures for the straw bales or geofabric. Reduce the picket spacing to 1 metre centres.
3. In waterways, artificial sag points can be created with sandbags or earth banks as shown in the drawing.
4. Do not cover the inlet with geotextile unless the design is adequate to allow for all waters to bypass it.

GEOTEXTILE INLET FILTER — SD 6-12

Sydney Port Botany Terminal 3 Project Phase 2 & 3
SICTL Air Quality and Dust Management Plan

Terms and Definitions

The following terms, abbreviations and definitions are used in this plan:

Terms	Explanation
SPBT3P2	Sydney Port Botany Terminal 3 Phase 2
CEMP	Construction Environmental Management Plan
EPA	Environmental Protection Agency
OEH	Office of Environment and Heritage
AQDMP	Air Quality and Dust Management Plan
EIS	Environmental Impact Statement
PM10	Particulate Matter - in the order of ~10 micrometers or less
MCoA	Ministers Conditions of Approval

Distribution

The master controlled Air Quality and Dust Management Plan (AQDMP) document forms part of the project's CEMP as an Appendix. The controlled copy will be retained in iTWOcx, the Sydney International Container Terminals Pty Ltd (SICTL) document management system, where it can be accessed by personnel as necessary.

All paper copies of this EMAP will be considered as 'uncontrolled' unless they have been allocated a 'copy number' in a colour other than black.

Issue, Revision and Re-issue

Revisions of this AQDMP may be required throughout the duration of the project to reflect changing circumstances or identified opportunities for improvement. Revision may result from:

- Management review
- Audits findings (internal or external)
- Complaints or non-conformance reports

Revision History

Rev	Date	Description	Reviewed	Authorised
0	28/09/13	Initial Draft	NB	KM
1	18/11/2013	Final	NB	KM

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1. Introduction

This Air Quality and Dust Management Plan (AQDMP) has been developed to address the construction activities associated with the Sydney Port Botany Terminal 3 Phase 2 (SPBT3P2) Project. In particular, the plan has been developed to address the requirement for a Dust Management Plan as outlined in the Ministers Conditions of Approval (MCOA 's).

The key components covered by this plan include:

- Ground improvements and consolidation measures
- Temporary and permanent access roads, pedestrian paths and line markings
- Drainage, utilities, services
- Container yards and substation
- HV & LV electrical installation
- Supply and installation of Automated Stacking Cranes (ASC) Cranes
- Supply and installation of communication infrastructure

Note; multiple contractors will be working under this AQDMP as part of the Terminal 3 Phase 2 construction project. There will be a coordinated approach to manage air quality and dust. SICTL, its project representatives and other relevant parties will coordinate this approach.

1.1 Objectives

The objective of this AQDMP is to ensure that all risks associated with odour, dust control, potential dust migration, licensing and monitoring issues are considered and managed effectively during construction to avoid any environmental or community incident.

This AQDMP aims to satisfy the following objectives:

- Address the requirements of the planning approval for the SPBT3 Phase 2 Project
- Address the requirements of the Environmental Impact Statement (EIS) for the Port Botany expansion
- Address the requirements of the relevant environmental legislation as it applies to this project
- Summarise potential impacts on the environment from the proposed works
- Document environmental procedures to control potential environmental impacts.

1.2 Targets

The following targets have been identified in terms of dust management for the project:

- Release of dust/particle matter not to cause an environmental nuisance at any dust sensitive location
- No valid complaints received regarding excessive dust generation or air pollution caused by construction activities
- No odours originating on site leave the site boundary
- Ensure exhaust emissions of plant and equipment produced by construction activities are controlled to an acceptable level
- Achieve particulate concentrations and dust deposition rates from construction activities that meet guideline values

- Monitor and promptly maintain dust controls through the project
- Monitor the effects of activities and the effectiveness of mitigation measures
- Ensure all personnel are appropriately trained in environmental awareness
- No environmental fines or prosecutions relating to dust and air pollution

1.3 Statutory provisions and guidelines

The following statutory provisions and guidelines are applicable to the Project, with regards to air quality and dust management:

- NSW Minister for Planning Conditions of Approval for the Port Botany Expansion Project
- Port Botany Expansion Project Environmental Impact Statement
- Sydney Port Botany Terminal 3 Planning Determination
- POEO Act 1997
- POEO (Clean Air) Regulation 2010

1.4 Ministers Conditions of Approval

MCoA's relevant to air quality management are outlined below.

MCoA Reference	MCoA Detail
B 2.1	Unless otherwise permitted by an Environment Protection Licence applicable to the development, the Applicant shall ensure that construction works are undertaken in compliance with section 129 of the Protection of the Environment Operations Act 1997.
B2.4	The Applicant shall prepare a Dust Management Plan in consultation with DEC, RTA, DOP, Botany and Randwick Councils. The Applicant shall address the requirements of these organisations in the Plan. The Applicant shall also consult with the Community Consultative Committee in preparation of the Plan. Plan must include, but not be limited to strategies in which the construction shall: • Minimise or prevent the emission of dust from the site; • Ensure that all trafficable areas and vehicle manoeuvring areas in or on the premises shall be maintained, at times, in a condition that will minimise the generation, or emission from the premises, of windblown or traffic generated dust; • Ensure that all vehicles entering and leaving the site and carrying a load that may generate dust are covered at all times, except during loading and unloading. Any such vehicles shall be covered or enclosed in a manner that will prevent emissions of dust from the vehicle at all times; and • Ensure that all dust source surfaces are sealed. The Plan shall be approved by the Director-General of DOP prior to commencement of construction.

2. References

- Port Botany Expansion Environmental Impact Statement
- NSW Landcom publication Managing Urban Stormwater - Soils and Construction Edition 4 March 2004 (Blue Book).
- POEO (Clean Air) Regulation 2010
- Reference is also made to the NSW Protection of the Environment Operations Act which integrates into one Act all of the controls necessary to regulate pollution and reduce degradation of the environment. The Act also provides for licensing of scheduled development work, scheduled activities and for offences and prosecution under this Act

3. Strategic Approach

3.1 Existing Environment

Air quality within the area surrounding Port Botany is influenced by both local and regional pollutant sources, including road traffic, domestic sources, aircraft and a variety of industrial emissions. The proximity to local pollutant sources and the influence of sea breezes play significant roles in the dispersion of pollutants around Botany Bay.

3.2 Potential Impacts

Construction activities covered by this plan will have potential to affect air quality outside the site as this includes earthworks in a defined area in the central part of the Port Botany Expansion site and the supply and installation of cranes and machinery and communication infrastructure. Limited earthworks are undertaken under this plan.

Air quality could be affected from the following sources:

- Earth works
- Spoil handling & stockpiling on top of the reclamation
- Concrete batching
- Accumulated dirt/dust on the terminal's concrete surface;
- Movement of vehicles across unsealed areas on the site; and
- Inefficient exhaust systems for machinery.

3.2.1 Activity Specific Risks

Activity	Risks
• Earthworks and pavements	• Dust from reclamation surface, compaction and ground improvements
• Spoil handling & stockpiling on top of the reclamation during drainage installation	• Fugitive dust and sand from stockpiles or imported fill
• Movement of vehicles across unsealed areas on the site;	• Fugitive dust from vehicle movement • Emissions from vehicles
• Concrete Batching*	• Dust from stock piling of concrete raw materials and batching process
• Supply and installation of Automated Stacking Cranes (ASC) Cranes	• Accumulated dirt/dust on the terminal's concrete surface; • Movement of vehicles across unsealed areas on the site; and • Inefficient exhaust systems for machinery
• Supply and installation of communication infrastructure	• Accumulated dirt/dust on the terminal's concrete surface; • Movement of vehicles across unsealed areas on the site; and • Inefficient exhaust systems for machinery

* If required on site

3.3 Control and Mitigation Measures

A variety of control measures will be implemented throughout the course of the works by the contractor nominated by SICTL to manage air quality during construction.

- The Contractor nominated by SICTL will establish a real time meteorological weather station including web based telemetry and notifications. Monitor wind speeds through weather station outside normal hours.
- Water carts will be used regularly to wet down haul roads and excavations to suppress dust during construction. Water carts will provide constant dust suppression to all site haul roads and earthworks formations
- Where dust generating activities cannot be controlled, the activities shall be stopped and the process reviewed and additional mitigation measures employed.
- Review forward forecasts and re-program works during periods of high winds, if required, to ensure that a dust nuisance is not caused external to the site.
- Speed limit on site set to 20 Km/h to reduce dust generation from site roads and unpaved areas.
- All vehicles transporting material to or from site are to be covered after loading to prevent windblown dust and spillage.
- Maintain dust suppression measures such as water carts and water sprays, so that they are ready available as required during gusty and high winds during dust generating activities.
- Provision of dust suppression equipment during periods of site shutdown such as week end and RDO's and extended closures. This will include water cart on callout and implementation of spraying or misting systems.
- Contractors shall visually inspect plant and equipment exhaust periodically during the works for excessive emissions. Excessive emissions shall be defined as visual emissions continuing for a period of greater than 20 seconds.
- Non-conformances with these measures shall be documented and the offending plant item will be taken off site to be serviced/repaired or upgraded to manufacturer's specifications as soon as possible.
- Excessive mud to be removed from vehicles before entering public roads to prevent tracking of sediment on to public roads e.g. wheel wash or rumble grids
- All plant and equipment to be maintained in good working order in accordance with the relevant manufacturer's requirements to limit the emission of smoke from exhausts.
- Sweeper/vacuum truck to be used if required to clean public roads in and around the site.
- Visual inspections will be undertaken and recorded daily by Environmental and Supervising staff for the duration of the project and shall include site exits.
- Stabilisation of disturbed areas shall take place as soon as practical after completion of works.
- Long term stockpile (> 4 weeks) shall be treated with dust suppressant
- Concrete batching plant (if required on site) will have water spray or misting system on raw material stockpile and pressure sensitive controls on loading equipment and dust screening to prevent dust emissions during operation

- Provide awareness training within the site inductions and toolbox talks on the requirement to minimise dust and report dust and odours on site

3.3.1 Mitigation Measures

Mitigation measures for air quality and dust management for the construction phase of the project are outlined below.

Mitigation Measures	Responsibility	Source of Requirement	Timing
Apply water , through the use of water trucks, to active earthworks areas, stockpiles, gravel roads and loads of soil being transported to reduce wind blown dust emissions	Contractor	EIS 23.8.1	Throughout construction
Site roads to consist of course gravel and to be kept wet to minimise wheel generated dust emissions	Contractor	EIS 23.8.1	Throughout construction
Keep the working face and areas of open excavation to a minimum	Contractor	EIS 23.8.1	Throughout construction
Vegetate or stabilise stockpiles where material is to remain on site for a long period of time (unused for longer than 1 month)	Contractor	EIS 23.8.1	Throughout construction
Cease work if excess dust is observed, or phase down while the source is being actively investigated and suppression measures are implemented	Contractor	EIS 23.8.1	Throughout construction
Restrict construction traffic to defined roads and keep to 20km/hr site speed limit. Signpost the speed limit along all construction roads	Contractor	EIS 23.8.1	Throughout construction
Remove soil adhering to the wheels and undercarriage of vehicles prior to departure from the site	Contractor	EIS 23.8.1	Throughout construction
A meteorological monitoring station would be installed at the existing port. The meteorological station would be in according with AS 2922-1987 - Ambient Air - Guide for Siting of Sampling Units and AS2923-1987 - Ambient Air - Guide for the Measurement of Horizontal Wind for Air Quality Applications.	Contractor	EIS 23.9.2	Throughout construction
Visually monitor dust generation from work zones to ensure that excessive dust is not being produced.	Contractor	EIS 23.8.1	Throughout construction
Inspect sites to ensure that adequate dust controls are being used such as regularly watering unsealed areas.	Contractor	EIS 38.5	Throughout construction
Maintain exhaust systems of construction plant, vehicles and machinery in accordance with manufacturer specifications	Contractor	Best Practice	Throughout construction
Monitoring through dust deposition gauges.	SICTL	EIS	Throughout construction
Active daily checking of weather forecasts and preparing for southerly and north westerly wind conditions	Contractor	Best Practice	Throughout construction

3.4 Monitoring

The contractor nominated by SICTL will be responsible for performing the environmental monitoring and reporting will be conducted monthly and reports will be made available on the Project website.

Ambient background data and project specific air quality objectives have been set in the project EIS.

Aspect	Average Background for EIS Impact Assessment	Current Criteria	
		NSW EPA Criterion	Project Specific Criterion
Dust Deposition	1.5 –2 g/m2/ month	4 g/m2/ month	2 g/m2/ month

The air quality impacts for this stage of construction have not been assessed in the EIS for the terminal 3 works. Due to this, the criteria in the table above will be utilised.

A combined dust monitoring regime will be undertaken to include all Port Botany Expansion works. This monitoring will include dust deposition gauge monitoring and PM10 monitoring.

Three dust deposition gauges will be installed within residential areas – two in the residential area north of Foreshore Road, and one in the Matraville residential area immediately east of Amcor (Botany Road, Matraville). An additional dust deposition gauge will also be located in Penrhyn Estuary. To ensure minimal impact on sensitive habitats, and to minimise the potential for sedimentation in shallow waters, sampling would be undertaken in accordance with Australian Standard AS 3580.10.1-1991 – Particulates – deposited matter (gravimetric method) and laboratory analysis performed by a NATA accredited laboratory.

Proposed dust deposition monitoring locations given below;

No.	Monitoring Location
1	Upper Penryhn Estuary
2	Sir Joseph Banks Park (adjacent The Esplanade), Botany
3	Purcell Park, Matraville
4	Botany Golf Course

PM10 monitoring will be undertaken as part of the combined monitoring regime. This monitoring is to be undertaken at the Botany Golf Course.

Real time PM10 air quality monitoring may be undertaken to show immediate spot check air quality results or in response to complaints or to monitor effectiveness of site controls. Targets will be initially set at PM10 < 50µg/m3 averaged over 24 hours and PM10 <30µg/m3 as an annual average.

Visual monitoring will be undertaken continually throughout construction for air quality and dust. If excessive dust or air quality impacts are observed, works are to cease and the source to be actively investigated and suppression measures implemented before proceeding.

3.5 Training

All personnel shall undergo specific site inductions before stating work on site. Inductions provided by the contractor will cover specific environmental issues and shall include air quality and dust control measures and the reason for these controls will be emphasised. Toolbox meetings will also be undertaken as and when required. They will cover specific environmental issues and shall include air quality and dust control measures. Training program will be reviewed by the Environmental Representative.

Training of site personnel will be ongoing through the project to ensure environmental awareness and competency is incorporated into all work during the project.

Personnel conducting sampling, measuring, monitoring and reporting activities are to be suitably trained or experienced in the activity. Records of all training are to be filed in accordance with the project filing system.

3.6 Emergency Response

All incidents will be recorded and an investigation will be undertaken into the causes of the incident, potential environmental and safety impacts, improvements that can be made to the construction methodology and actions given to personnel. The Emergency Response and Incident Management Plan in Appendix 8 of the CEMP details how various emergencies including environmental will be managed.

3.7 Monitoring of Controls

Items that require specific and detailed action will be recorded on the Project's Corrective Action Register.

Each relevant contractor will be responsible for providing appropriate resources in terms of labour, plant and equipment to enable the items to be rectified in the nominated timeframes.

Improvement requests received from the project Environmental Representative or other appropriate agencies shall be assessed and responded to within 24 hours if the issue is not environmentally threatening.

Quantitative data from dust monitoring shall be collated and provided in the monthly project report and forwarded to SICTL.. Monthly monitoring reports will be posted on the web site.

3.8 Non-conformance and Corrective Action

Where the daily site inspections or quantitative dust monitoring identifies non-compliance with the relevant targets and criteria, or where complaints are received in relation to the site activities, the relevant contractor will implement investigative and corrective action. The respective Environment Manager or Project manager will be responsible for the investigation, management and response to complaints.

The management of incidents associated with air quality shall handled in accordance with the CEMP by the respective Environment Manager or Project Manager. Communication strategies for the project including the receipt and response to complaints are outlined in the CEMP.

The corrective action may involve supplementary monitoring to identify the source of the non-compliance, and/or may involve modification of construction techniques or programme to avoid any recurrence or minimise its adverse effects. Corrective actions, revised limits or external negotiations will be undertaken in consultation with SICTL representatives.

Non-conformances and issues requiring corrective action will be documented on the Project's Corrective Action Register.

Sydney Port Botany Terminal 3 Project Phase 2 & 3
SICTL Construction Noise and Vibration Management Plan

Terms and Definitions

The following terms, abbreviations and definitions are used in this plan:

Terms	Explanation
CEMP	Construction Environmental Management Plan
CNVMP	Construction Noise and Vibration Management Plan
DECC	Department of Environment and Climate Change
EMS	Environmental Management System
ERA	Environmental Risk Assessment
OEH	Office of Environment and Heritage
RTA	Roads and Traffic Authority
MCoA	Minister's Condition of Approval
LAmax	The "Maximum Noise Level" for an event, used in the assessment of potential sleep disturbance during night-time periods. The subscript "A" indicates that the noise levels are filtered to match normal human hearing characteristics (i.e. A weighted).
LAeq(15 minute)	A-weighted equivalent continuous sound pressure level
RBL	Rating Background Level (ambient noise)
INP	Industrial Noise Policy
LA90	The "Background Noise Level" in the absence of construction activities. This parameter represents the average minimum noise level during the daytime, evening and night-time periods respectively. The LAeq(15 minute) construction noise objectives are based on an allowance margin above the LA90 background noise levels.
PPV	"Peak Particle Velocity" evaluated at the building footings and used to assess the risk of damage to structures
Arms	"Root mean squared weighted acceleration", a vibration parameter used to assess human response to continuous or intermittent vibration
eVDV	"Estimated Vibration Dose Value", the overall vibration exposure assessed over the daytime or night-time period to assess human response to intermittent vibration

Distribution

The master controlled Noise and Vibration Management Plan (CNVMP) document forms part of the project's CEMP as an Appendix. The controlled copy will be retained in ProjectCentre, the Sydney International Container Terminals Pty Ltd (SICTL) document management system, where it can be accessed by personnel as necessary.

All paper copies of this CNVMP will be considered as 'uncontrolled' unless they have been allocated a 'copy number' in a colour other than black.

Issue, Revision and Re-issue

Revisions of this CNVMP may be required throughout the duration of the project to reflect changing circumstances or identified opportunities for improvement. Revision may result from management review, audits findings (internal or external) or complaints or non-conformance reports.

Rev	Date	Description	Reviewed	Authorised
0	30/09/13	Initial Draft	NB	KM
1	18/11/2013	Final	NB	KM

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1. Introduction

This Construction Noise and Vibration Management Plan (CNVMP) has been developed to address the construction activities associated with the Sydney Port Botany Terminal 3 Phase 2 & 3. In particular, the plan has been developed to address the requirement for a Construction Noise Management Plan as outlined in the conditions of approval.

1.1 Scope

The key components covered by this plan include:

- Ground improvements and consolidation measures
- Temporary and permanent access roads, pedestrian paths and line markings
- Drainage, utilities, services
- Container yards and pavements
- HV & LV electrical installations and substation
- Supply and installation of Automated Stacking Cranes (ASC) Cranes
- Supply and installation of communication infrastructure

Note; multiple contractors will be working under this CNVMP as part of the Terminal 3 construction project. There will be a coordinated approach to manage construction noise and vibration. SICTL, its project representatives and other relevant parties will coordinate this approach.

1.2 Objective

The objective of this Construction Noise and Vibration Management Plan (CNVMP) is to outline strategies and controls to be implemented during the relevant works.

This CNVMP aims to satisfy the following objectives:

- Address the requirements of the planning approval for the SPBT3 Project
- Address the requirements of the Environmental Impact Statement (EIS) for the Port Botany Expansion
- Address the requirements of the relevant environmental legislation as it applies to this project
- Summarise potential impacts on the surrounding receivers from the proposed works
- Document environmental procedures to control potential impacts
- Address monitoring requirements

1.3 Targets

The following targets have been identified in terms of noise and vibration management for the project:

- Noise from construction activities must not cause an environmental nuisance at any ‘noise sensitive place’ without prior notification to the sensitive receptors if the noise limits are expected to be above the nuisance threshold
- No valid complaints received regarding excessive construction noise
- Minimise the effects of noise and vibration from construction activities on surrounding residents and businesses

- Implement reasonable and feasible controls to minimise construction noise and vibration
- Detail appropriate construction noise monitoring and documentation to adhere to project regulations
- Outline vibration regulations for the project and a monitoring regime to meet these requirements.

1.4 Statutory provisions and guidelines

The following statutory provisions are applicable to the Project, with regards to noise:

- Protection of the Environment Operations Act 1997 (NSW)
- Protection of the Environment Operations (Noise Control) Regulation 2008 (NSW)
- Assessing Vibration: A Technical Guideline (NSW)
- Interim Construction Noise Guideline (2009, DECCW)

1.5 Ministers Conditions of Approval

MCoA's relevant to construction and vibration management are outlined below.

MCoA Reference	MCoA Detail
B2.19	The Applicant shall only undertake construction activities associated with the project (with the exception of dredging construction activities) that would generate an audible noise at any residential premises during the following hours: a) 7:00 am to 6:00 pm, Mondays to Fridays, inclusive; b) 8:00 am to 1:00 pm on Saturdays; and c) at no time on Sundays or public holidays. Audible noise is defined as “noise that can be heard at the receiver”. This condition does not apply in the event of a direction from police or other relevant authority for safety or emergency reasons. Note: ‘safety or emergency reasons’ refers to emergency works which may need to be undertaken to avoid loss of life, property loss and/or to prevent environmental harm.
B2.19A	The Applicant must seek the Director-General’s approval to conduct construction activities audible at residential premises (with the exception of dredging construction activities) outside the hours specified under condition B2.19 on a case-by-case basis. In seeking the Director-General’s approval, the Applicant shall demonstrate a need for activities to be conducted during varied hours and how local acoustic amenity will be protected, as well as details of how the EPA’s requirements with respect to the variation of hours have been addressed.
B2.19B	For activities subject to an environmental protection licence issued by the EPA under the Protection of the Environment Operations Act 1997, conditions B2.19 and B2.19A do not apply if the EPA has approved activities to be conducted outside the hours permitted by condition B2.19.
B2.20	Prior to the commencement of construction, the Applicant must prepare a Construction Noise Management Plan in consultation with DEC, DOP, Botany and Randwick Councils. The Plan shall include noise mitigation for piling works for diesel powered machinery, provision of training to ensure that construction workers are aware of the noise created during construction and are appropriately trained to minimise noise where possible. In addition, the Construction Noise Management Plan must: • Identify general activities that will be carried out and associated noise sources; • Assess construction noise impacts at the relevant receivers; • Provide details of overall management methods and procedures that will be implemented to control noise during the construction stage; • Identification of all feasible and reasonable measures to minimise noise and vibration, including but not limited to: • Using least noisy construction methods, vehicles, plant and equipment;

MCoA Reference	MCoA Detail
	• Positioning and orientating noisy plant and equipment so as to minimise noise impacts on noise sensitive receivers and wildlife in Penrhyn Estuary; • Positioning items of noisy plant and equipment as far apart as is practicable from each other; • Minimising noisy activities by adopting alternative construction measures; • Carrying out above ground loading and unloading activities as far away as is practicable from noise sensitive receivers and wildlife in Penrhyn Estuary; • Designing each work site to minimise the need for truck reversing movements; • Ensuring all vehicles and self-propelled plant and equipment enter and leave the premises in a forward direction unless unforeseen accidents or other unforeseeable circumstances arise that may require reversing movements, in which case minimising any such reversing movements; • Taking all practicable steps to avoid reversing movements on the surface within the premises, and where it is impracticable to avoid reversing movements, taking all necessary steps to minimise reversing movements; and • Preventing vehicle, plant and equipment queuing and idling outside the hours of construction prescribed by this consent • Include a pro-active and reactive strategy for dealing with complaints including achieving the construction noise goals, particularly with regard to verbal and written responses; • Detail noise monitoring, reporting and response procedures consistent with DEC requirements; • Provide for internal audits of compliance of all plant and equipment; • Indicate site establishment timetabling to minimise noise impacts; • Include procedures for notifying residents of construction activities likely to affect their noise amenity; • Address the requirements of DEC; and • Be approved by the Director-General prior to the commencement of any works on the site.
B2.21	The goal for noise from construction activities as the LA10 (15 minute) should not exceed the Rating Background Level (RBL) plus 5dB(A) at sensitive receivers.
B2.23	To help minimise the impact of operational noise on the surrounding area, a noise barrier shall be constructed by the Applicant along northern and eastern boundaries of the site prior to the commencement of operations. The applicant must seek appropriate independent expert advice to ensure the design of the noise barrier has regard to the flight path requirements of bird species using the area.
B2.23A	Subject to the alternative rail option being implemented as described within the report listed in condition A1.1l), the Applicant shall construct a three metre high noise barrier along the northern edge of the Inter-terminal Access Road Corridor prior to the commencement of operations. The bottom two metres of the barrier shall be opaque and the top one metre shall be of transparent material sufficiently patterned to minimise impacts to bird species utilising the adjacent Penrhyn Estuary.
B2.24	The Applicant is required to identify measures to be implemented to ensure that where movement alarms are fitted to vehicles, plant or equipment entering or operating on the site, such alarms are of a type that minimises noise at noise sensitive receivers.
B2.25	The Applicant must install all physical noise management measures as early as is practicable during construction of the Port Botany Expansion project.
B2.26	The Applicant must not undertake any blasting on the premises

1.6 References

- Port Botany Expansion Environmental Impact Statement
- DECCW Interim Construction Noise Guidelines
- AS2436 Guide to Noise Control on Construction, Maintenance and Demolition Sites
- Environmental Noise Management – Assessing Vibration: A Technical Guide
- Reference is also made to the NSW Protection of the Environment Operations Act which integrates in to one Act all the controls necessary to regulate pollution and reduce degradation of the environment. The Act also provides for licensing of scheduled development work, scheduled activities and for offences and prosecution under this Act.

2. Strategic Approach

2.1 Noise

2.1.1 Existing Environment

The existing noise environment has been assessed and discussed in the project EIS. These results are outlined below.

The Port Botany area is currently subject to noise emissions from existing port operations, road traffic (particularly Foreshore Road), rail traffic from the Botany Freight Rail Line, Sydney Airport and other industrial activities. Noise from existing terminals at Port Botany are a result of activities such as transporting and loading containers onto trucks, trains and ships.

2.1.2 Background Noise Levels

Ambient noise levels have been assessed and outlined in the project EIS. These are shown below and used to set the project construction noise goals.

The RBL has been determined within the project EIS. The RBL values for each of the time periods (Day/Evening/Night) as given by the EIS are provided below.

Location	Rating Background LA90 Levels (DBA)		
	Day (7:00 am – 6:00 pm)	Evening (6:00 pm – 10:00 pm)	Night (10:00 pm – 7:00 am)
Location 1 - Chelmsford Avenue	49	45	36
Location 2 - Dent Street	47	43	36
Location 3 - Jennings Street	40	39	40
Location 4- North of Golf Course	57	50	43
Location 5- Australia Avenue	42	40	42
Location 6- Military Road	46	46	45
Location 7- Beauchamp Road	50	43	42
Location 8- Botany Road	56	45	37
Location 9- Denison Street	52	50	47

RBL values

2.1.3 Interim Construction Noise Guideline

The recommended standard construction hours taken from the Interim Construction Noise Guideline (2009, DECCW) are given below.

Work type	Recommended standard hours of work*
Normal construction	Monday to Friday 7 am to 6 pm
	Saturday 8 am to 1 pm
	No work on Sundays or public holidays

* The relevant authority (consent, determining or regulatory) may impose more or less stringent construction hours.

2.1.4 Approved Construction Hours

The approved construction hours, as per MCoA B2.19, for works that would generate audible noises at any residential premises are given below;

(a) 7:00 am to 6:00 pm, Mondays to Fridays, inclusive;

(b) 8:00 am to 1:00 pm on Saturdays; and

(c) at no time on Sundays or public holidays.

Audible noise is defined as “noise that can be heard at the receiver”. These conditions do not apply in the event of a direction from police or other relevant authority for safety or emergency reasons. Note: ‘safety or emergency reasons’ refers to emergency works which may need to be undertaken to avoid loss of life, property loss and/or to prevent environmental harm.

The contractor must seek the Director Generals approval to conduct construction activities at residential premises outside the hours specified above under MCoA B2.19 on a case by case basis. In seeking the Director Generals approval, the contractor shall demonstrate a need for activities to be conducted during varied hours and how local acoustic amenity will be protected, as well as detailed of how EPA's requirements will respect to the variation of hours have been addressed.

The measured ambient LAeq noise levels are provided below.

Location	Ambient LAeq Levels (DBA)		
	Daytime (7:00 am – 6:00 pm)	Evening (6:00 pm – 10:00 pm)	Night time (10:00 pm – 7:00 am)
Location 1 - Chelmsford Avenue	57	55	51
Location 2 - Dent Street	61	58	57
Location 3 - Jennings Street	53	48	51
Location 4- North of Golf Course	63	60	58
Location 5- Australia Avenue	59	53	49
Location 6- Military Road	65	57	58
Location 7- Beauchamp Road	65	62	59
Location 8- Botany Road	70	65	64
Location 9- Denison Street	69	65	62

Ambient LAeq noise levels

Ambient noise monitoring locations from the EIS

2.2 Noise Assessment Criteria

The Interim Construction Noise Guideline (2009, DECCW) sets out management levels for noise at residences and how they are to be applied. This approach is outlined below.

Time of day	Management level LAeq (15 min) *	How to apply
Recommended standard hours: Monday to Friday 7 am to 6 pm Saturday 8 am to 1 pm No work on Sundays or public holidays	Noise affected RBL + 10 dB	The noise affected level represents the point above which there may be some community reaction to noise. • Where the predicted or measured LAeq (15 min) is greater than the noise affected level, the proponent should apply all feasible and reasonable work practices to meet the noise affected level. • The proponent should also inform all potentially impacted residents of the nature of works to be carried out, the expected noise levels and duration, as well as contact details.
	Highly noise affected 75 dB(A)	The highly noise affected level represents the point above which there may be strong community reaction to noise. • Where noise is above this level, the relevant authority (consent, determining or regulatory) may require respite periods by restricting the hours that the very noisy activities can occur, taking into account: 1. times identified by the community when they are less sensitive to noise (such as before and after school for works near schools, or mid-morning or mid-afternoon for works near residences 2. if the community is prepared to accept a longer period of construction in exchange for restrictions on construction times.
Outside recommended standard hours	Noise affected RBL + 5 dB	• A strong justification would typically be required for works outside the recommended standard hours. • The proponent should apply all feasible and reasonable work practices to meet the noise affected level. • Where all feasible and reasonable practices have been applied and noise is more than 5 dB(A) above the noise affected level, the proponent should negotiate with the community. • For guidance on negotiating agreements see section 7.2.2.

* Noise levels apply at the property boundary that is most exposed to construction noise, and at a height of 1.5 m above ground level. If the property boundary is more than 30 m from the residence, the location for measuring or predicting noise levels is at the most noise-affected point within 30 m of the residence. Noise levels may be higher at upper floors of the noise affected residence.

Criteria for the SPBT3 project are shown below.

Location	LAeq Construction Noise Criteria (DBA)		
	Daytime (7:00 am – 6:00 pm)	Evening (6:00 pm – 10:00 pm)	Night time (10:00 pm – 7:00 am)
Location 1 - Chelmsford Avenue	59	55	46
Location 2 - Dent Street	57	53	46
Location 3 - Jennings Street	50	49	50
Location 4- North of Golf Course	67	60	53
Location 5- Australia Avenue	52	50	52
Location 6- Military Road	56	56	55

The noise data collected as part of the EIS has been done so in accordance with the NSW Industrial Noise Policy (INP). The INP provides guidance with the collection of noise data and processing and is the most appropriate policy document currently used in NSW. As such the collected data has been processed in accordance with the INP to derive the Rating Background Level (RBL) which can be used to develop various criteria. Based on this, revised criteria can be developed such as those required by the Interim Construction Noise Guideline.

Contractors working on Phase 2 & 3 will seek the Director-General's approval to conduct construction activities audible at residential premises outside the hours specified above on a case by case basis. In seeking the Director-General's approval, the Project will demonstrate a need for activities to be conducted during varied hours and how local acoustic amenity will be protected, as well as detail how the EPA's requirements with respect to the variation of hours have been addressed.

During Out of Hours (OOH) in the evening and night-time periods, construction activities will be undertaken such that noise from those activities does not exceed the Rating Background Level by more than 5 dB(A) at the nearest sensitive receptor when expressed as LA10(15 minute). This condition applies under acoustically neutral meteorological conditions and for winds considered to be a feature of the area.

2.3 Vibration Assessment Criteria

Vibration standards are used to protect buildings against damage and to protect human comfort within buildings. The human comfort limits are the more stringent limits.

British Standard BS6472:1992 sets the following vibration limits for human comfort (above 8 Hz):

- 0.28 mm/s peak velocity within residences during day time; and
- 0.56 mm/s peak velocity within offices during day time.

In regard to potential building damage, the German Standard DIN4150 suggests a limit of 10 mm/s peak particle velocity (ppv) within any normal building and the British Standard BS7385: Part 2 - 1993 sets a limit within buildings which depends upon the vibration frequency and varies from 7.5 mm/s ppv at 4 Hz to 25 mm/s ppv at 40 Hz and above. Given that the bulk of the vibration energy from construction of the new terminal would fall in the range 10-100 Hz, the EIS adopts an overall vibration limit to protect against building damage of 10 mm/s ppv.

DIN4150 also sets a vibration limit of 3 mm/s (ppv) at the foundation of heritage buildings and sensitive structures and will be applied to sensitive residential receivers on this project.

2.4 Noise Impact

2.4.1 Construction Plant and Equipment

Typical construction and equipment sound power levels at 1 meter from plant are outlined below.

Plant Item	Sound Power Level(dBA)
Backhoe	• 107
Excavator	• 107
Dumb Truck	• 109
Compactor	• 112
Bulldozer	• 119
Scraper	• 117
Vibrating roller	• 106
Water cart	• 109
Grader	• 109

Plant Item	Sound Power Level(dBA)
Front End Loader	• 109
Asphalt Paver	• 109
Bored Piling Rig	• 111
Diesel Hammer	• 141

2.4.2 Activity Specific Risks

Activity	Risks
• Concrete Batching	• Daytime noise from raw material delivery and batching process
• Earthworks and ground improvement	• Daytime plant and equipment operating
• Drainage installation	• Day time excavation installation and back fill material
• Substation installation and electrical connection	• Concrete building construction
• Supply and installation of Automated Stacking Cranes (ASC) Cranes	• Daytime noise from unloading and installing ASCs to the site
• Supply and installation of Quay Cranes (QC) Cranes	• Daytime noise from unloading and installing QCs to the site
• Supply and installation of communication infrastructure	• Daytime noise from associated works
• Delivery and fabrication of shuttle carriers	• Daytime noise from fabrication

2.4.3 Construction

Construction phases including ground treatment and consolidation, installation of drainage, utilities and services, container yard works, HV & LV electrical works, Crane delivery and assembly and commissioning. Construction works will be monitored in accordance with the Interim Construction Noise Guideline, as discussed in section 2.2 above.

Noise impacts from general construction activities may have the potential to impact residents. Reasonable and feasible mitigation measures will be implemented to reach these targets. Mitigation measures are outlined in section 2.7 below.

Predicted noise levels for the construction of the terminal facilities have been undertaken in the project EIS. These details are reproduced below.

Location	Predicted Construction LAeq for construction of terminal facilities	LAeq Construction Noise Criteria		
		Daytime (7 am-6 pm)	Evening (6 pm-10 pm)	Night Time (10 pm-7 am)
Chelmsford Ave	48	59	55	46
Dent St	55	57	53	46
Livingston Ave	52	57	53	46
Tupa St	53	57	53	46

Location	Predicted Construction LAeq	LAeq Construction Noise Criteria		
Waratah Rd	53	57	53	46
Jennings St	29	50	49	50
North of Golf Course	54	67	50	53
Australia Ave	28	52	50	55

Predicted noise levels for the construction of the terminal facilities

2.4.4 Construction Traffic Impact

From the Mod 14 consistency assessment shows that during average peak construction it is expected that approximately 145 trucks per day may enter the site. It has been assumed that all of these would travel along Foreshore Road. The exact distribution of these truck movements throughout the day cannot be predicted at this stage. However, assuming an even distribution across an 11-hour working day and based on existing traffic flows, the maximum contribution to existing traffic noise levels from construction traffic would be 0.3 dBA in any one hour on Foreshore Road. Any future traffic noise assessments should be undertaken in accordance with the NSW Road Noise Policy (DECCW, 2011).

2.5 Vibration Impact

Ground-borne vibration levels generated by the typical construction activities covered by this plan are unlikely to be of concern to the nearest structures or residents.

In respect of potential damage, at the closest building the most stringent limit of 3 mm/s for heritage buildings and sensitive structures would be complied with. The vibration comfort criteria would also be expected to be complied with.

2.6 Out of Hours Works

For construction activities that require to be undertaken outside of the approved construction hours for the project, the following process applies;

- Identify work activity requiring work out of approved hours
- Assess alternate options that may allow construction within approved hours
- If no alternate options are available, an assessment on site is to be made whether the activity minor and is likely to be inaudible at residential premises. If considered to be inaudible, works may continue out of the approved hours for audible works.
- If works are considered to be audible at residential premises, the activity is to be assessed for noise (and vibration where required) impacts on the nearest residential receivers via a Construction Noise and Vibration Impact Statement (CNVIS) prepared by a suitably qualified acoustic consultant, taking into account all proposed noise and vibration mitigation measures. General activities such as security operations, and general site maintenance that are not audible at residential premises will not require a CNVIS.
- If the CNVIS shows that the construction activity is audible at residential premises outside the approved construction hours, approval to undertake these works will be sought form the Department of Planning and Infrastructure.
- In seeking the Department of Planning and Infrastructure approval, SICTL and the appropriate contractor will demonstrate a need for activities to be conducted during the varied hours and

how local acoustic amenity will be protected, as well as details of how the EPA's requirements with respect to the variation of hours have been addressed.

- Works will not commence during varied hours until approval is granted.
- Attended noise monitoring will be undertaken for commencement of all works undertaken out of standard hours to ensure they comply with the conditions granted by the Department of Planning and Infrastructure and on a monthly basis thereon or for any change in activity (within the approval). Noise monitoring will be undertaken by suitably qualified personnel, including professionally trained and experienced environmental staff and noise consultants where deemed necessary.
- All reasonable and feasible mitigation measures are to be implemented in both standard approved and varied hours of works for the duration of the project.
- Individual contractors/clients are to arrange for appropriate approvals and noise monitoring for works undertaken outside of the approved construction hours as per the project determination.

2.7 Mitigation Measures

Mitigation measure for the management of construction noise and vibration are outlined below.

Mitigation Measures	Responsibility	Source of Requirement	Timing
Construction activities associated with the project that would generate an audible noise at any residential premises are restricted to the following hours: a) 7:00 am to 6:00 pm, Mondays to Fridays, inclusive; b) 8:00 am to 1:00 pm on Saturdays; and c) at no time on Sundays or public holidays. This condition does not apply in the event of a direction from police or other relevant authority for safety or emergency reasons. Note: 'safety or emergency reasons' refers to emergency works which may need to be undertaken to avoid loss of life, property loss and/or to prevent environmental harm.	Contractor	MCoA B2.19	Throughout construction
Director-General's approval is required to conduct construction activities audible at residential premises outside the hours specified under condition B2.19 on a case-by- case basis.	Contractor	MCoA B2.19A	Throughout construction
Arrange work sites to avoid or minimise truck reversing movements, and ensure vehicles enter and exit work sites in a forward direction.	Contractor	MCoA B2.20 EIS ch 22.5.1	Throughout construction
Ensure that where options exist, use least noisy construction methods and equipment.	Contractor	MCoA B2.20 EIS ch 22.5.1	Throughout construction
Use silenced generators and compressors.	Contractor	MCoA B2.20 EIS ch 22.5.1	Throughout construction
Where possible, position and orientate noisy plant and equipment away from sensitive receivers and wildlife in Penrhyn Estuary. Work compounds, offices, parking areas and stockpile areas are all located away from noise sensitive receivers.	Contractor	MCoA B2.20	Throughout construction
Position noisy plant and equipment as far apart as is practical from each other.	Contractor	MCoA B2.20 EIS ch 22.5.1	Throughout construction
Install all noise controls identified in this plan as early as is practical prior to the relevant stage of construction.	Contractor	MCoA B2.25	Throughout construction

Mitigation Measures	Responsibility	Source of Requirement	Timing
Prevent vehicles and plant queuing and idling outside the site prior to the morning start time.	Contractor	MCoA B2.20	Throughout construction
Prevent vehicles and plant idling when not in use.	Contractor	MCoA B2.20	Throughout construction
Ensure that equipment is operated in the correct manner including repair of defective silencing equipment, tightening of rattling components, and repair of leakages in compressed air lines.	Contractor	Best Practice	Throughout construction
Blasting is not permitted on the SPBT3 Project.	Contractor	MCoA B2.26	Throughout construction
Notify residents of construction activities likely to affect amenity due to noise or vibration 5 days in advance and no greater than 14 days in advance.	Contractor	MCoA B2.20 EIS ch 22.5.1	Throughout construction
Construction Methodologies will include the relevant control measures from this CNVMP, in particular issues relating to the need for early consultation with residents likely to be affected by the works, the incorporation of the quietest feasible equipment to complete the works, the opportunity to include additional noise attenuation measures.	Contractor	MCoA B2.20	Throughout construction
Where practical, noise levels from diesel powered machinery would be reduced by fitting noise control kits to machinery.	Contractor	MCoA B2.20 EIS ch 22.5.1	Throughout construction
Where practical, excessively noisy processes will be substituted with alternative processes.	Contractor	MCoA B2.20	Throughout construction
Plant and equipment on site will be fitted with non-tonal reversing alarms.	Contractor	MCoA B2.20 EIS ch 22.5.1	Throughout construction
The operation of high noise generating plant simultaneously close together or adjacent to sensitive receptors will be avoided where possible.	Contractor	MCoA B2.20	Throughout construction
High efficiency mufflers will be fitted to plant and equipment where possible to minimise the generation of noise. All plant will be maintained in accordance with the manufacturer's requirements.	Contractor	MCoA B2.20 EIS ch 22.5.1	Throughout construction
Undertaking loading and unloading activities away from sensitive and wildlife in Penrhyn Estuary areas and during designated construction hours.	Contractor	MCoA B2.20	Throughout construction
Provision of training to ensure that construction workers are aware of the noise created during construction and are appropriately trained to minimise noise where possible	Contractor	MCoA B2.20 EIS ch 22.5.1	Throughout construction
Site based vehicles to use non-tonal reverse alarms to reduce impact on surrounding residents	Contractor	MCoA B2.24	Throughout construction
Ground vibration from construction activities is not expected to exceed the levels outlined above when measured at building foundations. Where structural vibration criteria are exceeded, the offending process will be ceased and substitute equipment or methods shall be evaluated.	Contractor	EIS ch 22	Throughout construction

2.8 Monitoring

A noise monitoring program is to be carried out for the duration of the works to assess the construction noise impacts at the relevant receivers. As multiple contractors will be working on site as part of the Port Botany Expansion project there will be a coordinated approach to the monitoring of construction noise. SICTL, its project representatives and other relevant parties will coordinate this approach. Compliance monitoring will be combined on a monthly basis as outlined below. Results will be distributed among the relevant contractors. Any exceedances to project specific targets will result in investigation by all relevant contractors on site and their respective client to determine the likely source of the exceedance and develop a plan to rectify any issues. Any such rectification will be made available to other contractors to avoid repeat issues.

Attended noise monitoring is to be conducted by a suitability qualified person. The measurements shall be made over 15 minute periods at the locations outlined in section 2.2 of this plan, recording noise samples using the “fast” response of the sound level meter.

Ongoing attended noise monitoring will be conducted throughout the project on a monthly basis. It shall be conducted during normal work hours and at such a time to be representative of generating work activities. Works being undertaken outside of standard construction times will require attended monitoring as per conditions given by Department of Planning & Infrastructure.

Any vibration monitoring required for the works will be the responsibility of the Contractor. If monitoring is required, it may include a combination of attended and unattended vibration monitoring at the nearest potentially affected locations during vibration generating activities.

Individual contractors/clients are to arrange for appropriate approvals and noise monitoring for works undertaken outside of the approved construction hours as per the project determination.

Monitoring requirements are outlined below.

Monitoring Item	Frequency	Standards	Responsibility
Construction day & night attended noise monitoring at locations shown in section 2.2 of this plan	Monthly	LA10(15 min) from construction related works aim not to exceed RBL plus 5dB(A) at sensitive receivers AS 1055	Contractor
If a noise or vibration-related complaint is received, investigate within one hour. If requested, undertake attended monitoring at complainant’s property	If requested by a complainant, or at the request of OEH	Noise: LA10(15 min) from construction related works not to exceed RBL plus 5dB(A) at sensitive receivers. AS 1055 Vibration: DIN 4150	Contractor

2.9 Incident Planning and Response

Incident Type	Response	Responsibility
Noise levels from construction activities exceed noise goals and criteria	Noisy activities would cease or reduce. Remedial measures would be implemented prior to recommencing work, and monitoring undertaken to verify noise levels. All plant and machinery will be checked and verified for noise levels and appropriate exhaust/fittings/noise attenuators. Works methodologies will be reviewed and amended if required.	Contractor
Community complaint	Any noise complaints received from the community would	Contractor

Incident Type	Response	Responsibility
relating to noise or vibration	be recorded and investigated within one hour. Attended noise or vibration monitoring would be offered if the complaint is not immediately resolved. Noise or vibration intensive activities would cease or reduce. Remedial measures would be implemented prior to recommencing work, and monitoring undertaken to verify noise levels. All plant and machinery will be checked and verified for noise levels and appropriate exhaust/fittings/noise attenuators. Works methodologies will be reviewed and amended if required.	
Vibration causing structural damage	Activities causing vibration would cease. Any occupants of buildings may be evacuated with due consideration to safety, and the area secured to prevent unauthorised access. A structural assessment would be undertaken and the results compared with any previous condition survey; and if any damage is associated with construction, rectification work would be implemented or compensation agreed.	Contractor

3. Community Notifications

The community notification process is outlined in the CEMP. Regular notifications will be made available on the project website and distributed to the project Community Consultative Committee.

3.1 Community Notifications Procedure

Community members identified as being impacted by Project works will be issued with a written notification two weeks prior to the commencement of works. The notification will be distributed via letterbox drop and include residents/businesses identified as being impacted. The CCC will be given construction notifications and updates monthly.

Where appropriate (for example, if the construction programme necessitates significant changes to established mitigation strategies), the notification will include ‘door knocking’ residents to advise them of the Project impacts and provide face-to-face information regarding the works. This may take place at the time of the letterbox drop or one week prior to the commencement of works. Where residents cannot be contacted in this way, a calling card will be left with the Project's 1800 contact information.

Notifications will include information regarding:

- Time of works
- Date of works (duration)
- Specific information regarding likely impacts - for example, traffic, visual amenity, noise and dust
- Mitigation strategies (where relevant)
- Project 1800 number and enquiries email address

All notifications will be recorded in the Project communications database.

This Framework Construction Environmental Management Plan will be made publicly available via the project website once approved by the Director General.

3.2 Enquiries and Complaint Response

Community members and other stakeholders will be able to contact the Project team using a number of methods including email, 1800 project number, letter and verbal / face-to-face inquiries. The project contacts are given below.

Contact	Details
General Enquiries	Noel Storan
Complaints Line	1800 177 722
E-mail	noel.storan@erpm.com.au
Media Enquiries	Please contact Manager Public Affairs Hutchison Ports Australia on (02) 8268 8000
Website	http://www.hutchisonports.com.au/port-botany-expansion

Project personnel will respond immediately at all times to such inquires and log all relevant information on the Project communications database (Consultation Manager). Where an immediate response is not possible, (due to the need to source relevant information from personnel within the Project team for example), project personnel will record the inquirer's details and advise them that a response will be provided within 24 hours (or earlier if possible).

Where a written response is required, the relevant contractor will provide SITCL with a draft response. It is anticipated that SICTL would provide approval for the response within 24 hours or as agreed with the resident/community member. Written responses to community complaints will be provided within 7 days.

Project personnel will ensure that the inquirer is satisfied with the response provided and close the action on the Project communications database. If the inquirer is not satisfied with the response, project personnel should further attempt to resolve the inquiry. If a satisfactory resolution is not reached, project personnel should refer the inquiry to the Site Supervisor and advise the SICTL representative.

Information to be recorded on the Project communications should include:

- Date and time of contact / inquiry
- Name of inquirer (if agreed by the inquirer)
- Inquirer's contact details (if agreed by the inquirer)
- Nature of inquiry (for example, information request)
- The means by which the comment, inquiry or complaint was made (telephone, fax, mail, email or in person
- Proposed follow up action/s (for example immediate verbal response, letter, other). This may require one or more actions
- If no action is taken by the project team in relation to the inquiry, the reason(s) for this are to be documented
- Content of response
- Status of the inquiry (open / closed).

The project will provide quarterly reports to the DOP and EPA in conjunction with Sydney Ports Corporation, where relevant, outlining details of complaints received.

Management system non-conformances and recurring environmental incidents will be handled in accordance with the Environmental Rules in Non-conformances, Incident Investigation and Complaints Management.

Corrective and preventive actions may include:

- Site remediation and rehabilitation
- Increased site inspections and monitoring
- Increase environmental awareness (re-training)
- Review and improve existing environmental controls and job safety analyses/ work method statements.

4. Non Compliance and Corrective Action

Where the noise and/or vibration monitoring identifies non-compliance with the relevant criteria, the predictions, or where complaints are received in relation to the site activities, the relevant contractor will implement investigative and corrective action.

The corrective action will involve supplementary monitoring to identify the source of the non-compliance, and/or may involve modification of construction techniques or programme to avoid any recurrence or minimise its adverse effects. Corrective actions, revised limits or negotiations will be undertaken in consultation with SICTL's representative.

Where through monitoring, inspection, audit or other measure, a non-conformance is identified with the administrative or management measures outlined in this CNVMP, a Non-conformance Report shall be raised.

SICTL's representative is be advised of all non-conformances to this CNVMP.

5. Results and Records

Results from noise and vibration monitoring will be analysed for compliance with the targets outlined within this noise and vibration management plan. Where the targets are exceeded, SICTL's representative will be advised and consulted and will in turn advise NSW Ports of any exceedence.

Where exceedances occur the contractor will develop corrective action and implement additional controls as required. Corrective actions will be documented on the project's Corrective Action Register. These issues will be announced at the next toolbox/pre-start meeting supporting our continual improvement culture.

All reports and monitoring results will be filed in accordance with the project filing system. Monitoring results will be published in the project monthly environment reports.

All records generated in relation to the management of noise and vibration will be filed in accordance with the project filing system.

Sydney Port Botany Terminal 3 Project Phase 2 & 3
SICTL Waste Management Plan

Terms and Definitions

The following terms, abbreviations and definitions are used in this plan:

Terms	Explanation
SPBT3	Sydney Port Botany Terminal 3
CEMP	Construction Environmental Management Plan
EPA	Environmental Protection Agency
CWMP	Construction Waste Management Plan
EIS	Environmental Impact Statement
MCoA	Ministers Conditions of Approval

Distribution

The master controlled Waste Management Plan (CWMP) document forms part of the project's CEMP as an Appendix. The controlled copy will be retained in iTWOcx, the Sydney International Container Terminals Pty Ltd (SICTL) document management system, where it can be accessed by personnel as necessary.

All paper copies of this FAMP will be considered as 'uncontrolled' unless they have been allocated a 'copy number' in a colour other than black.

Issue, Revision and Re-issue

Revisions of this CWMP may be required throughout the duration of the project to reflect changing circumstances or identified opportunities for improvement. Revision may result from management review, audits findings (internal or external) or complaints or non-conformance reports.

Revisions shall be reviewed and approved by the Project Manager prior to issue. Updates to this CWMP are numbered consecutively and transmitted to holders of controlled

Revision History

Rev	Date	Description	Reviewed	Authorised
0	30/09/13	Initial Draft	NB	KM
1	18/11/13	Final	NB	KM

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1. Introduction

This Construction Waste Management Plan (CWMP) has been developed to address the construction activities associated with the Sydney Port Botany Terminal 3 Phase 2 & 3 Project. In particular, the plan has been developed to address the requirement for a Waste Management Plan as outlined in the conditions of approval.

The key components of the Sydney Port Botany Terminal 3 include:

- Ground improvements and consolidation measures
- Temporary and permanent access roads, pedestrian paths and line markings
- Drainage, utilities, services
- Container yards and substation
- HV & LV electrical installations
- Supply and installation of Automated Stacking Cranes (ASC) Cranes
- Supply and installation of communication infrastructure

1.1 Objective

The objective of this CWMP is to ensure that all risks associated with construction waste management are considered and managed effectively during construction to avoid any environmental incident.

This CWMP aims to satisfy the following objectives:

- Address the requirements of the planning approval for the SPBT3 Project
- Address the requirements of the Environmental Impact Statement (EIS) for the Port Botany expansion
- Address the requirements of the relevant environmental legislation as it applies to this project
- Summarise potential impacts on the environment from the proposed works
- Document environmental procedures to control potential environmental impacts.

1.2 Targets

The following targets have been identified in terms of soil and water management for the project:

- Separation of recyclable materials such as steel, aluminium, paper and plastics
- All residual waste products are sent to appropriately licensed facilities for either recycling, reuse, treatment or disposal
- No contamination incident occurring as a result of waste storage, transport or disposal
- Regulated wastes stored, transported, tracked and disposed of as per regulated waste legislation
- No construction waste/litter to enter into stormwater system and or Botany Bay.
- Documentation of the intended management of wastes e.g. avoid, reduce, reuse, recycle or dispose to ensure waste is managed in accordance with accepted standards and appropriately implemented waste control measures

1.3 Statutory provisions and guidelines

The following statutory provisions and guidelines are applicable to the Project, with regards to water quality:

- Project Planning Approval and associated MCoA's
- Waste Avoidance and Resource Recovery Act 2001
- EPA Act Part 15
- Protection of the Environment Operations Act 1997
- EPA's Environmental Guidelines: Assessment, Classification & Management of Liquid & Non-Liquid Wastes (1999)
- Botany Bay DCP 29 and the National Minimisation and Recycling Strategy
- DEC'S Environmental Guidelines: Assessment, Classification and Management of Liquid and Non-Liquid Wastes.

1.4 Ministers Conditions of Approval

MCoA's relevant to soil and water quality management are outlined below.

MCoA Reference	MCoA Detail
B2.33	Prior to the commencement of construction, the Applicant is required to prepare a Construction Waste Management Plan in consultation with Botany Council and DECC. The Plan must provide details of proposed waste management measures to minimise production and impact of wastes generated at the site including but not limited to: • Identification of the type and quantities of waste that would be generated, a description of how the waste would be handled, stored, re-used, recycled, and if necessary, appropriately treated; • Identification of a designated area for the storage and collection of waste and recyclable materials to be provided on the site; • Description of how the effectiveness of these measures would be monitored and, if non-compliance detected, actions to be required; and • Measures to involve and encourage employees and contractors to minimise domestic waste production on site and to reuse/recycle where possible.
B2.34	Management of waste must be in accordance with the environment protection licence issued by EPA under the Protection of the Environment Operations Act 1997.
B2.35	All wastes and material generated on the site during construction and operation shall be classified in accordance with the DEC's Environmental Guidelines: Assessment, Classification and Management of Liquid and Non-Liquid Wastes prior to transporting the waste off site and be disposed of to a facility that may lawfully accept the waste.
B2.36	Except as expressly permitted by a licence issued by the EPA under the Protection of the Environment Operations Act 1997, only the hazardous and/or industrial and/or Group A waste listed below may be generated and/or stored at the premises: waste oil/water, hydrocarbons/water mixtures or emulsions; and grease trap waste

2. References

- Port Botany Expansion Environmental Impact Statement
- Waste Classification Guidelines DECC April 2008
- NSW Government's Waste Reduction and Purchasing Policy (WRAPP)
- Botany Bay Development Control Plan 29 – Waste Minimisation and Management Guidelines
- Reference is also made to the NSW Protection of the Environment Operations Act which integrates into one Act all of the controls necessary to regulate pollution and reduce degradation of the environment. The Act also provides for licensing of scheduled development work, scheduled activities and for offences and prosecution under this Act.

3. Legislation

Waste legislation and regulatory framework is outlined below.

3.1 Waste Avoidance and Resource Recovery Act 2001

The Waste Avoidance and Resource Recovery (WARR) Act 2001 establishes the waste hierarchy to ensure that resource management options are considered against the following priorities:

- Avoidance – actions to reduce the amount of waste generated and undertaking activities
- Resource Recovery – which includes reuse, reprocessing, recycling and energy recovery, consistent with the most efficient use of the recovered resources and
- Disposal – an "end-of-pipe" option that must be carefully undertaken to minimise any negative environmental outcomes.

The NSW Government's priority areas and actions for waste avoidance and resource recovery is outlined in the Waste Strategy 2007 (an update of the Waste Strategy 2003).

The four identified "key target areas" in the Strategy are:

- Preventing and avoiding waste
- Increasing recovery and use of secondary materials
- Reducing toxicity in products and materials
- Reducing litter and illegal dumping.

3.2 Protection of the Environment Operations Act 1997

All material that is imported to or exported from the SPBT3 project will be undertaken in strict accordance with the requirements of the POEO Act 1997 including:

- Ensuring waste is classified appropriately and in accordance with relevant guidelines
- Waste materials are disposed of to appropriately licensed facilities
- Other materials are removed to facilities lawfully able to accept such materials.

3.3 Protection of the Environment Operations (Waste) Regulation 2005

The proposed works shall be undertaken in accordance with this regulation, as modified in April 2008.

3.4 Waste Classification Guidelines, Part 1: Classifying Waste (DECC 2008)

All wastes generated and proposed to be disposed off-site shall be assessed, classified and managed in accordance with this guideline.

3.5 NSW Waste Reduction and Purchasing Policy (WRAPP)

The NSW Waste Reduction and Purchasing Policy (WRAPP) commenced in September 1997.

The policy requires all state government agencies to develop and implement a WRAPP Plan to reduce waste and increase the purchase of recycled content materials in four areas:

- paper products
- office consumables (eg. toner cartridges)
- vegetation and landscaping material
- construction and demolition material.

As a state owned agency Sydney Ports may require waste reporting in line with NSW Waste Reduction and Purchasing Policy (WRAPP). The project will input all required information to fulfil these requirements throughout construction.

4. Strategic Approach

4.1 Waste Classification

Waste is generally classified on the basis of its potential harm to the environment. A summary of the classification requirements for the SPBT3 project is provided below. Further details on the classification of waste can be found in the OEH's Waste Classification Guidelines.

Waste is defined in the Protection of the Environment Operations Act 1997 as:

- Any substance (whether solid, liquid or gaseous) that is discharged, emitted or deposited in the environment in such volume, constituency or manner as to cause an alteration in the environment, or
- Any discarded, rejected, unwanted, surplus or abandoned substance, or
- Any otherwise discarded, rejected, unwanted, surplus or abandoned substance intended for sale or for recycling, processing, recovery or purification by a separate operation from that which produced the substance, or
- Any processed, recycled, re-used or recovered substance produced wholly or partly from waste that is applied to land, or used as fuel, but only in the circumstances prescribed by the regulations, or
- Any substance prescribed by the regulations to be waste.

Note: A substance is not precluded from being waste for the purposes of this Act merely because it is or may be processed, recycled, re-used or recovered.

Waste Classification	Description
Special Waste	Special waste includes clinical and related waste, asbestos waste and waste tyres. Clinical and Related Waste includes: • Clinical Waste • Cytotoxic Waste • Pharmaceutical, drug or medicine waste • Sharps wastes • Asbestos waste means any material or material that contains the fibrous form of mineral silicates. • Waste Tyres is any used, rejected or unwanted tyres including shredded or tyre pieces.
Liquid Waste	Liquid waste means any waste that: • Has an angle of repose of less than 5 degrees, or • Becomes free-flowing at or below 60 degrees Celsius or when it is transported, or • Is not generally capable of being picked up by a spade or shovel.
General Solid Waste (putrescible)	Household waste that contains putrescible organics waste from litter bins collected by local councils: • Disposable nappies, incontinence pads or sanitary napkins • Food waste from manufacture, sale, preparation or consumption
General Solid Waste (non-putrescible)	• Glass, plastic, rubber, plasterboard, ceramics, bricks, concrete or metal • Paper or cardboard • Waste collected for or by local councils from street sweeping • Grit, sediment, litter and gross pollutants from stormwater treatment devices, stormwater

Waste Classification	Description
	management systems that has no free liquids • Garden & wood waste • Containers previously containing dangerous goods, as defined under the Australian Code for the Transport of Dangerous Goods by Road and Rail, where residues have been appropriately removed by washing or vacuuming drained • Oil filters (mechanically crushed), rags and oil-absorbent materials that only contain non-volatile petroleum hydrocarbons and have no free liquids • Drained motor oil containers that do not contain free liquids • Synthetic fibre waste from fibreglass, polyesters and other plastics and is packaged securely to prevent dust emissions, that is confirmed as not being asbestos waste • Virgin excavated natural material • Building and demolition waste • Asphalt waste, including asphalt from road construction and waterproofing works • Cured concrete waste from batch plants • Fully cured and set thermosetting polymers and fibre-reinforcing resins, glues, paints, coatings and inks
Hazardous Waste	• Waste with pH ≤ 2.0 or ≥ pH 12.5 • Containers that have not been cleaned and that contained dangerous goods as described in the Australian Code for the Transport of Dangerous Goods by Road and Rail • Coal tar or coal tar pitch waste, which is the tarry residue from the heating, processing or burning of coal or coke, being materials comprising of more than 1% (by weight) of coal tar or coal tar pitch • Waste lead-acid or nickel-cadmium batteries, being waste generated or separately collected by activities carried out for business, other commercial or community services purposes • Lead paint waste other than solely from residential premises or educational or child care institutions

4.2 Waste Management

Waste management for the project must be undertaken in accordance with the requirements identified above such that waste must be assessed, classified and managed in accordance with the Waste Classification Guidelines, Part 1: Classifying Waste (DECC, April 2008) (Waste Guidelines) prior to dispatching the waste off site.

The following section includes Best Management Practices associated with waste avoidance and management for the Project and is based on the Waste Hierarchy of Control:

- Waste avoidance and waste reduction
- Waste reuse
- Waste recycling and reclamation
- Waste disposal.

4.2.1 Waste Sources

The following information in this section outlines the wastes anticipated and proposed waste management options to address the waste generated. All waste will be removed progressively with the minimum amount feasible stored on site.

Waste not removed immediately will be stored in designated areas in proprietary storage facilities until it is reused or removed.

Waste will be classified according to the OEH Waste Classification Guidelines (2008).

Waste Category	Waste Generated	Classification
Waste from on-site maintenance and servicing of plant and equipment – note minor servicing only. Major servicing to be completed off site. (non-liquid)	• Drained and crushed oil filters and grease tubes • Used and defective parts • Oil soaked rags • Used oil absorbent materials • Tyres	General Solid
Waste from crib sheds and office areas	• Food scraps, waste wrappers, waste paper towels	General Solid Putrescible
Office and packaging waste (non-liquid)	• Is not contaminated or mixed with other waste; eg Paper, cardboard, glass, plastic (no food scraps etc)	General Solid
Waste from construction activities (non-liquid)	• Waste is not contaminated or mixed with any other type of waste and does not contain asbestos • Concrete pour residues • Aggregates • Damaged and off cuts of PVC pipes • Rejected or defective precast concrete • Steel waste • Used Geotextile • Timber waste	General Solid
Any waste that meets the criteria for assessment as dangerous goods under the Australian Code for the Transport of Dangerous Goods by Road and Rail	• Poisonous (toxic) substances and corrosive substances • Non sag epoxy mortar binder • Synthetic rubber based adhesive • Epoxy resins • Batteries	Hazardous

4.2.2 Separation

Various components of a waste stream shall be separated as indicated below:

- All general solid waste (putrescibles and non-putrescible) generated shall be stored in a waste container to be located at the site compound and at other suitable locations within the site boundary
- Hazardous waste is to be kept separate at all times. If small amounts are mixed with other wastes, it renders the entire quantity of waste hazardous
- Recyclable material shall also be kept separate in a designated area for later disposal at the appropriate recycling facility

4.2.3 Waste Minimisation and Recycling

The following strategies will be implemented on site to minimise the generation of waste:

- Using licensed disposal facilities
- Appropriate quantities of materials will be ordered to minimise wastage
- Waste steel shall be separated and disposed of into steel recycling bins provided on site
- Waste timber and formwork will be sent to a recycling facility

4.2.4 Separation

Various components of a waste stream shall be kept separate as indicated below:

- All general solid waste (putrescibles and non-putrescible) generated shall be stored in the waste container to be located at the site compound and at other suitable locations within the boundary
- Hazardous waste is to be kept separate at all times. Note that if small amounts are mixed with other wastes, it renders the entire quantity of waste hazardous
- Recyclable material such as ferrous and non-ferrous metals, timber, paper, cardboard, and comingled waste shall also be kept separate in a designated area for later disposal at the appropriate recycling facility.

4.2.5 Storage/Handling

Hazardous waste shall be stored in the dedicated waste container in the site compound and removed as required by a licensed waste contractor to an approved waste facility.

Waste must not be stored or come in contact with any incompatible waste type.

Storage of waste oils and chemicals shall be in a purpose built secured bunded area. An emergency response spill kit shall be located adjacent to the bunded area.

All storage containers and locations for the various waste streams shall be clearly labelled to ensure that mixing of wastes is avoided.

It is also noted the only hazardous and/or industrial and/or Group A waste listed below may be generated and/or stored on site:

- waste oil/water, hydrocarbons/water mixtures or emulsions; and
- grease trap waste.

4.3 Mitigation Measures

Measures for construction waste management for the construction phase of the project are outlined below.

Waste Management Measures	Responsibility	Source of Requirement	Timing
Implement measures and strategies in line with this plan	Contractor	MCoA B2.33	Throughout construction
Only the hazardous and/or industrial and/or Group A waste listed below may be generated and/or stored on site: • waste oil/water, hydrocarbons/water mixtures or emulsions; and • grease trap waste.	Contractor	MCoA B2.36	Throughout construction
Minimise construction waste that requires disposal by accurately calculating materials brought to the site and limiting materials packaging.	Contractor	EIS 34.4.1	Throughout construction
Excess construction materials which are suitable for reuse shall be returned to the supplier or stored for future use where possible. Construction wastes which are not suitable for reuse, but are able to be recycled would be temporarily stored onsite in dedicated and secure areas prior to recycling.	Contractor	EIS 34.4.1	Throughout construction
Recycling facilities would be provided to maximise recycling of waste materials such as plastic and glass bottles/containers, aluminium cans and paper/cardboard. Separate bins would be provided for food waste. All domestic waste would be collected on a regular basis and transported offsite for disposal to a licensed	Contractor	EIS 34.4.1	Throughout construction

Waste Management Measures	Responsibility	Source of Requirement	Timing
landfill or recycling facility as appropriate.			
Portable toilet facilities may be used during the construction period. These facilities would be emptied on a regular basis and the human wastes would be disposed of offsite in accordance with Council and NSW EPA requirements.	Contractor	EIS 34.4.1	Throughout construction
Waste oils and fluids from maintenance activities would be collected and stored and would either be reused on site or removed by a licensed waste contractor.	Contractor	EIS 37.2	Throughout construction
Adopt and promote the reduce, reuse, recycle dispose hierarchy	Contractor	NSW legislation	Throughout construction
Keep site free of litter and maintain good housekeeping at all times. Place any litter in the appropriate recycling or disposal receptacle.	Contractor	Best Practice	Throughout construction

5. Training

All employees and subcontractors will undergo a site specific induction that contains awareness training of the environmental controls to be implemented on this project.

It shall include the necessary awareness of waste management and the procedures to be followed for proper waste recycling and disposal on site.

Toolbox meetings will also be used to reinforce a positive attitude and behaviour towards waste management.

6. Reporting

Contractors shall record the classification, volume and method of transport and disposal of all waste from site. Waste facility licence details shall be checked and recorded by the contractor.

On request, the following information in relation to the storage, treatment and disposal of waste is to be provided to the EPA.

- Amount and classification of waste transported
- Name and license number as required of transporter
- Date transported
- Name and location of the receiving waste facility
- Contractors must ensure that the waste is transported to an approved waste facility only
- The transporter must be informed of the type of waste that will be transported.

EPA must be informed of any suspected breach in the Act or Regulations in regards to transportation of waste. Waste and recycling will be reported in the monthly report and for the annual report.

6.1 Waste Tracking

The EPA has identified certain wastes that represent a significant risk to the human health and the environment. The transport and disposal of these wastes must be tracked and the records of movement provided to the EPA.

All waste streams will be effectively tracked on the project through the waste register. The high risk wastes identified by the EPA must be tracked whether they are transported into, within or out of NSW.

The waste consignor, transporter and receiving facility all have obligations to ensure that the waste is properly tracked from its point of generation to its disposal location and to ensure that the required documentation is completed. There are specific offences in the POEO Act 1997 relating to waste.

Waste tracking as specified in the statutory requirements will include the following:

- Determine whether the waste to be transported requires tracking. A list of wastes that must be tracked can be found at http://www.environment.nsw.gov.au/resources/owt/trackwaste07522.pdf.
- For waste that requires tracking, prior approval to transport the waste in the form of a consignment authorisation must be obtained
- A Transport Certificate must accompany the waste while it is being transported
- The certificate must be completed when the waste has been received by the receiving facility
- Each organisation must retain the relevant records
- Any non-compliances must be reported to EPA
- The transport certificate and consignment details must be entered into the EPA's online system
- A single printed copy of the transport certificate must accompany the waste during transport
- Any waste transported to a place that is not a licensed waste facility must be accompanied by a completed section 143 Notice received from the landowner.

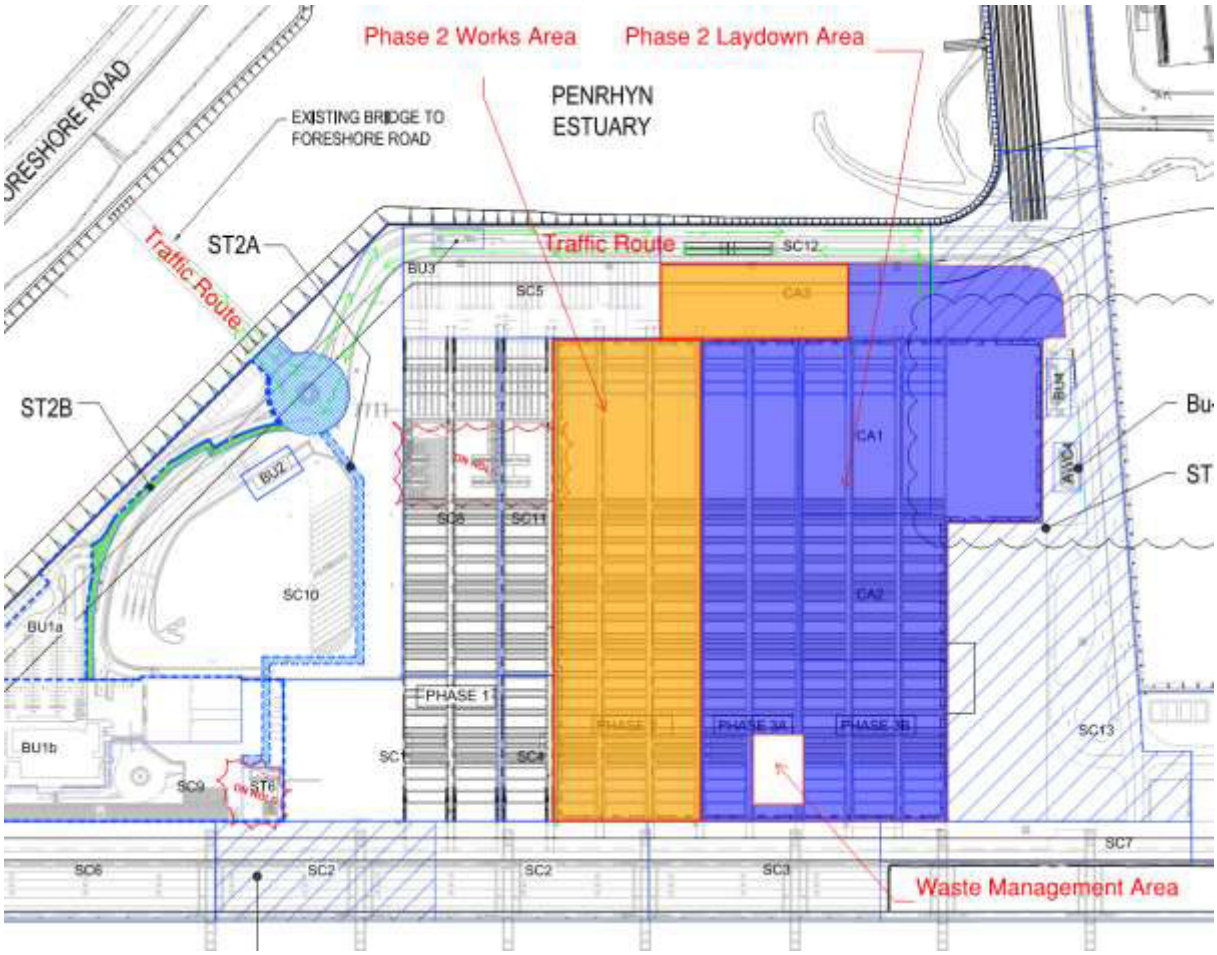
7. Records

Records of waste disposal must be maintained. All material that leaves the site must be classified and its disposal location and quantity recorded.

Contractors will keep records of the EPL for transporters and waste depots will also be kept.

Appendix 1 Waste Storage

Waste will be segregated on site where practical and stored in bays on the project site. These areas are shown below.



Sydney Port Botany Terminal 3 Project Phase 2 & 3
SICTL Emergency Response and Incident Management Plan

Terms and Definitions

The following terms, abbreviations and definitions are used in this plan:

Terms	Explanation
SPBT3	Sydney Port Botany Terminal 3
CEMP	Construction Environmental Management Plan
ERIMP	Emergency Response and Incident Management Plan
EPA	Environmental Protection Agency
EIS	Environmental Impact Statement
MCoA	Ministers Conditions of Approval
NSWFB	New South Wales Fire Brigade
Emergency Muster Point	A safe pre-designated open space where persons must assemble after evacuation
DEOCON	District Emergency Operations Controller
Emergency	Any unplanned and unwanted event generated internally or externally, which has caused or has potential to cause significant damage to personnel, the public, product, property, plant, equipment, the environment and / or the Business and requires an immediate response.
Emergency Response Team (ERT)	A structured organisation of staff that organises and supervises the response and safe movement of staff in an emergency.
Emergency Response Coordinator (ERC)	The person in charge of evacuating a site and heading the Emergency Response Team (ERT).
Communications Officer	The person responsible for all external & internal communications.
Area/ Floor Warden	Person nominated to head the Emergency Response Team for a specific work area in a multi-section site.
Roll Call Coordinator	The person responsible for collating the details of those on site.
Main Evacuation Point	A place of safety outside the building where persons evacuating the building or the part are expected to assemble under the building's Emergency Response Plan. This area is established to check that persons are accounted for, to brief persons evacuated on future action, and to prevent re-entry.
LEOCON	Local Emergency Operations Controller (Police Officer appointed by the Commissioner of Police as the Local Emergency Operations Controller for the local government area)
Evacuation	Evacuation is the movement of people from immediate danger to safety in a quick and safe manner.
Evacuation Route	The designated route to the final place of safety. To be maintained clear at all times.
First-Response Evacuation Instructions	Instructions and training in the method of operation and use of manually operated evacuation alarms and fire fighting equipment on the site.
PBEAR	Port Botany Emergency Alarm Radio

Distribution

This Emergency Response and Incident Management Plan (ERIMP) document forms part of the project's CEMP as an Appendix. The controlled copy will be retained in iTWOcx, the Sydney International Container Terminals Pty Ltd (SICTL) document management system, where it can be accessed by personnel as necessary.

All paper copies of this ERIMP will be considered as 'uncontrolled' unless they have been allocated a 'copy number' in a colour other than black.

Issue, Revision and Re-issue

Revisions of this ERIMP may be required throughout the duration of the project to reflect changing circumstances or identified opportunities for improvement. Revision may result from:

- Management review
- Audits findings (internal or external)
- Complaints or non-conformance reports

Rev	Date	Description	Reviewed	Authorised
0	09/10/13	Initial Draft	NB	KM
1	18/11/13	Final	NB	KM
2	10/09/14	Burton Contact list update	EP	KM

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1. Introduction

This Emergency Response and Incident Management Plan (ERIMP) has been developed to address the relevant construction activities associated with the Sydney Port Botany Terminal 3 Phase 2(SPBT3P2) Project for the activities outlined below:

- Ground improvements and consolidation measures
- Temporary and permanent access roads, pedestrian paths and line markings
- Drainage, utilities, services
- Container yards and substation
- Supply and installation of Automated Stacking Cranes (ASC) Cranes
- Supply and installation of communication infrastructure

Note; multiple contractors will be working under this ERIMP as part of the Terminal 3 Phase 2 construction project. There will be a coordinated approach to manage emergencies and incident response. SICTL, its project representatives and other relevant parties will coordinate this approach with the various contractors working on the site. Due to the close proximity, the adjacent Patricks construction site may also be consulted in emergency and incident management associated with the expansion project.

This Plan has been prepared to satisfy the requirements of Minister's Consent of Approval (MCoA) No. B2.43;

The Applicant shall develop an Emergency Response and Incident Management Plan in consultation with DEC, DOP, Council and the Community Consultative Committee. The Plan must be approved by the Director-General prior to the commencement of construction and shall detail:

(a) terminal security and public safety issues;

(b) effective spill containment and management;

(c) effective fire fighting capabilities;

(d) effective response to emergencies and critical incidents; and

(e) a single set of emergency procedures, consistent with the existing Port Botany Emergency Plan, that can be scaled as appropriate for any incident or emergency.

Further to the above and in compliance with MCoA No. B4.1 the Director-General shall be notified of any incident with actual or potential significant off-site impacts on people of biophysical environment within 12 hours of the contractor or SICTL becoming aware of the incident. Full written details of the incident shall be provided by SICTL Project Manager to the Director-General within seven days of the date on which the incident occurred. The Director-General may require additional measures to be implemented to address the cause or impact of any incident, as it relates to this consent, reported in accordance with this condition, within such period as the Director-General may require.

This Emergency Response and Incident Management Plan falls under the umbrella of the Port Botany Emergency Plan, this is a sub-plan of the Sydney East District Disaster Plan (DISPLAN).

2. Incident Planning & Response

Minor incidents defined as non-critical, regarding both Safety and Environment is managed through the Project Safety Management System and Construction Environmental Management Plan and their related procedures.

This plan operates alongside other functional project plans such as the Port Botany Emergency Plan, Traffic Management Plan and Framework Construction Environmental Management Plan. A single set of emergency procedures for the project is included in Section 10 of this ERIMP.

Aviation related emergencies and incidents are to be managed by SACL in accordance with their emergency response plan.

Emergencies related to dangerous goods within the Patricks Terminal and other NSW PORTS controlled areas are to be managed through their respective emergency response and Incident Plans.

An emergency situation is an event that could present significant risk to the environment, personnel or the community.

Environmental incidents will be reported immediately to SICTL representative. All incidents will be investigated and the appropriate course of action will be taken to address the issues. Environmental incidents that harm or are likely to harm the environment will be reported to EPA immediately (131 555) in accordance with the Protection of the Environment Operations Act 1997 – Duty to Notify.

The Project Environmental Representative has the authority and independence to require reasonable actions to avoid or minimise unintended or adverse environmental impacts, and failing the effectiveness of such actions, to instruct that relevant actions be ceased immediately should an adverse impact on the environment be likely to occur.

NSW Ports provides a 24-hour emergency response that can deal with incidents in Botany Bay. Any port related emergencies will be reported to NSW Ports on (02) 9296 4000.

2.1 Objective

The objective of this ERIMP is to ensure incident planning and response procedures are managed effectively during construction. This plan outlines the general procedures for initiating an emergency response that could occur as a result of project construction works or natural causes.

This plan will also provide guidance on the subsequent management and communications in response to, potential and actual emergencies which may occur on or impact the Sydney Port Botany Terminal 3 expansion.

During construction some specific areas may require alterations to the planned control measures due to changing circumstances. In these situations, the planned control measures will be reviewed, risk assessed and, where appropriate and practical, amended as necessary prior to commencing new or modified activities.

This ERIMP aims to satisfy the following objectives:

- Address the requirements of the planning approval for the SPBT3 Project
- Address the requirements of the Environmental Impact Statement (EIS) for the Port Botany expansion
- Address the requirements of the relevant environmental legislation as it applies to this project

2.2 Legislation

The following legislation, regulation and standards were also considered in the development of this Plan:

- NSW State Emergency and Rescue Management Act, 1989, as amended
- NSW State Waters Marine Oil and Chemical Spill Contingency Plan
- Work Health & Safety Regulation 2011 NSW Part 3 Division 4
- AS 3745:2002 Emergency Control Organisation and procedures for buildings
- Protection of the Environment Operations Act NSW 1997
- Environmental Planning and Assessment Act NSW 1979
- Marine Pollution Act NSW 1987
- Fisheries Management Act 1994

2.3 Area covered by the plan

This Emergency Response and Incident Management Plan applies to the project area bounded by any area in which SICTL contractors are required to undertake works as outlined Section 1and highlighted in the figure bellow:

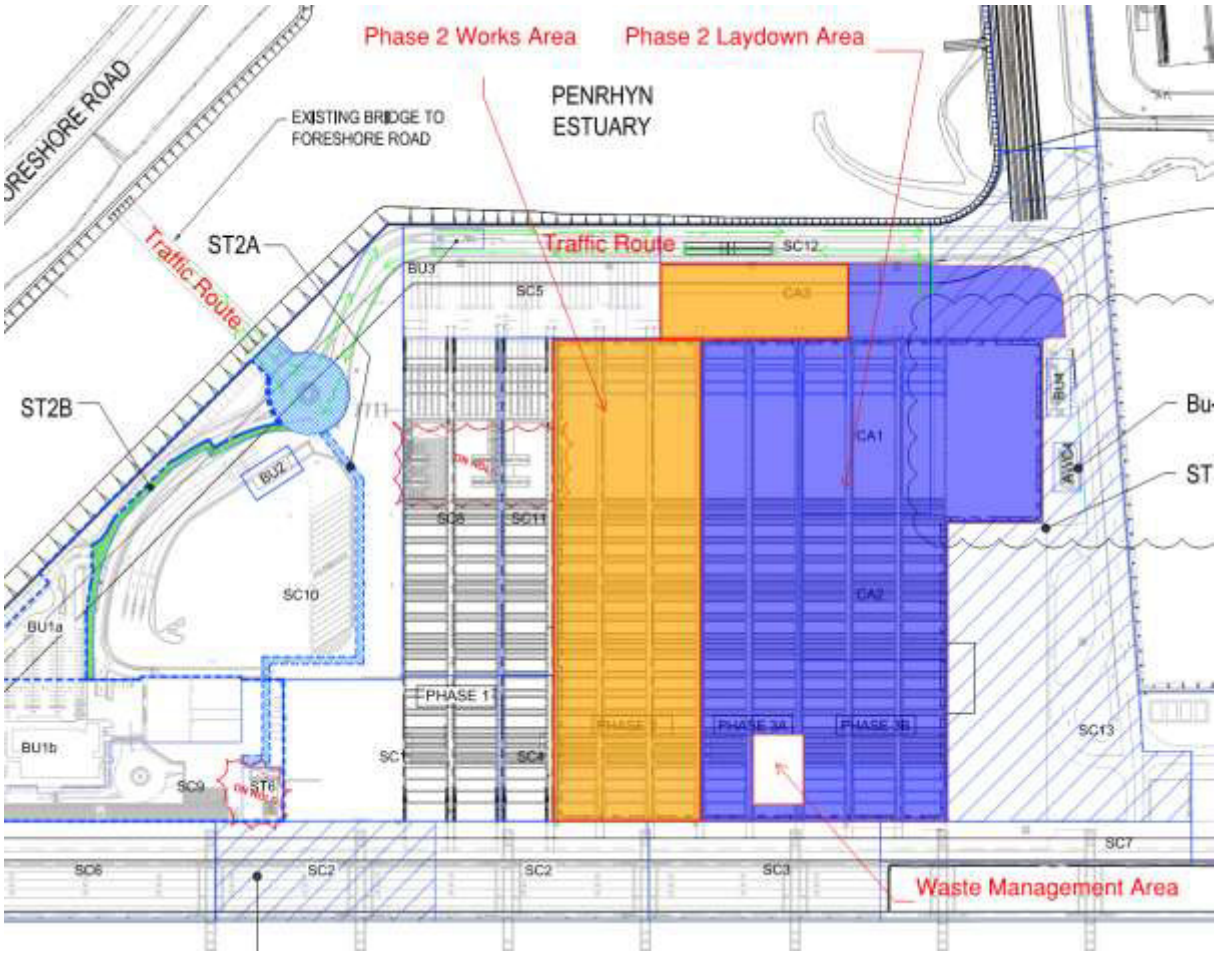


Figure 1 : SICTL Terminal 3 Phase 2 works and laydown area

3. ROLES AND RESPONSIBILITIES

SICTL Project Manager

The SICTL Project Manager shall:

- Be the issuing authority for this ERIMP

Contractor Project Manager

- Ensure effective implementation of this Plan, including provision of adequate resources
- Maintain a working knowledge of the emergency processes
- Initiate corrective actions and ensure effective implementation of actions as required.
- Act as initial Emergency Response Controller during emergencies until relieved by authorised emergency services or control is handed over to another member of the Project Team
- Maintain a working knowledge of the emergency management system, plan and processes
- Maintain familiarity with this ERIMP
- Participate in reviews of the ERIMP
- Ensure that drills and exercises are conducted throughout the Project to test the plan
- Maintain the Project Emergency Response Plans and associated processes
- Ensure that adequate emergency response information and instructions are provided at inductions etc
- Conduct planned inspections to ensure emergency response equipment and facilities are complete.

3.1 Emergency response team (tbc)

Role	Name
Emergency Response Coordinator	David Condon
Assistant Emergency Response Coordinator/ Communications Officer	Rory Hehir
Project safety advisor	Luke Bannon
Area Warden:	Susana Jimenez
Traffic Controller	John Kovacevic
Roll Call Coordinator	George Yusef
First Aiders	John Kovacevic, Susana Jimenez, Rory Hehir
Traffic Controller	John Kovacevic

3.2 Emergency contacts

Type	Name	Contact
Emergency services	Fire Brigade, Ambulance and Police	000
Nearest Medical Centre	Botany Medical Centre	9700 1115
Nearest Hospital	Prince of Wales	9382 2222
Environmental	NSW EPA Pollution Line	131 555
Local Council	City of Botany Bay Council	9366 3666
SICTL Project Manager	Karl McCarthy	0488 263 641
SICTL Project Engineer	Niall Byrne	0450 739 010
SICTL Environmental Representative	Noel Storan	0419 252 680
SICTL Operations: Environment & Safety Compliance Engineer	John Ieroklis	0458 009 650
SICTL Operations: Terminal Manager	Keith Glass	0477 004 262
Sydney Water	Emergency Line	132 090
Energy Australia	Emergency Line	131 388
Integral Energy	Emergency Line	131 003
AGL	Emergency Line	131 909
Notifiable Safety	Local Public Health Unit	02 9391 9000
Land Owner	NSW Ports Emergency Response	02 9296 4000
Contractor Site Manager	David Condon	0418 222 150

3.3 Interface with Sydney Airport Corporation Limited (SACL)

The Project will interface with SACL in relation to communicating our works and ensuring that we meet our obligations with respect to the management of security of the respective site boundaries and exclusion zones to the east of the third runway. The interface with SACL will be limited to the following proposed works:

- Associated works which will have limited impact on the Obstacle Limitation Surface (OLS)
- Consultation upon lighting both temporary and permanent to ensure compliance with regulations relating to lighting in the vicinity of aerodromes.

3.4 Evacuation routes

Evacuation routes will be developed for each area as the project progresses. All personnel are required to follow the safest route to the Main Evacuation point.

All changes to evacuation routes are to be recorded on the site layout plan and communicated to the workforce via pre start meetings/ toolbox talks.

The Emergency Muster Point is shown on following diagram. This however is subject to change. Necessary parties will be informed of changes to this Emergency Muster Point and Emergency Plans on Notification Boards will be updated.

Figure 2 Emergency Muster Point

3.5 Emergency equipment

The site must have readily available, the correct equipment to effectively respond to emergency situations including fire, medical, plant collisions contaminated spill and chemical release.

Emergency equipment must be maintained through preventive maintenance procedures (inspection and testing) in accordance with the manufacturer's recommendation to ensure that equipment is in ready condition for use.

Contractors providing additional emergency equipment to address their own requirements must maintain equivalent inventories and inspection protocols. These records are to be provided to SICTL if requested.

Construction methodologies shall identify emergency equipment required for that task.

Any port related emergencies will be reported 24 hours a day to NSW Ports on (02) 9296 4000.

3.6 Fire prevention and control measures

In order to control the risk of a fire, several measures must be taken. These include:

Scheduled electrical inspections of all machinery and wiring throughout the site. This is conducted by approved, authorised electricians.

The Contractor shall provide portable fire fighting equipment in line with the Building Code of Australia and the relevant state building code. All emergency equipment including portable fire extinguisher, hose reels, hydrants are maintained and inspected by a qualified contractor in accordance with the relevant legislation and Australian standards.

Current evacuation signs and diagrams for the building or site that are compliant to relevant state legislation and appropriately located, in a conspicuous position, on each evacuation route.

NSW Ports provides a 24-hour emergency response that can deal with incidents in Botany Bay. Any port related emergencies will be reported 24 hours a day to NSW Ports on (02) 9296 4000.

3.7 Training of Site Workers

All site workers must be trained on site-specific emergency procedures. This training should be done as part of site induction training and shall include the following:

- Alarms and other emergency communications used on the site.
- Evacuation procedures including routes and assembly areas to be used.
- Initial emergency response actions
- Location of first-aid kits and identification of first-aid providers.
- Location of spill contamination kits

3.8 Terminal Security

NSW Ports have a dedicated Emergency protocol; this will be relayed to site via a dedicated two way radio located at the continually attended SICTL operations gate house.

If an emergency arises from NSW Ports the SPBT3P2 evacuation procedure will be utilised depending on the location of the emergency.

3.9 Public Security

The only designated access point into the site (Via Penrhyn Bridge) will be manned by professional security guards at all times, whilst construction activities are present.

Pedestrian access onto the bridge will be limited to one side with the opposite side secured by fencing.

3.10 Re-direction of Unauthorised Vehicles

The potential for unauthorised access from the operating section of terminal 3 has been considered. A fence will bein place at the entrance of the site with gates and security personnel to monitor vehicles entering and exiting. A Security Personnel hut would be posted at the entrance. Security would check identification and log all vehicles entering the site. Security will be on site during working hours and out of hours as required for the duration of the project.

Security would direct any vehicles to turn around and leave the site. Direction would be given prior to entry to the site and a turning area will been provided.

3.11 Evacuation Practice

An initial evacuation drill will be undertaken within 3 months of taking possession of the site and at intervals not exceeding 6 monthly.

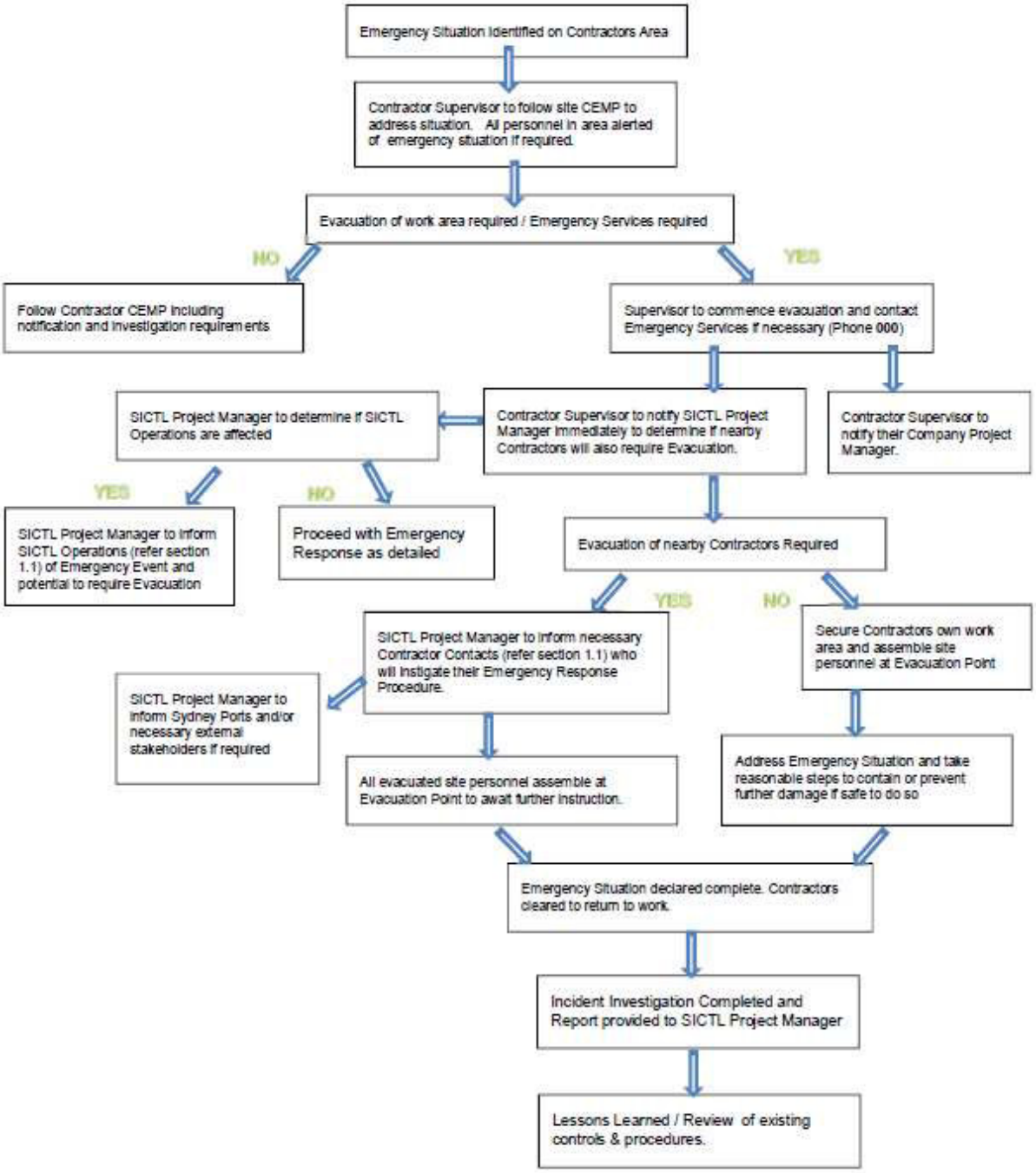
3.12 Reporting

The SICTL representative must be informed of any incidents on site as soon as possible. This information should then be passed on to SICTL Project Manager.

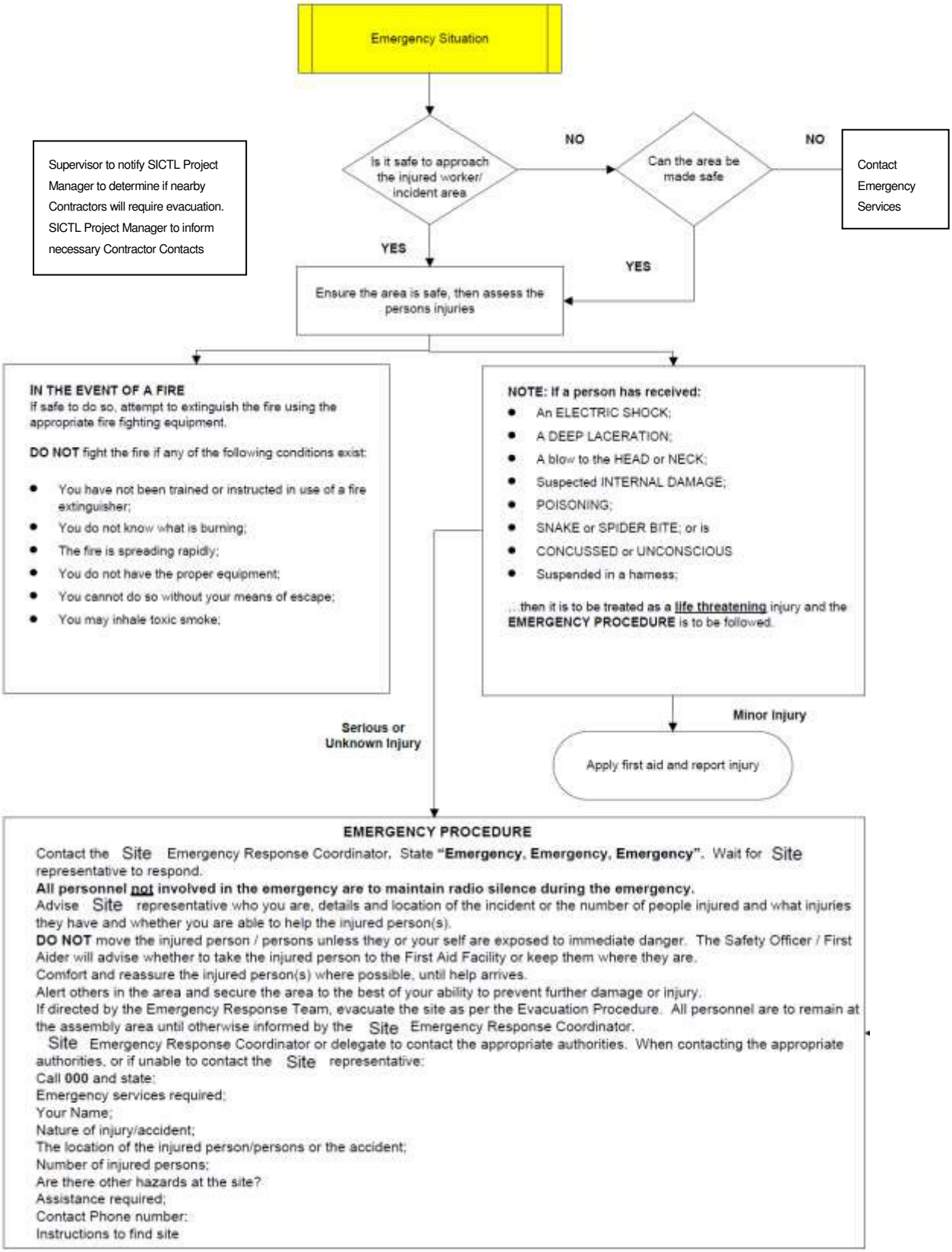
The Director-General shall be notified of any incident with actual or potential significant off-site impacts on people or the biophysical environment within 12 hours of the Applicant, or other relevant party undertaking the development, becoming aware of the incident. Full written details of the incident shall be provided to the Director-General within seven days of the date on which the incident occurred. The Director-General may require additional measures to be implemented to address the cause or impact of any incident, as it relates to this consent, reported in accordance with this condition, within such period as the Director-General may require.

EMERGENCY RESPONSE PROCEDURES

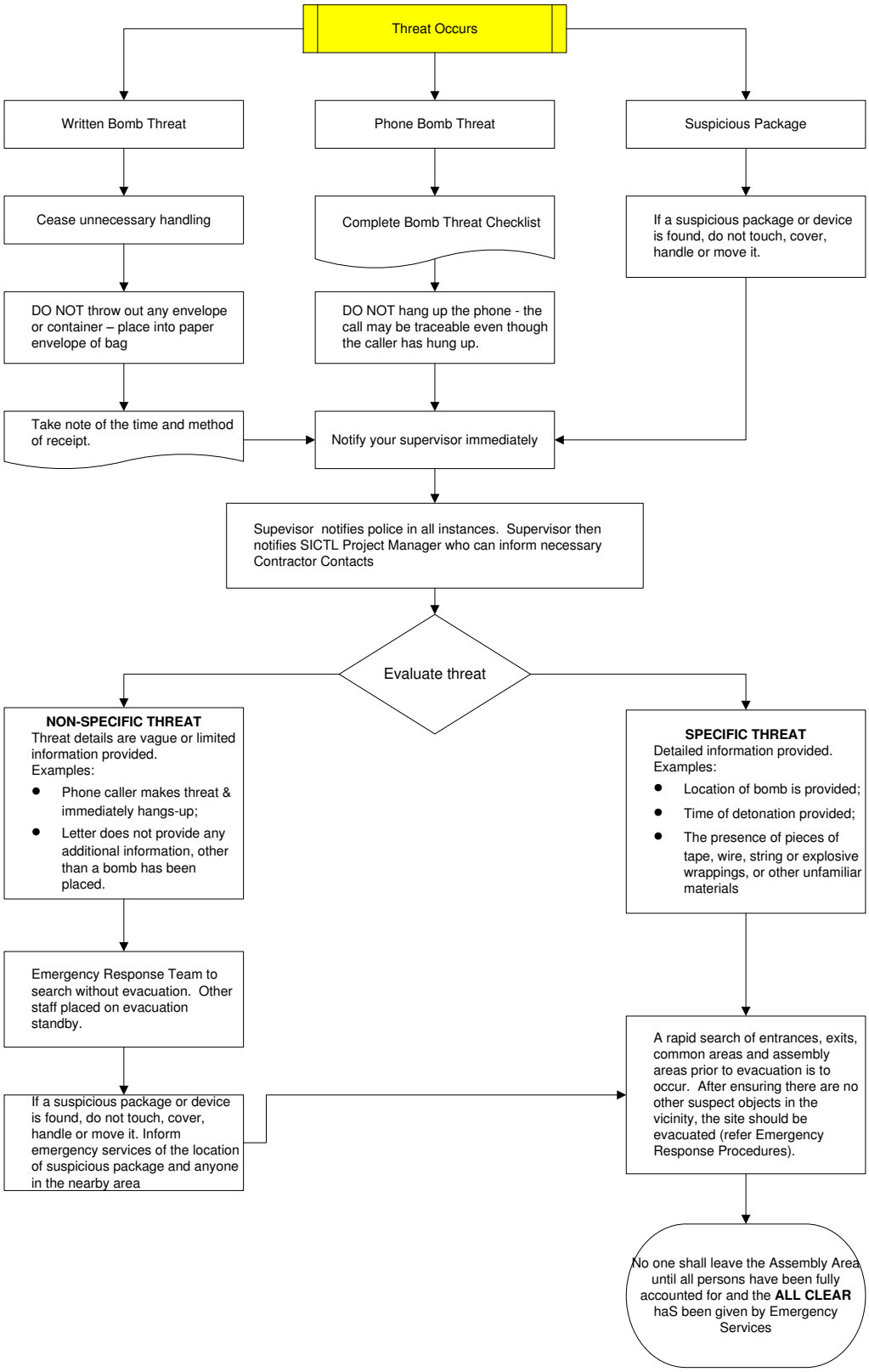
3.13 Emergency coordination procedure



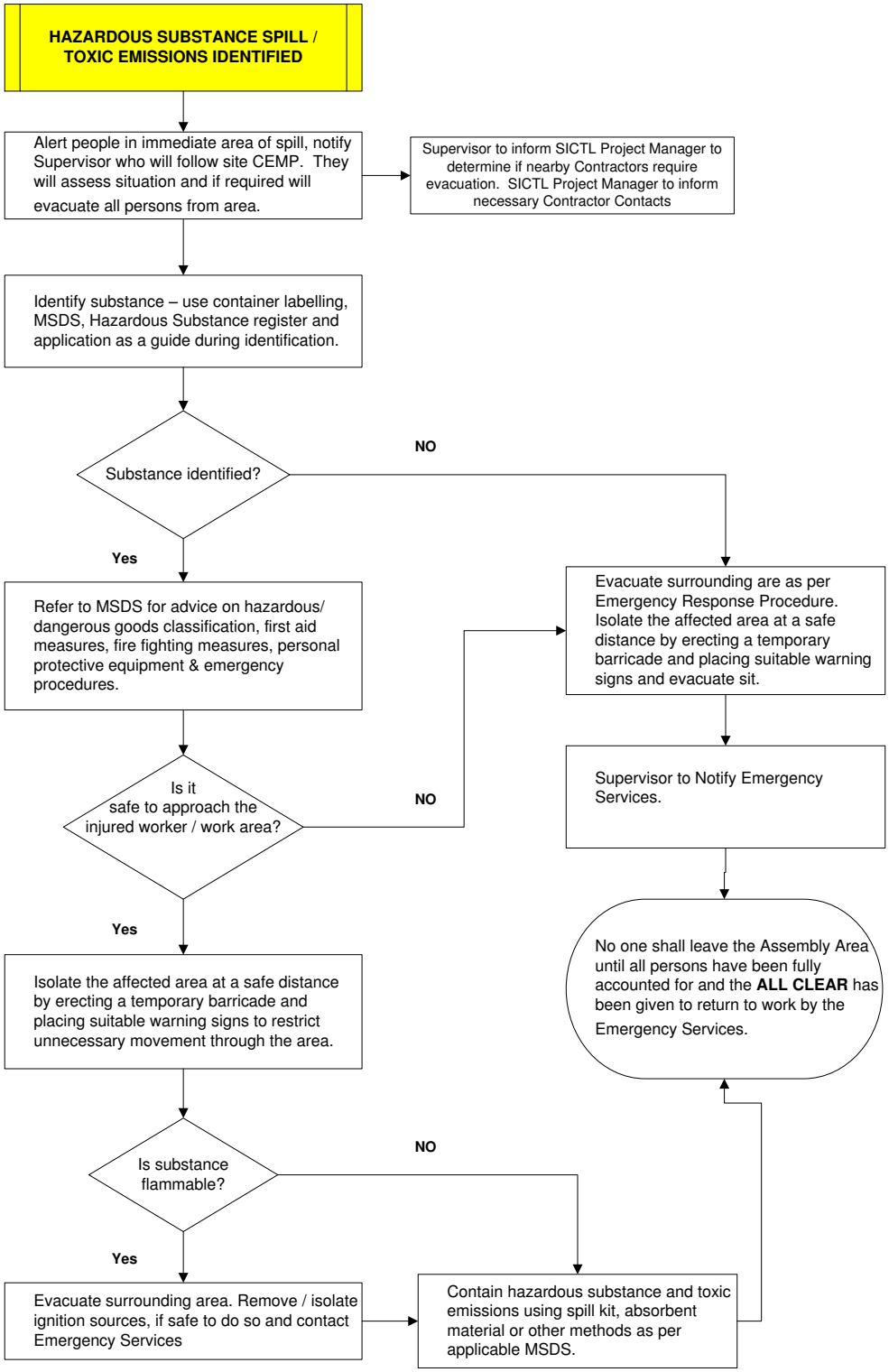
3.14 Response Procedure – Fire/ Medical



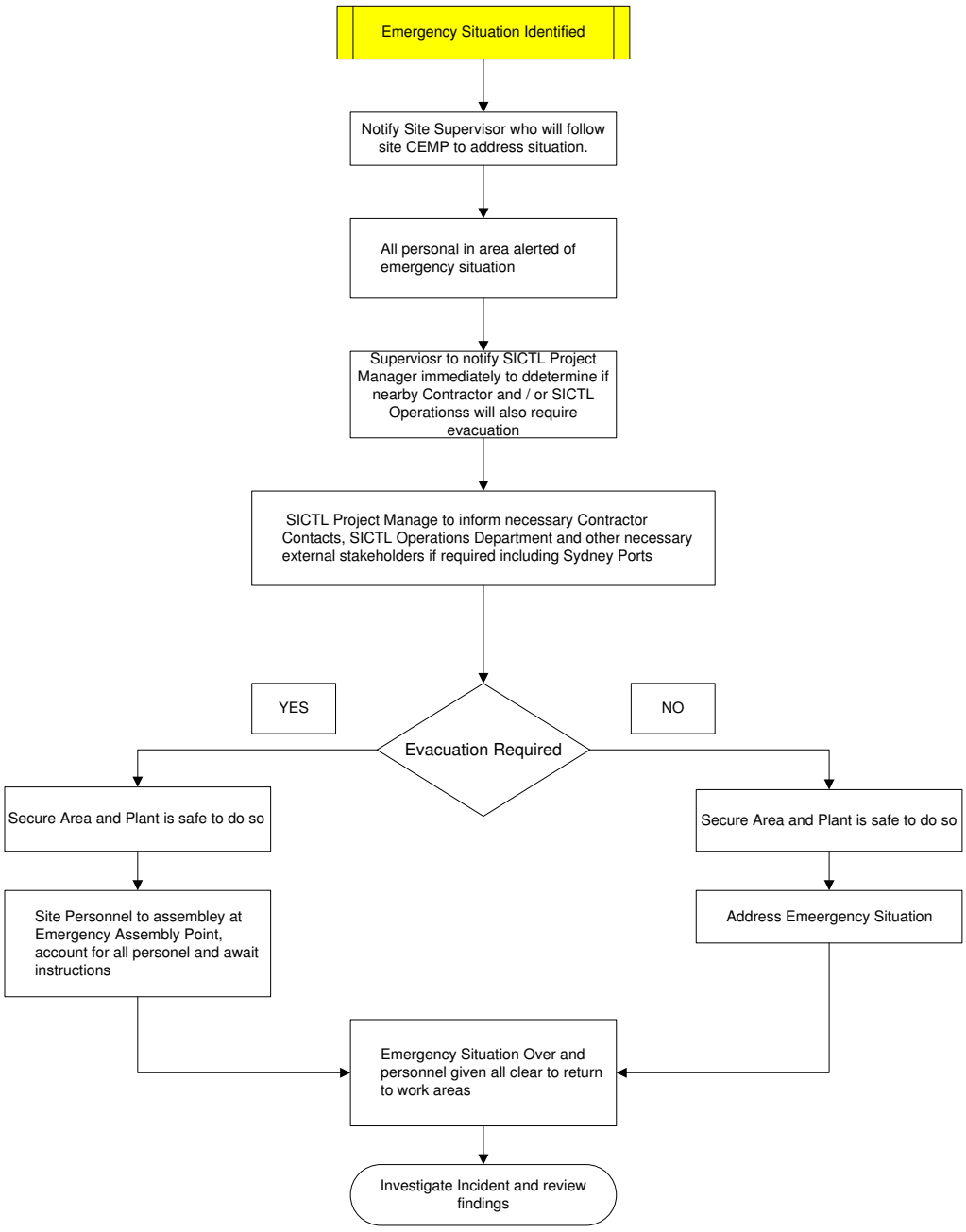
3.15 Response Procedure – Bomb Threat / Suspicious Package



3.16 Response Procedure – Chemical Release or Explosion (Spill/ Gas Leak)



3.17 Response Procedure – General Evacuation

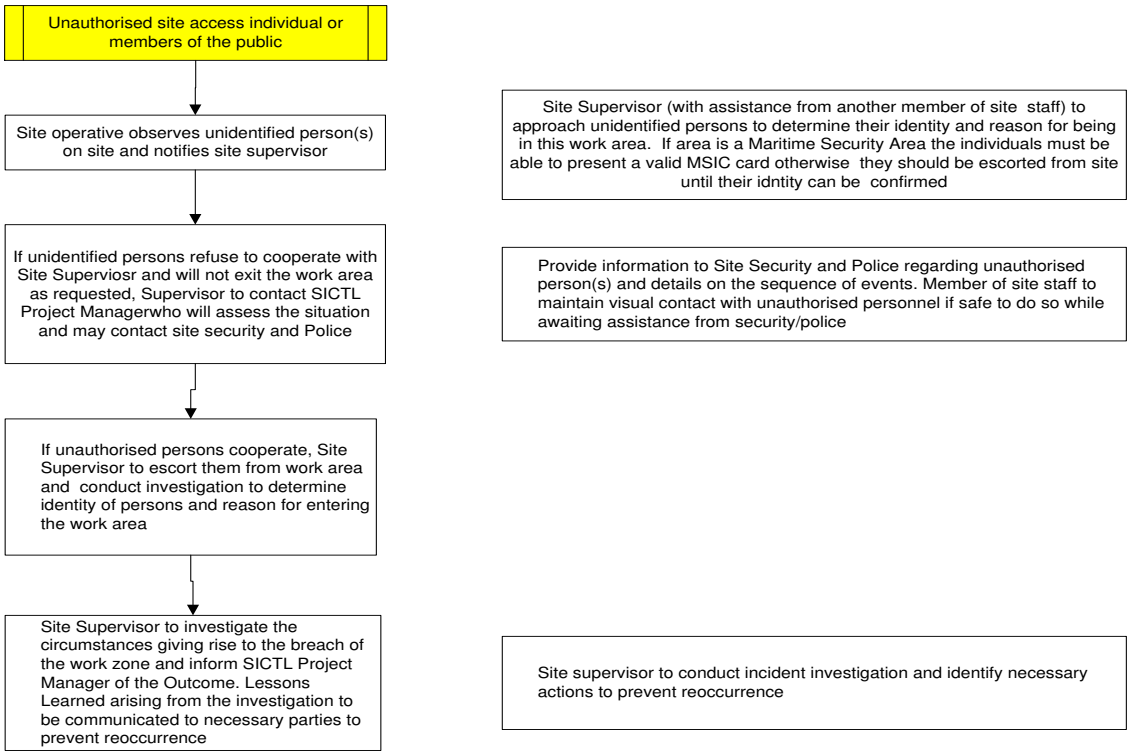


3.18 Response Procedure - Public Safety

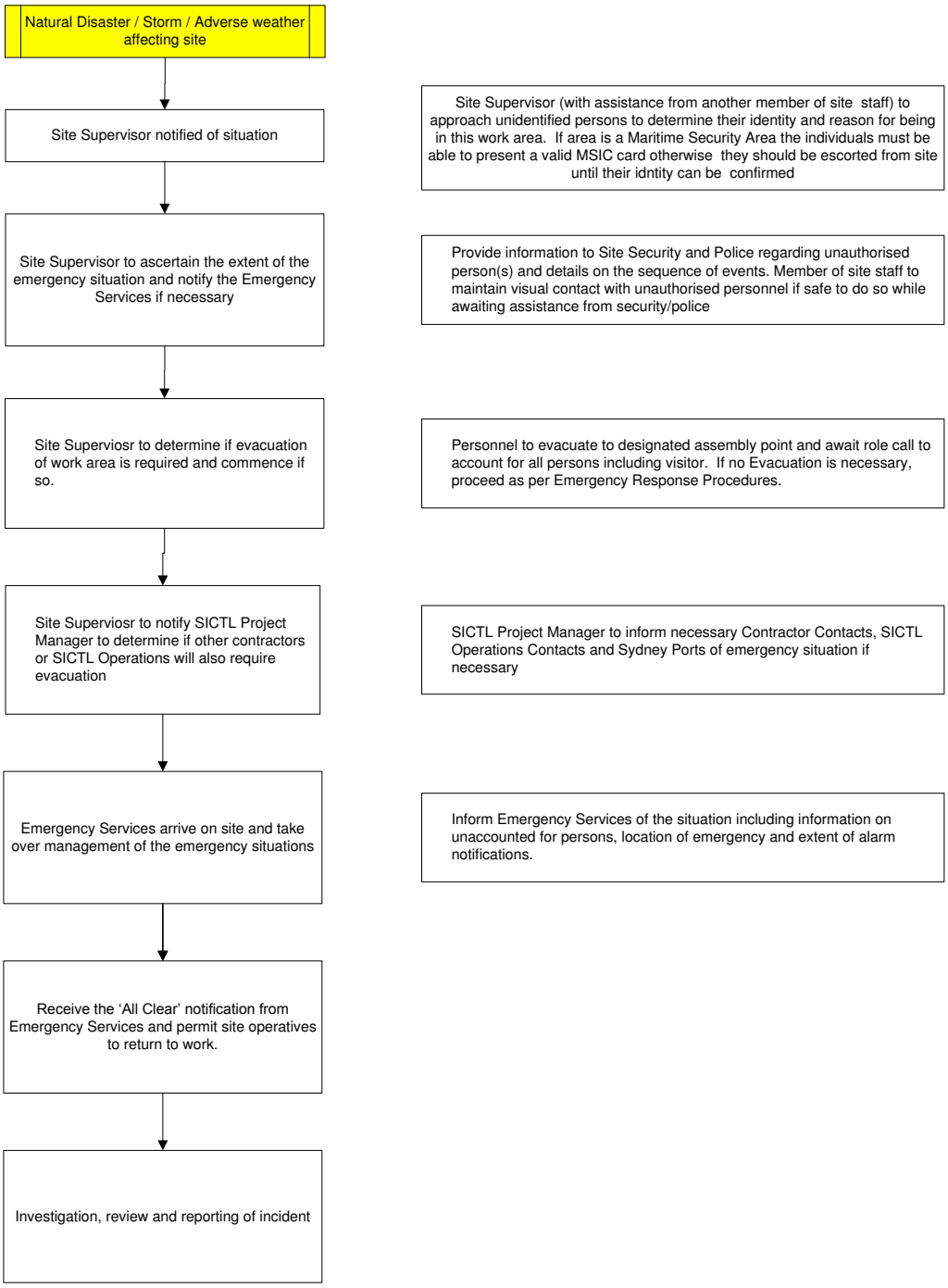
This procedure details the actions to be followed in the event that a member of the public gains unauthorised access or an incident occurs in a project work zone. Possible scenarios include:

- Unintended or unauthorised access to project work zones
- Interaction with mobile plant
- Incident involving public amenities
- Breach of perimeter fence or physical barriers

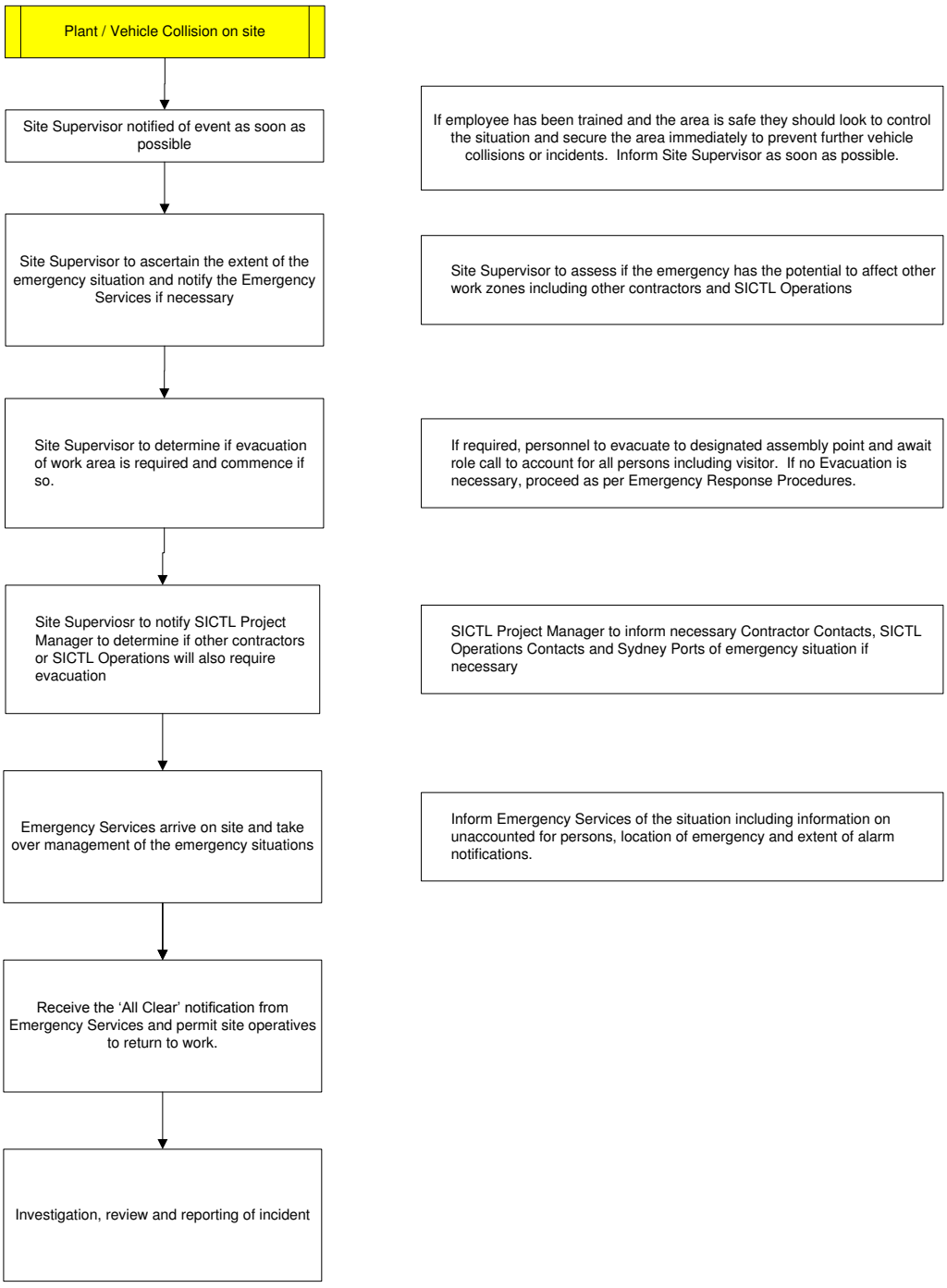
  Motor vehicle/recreational craft incident


Unauthorised site access individual or members of the public
Site operative observes unidentified person(s) on site and notifies site supervisor
Site Supervisor (with assistance from another member of site staff) to approach unidentified persons to determine their identity and reason for being in this work area. If area is a Maritime Security Area the individuals must be able to present a valid MSIC card otherwise they should be escorted from site until their idntity can be confirmed
If unidentified persons refuse to cooperate with Site Superviosr and will not exit the work area as requested, Supervisor to contact SICTL Project Managerwho will assess the situation and may contact site security and Police
Provide information to Site Security and Police regarding unauthorised person(s) and details on the sequence of events. Member of site staff to maintain visual contact with unauthorised personnel if safe to do so while awaiting assistance from security/police
If unauthorised persons cooperate, Site Supervisor to escort them from work area and conduct investigation to determine identity of persons and reason for entering the work area
Site Supervisor to investigate the circumstances giving rise to the breach of the work zone and inform SICTL Project Manager of the Outcome. Lessons Learned arising from the investigation to be communicated to necessary parties to prevent reoccurrence
Site supervisor to conduct incident investigation and identify necessary actions to prevent reoccurrence

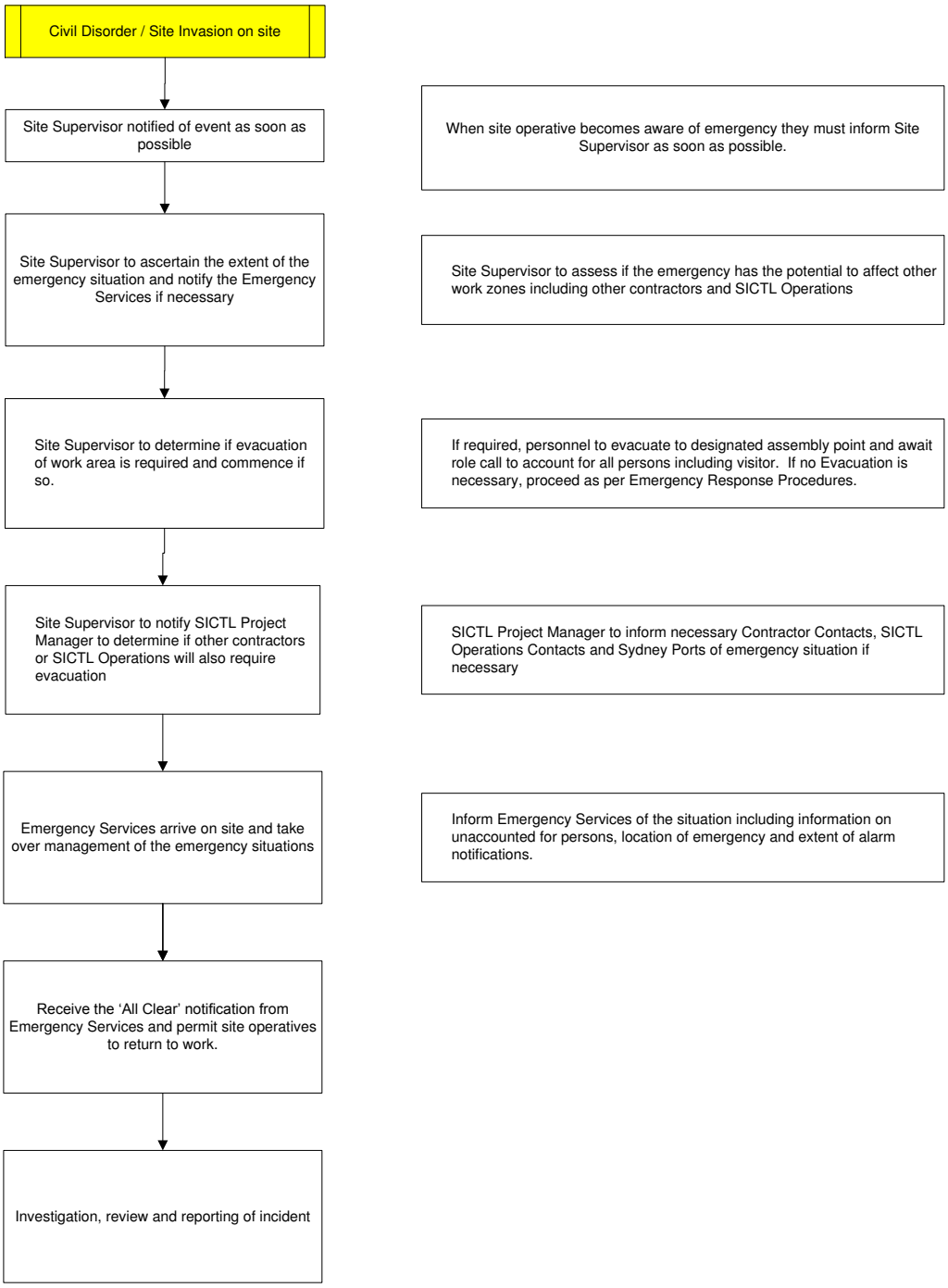
3.19 Response Procedure - Natural Disaster / Storm / Adverse Weather



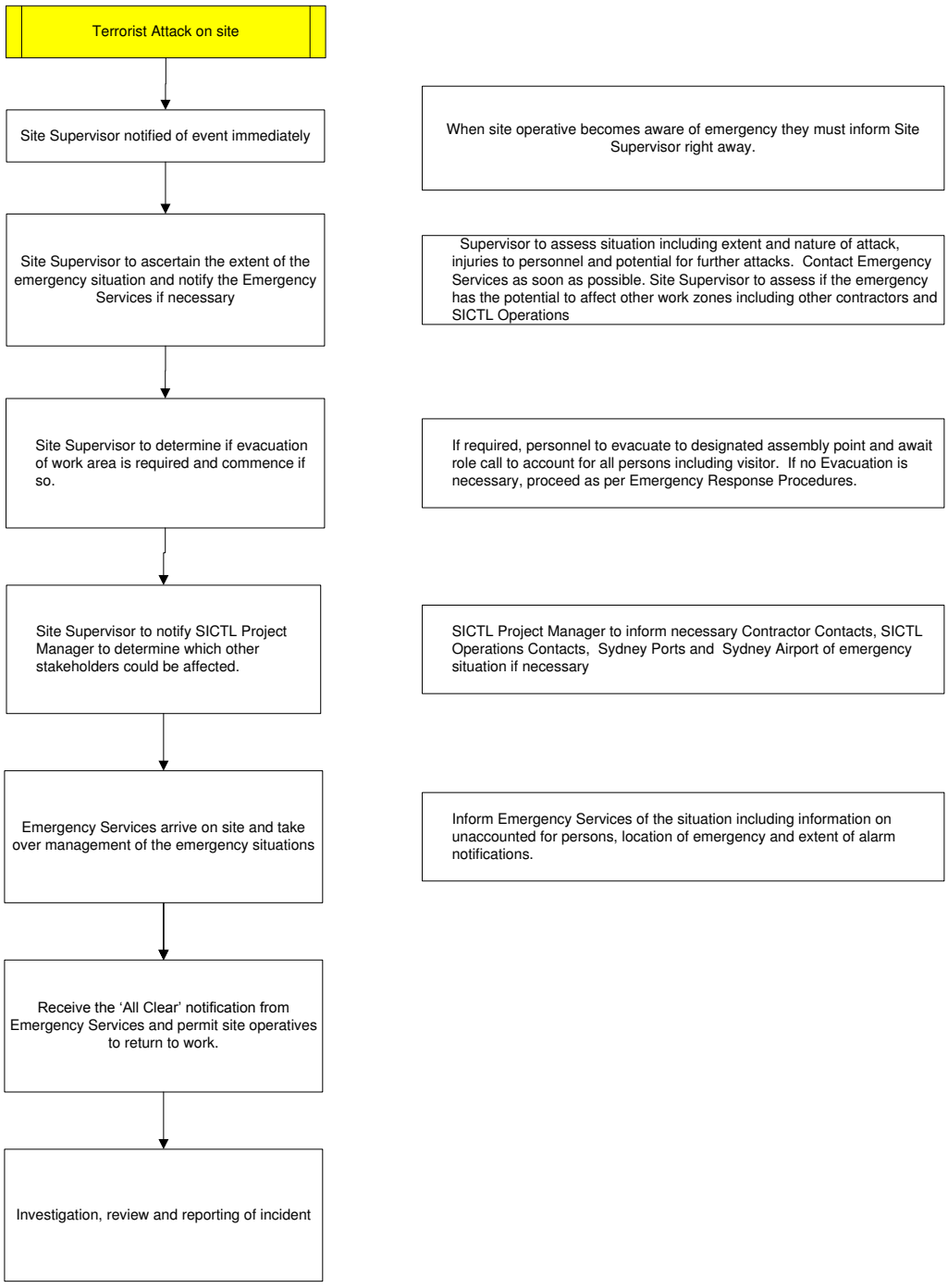
3.20 Response Procedure - Vehicle Collision



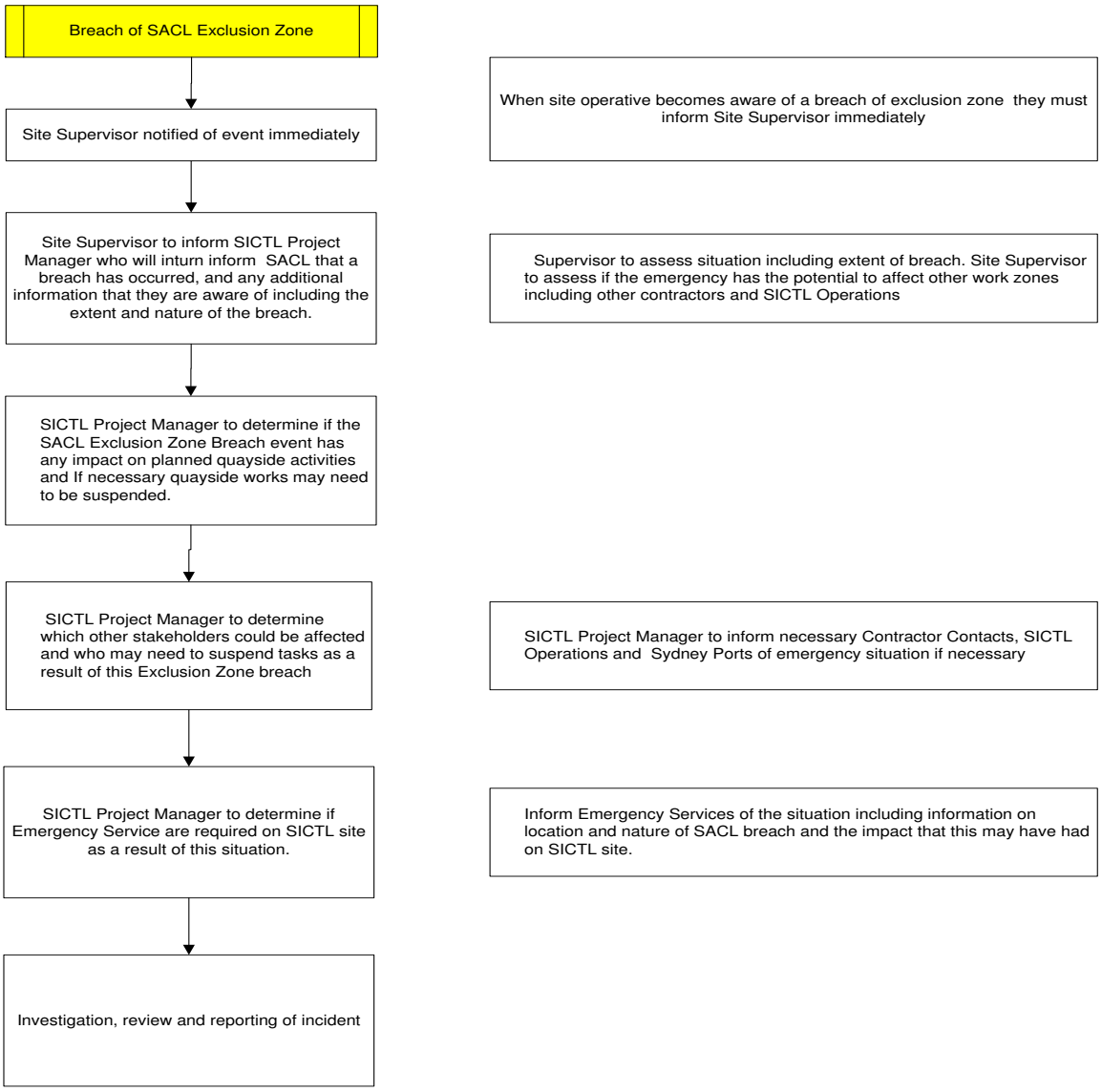
3.21 Response Procedure - Civil Disorder and Site Invasion



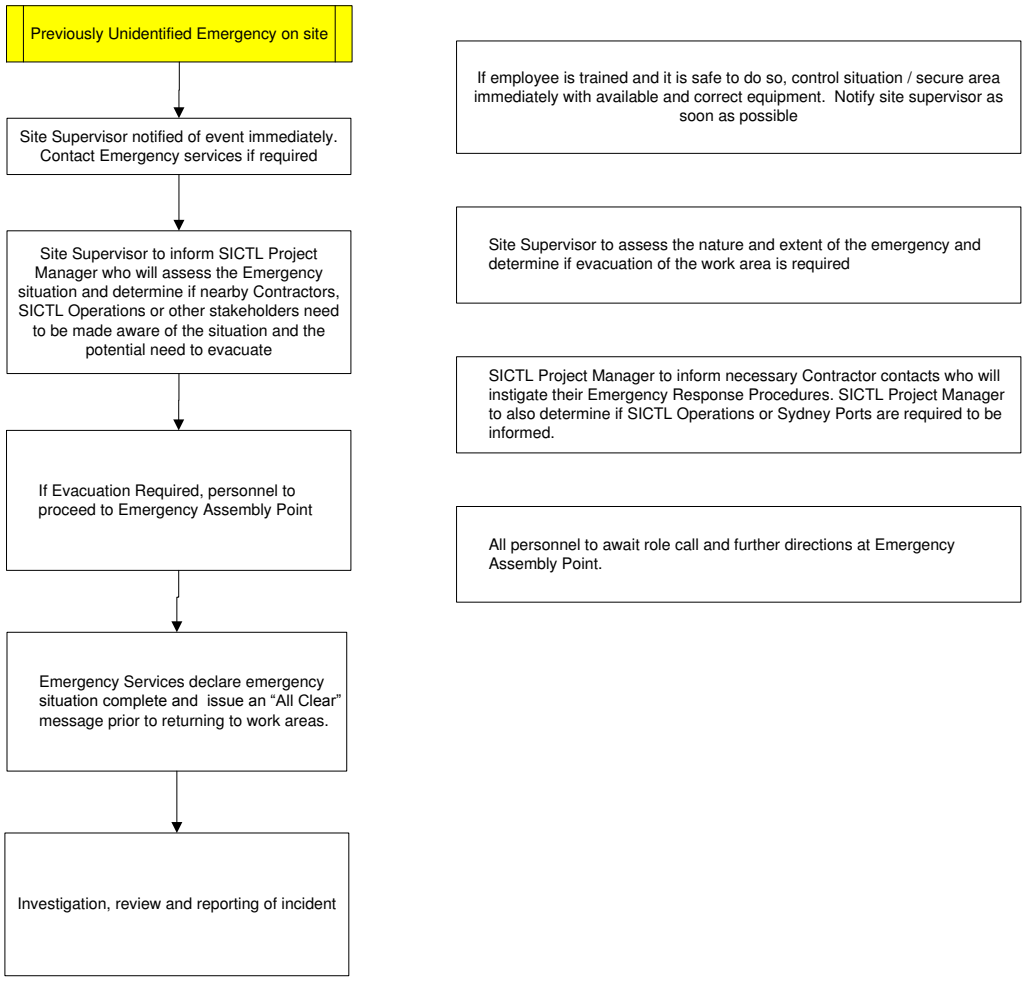
3.22 Response Procedure – Terrorism



3.23 Response Procedure - SACL Exclusion Zone Breach

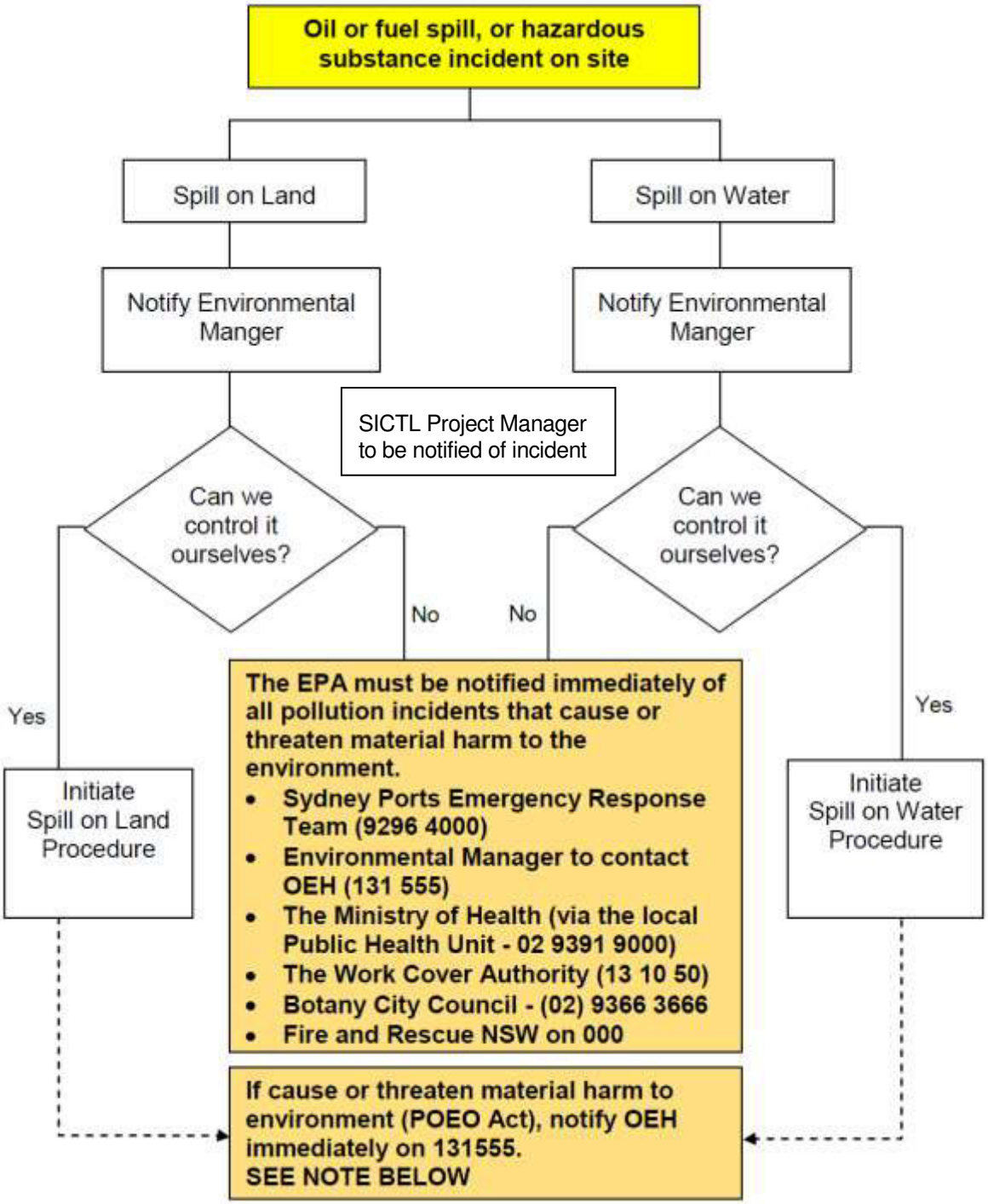


3.24 Response Procedure - 'Previously Unidentified' Emergency



3.25 Environmental Spill Response – Decision Flow Chart

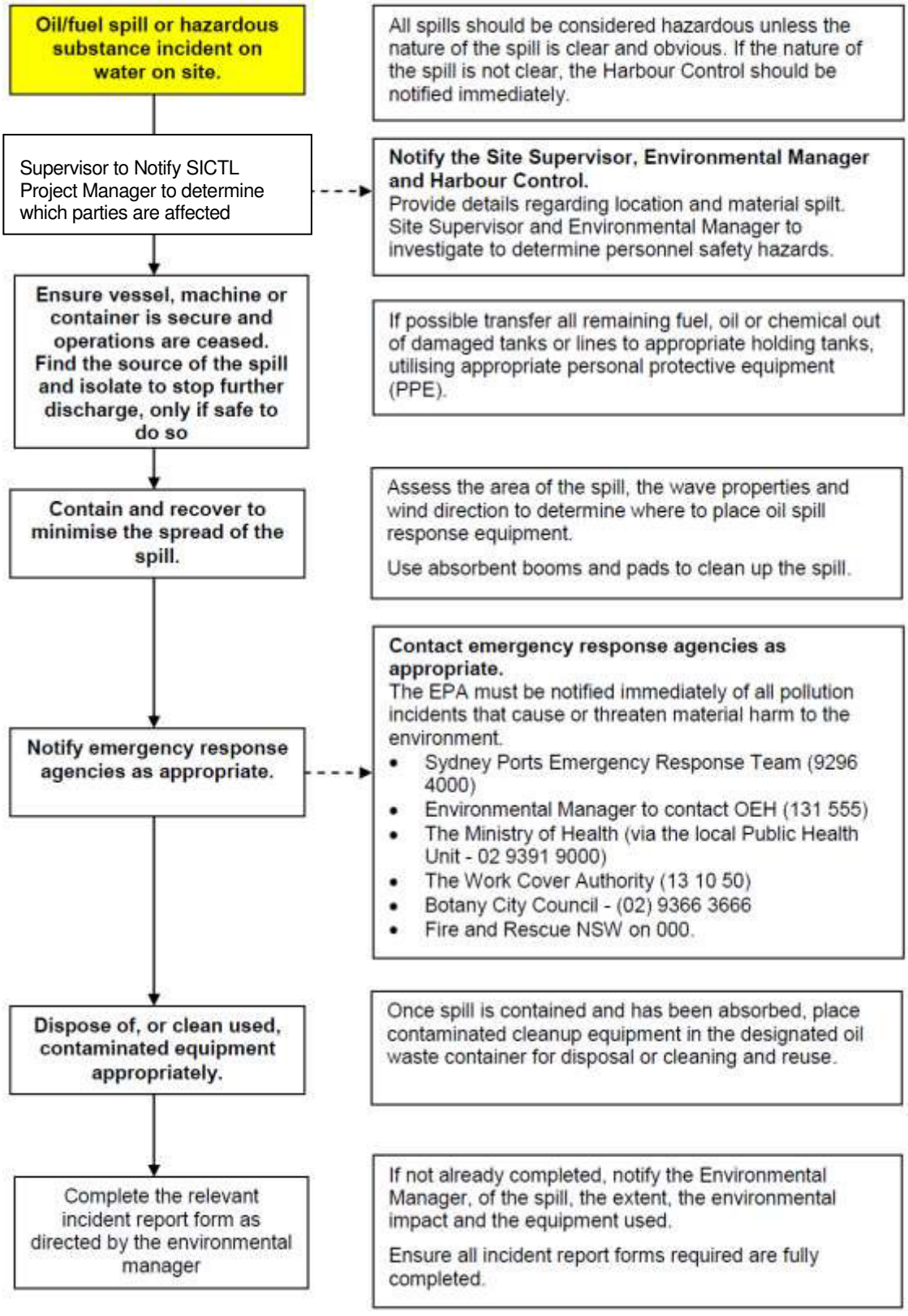
This decision making flow chart and associated procedures describes how to manage an oil spill of various sizes both on land and on water during construction activities. These procedures form part of the Emergency Response Plan and will be followed in the event of a spill. All personnel involved in refuelling and handling of oils and chemicals are to be familiar with this decision making flow chart and the procedures and are to respond accordingly in the event of a spill.



NOTE: There is a responsibility to notify incidents causing or threatening material harm to the environment immediately after a person becomes aware of the incident.

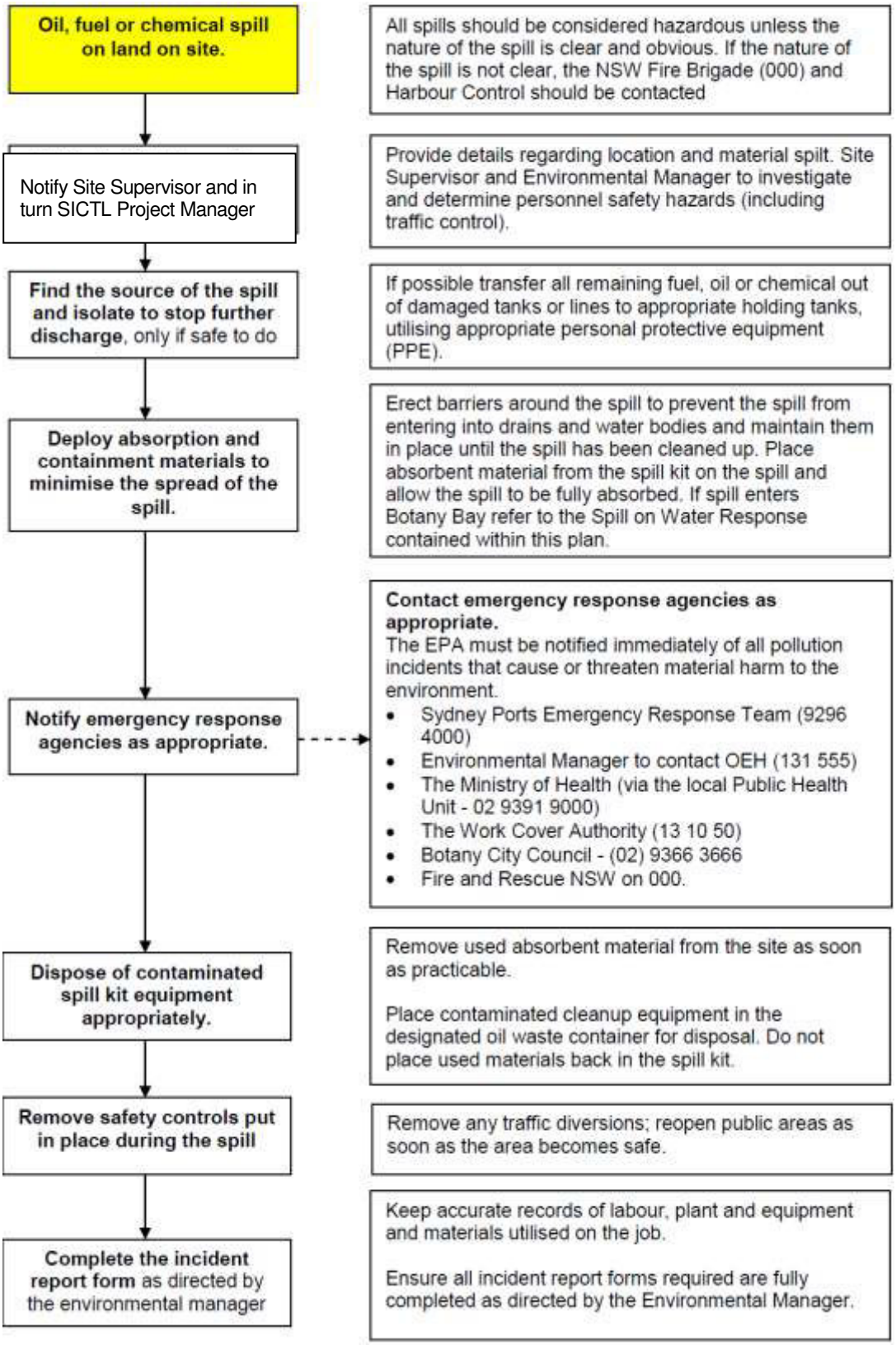
The Project Environmental Representative is to be notified of any 'notifiable' incident.

3.26 Environmental Spill Response – Spill on Water



Note: The Project Environmental Representative is to be notified of any 'notifiable' incident.

3.27 Environmental Spill Response – Spill on Land



Note: The Project Environmental Representative is to be notified of any 'notifiable' incident.

Sydney Port Botany Terminal 3 Project Phase 2 & 3
SICTL Construction Traffic Management Plan

Terms and Definitions

The following terms, abbreviations and definitions are used in this plan:

Terms	Explanation
SPBT3	Sydney Port Botany Terminal 3
CEMP	Construction Environmental Management Plan
CTMP	Construction Traffic Management Plan
RMS	NSW Roads and Maritime Service
EIS	Environmental Impact Statement
SPC	Sydney ports Corporation
NSWP	NSW Ports
MCoA	Ministers Conditions of Approval

Distribution

This Construction Traffic Management Plan (CTMP) document forms part of the SICTL CEMP as an Appendix. The master controlled CTMP document will be held on the site computer network server where it can be accessed by personnel as necessary.

The controlled copy will be retained in iTWOcx, which is the Sydney International Container Terminal Pty Ltd (SICTL) document management system, where it can be accessed by personnel as necessary.

All paper copies of this CTMP will be considered as 'uncontrolled' unless they have been allocated a 'copy number' in a colour other than black.

Issue, Revision and Re-issue

Revisions of this CTMP may be required throughout the duration of the project to reflect changing circumstances or identified opportunities for improvement. Revision may result from management review, audits findings (internal or external) or complaints or non-conformance reports.

Revisions shall be reviewed and approved by the Project Manager prior to issue. Updates to this CTMP are numbered consecutively and transmitted to holders of controlled

Revision History

Rev	Date	Description	Reviewed	Authorised
0	30/09/13	Initial Draft	NB	KM
1	18/11/13	Final	NB	KM

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1. INTRODUCTION AND DESCRIPTION OF THE WORKS

1.1 Introduction

This CTMP applies to the works for the Sydney Port Botany Terminal 3 (SPBT3) for the scope of works outlined below:

- Ground improvements and consolidation measures
- Temporary and permanent access roads, pedestrian paths and line markings
- Drainage, utilities, services
- Container yards and substation
- Supply and installation of Automated Stacking Cranes (ASC) Cranes
- Supply and installation of communication infrastructure

Note; multiple contractors will be working under this CTMP as part of the Terminal 3 construction project. There will be a coordinated approach between the relevant contractors to manage traffic issues and impacts. SICTL, its project representatives and other relevant parties (including Patricks Stevedores and its contractors) will coordinate this approach.

Construction of the terminal operations infrastructure for the Patrick and SICTL areas is occurring to some extent concurrently. The first phase of the SICTL terminal operations infrastructure consists of about 20 hectares of paving, which commenced in September 2012 and is forecast to be complete by December 2014. The timing of subsequent phases of the SICTL site will depend on demand for additional stacking areas in line with demand and throughput on the terminal. The construction of the terminal operations infrastructure by Patrick will commence in March 2013 and are forecast to be completed in March 2014, but could extend up to May 2014.

Common issues among the various parties may include site access congestion and site vehicle queuing on Foreshore Rd.

In order to investigate combined traffic impacts of the Port Botany Expansion, SICTL and Patrick Stevedores commissioned Parking and Traffic Consultants to undertake a consistency review of the Port Botany Expansion construction works with the project EIS, including a cumulative construction traffic impact assessment titled *Port Botany Expansion, Cumulative Construction Traffic Impact Assessment, Terminal Operations Infrastructure (March 2013 – March 2014)*. This report form part of Modification application DA-494-11-2003i MOD 14. Conclusions from this report are outlined in Section 5.6 of this document.

1.2 The Project

The Port Botany Expansion project consists of a new container terminal at Port Botany, located on the north-eastern edge of Botany Bay, approximately 12 km south of Sydney's Central Business District (CBD) in the suburb of Banksmeadow, NSW. The site location is shown in Figure 1 below.

The site for the new terminal is situated between the existing port and the Parallel Runway at Sydney Airport. The works examined in this report form part of the overall construction of the Port Botany Expansion works. The new terminal extension would cover an area on the southern side of phase one terminal 3 works shown in colour on Figure 2. The works involve; ground improvements, drainage and pavements, container yard construction, automatic stacking crane assembly and installation. These works are intended to last approximately eighteen months from January 2014.

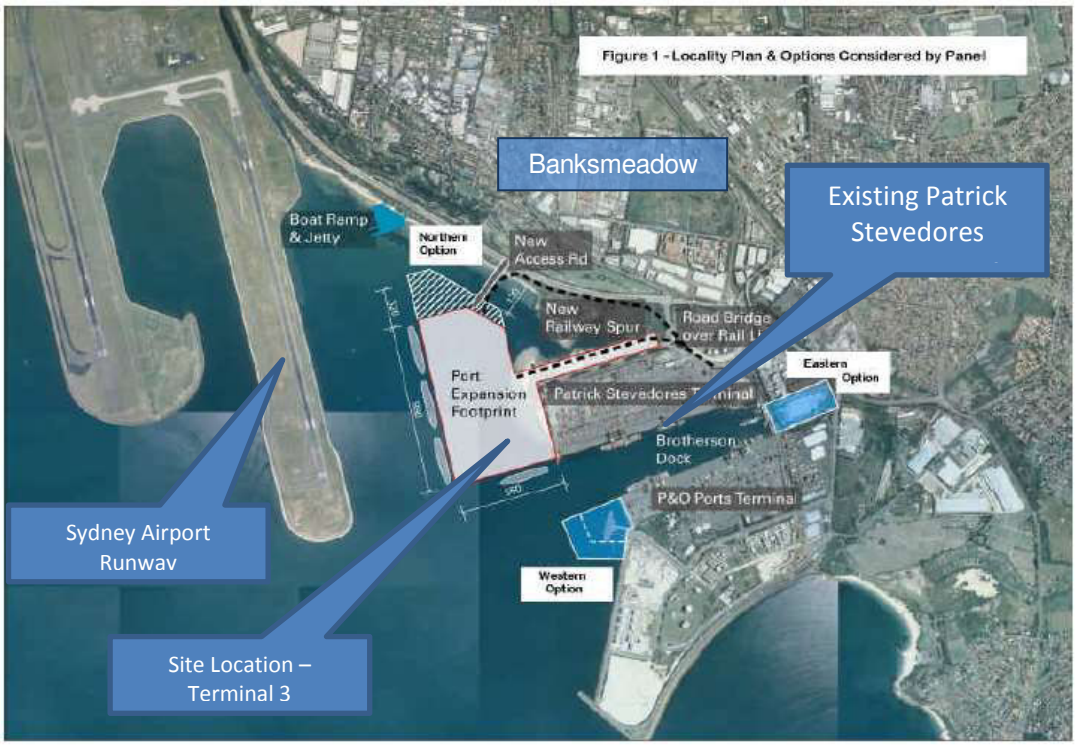


Figure 1 Site Location

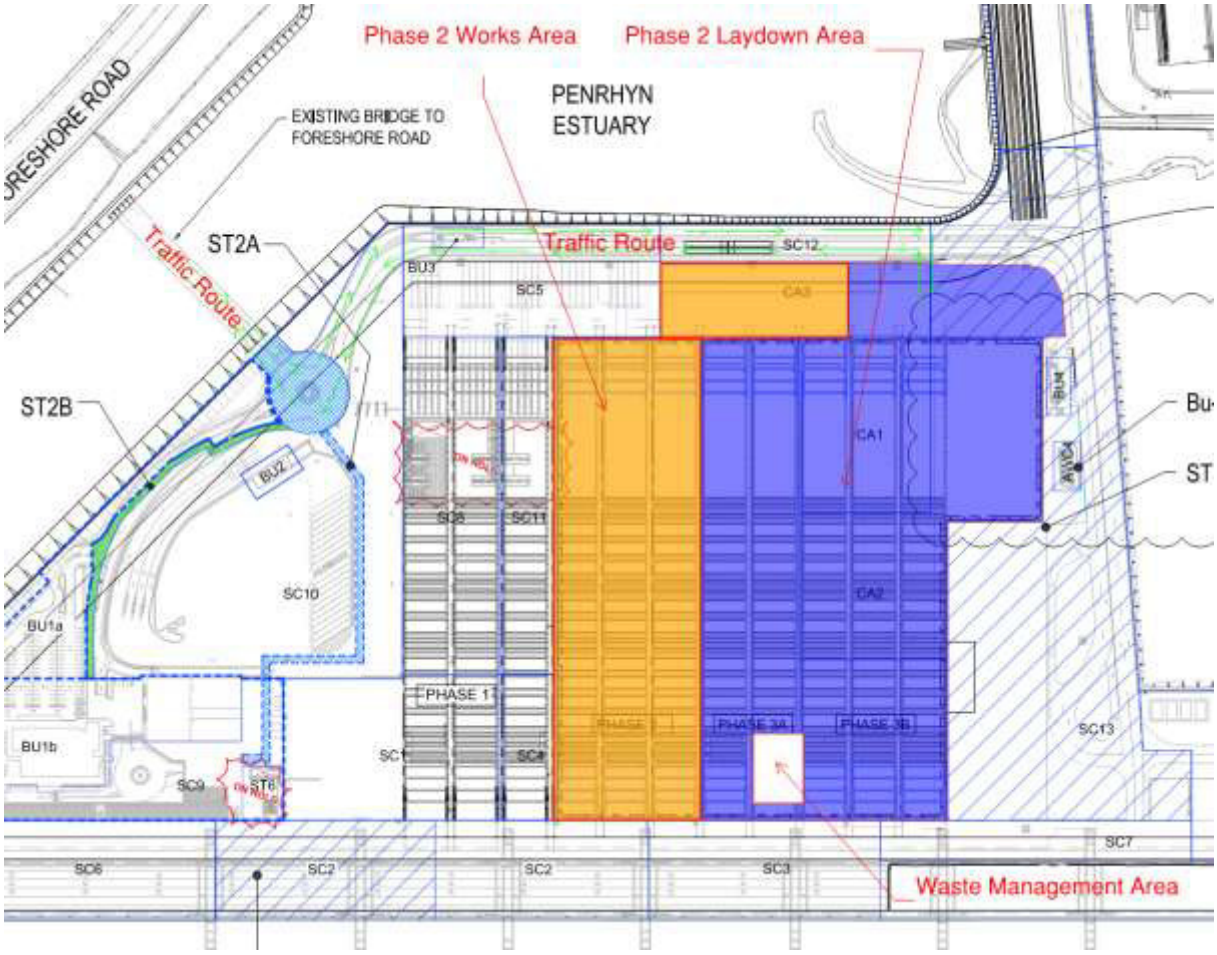


Figure 2 Phase 2 Site Layout

1.3 Plan Intent

This plan has been written to respond to the Ministers Conditions of Approval (MCoA) for the Port Botany Expansion. Specifically this document will address the MCoA B2.14, below.

> "MCoA B2.14 - The applicant must prepare a Construction Traffic Management Plan in consultation with the RMS, DOP, Botany and Randwick Councils and SSROC. The applicant shall address the requirements of these organisations in the Plan. The applicant shall also consult with the Community Consultative Committee in preparation of the Plan. The Plan must include, but not be confined to, mitigation measures identified in the EIS such as : identification of the preferred haulage routes; access routes and signage and access arrangement son site; measures to limit impact on Foreshore Road and Botany Road; need for restrictions on delivery hours and / or routes; and development of traffic management measures during construction works to ensure traffic disruptions are minimised.
>
> The plan would consider:
>
> - identification of preferred haulage routes;
> - access routes and signage, and access arrangements at the site;
> - measures to ensure that Foreshore Road would not be affected by loading/unloading from the carriageway, queuing and reversing manoeuvres;
> - the need for restrictions on delivery hours and/or routes;
> - the need for measures to protect pedestrians, cyclists and other motorists in the vicinity of the site.
>
> The plan must be submitted and approved by the Director-General prior to the commencement of construction."

1.4 Surrounding Road Network

The surrounding road network connects to main, arterial roads being the M5, General Homes Drive and Southern Cross Drive. Local road networks of Botany, Banksmeadow and Matraville are immediately adjacent the Terminal 3 work site. Figure 2 below gives a map of the surrounding road network.

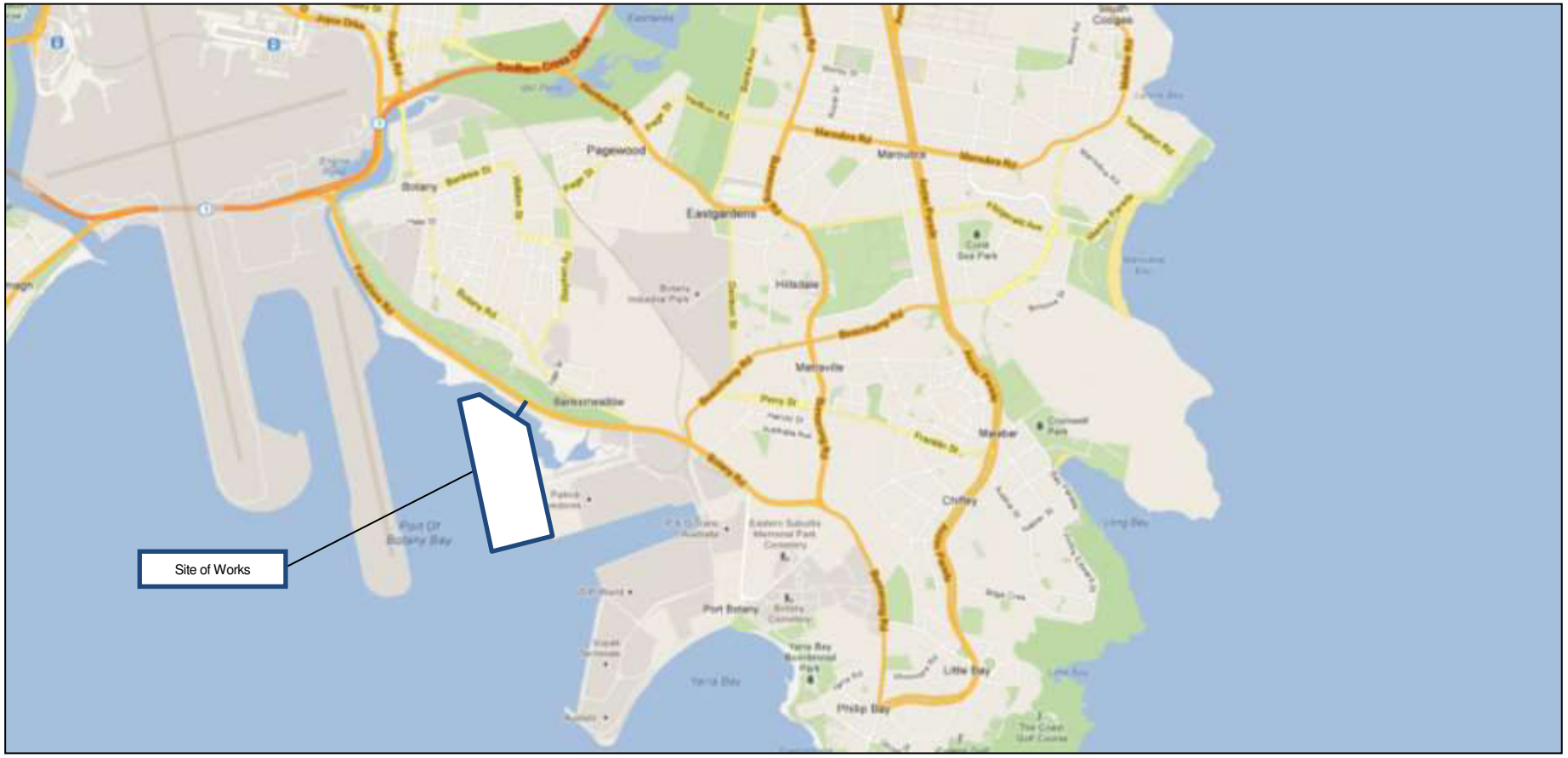


Figure 2 Surrounding Road Network

2. CONSTRUCTION TRAFFIC MANAGEMENT PLAN

2.1 Introduction

Intended Purpose

SICTL Contractors will be responsible for the control, direction and protection of all traffic affected by the Sydney Pot Botany Terminal 3 works activities. SICTL contractors will implement this CTMP to keep traffic on all existing roads moving safely and efficiently during construction. It will ensure:

- a safe environment for all surrounding residents, visitors, road users and workers onsite;
- affected road networks maintain an acceptable level of traffic flow throughout the term of the work;
- delays and disruptions to traffic are kept to an absolute minimum, and
- that sound construction management practices are implemented to eliminate or mitigate risks of damage or degradation to the environment.

The CTMP has been prepared to assist site staff to implement traffic and pedestrian management control measures when carrying out construction and related works on the Project.

Traffic management will be undertaken in a way that will provide for the safety of all site staff, subcontractors and the public and ensure that road users are not exposed to foreseeable risks.

The CTMP is based on the following:

- Australian Standard AS 1742.3 Manual of Uniform Traffic Control Devices, 2009.
- RTA Traffic Control at Worksites, 2010.
- Sydney Ports Corporation (SPC) Traffic Management Plan Guidelines (Dec 2007).
- Port Botany Expansion Consistency Review and Cumulative Construction Traffic Impact Assessment, Terminal Operations Infrastructure (March 2013 – March 2014), 2013.

Review and Update

The CTMP will be amended to include significant changes to traffic management requirements throughout the project.

It will be further developed and updated to reflect changes in:

- the law;
- traffic management process resulting from the continuous improvement process; and
- any requests from Sydney International Container Terminals (SICTL), Roads and Maritime Services (RMS), Botany and Randwick Councils and other authorities.

Scope of Plan

This document addresses the systems and procedures that should be followed to warn, inform and guide traffic past, through or around all works related to the project site.

All workers, employees, subcontractors, employers and the management team involved in the construction of the project will adhere to the planning recommendations of this plan.

2.2 Roles and responsibilities

Contractor Controlled Work Area

Contractors will be responsible for ensuring that:

- a traffic management risk assessment is completed and that procedures and control measures are implemented onsite;
- road users, pedestrians and site staff can continue with their respective undertakings in complete safety and with the minimum of inconvenience;
- all site-related works are correctly barricaded and sign-posted using the relevant approved signs; and
- all signs and devices used are in good condition and are removed at the completion of the work.
- Review and update of this plan, by RMS certified person where required.

Contractor Project Management Team

The Contractor Project Management Team will be responsible for all required planning and permits relating to traffic control including:

- ensuring the applicable permits and licences have been obtained from the Council before carrying out any part of the design and construction activities that may impact on the community and users of roads, footpaths, bikeways, shared use paths or other transport infrastructure;
- working collaboratively with SICTL, Council and other authorised representatives.

The Contractor will be directly responsible for all the required planning and permits for traffic control including:

- ensuring all traffic control devices shown on the traffic control plans are available for use and fit for purpose;
- seeking approval from the relevant authority for all traffic control plans;
- ensuring all components of the implemented traffic control plans are relevant to the risks and hazards;
- ensuring traffic routes are driven to obtain a thorough understanding of the construction impacts on local businesses and service providers are fully understood;
- providing the necessary reports in accordance with the Contract;
- communicating and acting on all directions issued by SICTL and Council, relevant authorities and stakeholders; and
- auditing the worksite layout / control measures and implementing changes based on the audit findings.

3. CONSTRUCTION TRAFFIC MANAGEMENT

3.1 Objectives

A key purpose of the CTMP is to ensure the safety of all working within the contractor controlled workspace and to minimise inconvenience to all parties.

The basic requirements of construction traffic management are:

- ensure that the road capacity is sufficient to accommodate construction vehicle traffic volumes and that disruptions are minimised;

- ensure that appropriate warning and information signs are installed;
- advance warning of a change in traffic conditions in time for users to adjust;
- information and guidance on how to safely negotiate the work site; that is, delineation of the travel path, its separation from the work site and any necessary barricades for road users, motorists, pedestrians, cyclists, public transport passengers and people with disabilities;
- details related to the movements and choice of construction vehicles; and
- plan for work activities to be undertaken sequentially to reduce the adverse impacts of the work.

This Contractor awarded by SICTL, will have this plan reviewed by an RMS certified person prior to construction and will reflect the agreed construction activities.

4. CONSTRUCTION PROGRAM

4.1 Work Hours

The approved hours of works deemed audible at residential premises are:

- Monday – Friday (inclusive): 7:00am-6:00pm
- Saturday: 8:00am-1:00pm.

Some traffic related works may be required outside of the proposed hours of work. These occasions may include the following circumstances:

- loads or vehicles are required to be transported under a permit from the Roads and Maritime Services (RMS) or police;
- certain construction activities which may be planned and would have prior written approval from the Director-General;
- any works such as security operations which are permitted within the Minister's current Conditions of Consent (those deemed inaudible by closest receivers);
- deliveries to the site using lengthy vehicles which are restricted during certain hours as provided in the NSW Road Rules (a lengthy vehicle is a vehicle that is longer than 12.5m); and
- where a direction from the Police or any other relevant authority deems work must occur for safety and/ or emergency reasons.

All applicable approvals will be gained if working is required outside the approved project hours.

5. VEHICLE, PEDESTRIAN AND CYCLE MANAGEMENT

5.1 Vehicle Types

Construction vehicles likely to be generated by the proposed construction activities include:

- articulated vehicles for delivery of machinery;
- heavy and medium rigid trucks for construction material delivery;
- heavy rigid tankers for fuel delivery for compacting and excavation machinery;
- medium to heavy rigid trucks for removal of demolition and excavated material; and
- staff cars, vans, utilities and delivery vans.

Set down areas would be defined within the site for the unloading and loading by construction vehicles.

On site equipment is required for excavation, compacting and site compound and site maintenance equipment. The delivery of onsite equipment to the site would involve the use of semi-trailer, low loaders and flatbed trucks.

Should oversize or over dimension vehicles be required to move equipment, specific permits will be sought from the Roads and Maritime Services (RMS). However, it is expected that over length / dimension vehicles would be minimal.

5.2 Construction Vehicle Routes

The proposed entry and exit routes aim to provide the shortest distances to arterial roads and avoid the use of local roads by trucks.

All heavy vehicles including medium rigid trucks up to articulated vehicles would travel to Foreshore Road using arterial roads namely M5, General Holmes Drive and Southern Cross Drive. The haulage routes are shown on Figure 4.

Use of Botany Road and Bunnerong Road by smaller vehicles would be limited as the alternate routes via Foreshore Road are higher order roadways which are more suitable for heavy vehicles. These routes would only be used if they provide access directly to a destination or origin along that route.

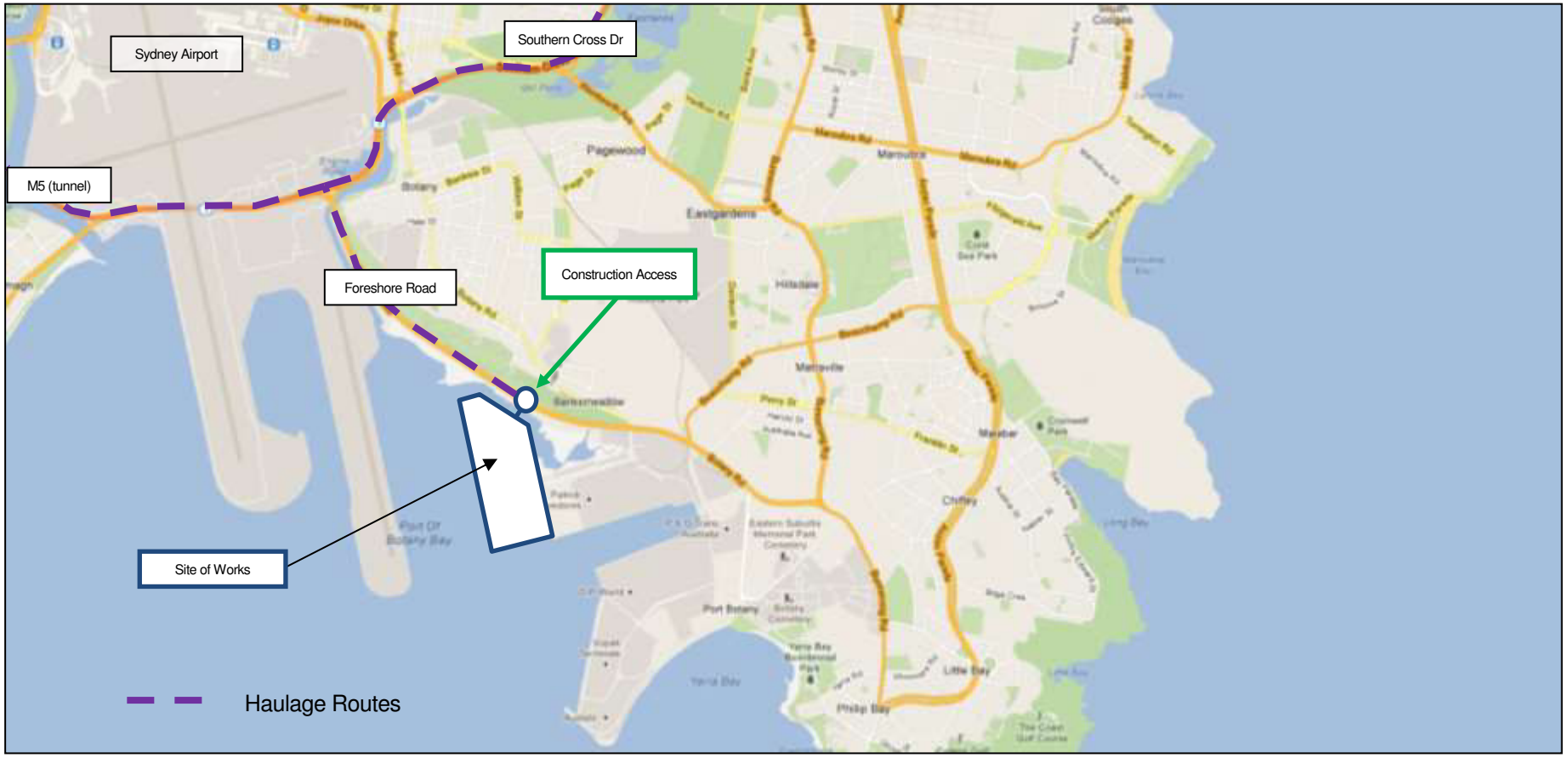


Figure 4 Surrounding Road Network and Haulage Routes

5.3 Delivery, Loading and Unloading of Plant, Equipment and Materials

During all stages of the works, loading and unloading of plant, equipment and materials would only take place within the site area. Truck strategies to ensure loading and unloading on site include the establishment a controlled truck waiting facility on site.

No loading is currently planned outside of the site. It is noted that in the event that loading and unloading is required outside the site area, the following would be carried out:

- an application for a Works Zone and / or lane occupancy will be made to the relevant road authority;
- requirements of the Works Zone and / or lane occupancy would be incorporated into contract documentation, agreements, work instructions and induction requirements and adhered to at all times;
- this Traffic Management Plan would be updated and a separate Traffic Control Plan developed, approved and implemented; and
- provision would be made for loading and unloading to resume within the site boundary as soon as practically possible.

No materials or equipment are to be stored outside of the site area.

5.4 Site Access

Site Access for the works will occur off Foreshore Road at the access road over the Penrhyn Estuary Bridge. The traffic signals include:

- pedestrian facilities across the access road,
- a 200m long right turn bay into the access road from Foreshore Road,
- a 150m long left turn bay from Foreshore Road into the access road,
- an exclusive left turn lane from the access road into Foreshore Road,
- a shared left and right turn lane from the access road into Foreshore Road.
- The entry and exit movements are therefore under traffic signal control and considered appropriate for construction access to / from Foreshore Road.

5.5 Access Signage

To assist with entry and exit to the site, signs indicating trucks turning and 'access to construction site' shall be placed prior to the intersection. The contractor engaged by SICTL will have an RMS certified review of signage and traffic management will be updated in this plan as required. Access signage would also be installed indicating Construction Site Access is approaching and trucks will be turning into the project site. Signs at the construction access are shown on Figure 6 are preliminary indicators for the initial draft of this plan and will be updated prior to construction.

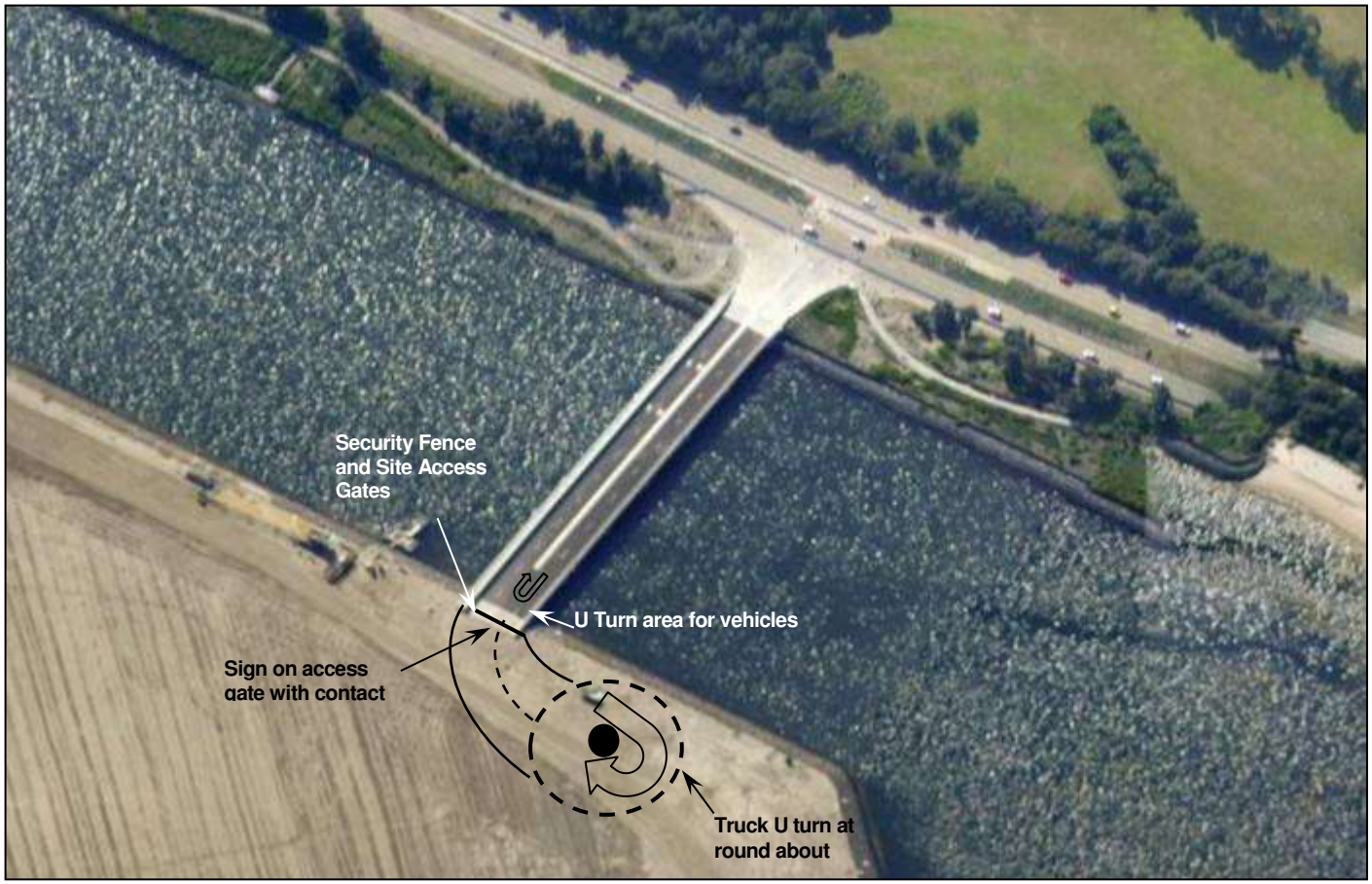


Figure 5 Access Intersection and Signs

Figure 6 Access Intersection and Signs

5.6 Construction Traffic Impacts

An EIS was prepared for the Port Botany Expansion project. A detailed traffic study within that report examined the traffic impacts from the forecast increase in truck numbers generated by Port Botany (including the new terminal) during operation and construction of the new terminal.

In order to investigate combined traffic impacts of the Port Botany Expansion, SICTL and Patrick Stevedores commissioned Parking and Traffic Consultants to undertake a consistency review of the Port Botany Expansion construction works with the project EIS including a cumulative construction traffic impact assessment for construction of terminal operations infrastructure titled *"Port Botany Expansion, Cumulative ConstructionTraffic Impact Assessment, Terminal Operations Infrastructure (March 2013 – March 2014)",* dated April 2013 and forms part of Mod 14 of the development application

This consistency review considered the cumulative construction traffic impact during the terminal operations infrastructure works by SICTL and Patrick in terms of consistency against the Minister's approval. The review has adopted detailed projected construction traffic volumes from all contractors undertaking the development works on behalf of Patrick and SICTL and has applied these figures to the road network, based on background traffic modelling undertaken by Parking and Traffic Consultants (PTC).

The consistency review concluded that:

- The project is consistent with the EIS in that there is no modification to the scope of the works.
- The total number of construction truck deliveries during the terminal operations infrastructure has not increased.
- The development of SICTL and Patrick sites concurrently results in a higher maximum number of construction trucks per day average over the quarter **(increase from 103 to 145 trucks per day)**.
- According to the commuter modelling undertaken based on **145 trucks per day**, the construction traffic volume associated with the two sites occurring concurrently will have no notable impact on the operation of the road network, which is consistent with the findings of the EIS that "the impact of construction vehicles on the performance of the road system would likely be very minor".
- New road infrastructure (new terminal bridge, grade separation works and truck marshalling area) has been completed and is operational, which is an improvement compared to the assumed road network in the EIS.
- The proposed cumulative construction traffic is considered to be consistent with the approved project development application.

5.7 Construction traffic for the terminal operations infrastructure

Construction truck numbers (provided by SICTL and Patrick) are based on the projected quantities of materials required for both sites. The SICTL works requires approximately 17,300 trucks, while the Patrick site will require approximately 16,400 truck deliveries. In order to provide consistency with Table 21.5 in the EIS, the daily truck numbers based on the quarterly averages are presented as follows:

	Average Number of Truck Deliveries Per Working Day (Actual)			
	Year			
Patricks	32	73	76	20
Hutchison	96	72	26	12
Total	129	145	103	31

The total number of truck deliveries for the SICTL (Phase 1) and Patrick works equals about 34,000 trucks and the activity would fluctuate throughout the project (the EIS figures are averages). The current combined works represent 38 hectares, which is 58% of the overall terminal operations works. This shows that, proportional to the developed area, the total volume of construction traffic is consistent with the EIS.

5.8 Potential Queuing

As noted previously, the traffic signals have been designed to cope with the final traffic loads of the site which are well in excess of the proposed traffic generated in the relevant works package. The intersection has also been designed to cater for trucks and oversized vehicles.

The right turn bay extends 200m long while the internal lanes from the signals to the security gate are 175m long each for any minor delay at the security gate the average number of vehicles is expected to be less than the table above and hence the queuing potential is very minor for this phase of works compared to the earlier phases.

Nevertheless, the need for any queue protection would be monitored to ensure queue lengths do not extend beyond the limits of the advance warning signs.

5.9 Truck Delivery Strategy

To reduce off site congestion and the impact on the local area, deliveries will be made out of peak hours where possible.

Key truck strategies include the following.

- Provide 'No Stopping' on Penrhyn Estuary Bridge.
- Establishing an onsite parking/truck waiting facility on site and enforcing ‘no waiting’ of trucks in convoy on local roads.
- Delivery Trucks shall not ‘lay by’ in the Port Botany region, bound by Foreshore Rd, Southern Cross Drive and Anzac Parade and streets within the Botany Local Government Area in the immediate vicinity of Port Botany.
- The scheduling of deliveries to align with the construction programme.
- Attending regular interface meetings between other contractors, Port Operations and Patricks.
- Materials will primarily be delivered via Southern Cross Drive, onto Foreshore Road and accessing the site at the traffic signal controlled junction off Penrhyn Estuary Bridge.
- Port Traffic Handbook to distribute to suppliers (Appendix 1).

5.10 Emergency Vehicle Access

Emergency vehicle access would be via the access road to Foreshore Road. Should an incident occur then RMS and emergency services shall be assisted by the relevant contractor.

5.11 Pedestrian and Bicycle Access

There is a shared pedestrian and cycle path located adjacent Foreshore Road in the vicinity of the site. The pedestrian - cycle path crosses the access road at Foreshore Road. The crossing would be controlled by traffic signals throughout the works.

5.12 Public Transport

There are bus services travelling along Foreshore Road. There would be no impacts on bus services due to the construction work as the work occurs off road.

5.13 Staff Car Parking and Traffic

Dedicated parking will be available for staff and personnel vehicles. Work hours are 7am to 6pm and most staff would arrive and depart outside of these hours. As noted previously, traffic volumes in this range is unlikely to impact the traffic to any great extent.

5.14 Traffic Signs and Devices

There are no planned activities such as works on road / footpath or unloading / loading on public roads. Further entry and exit to the site is via a set of traffic signals. The truck volumes are also considered minimal. As such no additional traffic control work signs (other than those shown in Figure 6) would be installed as part of the works.

Should traffic control plans or devices be required then appropriate Traffic Control Plans based on the RTA's Traffic Control at Work Sites Guidelines (2010) and Australian Standard 1742.3 Manual of Uniform Traffic Control Devices, Part 3: Traffic Control Devices for Works on Roads 2009 would be developed prior to commencement of works. Changes to any warning and directional signage would be undertaken in accordance with manual.

Additional Traffic Control Plans would be developed in addition to this CTMP as necessary to suit the project requirements.

5.15 Unplanned Road Closures

In the unlikely event there are any unplanned road closures of a lane or restriction to traffic flow then the contractor would notify NSW PORTS and RMS and Council detailing the reason for closure and the schedule of re-opening of road to traffic.

A relevant authority, NSW Ports representative or NSW Police Service may at any time instruct the relevant contractor to re-open any traffic lane or shoulder to traffic without delay whether or not closed from prior arrangement.

6. PUBLIC CONSULTATION PROCESS

The public consultation for this project would proceed in accordance with the requirements of the Ministers Conditions of Approval (MCOA).

Community and stakeholder management is also outlined in the SICTL Construction Environmental Management Plan CEMP. The CEMP indicates that community members impacted by project works will be issued with a written notification two weeks prior to the commencement of works. The notification would be distributed via letterbox drop and include residents and businesses identified by the Community Consultative Committee.

7. MONITORING AND MEASUREMENT

7.1 Site Induction

All drivers and staff employed on the site would be required to undergo a site induction. The induction would include permitted access routes to and from the construction site for site staff and delivery vehicles, as well as standard environmental, OH&S, driver protocols and emergency procedures.

7.2 Site Correspondence

Regular site correspondence will be undertaken between SICTL, Patrick Stevedores and their contractors, including traffic forecasts and types of deliveries anticipated during construction. The Port Botany Expansion Project Monthly Communications & Environment Coordination Meeting will be a forum to discuss traffic requirements and raise any concerns regarding construction traffic for the project.

7.3 Site Inspections and Records

Site inspections will be undertaken and include monitoring of Port Botany Expansion construction traffic. Any issues identified are to be notified immediately to the relevant contractor's site supervisor and SICTL representative.

Contractors will record daily counts of construction trucks deliveries in order to compare with the projections of the EIS and Mod 14 report.

Truck numbers will be reported to the Environmental Representative on a monthly basis.

Appendix 1 – Port Traffic Handbook

Sydney Port Botany Terminal 3 Project
Traffic Handbook

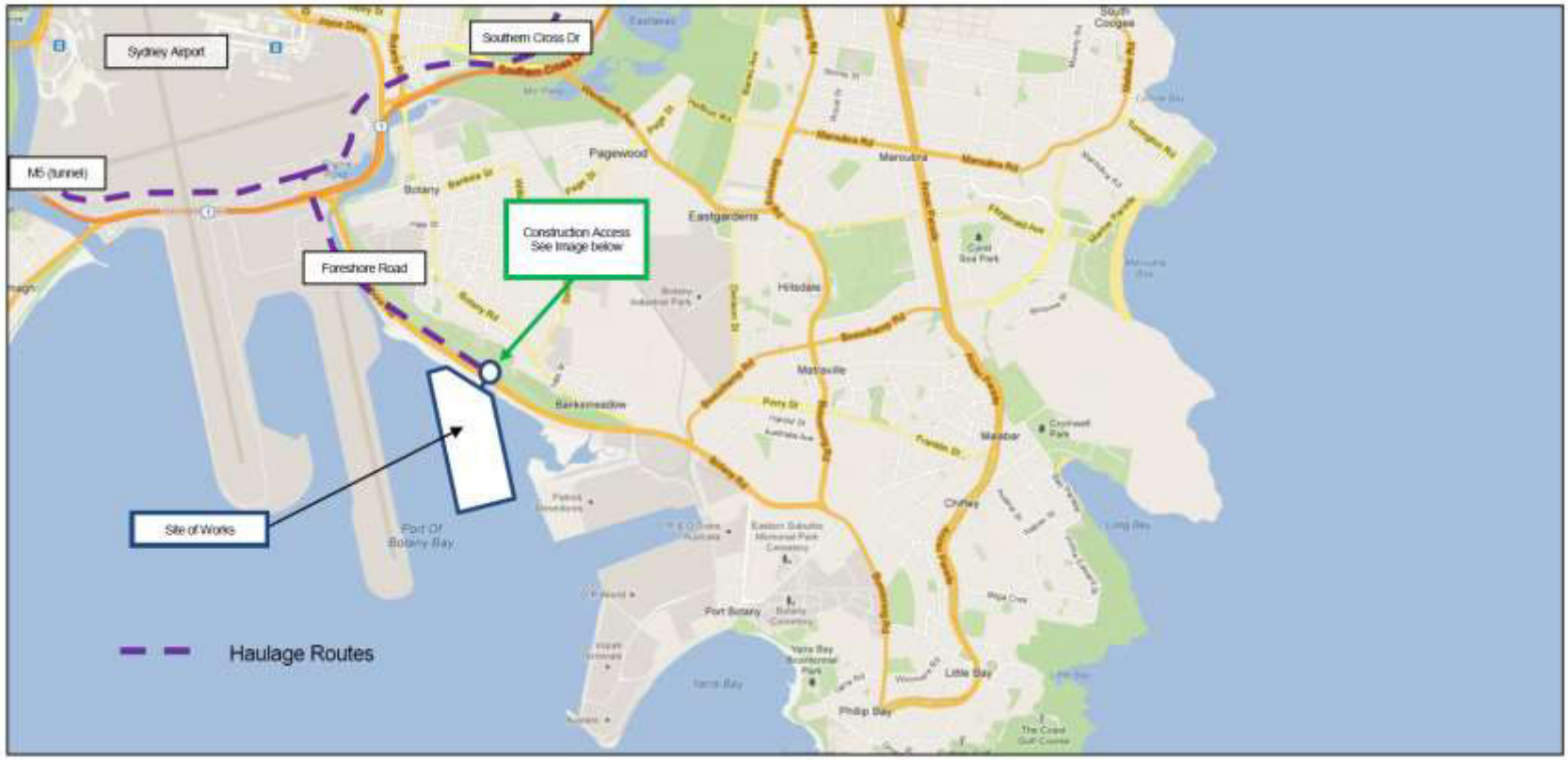
Delivery and Construction Drivers for SPBT3 must follow the procedures below

- Drivers are to follow the route map listed below and are NOT to utilise secondary roads. Drivers must use the M5, General Holmes Drive or Southern Cross Drive to access Foreshore Road.
- Deliveries will only be accepted if booked through the relevant contractor's management system.
- Drivers are to deliver strictly in accordance with times approved by the contractor.
- Drivers are requested to limit compression breaking whilst using Foreshore Road
- Delivery drivers may be subject to Random Breath testing whilst onsite.
- Delivery Trucks shall not 'lay by' in the Port Botany region, bound by Foreshore Rd, Southern Cross Drive and Anzac Parade.
- Drivers to switch to any site specific haulage radio channels, as indicated by the relevant contractor, at security gate and remain using this while on site.

Approved Delivery Times

- Monday – Friday (inclusive): 7:00am-6:00pm
- Saturday: 8:00am-1:00pm.
- Drivers are to deliver strictly in accordance with times approved by the Delivery Management system.

No works or deliveries will take place outside these hours, on Sundays or on public holidays unless approved by the relevant contractor or in the event of a direction from police or other relevant authority for safety or emergency reasons.



Surrounding Road Network and Approved Haulage Routes

Access Intersection and Signs

Sydney Port Botany Terminal 3 Project Phase 2 & 3
Acid Sulphate Soils Management Plan

Terms and Definitions

The following terms, abbreviations and definitions are used in this plan:

Terms	Explanation
SPBT3	Sydney Port Botany Terminal 3
CEMP	Construction Environmental Management Plan
NATA	National Association of Testing Authorities
ASSMP	Acid Sulphate Soils Management Plan
EIS	Environmental Impact Statement
AASS	Actual Acid Sulphate Soil
ASS	Acid Sulphate Soil - Is the common name given to soil and sediment containing iron sulphides (principally iron pyrite), or products of the oxidation of sulphides. These soils have the potential to cause adverse environmental effects resulting from the release of acidic discharge to streams and rivers
Contamination	Contamination means the presence in, on or under the land of a substance at a concentration above the concentration at which the substance is normally present in, on or under (respectively) land in the same locality, being a presence that presents a risk of harm to human health or any other aspect of the environment
PASS	Potential Acid Sulphate Soil
SWQMP	Soil and Water Quality Management Plan
pH	A logarithmic index for the concentration of hydrogen ions in a solution used to measure acidity.
MCoA	Ministers Conditions of Approval

Distribution

The master controlled Acid Sulphate Soil Management Plan (ASSMP) document forms part of the project's CEMP as an Appendix. The controlled copy will be retained in iTWOcx, the Sydney International Container Terminals Pty Ltd (SICTL) document management system, where it can be accessed by personnel as necessary.

All paper copies of this ASSMP will be considered as uncontrolled unless they have been allocated a 'copy number' in a colour other than black.

Issue, Revision and Re-issue

Revisions of this ASSMP may be required throughout the duration of the project to reflect changing circumstances or identified opportunities for improvement.

Rev	Date	Description	Reviewed	Authorised
0	30/09/13	Initial Draft	NB	KM
1	18/11/13	Final	NB	KM

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1. Introduction

This Acid Sulphate Soils Management Plan (ASSMP) has been developed to address the construction activities associated with the Sydney Port Botany Terminal 3 (SPBT3) Project. In particular, the plan has been developed to address the requirement for an Acid Sulphate Soils Management Plan as outlined in the conditions of approval.

The key components covered by this plan include:

- Ground improvements and consolidation measures
- Temporary and permanent access roads, pedestrian paths and line markings
- Drainage, utilities, services
- Container yards and substation
- Supply and installation of Automated Stacking Cranes (ASC) Cranes
- Supply and installation of communication infrastructure

1.1 Objective

The objectives of this ASSMP is to ensure that water quality, soil runoff, site wastewater, and potential water contamination associated with ASS are considered and effectively managed as

This ASSMP aims to satisfy the following objectives:

- Address the requirements of the planning approval for the SPBT3 Project
- Address the requirements of the Environmental Impact Statement (EIS) for the Port Botany expansion
- Address the requirements of the relevant environmental legislation as it applies to this project
- Summarise potential impacts on the environment from the proposed works
- Document environmental procedures to control potential environmental impacts.

1.2 Targets

The following targets have been identified in terms of soil and water management for the project:

- There is no discharge from the Project site or designated treatment site of acid sulphate material
- There is no acidic drainage from the Project site or designated treatment site caused by the construction activities of the Project
- There are no justified complaints regarding effects from ASS
- The requirements of published guidelines on ASS management are addressed
- Management control measures to minimise potential environmental impacts are documented

1.3 Statutory provisions and guidelines

The following statutory provisions and guidelines are applicable to the Project, with regards to water quality:

- Sydney Port Botany Terminal 3 Planning Approval
- POEO Act 1997
- Acid Sulphate Soils Manual (ASSMAC, 1998)

1.4 Ministers Conditions of Approval

MCoA's relevant to soil and water quality management are outlined below.

MCoA Reference	MCoA Detail
B2.6	Prior to the commencement of construction activities, the Applicant must prepare an Acid Sulphate Soils Management Plan to assess and manage any Acid Sulphate Soils (ASS) or potential ASS (PASS). The Plan shall be prepared in accordance with the Acid Sulphate Soils Manual 1998 published by the NSW Acid Sulphate Soil Management Advisory Committee. In the event that ASS is encountered during the works, the Applicant shall notify the NSW Maritime Authority immediately.

1.5 Environmental Impact Statement

Requirements of the project Environmental Impact Statement (EIS) are outlined below.

EIS Reference	EIS Detail
Chapter 37.2 Table 37.1	Ensure that any PASS deposits are thoroughly mixed with sandy sediments during dredging and distributed within the sandy matrix of the reclamation. Ensure that if large areas of PASS are identified they are retained below water level under stable anoxic conditions. Undertake a preliminary assessment of the risks associated with the disturbance of PASS and AASS within Penrhyn Estuary prior to the habitat enhancement works and the works associated with the construction of the rail line. Prepare an ASSMP for these works as part of the Construction EMP.
Chapter 38.5 Table 38.2	Monitor construction activities in accordance with the ASSMP. Frequency: As required

2. References

- Port Botany Expansion Environmental Impact Statement
- Acid Sulphate Soils Manual (ASSMAC, 1998)
- Reference is also made to the NSW Protection of the Environment Operations Act which integrates into one Act all of the controls necessary to regulate pollution and reduce degradation of the environment. The Act also provides for licensing of scheduled development work, scheduled activities and for offences and prosecution under this Act

3. Background Information

Acid Sulphate Soil (ASS) is the common name given to soil and sediment containing iron sulphides (principally iron pyrite), or products of the oxidation of sulphides. These soils have the potential to cause adverse environmental effects resulting from the release of acidic discharge to streams and rivers. Such effects include infrastructure being ‘eaten away’ by the acid (such as bridge pilings and other structures in contact with the acidic ground/water), death to aquatic life (such as fish kills and vegetation destruction) and a decrease in the quality of the water for humans and animal life.

Sulphides which are not exposed to the atmosphere and remain below the water table are quite harmless. However, should sulphides be exposed to air this can result in oxidation and the production of sulphuric acid if the soil's capacity for neutralisation is insufficient.

Acid generation from sulphidic soils is largely confined to present and former wave-protected mangrove and salt marshes and tidal lakes and swamps where fine, very wet sediments can

accumulate with organic debris. This is typically below 5m above sea level, or below 5m AHD (Australian Height Datum).

ASS can be classified as:

- Actual Acid Sulphate Soils (AASS) which are soils that have already reacted with oxygen to produce acid, or
- Potential Acid Sulphate Soil (PASS) which is soil that contain iron sulphide, but has not been exposed to oxygen (e.g. soil below the watertable) and therefore has not produced sulphuric acid (although it has the potential to do so).

4. Indicators of ASS

Visual or odorous indicators of the presence of acid sulphate soils in excavated materials and surrounding waterways include the following:

- Any jarosite (pale yellow mineral) or substantial iron oxide (red) mottling in material excavated or left exposed
- Iron staining on drain or pond, iron stained water
- Presence of corroded shell
- Sulphurous smell. e.g. hydrogen sulphate or rotten egg gas
- Unusually clear or milky blue-green drainage water flowing from the area (presence of aluminium)
- Corrosion of concrete or steel structures
- Fishkills (dead marine life)
- Dead, dying, or “stunned” vegetation.

5. Strategic Approach

5.1 ASS Investigation

If acid sulphate soil is expected to be encountered either by planned excavation of an area with known ASS or if suspected acid sulphate soil is identified during excavation, then an excavation-specific ASS investigation will be conducted at the site during excavation works in accordance with the contract requirements.

Field pH tests on suspected ASS will be undertaken by a person qualified and experienced in ASS testing. Laboratory tests will be completed by a NATA accredited laboratory.

The NSW Maritime Authority is to be notified immediately if ASS are encountered during the works.

Where remediation is required, geotechnical advice will be sought to establish the level of investigation and action to be taken. This has usually involved treatment with agricultural lime and replacement of the affected areas. Liming rates will be determined based on the results of the site investigations. Where required, this ASSMP will be reviewed and updated to address the outcomes of further investigations.

5.2 Management Options

Strategies to manage acid sulphate soils are, in order of priority:

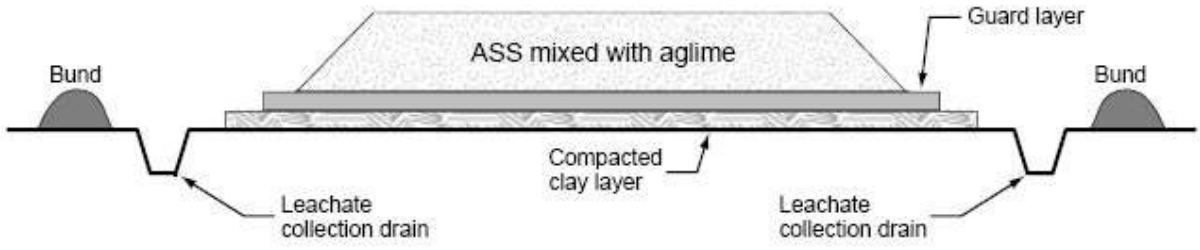
- Investigate, identify and map locations of PASS
- Prevent oxidation of PASS by reclaiming known PASS to levels below 0m CD

- Allow gradual oxidation and manage any acid and acid runoff (note: this is only applicable for course textured, non-cohesive materials)
- Provide sufficient neutralising agent to neutralise any acid produced by PASS over time.

5.3 Typical ASS Treatment of Excess Material

The treatment measures outlined below are considered indicative of those to be implemented should ASS be discovered during the works.

A suitably sized dedicated treatment area will be created at a location agreed with the Client's Representative. The location of the area would be dependent upon the quantities involved. All treated spoil will be tested to verify neutralisation prior to use elsewhere or disposal. ASS should be treated after excavation and dried to ensure oxidation is complete. This treatment will involve uniformly mixing lime with the ASS material by physical and/or mechanical means. ASS to be treated will be placed on the treatment area in layers not thicker than 300mm, as shown in Figure 1.



Cross section of a treatment area (Source: Qld ASS Technical Manual v 3.8)

Where excavated ASS is to be treated onsite, the following actions will be carried out by the contractor:

- Ensure that if large areas of PASS are identified they are retained below water level under stable anoxic conditions.
- Testing for pHF and pHFOX to classify the PASS content. Stockpiling of the spoil will be categorised by the difference in pH. Laboratory testing as required will be undertaken by a NATA accredited laboratory
- The base of the ASS treatment area will be limed prior to placement of each layer of ASS. Respreading of Bunding will be constructed around the perimeter of the designated ASS treatment area to intercept and contain run-off from the area during soil treatment operations. The bund will be constructed from non-ASS material or lime treated ASS material
- All excavated spoil will be stored and treated within this bunded area as soon as possible after being excavated
- Agricultural lime prior to placement of each new layer of soil, and at the conclusion of all treatment. The base of the treatment pad will have a minimum agricultural lime application rate of 5 kg/m2
- The treatment area will retain enough storage capacity to hold any potentially acidic waters/ run-off from the PASS. This will collect drainage water from the treatment area in the event seepage or rainfall occurs during and between treatment
- The treatment area bund will be built to a height of 400mm

- Soil treatment shall be undertaken as soon as possible after the material has been excavated to limit the opportunity for the accumulation or release of acidic pollutants
- Soil to be treated shall be placed in layers not exceeding 300mm and be thoroughly mixed with the fine agricultural lime at a minimum rate of 50 kg/t or other applicable rate as determined by analytical testing
- The amount of excavated material will be minimised, wherever possible, to allow for treatment of manageable quantities of AASS/ PASS material
- A covered stockpile(s) of agricultural lime and hydrated lime will be kept inside the site boundary in volumes sufficient for predicted treatment works. This will allow all treatment to occur in a timely manner. The stockpile(s) will be replenished on an as required basis throughout excavation activities
- The effectiveness of the treatment process shall be confirmed by verification samples at rate of 1 per 100m^3. Sampling and analysis shall be completed by a NATA accredited laboratory
- Where treatment has not been successful, the material shall be retreated
- Surface water with the potential to become acidic as a result of interaction with the treatment area or excavations will be treated and monitored as follows:
- Surface water accumulated in excavations or treatment area will be tested for pH. If the pH is outside the range of 6.5 – 8.5 then the water will be neutralised with the addition of agricultural lime or hydrated lime
- Records of water discharged from site shall be maintained
- Backfilling excavations, completion of footings as soon as possible to minimise the oxidation of insitu soils exposed within the excavations
- Minimise the drainage of soils by limiting any groundwater drawdown within excavations to the absolute minimum required to complete the excavation safely. Seepage entering the excavation should be minimised through the use of physical barriers
- Where material is to be transported to the treatment facility via public roads, wheel cleaning facilities will be established at site exits to prevent offsite contamination during transport
- Material will be transported within trucks with secure tailgates
- Records of transport including individual truck details and quantity transport will be retained at the Project Office
- At the end of each transport shift an inspection of the transport route will be undertaken by the Supervisor to determine if material has been spilt. Where material has been spilt on public roads it will be removed immediately
- When run-off accumulates, water quality will be monitored regularly during the construction period, particularly following substantial rainfall events. Retained water will be sampled, tested and treated to the parameters above and as nominated in the Soil and Water Quality Management Plan (SWQMP) for discharge.

6. Mitigation Measures

Responsibility for implementing the mitigation measures for soil and water quality management for the construction phase of the project are outlined below.

Mitigation Measures	Responsibility	Source of Requirement	Timing
Implement the procedures and protocols outlined in this ASSMP	Contractor	MCoA B2.6	Throughout construction

Mitigation Measures	Responsibility	Source of Requirement	Timing
Notify the NSW Maritime Authority immediately if ASS are encountered during the works	Contractor	MCoA B2.6	Throughout construction

7. Training

As part of site induction / training, all personnel engaged in site works will be made aware of this ASSMP in order to promote a general awareness of the environment and to minimise any potential impact from uncovering ASS. Evidence of environmental induction of personnel in this project will be maintained in the project training records.

The training will highlight the need for any excavation to be planned and controlled. Regular toolbox meetings will be held and information regarding ASS and a reinforcement of a positive attitude towards ASS will be included, where required.

8. Records and Communication

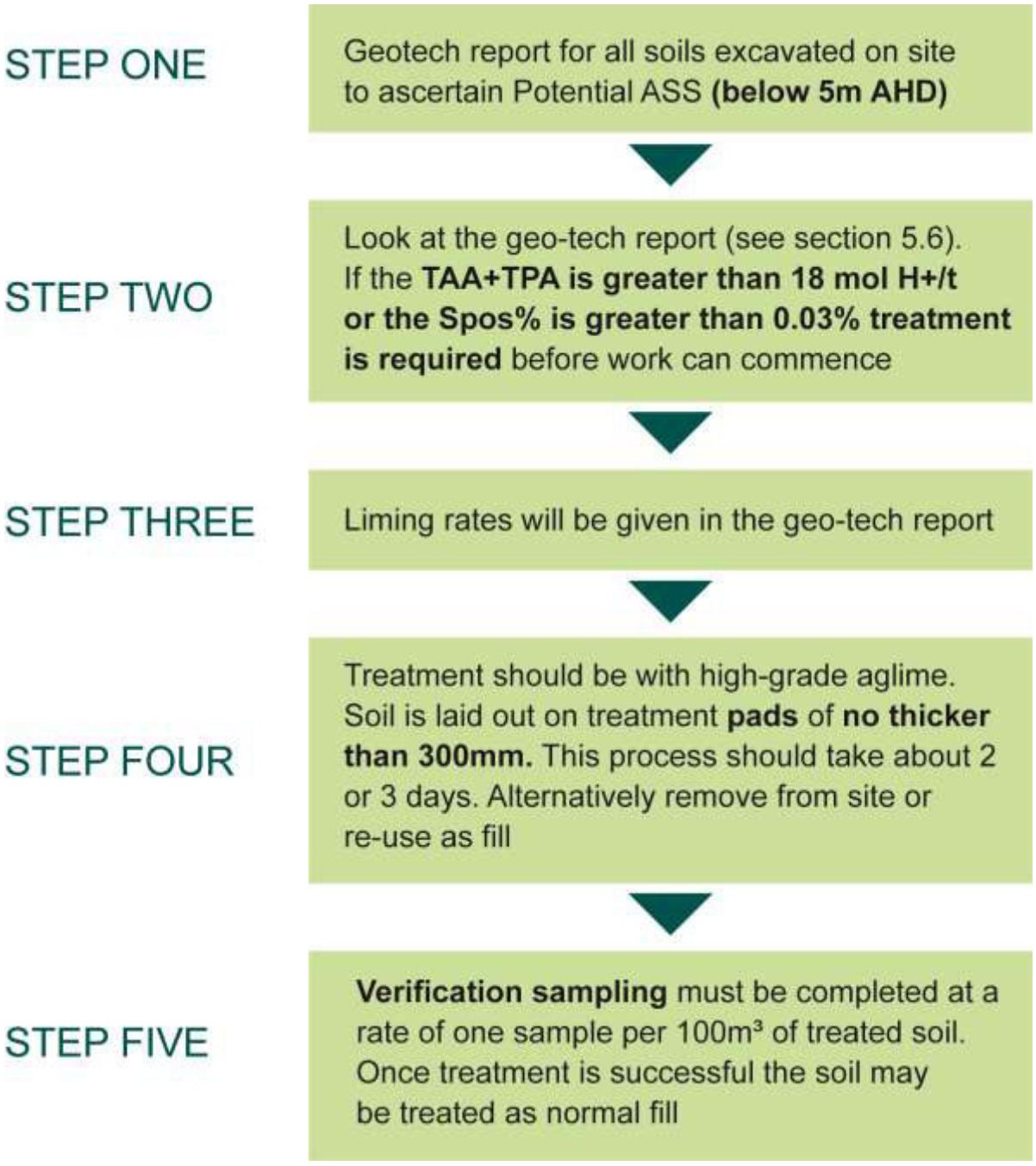
All records of soil testing will be kept on file in the project records. These records need to include the pH prior to and after testing, the volume of material treated and the volume of lime added. The volume of material treated will be summarised.

Accurate and up to date records are to be maintained for all monitoring.

9. Environmental Incidents and Complaints

Should an environmental incident occur during the course of the works, it shall be handled in accordance with the requirements of the CEMP.

Appendix 1 Acid Sulphate Soil Treatment Flowchart



Sydney Port Botany Terminal 3 Project Phase 2 & 3
Shorebird Management Plan

Terms and Definitions

The following terms, abbreviations and definitions are used in this plan:

Terms	Explanation
SPBT3	Sydney Port Botany Terminal 3
CEMP	Construction Environmental Management Plan
EM	Environmental Manager
EPA	Environmental Protection Agency
ERAP	Environmental Risk Action Plan
OEH	Department of Climate Change and Water
SMP	Shorebird Management Plan
EIS	Environmental Impact Statement
PEHEP	Penrhyn Estuary Habitat Enhancement Plan
MCoA	Ministers Conditions of Approval

Distribution

The master controlled SMP document forms part of the project's CEMP as an Appendix. The controlled copy will be retained in iTWOcx, the Sydney International Container Terminal Pty Ltd's (SICTL) document management system, where it can be accessed by personnel as necessary.

All paper copies of this SMP will be considered as 'uncontrolled' unless they have been allocated a 'copy number' in a colour other than black.

Issue, Revision and Re-issue

Revisions of this SMP may be required throughout the duration of the project to reflect changing circumstances or identified opportunities for improvement.

Revisions may result from:

- Management Review
- Changes to the Company's standard system
- Audit (either internal or by external parties)
- Complaints or non-conformance reports.

Revisions shall be reviewed and approved by the Project Manager prior to issue. Updates to this SMP are numbered consecutively and transmitted to holders of controlled copies.

Revision History

Rev	Date	Description	Reviewed	Authorised
0	03/10/13	Initial Draft for internal review	NB	KM
1	18/11/13	Final	NB	KM

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1. Introduction

This Shorebird Management Plan (SMP) has been developed to address the construction activities associated with the Sydney Port Botany Terminal 3 Phase 2 (SPBT3P2) Project.

Development of Sydney Port Botany Terminal 3 will involve the construction of onshore civil infrastructure including container stacking areas. The key components of the Sydney Port Botany Terminal 3 Phase 2 include:

- Ground improvements and consolidation measures
- Temporary and permanent access roads, pedestrian paths and line markings
- Drainage, utilities, services
- Container yards and substation
- HV & LV electrical installations
- Supply and installation of Automated Stacking Cranes (ASC) Cranes
- Supply and installation of communication infrastructure

Note; multiple contractors will be working under this SMP as part of the Terminal 3 Phase 2 construction project. There will be a coordinated approach to manage construction noise and vibration. SICTL, its project representatives and other relevant parties will coordinate this approach.

It is noted that the Penrhyn Estuary Habitat Enhancement works are not carried out as part of the Port Botany Terminal 3 expansion civil works. These works will be undertaken by others, as coordinated by Sydney Ports Corporation.

As the land reclamation works have been completed, the major estuary works have been finalised. Many shorebird habitat requirements in the project EIS refer to this completed stage of land reclamation and estuary habitat creation.

The majority of the civil works will take place on the reclaimed land. The civil works items that will take place on the border of the estuary tidal zone include headwall installation for drainage outlets and creation of a drainage depression required to dissipate and direct stormwater. Avian and Saltmarsh ecologists will be engaged and consulted by the contractor to develop specific work method statements (SWMS) for these works. These SWMS will be stored on ProjectCentre.

1.1 Objective

The objective of this SMP is to ensure shorebirds are managed effectively during construction to avoid any environmental incident.

Appropriately trained personnel and experience gained from previous projects will be used to achieve high environmental performance on the SPBT3P2 Project.

It is recognised that during construction some specific areas will require alterations to the planned control measures due to changing circumstances. In these situations, the planned control measures will be reviewed, risk assessed and, where appropriate and practical, amended as necessary prior to commencing new or modified activities. These alterations are expected to primarily involve erosion and sediment control issues and will be documented as updated erosion and sediment control plans for different stages of the construction works.

This SMP aims to satisfy the following objectives:

- Address the requirements of the planning approval for the SPBT3 Project
- Address the requirements of the Environmental Impact Statement (EIS) for the Port Botany expansion
- Address the requirements of the relevant environmental legislation as it applies to this project
- Summarise potential impacts on the environment from the proposed works
- Document environmental procedures to control potential environmental impacts.

Responsibilities for the implementation and management of this SMP are in accordance with the Project's Framework Construction Environmental Management Plan.

1.2 Targets

The following targets have been identified in terms of shorebird management for the project:

- Monitor the effects of activities and the effectiveness of mitigation measures
- Ensure all works with potential risk to shorebird management are controlled in accordance with this plan
- Ensure all personnel are appropriately trained in environmental awareness and the significance of the ongoing health of the surrounding Bay.
- Minimise impacts to the shorebirds roosting on the construction area
- Minimise noise and use of lighting in the immediate area of the Estuary
- Limit public access to the Estuary via construction site to ensure protection for the shorebirds in conjunction with Sydney Ports
- Ensure that buildings and associated structures do not create a closed in feel to the estuary whereby bird movements are limited
- Observe OEH management strategies, plans and recovery actions for shorebirds and the threatened seabird, Little Tern (Sterna albifrons).

1.3 Statutory provisions and guidelines

The following statutory provisions and guidelines are applicable to the Project, with regards to shorebird management:

- Planning Approval
- Native Vegetation Act 2003
- Noxious Weeds Act 1993
- Threatened Species Conversation Act 1995
- Environment Protection and Biodiversity Conservation Act

1.4 Ministers Conditions of Approval

MCoA's relevant to shorebird management are outlined below.

MCoA Reference	MCoA Detail
B2.9A	In the existing bird feeding habitat to be retained as part of the Penrhyn Estuary Habitat Enhancement Plan required under condition B2.31, sediment deposition over the area shall not

MCoA Reference	MCoA Detail
	exceed an average of 2 centimetres per year.
B2.23	To help minimise the impact of operational noise on the surrounding area, a noise barrier shall be constructed by the Applicant along northern and eastern boundaries of the site prior to the commencement of operations. The applicant must seek appropriate independent expert advice to ensure the design of the noise barrier has regard to the flight path requirements of bird species using the area.
B2.31	Prior to the commencement of enhancement works, the Applicant shall prepare a Penrhyn Estuary Habitat Enhancement Plan in consultation with Botany and Randwick Councils and the Community Consultative Committee, to be agreed between SPC, DEC, DPI (Fisheries), DNR and DOP. The Plan is to include: - details of the proposed enhancement works, including design, staging and timing for completion of key tasks and timeframe for completion of works; - staging to include definition of completion of Stage 1 for purposes of evaluation of success; - details of success criteria for enhancement works, including measurement of impacts on bird numbers in accordance with a monitoring plan, levels and concentrations of food organisms required for birds, acceptable saltmarsh cover; use of existing environmental status as the benchmark for 'no negative impact' together with comparison of relevant reference sites; agreement on time periods for determination of success; - details of contingency plans for specific components for example, erosion of sand/mudflats; - inclusion of a Vegetation Management Plan, providing details of method for mangrove removal and control - inclusion of Marine Mammal Management Plan, prepared in consultation with DEC and DPI (Fisheries); - details of management and monitoring requirements including management and monitoring of surface water quality and groundwater (in liaison with DEC); - details of monitoring of extent, expansion and condition of estuary seagrass, including impact of turbidity, and required management responses; - details of responsibilities for ongoing maintenance of estuary, including maintenance of Stormwater Quality Improvement Devices (SQIDS); and - any other requirements identified and agreed on between the Applicant and relevant agencies. The plan must be submitted and approved by the Director-General prior to the commencement of construction and all works undertaken to the satisfaction of the Director-General.

Note that condition B2.9A refers to dredging works associated with the Port Botany Expansion Project and not part of SICTL works. Condition B2.31 is not part of SICTL works, this issue is covered by the PEHEP already prepared by SPC/NSWP and approved.

2. References

- Port Botany Expansion Environmental Impact Statement
- Penrhyn Estuary Habitat Enhancement Plan (PEHEP)
- Little Tern Recovery Plan (DECC, October 2003)

3. Strategic Approach

3.1 Existing Environment

Shorebird numbers in Penrhyn Estuary exhibit a declining trend. The habitat enhancement works are designed to manage and mitigate potential negative impacts that may result from expanding Port Botany.

Double-banded Plovers Charadrius bicinctus, and other shorebirds, are present at Penrhyn Estuary between April and August.

A colony of Little Tern (a Seabird listed on Schedule 1 Endangered Threatened Species Conservation Act 1995) breeds in Botany Bay and are present between September and March. The preferred breeding and roosting site for these birds is Towra Spit Island.

The Penrhyn Estuary Habitat Enhancement Plan (PEHEP) has been prepared by SPC to meet NSW and Commonwealth conditions of approval for the project. The PEHEP specifies a design for all estuary works, and in particular the new shorebird feeding and roosting habitat. These works are being undertaken by others, separate to the SPBT3P2 civil works project.

3.2 Potential Impacts

Due to the migratory habits of shorebirds at Penrhyn Estuary, construction activities can only be undertaken between April 1 and September 30 each year in the Seasonal Exclusion Zone, when the least numbers of shorebirds are present. No construction activities are allowed within the Permanent Exclusion Zone at any time.

Little Tern may breed in Penrhyn Estuary if suitable conditions are created through the estuary enhancement process. The arrival of Little Tern at the Estuary will be reported to OEH during shorebird monitoring by others who are engaged to undertake the enhancement works. OEH is best positioned to undertake any intervention strategies with regard to Little Tern.

3.3 Mitigation Measures

Mitigation measures for shorebird management for the civil construction works are outlined below. No works are planned within the Penrhyn Estuary for Phase 2 & 3.

Mitigation Measures	Responsibility	Source of Requirement	Timing
In conjunction with SPC, schedule works in Penrhyn Estuary according to shorebird breeding and migratory seasonal habits. Specific construction method statements for works in Penrhyn Estuary (drainage works) have been developed in consultation with an avian ecologist. A site inspection will be undertaken by the avian ecologist prior to these works commencing to check for roosting birds.	Contractor	SPC/NSW Ports Land Owners Consent letter to SICTL	Throughout construction
Prevent persistent ponding on reclamation areas, and fill hollows on other parts of the sites after rain to minimise attraction of birds. Netting will be used to cover any water detention ponds, no pooling of water will be allowed on site without sufficient coverage.	Contractor	EIS Ch 37.2	Throughout construction
The following two measures would assist in the control of feral animals at Penrhyn Estuary: • ensure rubbish is placed in appropriately covered bins at all times. Ensure rubbish is regularly disposed. • should shorebird monitoring during construction and operation of the Port Botany Expansion reveal feral cat and fox predation (on shorebirds) to be an ongoing issue, a 1080 fox baiting program should be initiated in consultation with NPWS and an expert shorebird ecologist.	Contractor	EIS Ch 20.8.4	Throughout construction
To reduce disturbance to migratory shorebirds in Penrhyn	Contractor	EIS Ch 10.1	Throughout

Mitigation Measures	Responsibility	Source of Requirement	Timing
Estuary during construction, works within the Estuary would be carried out between late March and early August to correspond with the period when most migratory shorebirds are on migration or at their northern hemisphere breeding grounds.			construction
If shorebirds are attracted to construction sites, trial and operate bird deterrents as per Bird Hazard Management Plan, suitable for protected shorebirds to reduce attraction of shorebirds to construction sites, including the new terminal.	Contractor	EIS Ch 29.4.2	Throughout construction
Impacts of construction activities on shorebirds using Penrhyn Estuary are to be monitored routinely and measures taken to address any potential adverse impacts. Correspondence with the contractors and consultants undertaking the Penrhyn Estuary Habitat Enhancement works will be ongoing to ensure a successful project is achieved in regards to the enhancement works.	Contractor	SPC	Throughout construction
To avoid birds roosting on site, ensure rubbish is placed in appropriately covered bins at all times. Ensure rubbish is regularly disposed.	Contractor	EIS Ch 29.4.2	Throughout construction
Loading and unloading activities will be undertaken as far away from sensitive areas of the Penrhyn Estuary to minimise impact on the shorebird populations. Noisy plant and equipment will be positioned as far away as practical during construction to minimise impact on the shorebird habitat.	Contractor	MCoA B2.20	Throughout construction
Should shorebird monitoring during construction and operation of the Port Botany Expansion reveal feral cat and fox predation (on shorebirds) to be an ongoing issue, a 1080 fox baiting program should be initiated in consultation with NPWS and an expert shorebird ecologist.	Contractor	EIS Ch20.8.4	Throughout construction

4. Training

All site personnel shall undergo site specific induction training which will include environmental awareness. It will also include training in effective shorebird management on site. The need for these measures will be emphasised.

Toolbox meetings will also be undertaken as and when required. They will cover specific environmental issues and shall include shorebird management measures.

Personnel directly involved in implementing shorebird management measures on site will be given specific training in the function, operation and maintenance of the various measures to be implemented. Training of site personnel will be ongoing through the project to ensure environmental awareness and competency is incorporated into all work during the project.

Personnel conducting sampling, measuring, monitoring and reporting activities are to be suitably trained or experienced in the activity. Records of all training are to be filed in accordance with the project filing system.

4.1 Emergency Response

All incidents will be recorded on the SICTL Environmental Incident Complaint Report form. An investigation will be undertaken into the causes of the incident, potential environmental and safety impacts, improvements that can be made to the construction methodology and actions given to personnel. The incident investigation is outlined further in the FCEMP.

4.2 Monitoring of Controls

All shorebird management measures will be regularly inspected and maintained throughout the project.

Items that require repair or action will be documented on the weekly checklist. Items that require specific and detailed action will be recorded on the Project's Corrective Action Register.

A detailed inspection will also be conducted three to four days prior to long weekends, RDO weekends or other periods when the site will be shut down for a lengthy time period. This will enable items requiring attention to be identified, raised on an Environmental Improvement Request (EIR and implemented.

The contractor will be responsible for providing appropriate resources in terms of labour, plant and equipment to enable the items to be rectified in the nominated timeframes.

Site inspections will be performed and recorded on Weekly Environmental Inspection Checklist by the contractor.

Improvement requests received from the Environmental Representative or other appropriate agencies shall be assessed and responded to by the contractor within 24 hours by the contractor if the issue is not environmentally threatening.

Sydney Port Botany Terminal 3 Project Phase 2 & 3
Bird Hazard Management Plan

Terms and Definitions

The following terms, abbreviations and definitions are used in this plan:

Terms	Explanation
SPBT3	Sydney Port Botany Terminal 3
CEMP	Construction Environmental Management Plan
BHMP	Bird Hazard Management Plan
EM	Environmental Manager
EPA	Environmental Protection Agency
ERAP	Environmental Risk Action Plan
OEH	Department of Climate Change and Water
EIS	Environmental Impact Statement
MCoA	Ministers Conditions of Approval

Distribution

The master controlled Bird Hazard Management Plan (BHMP) document forms part of the project's CEMP as an Appendix. The controlled copy will be retained in iTWOcx, the Sydney International Container Terminal (SICTL) document management system, where it can be accessed by personnel as necessary.

All paper copies of this BHMP will be considered as uncontrolled unless they have been allocated a 'copy number' in a colour other than black.

The client representative will be provided with a copy in conjunction with the submission of the CEMP.

Issue, Revision and Re-issue

Revisions of this BHMP may be required throughout the duration of the project to reflect changing circumstances or identified opportunities for improvement.

Revisions may result from:

- Management Review
- Changes to the Company's standard system
- Audit (either internal or by external parties)
- Complaints or non-conformance reports.

Revisions shall be reviewed and approved by the Project Manager prior to issue. Updates to this BHMP are numbered consecutively and transmitted to holders of controlled copies.

Revision History

Rev	Date	Description	Reviewed	Authorised
0	03/10/13	Initial Draft for internal review	NB	KM
1	18/11/13	Final	NB	KM

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1. Introduction

This Bird Hazard Management Plan (BHMP) has been developed to address the construction activities associated with the Sydney Port Botany Terminal 3 Phase 2 & 3Project. In particular, the plan has been developed to address the requirement of the project Environmental Impact Statement for a Bird Hazard Management Plan.

Development of Sydney Port Botany Terminal 3 Phase 2 will involve the construction of onshore civil infrastructure including container stacking areas. The key components of the Sydney Port Botany Terminal 3 include:

- Ground improvements and consolidation measures
- Temporary and permanent access roads, pedestrian paths and line markings
- Drainage, utilities, services
- Container yards and substation
- HV & LV electrical installations
- Supply and installation of Automated Stacking Cranes (ASC) Cranes
- Supply and installation of communication infrastructure

Note; multiple contractors will be working under this BHMP as part of the Terminal 3 Phase 2 construction project. There will be a coordinated approach to manage construction noise and vibration. SICTL, its project representatives and other relevant parties will coordinate this approach.

1.1 Objective

The objective of this BHMP is to ensure that all risks associated with bird hazard management are considered and managed effectively during construction to avoid any incident.

Appropriately trained personnel and experience gained from previous projects will be used to achieve high environmental performance on the Project.

It is recognised that during construction some specific areas will require alterations to the planned control measures due to changing circumstances. In these situations, the planned control measures will be reviewed, risk assessed and, where appropriate and practical, amended as necessary prior to commencing new or modified activities. These alterations are expected to primarily involve erosion and sediment control issues and will be documented as updated erosion and sediment control plans for different stages of the construction works.

This SWQMP aims to satisfy the following objectives:

- Address the requirements of the planning approval for the Project
- Address the requirements of the Environmental Impact Statement (EIS) for the Port Botany Expansion
- Address the requirements of the relevant environmental legislation as it applies to this project
- Summarise potential impacts on the environment from the proposed works

- Document environmental procedures to control potential environmental impacts.

Responsibilities for the implementation and management of this BHMP are in accordance with the Project's Framework Construction Environmental Management Plan.

1.2 Targets

The following targets have been identified in terms of soil and water management for the project:

- Reduce target bird attraction to construction sites.
- Ensure bird strike does not increase as a consequence of construction activities.
- Prevent unnecessary harm to target bird species
- Monitor the effects of activities and the effectiveness of mitigation measures
- Ensure all personnel are appropriately trained in environmental awareness and the significance of the ongoing health of the surrounding Bay.
- Control activities likely to attract target bird species to construction sites.
- If required, minimise numbers of target bird species by using deterrents such as flagging material and appropriate lighting

1.3 Statutory provisions and guidelines

The following statutory provisions and guidelines are applicable to the Project, with regards to water quality:

- *National Parks and Wildlife Act 1974 (NSW)*
- A Section 120 licence is required to harm or obtain any protected fauna for any specified purposed (excluding threatened species/endangered ecological communities)
- *Threatened Species Conservation Act 1995 (NSW)*
- The Taren Point shorebird community has been determined as an Endangered Ecological Community under Part 3 of the Act. This community utilises foraging and roosting habitats at Penrhyn Inlet.
- Many shorebirds and seabirds within Botany Bay are directly protected as listed threatened species under this Act
- *Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)*
- Many shorebirds and seabirds within Botany Bay are directly protected as listed threatened species and listed migratory species under the EPBC Act.

2. References

- Port Botany Expansion Environmental Impact Statement
- Penrhyn Estuary Habitat Enhancement Plan (PEHEP)
- Reference is also made to the NSW Protection of the Environment Operations Act which integrates into one Act all of the controls necessary to regulate pollution and reduce degradation of the environment. The Act also provides for licensing of

scheduled development work, scheduled activities and for offences and prosecution under this Act

3. Strategic Approach

3.1 Existing Environment

From the Project EIS, large numbers of birds, or any number of large birds, flying close to or across an airport on a regular basis are considered to be a bird hazard because of the potential for "bird strike".

It has been shown that the most common species involved in bird strike at Sydney Airport are Silver Gull, Nankeen Kestrel, Feral Pigeon, Galah and Fruit Bat. Other species account for the rest of the incidents, including Black Swan, Australian Pelican, Australian White Ibis, Black-Shouldered Kite, White-Bellied Sea Eagle, and a range of species associated with grasslands and/or buildings.

3.2 Potential Impacts

From the project EIS, the reclaimed area on the SPBT3P2 project will provide an area that may prove attractive as a roost site for target species birds such as Silver Gulls. Species such as Cormorants are also likely to use the edges of the reclamation as convenient roosting sites close to deep water. These undisturbed open spaces have the potential to attract significant numbers of birds to the site, thereby potentially increasing the risk of bird strike at Sydney Airport.

Pooling of water may occur on the reclaimed land from uneven surfaces. Birds may be attracted to the pools for bathing, especially if close to a roost site or feeding area. Pooling of water can attract birds to congregate and form large flocks.

Construction sites may attract birds if workers feed birds and leave food scraps or rubbish.

Areas illuminated at night are likely to attract birds, especially Silver Gulls. Lit areas help to provide a secure roosting environment where potential predators, such as foxes or feral cats can be seen. Additionally, lights may also attract insects such as moths and other large insects, which in turn attract Silver Gulls.

3.3 Mitigation Measures

Mitigation measures for bird hazard management for the construction phase of the project are outlined below:

Mitigation Measures	Responsibility	Source of Requirement	Timing
Design rubbish bins to be bird and animal proofed	Contractor	EIS Ch 37.2	Throughout construction
Utilise tinted lights at construction sites to minimise attraction of insects, to reduce risk of attracting target birds.	Contractor	EIS Ch 29.4.1	Throughout construction
Restrict public access to the estuary using fencing & signs to reduce litter and limit food scraps and fish/bait that may attract target bird species	Contractor	Best Practice	Throughout construction

Mitigation Measures	Responsibility	Source of Requirement	Timing
Prevent persistent ponding on reclamation areas, and fill hollows on other parts of the sites after rain to minimise attraction of birds	Contractor	EIS Ch 37.2	Throughout construction
Collect and dispose of litter daily to reduce attraction of target bird species	Contractor	EIS Ch 37.2	Throughout construction
Cover sediment basins and other temporary construction-related ponds with a net to minimise attraction of birds.	Contractor	EIS Ch 37.2	Throughout construction
If target birds are attracted to construction sites, including rooves of construction buildings, trial and operate bird deterrents such as bunting, tape, sirens, scare guns, mock hawks, or bio-acoustics (natural predator and distress calls) to reduce attraction	Contractor	EIS Ch 29.4	Throughout construction
In the event that all deterrents are trialled and prove to be ineffective, apply for a license to harm from the DECC and engage a qualified pest controller to remove birds under this license. It is not envisaged that this response will be required given the range of proposed housekeeping measures	Contractor	EIS Ch 29.4	Throughout construction

3.4 Monitoring

Monitoring will be undertaken during the construction phase of SPBT3P2 for bird hazard management and is outlined in the table below.

Monitoring Item	Frequency	Source	Responsibility
Monitor numbers of target bird species on construction sites to determine whether deterrents are required to preclude birds from feeding and roosting.	Daily check, during daylight and evening Weekly check and count, during daylight and evening	Locations to be defined in conjunction with SACL. EIS Ch 38.5	Contractor or Avian Ecologist – if required
Monitor effectiveness of bird deterrent measures	Daily, if/when required	Measures consistent with all legislative and ethical requirements.	Contractor or Avian Ecologist - if required
Monitor to determine whether an application to OEH to harm or obtain protected fauna is required in managing the risk of bird strike	Daily, if/when required	NPW Act section 120/121 Permit required if harm or obtain native fauna criteria exists.	Contractor
Monitor target birds attraction to waste bins, ponding, lighted areas and estuary roosts.	Daily check	Site Practice	Contractor

Records of birds monitoring shall be reported in the monthly environmental report by the contractor.

3.5 Training

All site personnel shall undergo site specific induction training which will include environmental awareness. It will also include training in effective bird hazard management on site. The need for these controls will be emphasised.

Toolbox meetings will also be undertaken as and when required. They will cover specific environmental issues and shall include bird hazard control measures.

Personnel directly involved in implementing bird hazard controls on site will be given specific training in the construction, operation and maintenance of the various measures to be implemented. Training of site personnel will be ongoing through the project to ensure environmental awareness and competency is incorporated into all work during the project.

Personnel conducting sampling, measuring, monitoring and reporting activities are to be suitably trained or experienced in the activity. Records of all training are to be filed in accordance with the project filing system.

3.6 Emergency Response

All incidents will be recorded on Environmental Incident Complaint. An investigation will be undertaken into the causes of the incident, potential environmental and safety impacts, improvements that can be made to the construction methodology and actions given to personnel. The incident investigation is outlined further in the CEMP.

3.7 Monitoring of Controls

A detailed inspection will also be conducted three to four days prior to long weekends, RDO weekends or other periods when the site will be shut down for a lengthy time period. This will enable items requiring attention to be identified, raised on an Environmental Improvement Request (EIR) and implemented

The Superintendent will be responsible for providing appropriate resources in terms of labour, plant and equipment to enable the items to be rectified in the nominated timeframes.

Inspections by the contractor are to be recorded on Weekly Environmental Inspection Checklist.

Improvement requests received from the SICTL Environmental Representative or other appropriate agencies shall be assessed and responded to within 24 hours by the contractor, if the issue is not environmentally threatening.

Sydney Port Botany Terminal 3 Project Phase 2 & 3
Feral Animal Management Plan

Terms and Definitions

The following terms, abbreviations and definitions are used in this plan:

Terms	Explanation
SPBT3	Sydney Port Botany Terminal 3
CEMP	Construction Environmental Management Plan
EM	Environmental Manager
EPA	Environmental Protection Agency
ERAP	Environmental Risk Action Plan
OEH	Department of Climate Change and Water
FAMP	Feral Animal Management Plan
EIS	Environmental Impact Statement
MCoA	Ministers Conditions of Approval

Distribution

The master controlled Feral Animal Management Plan (FAMP) document forms part of the project's CEMP as an Appendix. The controlled copy will be retained in iTWOcx, the Sydney International Container Terminals Pty Ltd (SICTL) document management system, where it can be accessed by personnel as necessary.

All paper copies of this FAMP will be considered as 'uncontrolled' unless they have been allocated a 'copy number' in a colour other than black.

Issue, Revision and Re-issue

Revisions of this FAMP may be required throughout the duration of the project to reflect changing circumstances or identified opportunities for improvement.

Revisions may result from:

- Management Review
- Changes to the Company's standard system
- Audit (either internal or by external parties)
- Complaints or non-conformance reports.

Revisions shall be reviewed and approved by the Project Manager prior to issue. Updates to this FAMP are numbered consecutively and transmitted to holders of controlled copies.

Revision History

Rev	Date	Description	Reviewed	Authorised
0	30/09/13	Initial Draft	NB	KM
1	18/11/13	Final	NB	KM

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1. Introduction

This Feral Animal Management Plan (FAMP) has been developed to address the construction activities associated with the Sydney Port Botany Terminal 3 Phase 2 & 3 Project. In particular, the plan has been developed to address the requirement for a Feral Animal Management Plan as outlined in the Framework Construction Environmental Management Plan.

Development of Sydney Port Botany Terminal 3 will involve the construction of onshore civil infrastructure including container stacking areas. The key components of the Sydney Port Botany Terminal 3 include:

- Ground improvements and consolidation measures
- Temporary and permanent access roads, pedestrian paths and line markings
- Drainage, utilities, services
- Container yards and substation
- HV & LV electrical installations
- Supply and installation of Automated Stacking Cranes (ASC) Cranes
- Supply and installation of communication infrastructure

Note; multiple contractors will be working under this FAMP as part of the Terminal 3 Phase 2 construction project.

2. Objective

This FAMP seeks to ensure feral animals are managed effectively to prevent any negative environmental impact on Botany Bay and associated ecosystems. Appropriately trained personnel and experience gained from previous projects will be used to achieve high environmental performance on the Project.

It is recognised that during construction some specific areas will require alterations to the planned control measures due to changing circumstances. In these situations, the planned control measures will be reviewed, risk assessed and, where appropriate and practical, amended as necessary prior to commencing new or modified activities.

This FAMP aims to satisfy the following objectives:

- Address the requirements of the planning approval for the Project
- Address the requirements of the Environmental Impact Statement (EIS) for the Port Botany expansion
- Address the requirements of the relevant environmental legislation as it applies to this project
- Summarise potential impacts on the environment from the proposed works
- Document environmental procedures to control potential environmental impacts.

Responsibilities for the implementation and management of this FAMP are in accordance with the Project's Construction Environmental Management Plan.

2.1 Targets

The following targets have been identified in terms of feral animal management for the project:

- Protect shorebirds by monitoring, actively managing and if necessary, controlling pest predators.
- Protect vegetation by managing rabbits and controlling disease.
- Monitor the effects of activities and the effectiveness of mitigation measures
- Ensure all personnel are appropriately trained in environmental awareness, feral animals and the significance of the ongoing health of the surrounding Bay.

2.2 Statutory provisions and guidelines

The following statutory provisions and guidelines are applicable to the Project, with regards to water quality:

- Sydney Port Botany Terminal 3 Expansion Planning Approval
- Threatened Species Conservation Act 1995 (NSW)
- Pesticides Act 1999 (NSW)
- Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)
- Rural Lands Protection Act 1998 (NSW)
- Pesticide Regulation 1999 (NSW)
- Pesticide Control Order
- POEO Act 1997.

3. References

- Port Botany Expansion Environmental Impact Statement
- Predation by the Red Fox – Threat Abatement Plan (DECC, December 2001)
- Penrhyn Estuary Habitat Enhancement Plan (PEHEP)
- Reference is also made to the NSW Protection of the Environment Operations Act which integrates into one Act all of the controls necessary to regulate pollution and reduce degradation of the environment. The Act also provides for licensing of scheduled development work, scheduled activities and for offences and prosecution under this Act.

4. Strategic Approach

4.1 Background

Key Threatening Processes listed under both the TSC and EPBC Acts relevant to the study area and the Port Botany Expansion comprise of the following:

- Predation by the European Red Fox; and
- Predation by Feral Cats.

Domestic dogs are also a disturbance threat for shorebirds.

Penrhyn Estuary is located close to major population centres and access routes and has traditionally been used for recreational purposes including dog walking.

Use of 1080 poison (sodium monofluoroacetate) is heavily restricted by the National Registration Authority. Its use is currently precluded at Port Botany due to distance from habitation regulations. An exemption must be applied for its use under current licensing conditions.

4.2 Construction Issues

Fencing is not a practical option to completely exclude foxes, dogs or cats in this environment as they will walk around fencing at low tide. It may, however, reduce the number of pest species within the estuary, especially if used in conjunction with other control measures.

Baiting of foxes using 1080 would only be undertaken where a demonstrated need arises, such as evidence of prolonged predation. The presence of foxes would not in itself justify implementation of a 1080 fox control program. It would be carried out in conjunction with OEH National Parks and other relevant authorities.

Pest control required outside the terminal 3 work site is considered to be outside of SICTL's scope. Any required actions will be in consultation with SICTL and Sydney Ports.

4.3 Pest Control Methods

A range of pest species have the potential to impact upon shorebirds at Penrhyn, however the two species most likely to pose threats are foxes and feral cats. Domestic dogs pose a significant disturbance threat to shorebirds and can harass shorebirds to the point of causing them to desert a site. Therefore domestic dogs are also considered.

The minimisation, the secure storage and frequent removal of waste on site will reduce feral animal scavenging opportunities and is a key strategy for preventing feral animals becoming a pest on site.

4.3.1 1080 Baiting of Red Fox

The Red Fox is present at Penrhyn Estuary as well as adjacent areas and nearby Botany Bay National Park. Broad scale baiting using the toxin 1080 is generally considered the most effective method of fox control currently available. Baiting with 1080 is accepted practice in many areas, including Botany Bay National Park.

The effective use of 1080 baiting is limited by various factors, and must be implemented in conjunction with OEH and other authorities.

The National Registration Authority (NRA) places restrictions on the use of 1080 poison. These restrictions are to reduce risk to people and non-target animals. For example, baits must not be laid where specified distance restrictions cannot be met. In these instances other methods of control should be sought.

Rainfall and ground water saturation results in the rapid breakdown of 1080 baits, rendering them ineffective as control agents. Periods of rainfall can preclude the use of 1080 as a control method, and in these circumstances other methods of control should be sought. Being an estuary, Penrhyn Estuary has a high water table and receives regular tidal exchanges. This, combined with any rainfall, potentially reduce the effectiveness of any 1080 baiting program.

Some foxes may develop a condition known as 'bait shyness'. This condition may be a natural awareness in some individuals or arise from exposure to a sub-lethal dose of 1080 toxin. These individuals may refuse to take further baits and cannot therefore be targeted through a 1080 program. Other control methods should be sought to manage bait shy individuals.

Under certain circumstances parts of the estuary may be closed to staff for management reasons. While closures of this nature are likely to be infrequent, they may restrict staff movements. Under these circumstances the effectiveness of reserve baiting programs is

severely limited. Bait placement and the presence of domestic dogs would be considered in establishing the programs.

Some alternatives to 1080 baiting used in NSW are aerial baiting, den fumigation, soft jaw trapping, dogging, biological control, exclusion fencing, ground and aerial shooting. These alternatives are difficult to implement in the context of Penrhyn Estuary.

1080 Baiting will only be undertaken in consultation with SICTL and is not expected to be within SICTL's scope of works.

4.3.2 Controlling Feral Cats

Feral cats are known to prey on many small native animals. 1080 programs cannot be used to control feral cats. Trapping is the preferred method for controlling feral cats. Any cats trapped during this project will be taken to a veterinarian by the contractor.

4.3.3 Controlling Domestic Dogs

Penrhyn Estuary has a history of usage by recreational dog walkers. Domestic dogs pose a disturbance risk and may harass and chase shorebirds from the site. Many shorebirds undertake long distance migrations, and whilst in Australia seek areas with low levels of disturbance to reach peak condition prior to migration.

Persistent interruptions to foraging and roosting regimes may cause shorebirds to temporarily or permanently desert a site. The population of shorebirds at Penrhyn is in decline, which may be due to increased disturbance over time.

Recreational users and domestic dogs are to be excluded from the estuary and construction site as early as possible and in accordance with the construction timetable. Signage will be introduced and exclusion fencing installed at certain parts of the site.

4.3.4 Controlling Rabbits

The extent of rabbit populations at Penrhyn Estuary is not adequately known. Pindone baiting is recommended for use at sites with medium to high rabbit density. Alternative control methods e.g. trapping are recommended for sites exhibiting low rabbit density. In the event that rabbits become a nuisance pest i.e. impacting upon landscaping etc, a monitoring and control program is recommended in conjunction with an ecologist and OEH.

4.3.5 Controlling Introduced Mice & Rats

Introduced mice and rats may be present within Penrhyn Estuary. Maintaining an environment free of food scraps and periodic waste collection will limit the numbers of introduced rodents. Where numbers dictate, controls may include trapping and poisoning. This would be done in consultation with an ecologist to minimise the risk to non-target species.

5. Mitigation Measures

Mitigation measures for soil and water quality management for the construction phase of the project are outlined below.

Mitigation Measures	Responsibility	Source of Requirement	Timing
Design rubbish bins to be bird and animal proof	Contractor	EIS Ch 20.8.4	Throughout construction
Restrict public access to the estuary through signage, fencing	Contractor	EIS Ch 20.8.4	Site establishment

Mitigation Measures	Responsibility	Source of Requirement	Timing
Collect and dispose of litter daily to reduce attraction of target species	Contractor	Best Practice	Throughout construction
If required, trial and operate pest control measures involving animal trapping or other methods to control domestic and feral animals on site.	Contractor	EIS Ch 20.8.4	If required
If required, prior to any use of 1080 poison to control foxes consult with OEH, DPI Fisheries and the Rural Lands Protection Board, and undertake control works in accordance with National Registration Authority conditions of use.	Contractor	EIS Ch 20.8.4	If required
If pesticides are used, follow contract requirements and SPC's Pesticide Use Notification Plan	Contractor	Contract	If required

6. Monitoring

Monitoring Item	Frequency	Responsibility
Reporting presence of foxes/cats	Ongoing daily	All personnel
If required, effectiveness of pest controls to ensure that no build up of target species occurs.	If required	Contractor
Presence of pests and weeds in landscaped areas.	Monthly, following landscaping	Contractor
Auditing correct waste procedures on site	Monthly	Contractor

7. Training

All site personnel shall undergo site specific induction training which will include environmental awareness. It will also include training in feral animal management on site. The need for any controls will be emphasised.

Toolbox meetings will also be undertaken as and when required. They will cover specific environmental issues and shall include feral animal control measures.

Personnel directly involved in implementing feral animal control measures on site will be given specific training in the construction, operation and maintenance of the various measures to be implemented. Training of site personnel will be ongoing through the project to ensure environmental awareness and competency is incorporated into all work during the project.

Personnel conducting measuring, monitoring and reporting activities are to be suitably trained or experienced in the activity. Records of all training are to be filed in accordance with the project filing system.

8. Monitoring of Controls

Items that require repair or action will be documented on the contractors weekly environmental checklist. Items that require specific and detailed action will be recorded on the Project's Corrective Action Register.

A detailed inspection will also be conducted three to four days prior to long weekends, RDO weekends or other periods when the site will be shut down for a lengthy time period. This will enable items requiring attention to be identified, raised on an Environmental Improvement Request (EIR) and implemented.

The Contractor will be responsible for providing appropriate resources in terms of labour, plant and equipment to enable the items to be rectified in the nominated timeframes.

Site inspections to be recorded on Weekly Environmental Inspection Checklist.

Improvement requests received from the Client's Environmental Representative or other appropriate agencies shall be assessed and responded to within 24 hours by the contractor if the issue is not environmentally threatening.

Sydney Port Botany Terminal 3 Project Phase 2 & 3
Energy Management Action Plan

Terms and Definitions

The following terms, abbreviations and definitions are used in this plan:

Terms	Explanation
SPBT3	Sydney Port Botany Terminal 3
CEMP	Construction Environmental Management Plan
EM	Environmental Manager
EPA	Environmental Protection Agency
ERAP	Environmental Risk Action Plan
OEH	Department of Climate Change and Water
EMAP	Energy Management Action Plan
EIS	Environmental Impact Statement
MCoA	Ministers Conditions of Approval

Distribution

The master controlled Energy Management Action Plan (EMAP) document forms part of the project's CEMP as an Appendix. The controlled copy will be retained in iTWOcx, the Sydney International Container Terminals Pty Ltd (SICTL) document management system, where it can be accessed by personnel as necessary.

All paper copies of this EMAP will be considered as 'uncontrolled' unless they have been allocated a 'copy number' in a colour other than black.

Issue, Revision and Re-issue

Revisions of this EMAP may be required throughout the duration of the project to reflect changing circumstances or identified opportunities for improvement.

Revisions may result from:

- Management Review
- Changes to the Company's standard system
- Audit (either internal or by external parties)
- Client complaints or non-conformance reports.

Revisions shall be reviewed and approved by the Project Manager prior to issue. Updates to this EMAP are numbered consecutively and transmitted to holders of controlled copies.

Revision History

Rev	Date	Description	Reviewed	Authorised
0	28/09/13	Initial Draft f for Internal review	NB	KM
1	18/11/13	Final	NB	KM

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1. Introduction

This Energy Management Action Plan (EMAP) has been developed to address the construction activities associated with the Sydney Port Botany Terminal 3 Phase 2 & 3 Project. In particular, the plan has been developed to address the requirement for an Energy Management Action Plan as outlined in the Framework Construction Environment Management Plan.

Development of Sydney Port Botany Terminal 3 Phase 2 & 3 will involve the construction of onshore civil infrastructure including container stacking areas. The key components of the Sydney Port Botany Terminal 3 Phase 2 include:

- Ground improvements and consolidation measures
- Temporary and permanent access roads, pedestrian paths and line markings
- Drainage, utilities, services
- Container yards and substation
- HV & LV electrical installations
- Supply and installation of Automated Stacking Cranes (ASC) Cranes
- Supply and installation of communication infrastructure

Note; multiple contractors will be working under this EMAP as part of the Terminal 3 Phase 2 construction project. There will be a coordinated approach to manage construction noise and vibration. SICTL, its project representatives and other relevant parties will coordinate this approach.

1.1 Objective

This EMAP seeks to ensure that energy resources are maintained and managed effectively. Appropriately trained personnel and experience gained from previous projects will be used to achieve high environmental performance on the SPBT3 Project.

It is recognised that during construction some specific areas will require alterations to the planned control measures due to changing circumstances. In these situations, the planned control measures will be reviewed, risk assessed and, where appropriate and practical, amended as necessary prior to commencing new or modified activities.

This EMAP aims to satisfy the following objectives:

- Address the requirements of the planning approval for the SPBT3P2 Project
- Address the requirements of the Environmental Impact Statement (EIS) for the Port Botany expansion
- Address the requirements of the relevant environmental legislation as it applies to this project

Responsibilities for the implementation and management of this EMAP are in accordance with the Project's Construction Environmental Management Plan.

1.2 Targets

The following targets have been identified in terms of soil and water management for the project:

- Implementation of best practice energy resourcing methods
- Ensure construction activities are managed to meet energy resourcing objectives.
- Monitor the effects of activities and the effectiveness of management measures
- Ensure all personnel are appropriately trained in environmental awareness.
- Maximise renewable energy resources.

2. References

- Port Botany Expansion Environmental Impact Statement
- Sydney Ports Corporation Green Guidelines
- City of Botany Bay Energy Efficiency Development Control Plan
- Reference is also made to the NSW Protection of the Environment Operations Act which integrates into one Act all of the controls necessary to regulate pollution and reduce degradation of the environment. The Act also provides for licensing of scheduled development work, scheduled activities and for offences and prosecution under this Act

3. Background

During the construction phase of the SPBT3P2 project, energy consumption would result from activities including:

- ground improvement and pavement works;
- stacking yard and pavements
- development of terminal facilities; and
- procurement and delivery of construction materials and stacking cranes and their assembly

Energy consumption will utilise resources such as electricity, diesels, petrol, oils and other fuels.

4. Mitigation Measures

Mitigation measures for energy management for the construction phase of the project are outlined below.

Mitigation Measures	Responsibility	Source of Requirement	Timing
Utilise 'Green Power' connections as far as practical for site compounds and buildings.	Contractor	Best Practice	Site Establishment
Efficient work scheduling and methods that minimise equipment idle time and double handling of material	Contractor	EIS Ch 35.4.1	Throughout construction
Throttling down and switching off construction equipment when not in use	Contractor	EIS Ch 35.4.1	Throughout construction
Switching off truck engines while they are waiting to access the site and while they are waiting to be loaded and unloaded	Contractor	EIS Ch 35.4.1	Throughout construction
Switching off site office equipment and lights and using optimum lighting intensity for security and safety purposes	Contractor	EIS Ch 35.4.1	Throughout construction
Careful design of temporary roads to reduce transportation distances	Contractor	EIS Ch 35.4.1	Throughout construction
Regular maintenance of equipment to ensure optimum operations and fuel efficiency	Contractor	EIS Ch 35.4.1	Throughout construction
Specification of energy efficient construction equipment considered prior to being brought on site	Contractor	EIS Ch 35.4.1	Throughout construction
Installation of 'smart meters' at the site compound facilities to allow real time monitoring of energy usage on site.	Contractor	Best Practice initiative	Install during site establishment Use throughout construction

5. Training

All site personnel shall undergo site specific induction training which will include environmental awareness. Toolbox meetings will also be undertaken as and when required. They will cover specific environmental issues and shall include energy resource management.

Personnel directly involved in utilising energy resources on site will be given training in the construction, operation and maintenance of the various measures to be implemented. Training of site personnel will be ongoing through the project to ensure environmental awareness and competency is incorporated into all work during the project.

Personnel conducting measuring, monitoring and reporting activities are to be suitably trained or experienced in the activity. Records of all training are to be filed in accordance with the project filing system.

6. Monitoring

Energy usage on site will be tracked on a regular basis by the contractor. If excessive consumption or fluctuations of greater occur, investigations will be undertaken and appropriate actions taken to address the problem.

Items that require repair or action will be documented on the weekly checklist. Items that require specific and detailed action will be recorded on the Project's Corrective Action Register.

A detailed inspection will also be conducted three to four days prior to long weekends, RDO weekends or other periods when the site will be shut down for a lengthy time period. This will enable items requiring attention to be identified, raised on an Environmental Improvement Request (EIR) and implemented.

The Contractor will be responsible for providing appropriate resources in terms of labour, plant and equipment to enable the items to be rectified in the nominated timeframes.

Inspections to be performed and recorded by the contractor on a Weekly Environmental Inspection Checklist. If deemed necessary, additional environmental controls measures will be implemented to meet targets.

Improvement requests received from the SICTL Environmental Representative or other appropriate agencies shall be assessed and responded to within 24 hours if the issue is not environmentally threatening.

Sydney Port Botany Terminal 3 Project Phase 2 & 3
Water Resource Management Plan

Terms and Definitions

The following terms, abbreviations and definitions are used in this plan:

Terms	Explanation
SPBT3	Sydney Port Botany Terminal 3
CEMP	Construction Environmental Management Plan
EM	Environmental Manager
EPA	Environmental Protection Agency
ERAP	Environmental Risk Action Plan
OEH	Department of Climate Change and Water
WRMP	Water Resource Management Plan
EIS	Environmental Impact Statement
MCoA	Ministers Conditions of Approval

Distribution

The master controlled WRMP document forms part of the project's CEMP as an Appendix. The controlled copy will be retained in iTWOcx, the Sydney International Container Terminal Pty Ltd (SICTL) document management system, where it can be accessed by personnel as necessary.

All paper copies of this WRMP will be considered as uncontrolled unless they have been allocated a 'copy number' in a colour other than black.

Issue, Revision and Re-issue

Revisions of this WRMP may be required throughout the duration of the project to reflect changing circumstances or identified opportunities for improvement.

Revisions may result from:

- Management Review
- Changes to the Company's standard system
- Audit (either internal or by external parties)
- Client complaints or non-conformance reports.

Revisions shall be reviewed and approved by the Project Manager prior to issue. Updates to this WRMP are numbered consecutively and transmitted to holders of controlled copies.

Revision History

Rev	Date	Description	Reviewed	Authorised
0	03/10/13	Initial Draft for internal review	NB	KM
1	18/11/13	Final	NB	KM

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1. Introduction

This Water Resource Management Plan (WRMP) has been developed to address the construction activities associated with the Sydney Port Botany Terminal 3 Phase 2 & 3 Project. In particular, the plan has been developed to address the requirement for a Water Resource Management Plan as outlined in the Framework Construction Environmental Management Plan for the project.

Development of Sydney Port Botany Terminal 3 will involve the construction of onshore civil infrastructure including container stacking areas. The key components of the Sydney Port Botany Terminal 3 Phase 2 & 3 include:

- Ground improvements and consolidation measures
- Temporary and permanent access roads, pedestrian paths and line markings
- Drainage, utilities, services
- Container yards and substation
- HV & LV electrical installations
- Supply and installation of Automated Stacking Cranes (ASC) Cranes
- Supply and installation of communication infrastructure

Note; multiple contractors will be working under this WRMP as part of the Terminal 3 construction project. There will be a coordinated approach to manage construction noise and vibration. SICTL, its project representatives and other relevant parties will coordinate this approach.

1.1 Objective

This WRMP seeks to ensure that water resourcing is maintained and managed effectively during the project. Appropriately trained personnel and experience gained from previous projects will be used to achieve high environmental performance on the Project.

It is recognised that during construction some specific areas will require alterations to the planned control measures due to changing circumstances. In these situations, the planned control measures will be reviewed, risk assessed and, where appropriate and practical, amended as necessary prior to commencing new or modified activities.

This WRMP aims to satisfy the following objectives:

- Address the requirements of the planning approval for the Project
- Address the requirements of the Environmental Impact Statement (EIS) for the Port Botany expansion
- Address the requirements of the relevant environmental legislation as it applies to this project

Responsibilities for the implementation and management of this WRMP are in accordance with the Project's Construction Environmental Management Plan.

1.2 Targets

The following targets have been identified in terms of soil and water management for the project:

- Implementation of best practice water usage techniques
- Ensure construction activities are managed to meet water quality objectives.
- Monitor the effects of activities and the effectiveness of mitigation measures
- Ensure all personnel are appropriately trained in environmental awareness and the significance of the ongoing health of the surrounding Bay.
- Reduce potable water used on site.
- Provide capacity to store and reuse stormwater generated on site.

1.3 Statutory provisions and guidelines

The following statutory provisions and guidelines are applicable to the Project, with regards to water quality:

- POEO Act 1997
- Water Management Act 2000

1.4 Ministers Conditions of Approval

MCoA's relevant to soil and water quality management are outlined below.

MCoA Reference	MCoA Detail
B2.13	Prior to commencement of construction, the Applicant is required to consult with Sydney Water regarding the likely requirements from Sydney Water for a section 73 Compliance Certificate.

It is noted that the responsibility of gaining the Section 73 Compliance Certificate sits with NSW Ports as stated in the Framework Construction Environmental Management Plan Section 2.

2. References

- Port Botany Expansion Environmental Impact Statement
- Reference is also made to the NSW Protection of the Environment Operations Act which integrates into one Act all of the controls necessary to regulate pollution and reduce degradation of the environment. The Act also provides for licensing of scheduled development work, scheduled activities and for offences and prosecution under this Act

3. Strategic Approach

3.1 Water Usage During Construction

During construction water would be used for:

- General domestic purposes such as washing, drinking and amenities;
- Washing down and cleaning equipment at localised work sites;
- Concrete batching and curing;
- Dust reduction measures; and
- Fire water for use during emergencies.

From the project EIS it is estimated that during construction of the new terminal, approximately 15 ML of potable water could be required per year.

SPC's Green Ports Guidelines requires reduction of water use, and water reuse, during construction. Water is required for a number of aspects of construction, such as:

- Supply for the concrete batch plant;
- Supply for dust suppression of roads and the dried reclamation surface;
- Supply for watering landscaped areas;
- Domestic supply for site offices, compounds, vessels and amenities; and
- Miscellaneous use for wash down or road base compaction.

3.2 Wastewater

All wastewater from offices and compounds will be discharged to sewer where practical. Connections to sewer will be made during site establishment, prior to use of the site where practical. Waste water will otherwise be collected and taken off site regularly by an appropriately licensed contractor and records kept.

3.3 Water Recycling

Rainwater captured from roofs will be maximised in above-ground tanks, where practical, for reuse either in the concrete batch plant or dust suppression on the reclamation area.

A concrete recycling unit that recovers aggregates, sand and water from waste wet concrete will be used, if a batching plant is implemented in Phase 2. Recovered water is proposed for reuse either in the concrete batch plant, or for dust suppression on internal roads and the dried reclamation surface.

3.4 Water Efficiency

Water efficient fixtures and fittings such as low flush volume toilet pans, tap aerators and self-timed taps will be used to reduce potable water demand.

3.5 Water Sources

Groundwater extraction is restricted in the Port Botany area due to historic industrial contamination. The entire construction area is within the Botany Basin Groundwater Extraction Exclusion Area designated by the NSW Office of Water under the Water Act 1912. Therefore use of groundwater will not be a preferred option.

Seawater may be used for dust suppression on internal roads and the dried reclamation surface, where this does not affect the ability of the reclaimed area to be revegetated.

A connection to Sydney Water reticulated water will be used for supplying the concrete batch plant (if required), offices and compound.

Recovered water may also be sourced from sediment basins.

4. Mitigation Measures

Mitigation measures for soil and water quality management for the construction phase of the project are outlined below.

Mitigation Measures	Responsibility	Source of Requirement	Timing
Water use and wastewater discharge at the site would be subject to a Water Resources Management Plan (WRMP),	Contractor	EIS Ch33.5	Throughout construction
Incorporate water efficient appliances into the site establishment design of site compounds	Contractor	SPC Green Ports Guideline	Site Establishment and throughout construction
Incorporate water storage tanks into the site establishment design	Contractor	SPC Green Ports Guideline	Site Establishment and throughout construction
Recycle collected stormwater and waste concrete water on-site	Contractor	Best Practice	Throughout construction
Purchase / use water efficient appliances (e.g. dual flushing toilets, taps, showers)	Contractor	SPC Green Ports Guideline	Throughout construction
Use 'Desert Cubes' or similar in urinals to allow waterless urinals where practical	Contractor	SPC Green Ports Guideline	Throughout construction
Use water crystals for any landscape plantings to reduce water demand	Contractor t	SPC Green Ports Guideline	Throughout construction
Ensure that sewage from portable toilets is removed by a licensed waste contractor, with a suitable trade waste agreement.	Contractor	EIS Ch33.5	Throughout construction

5. Training

All site personnel shall undergo site specific induction training which will include environmental awareness. Toolbox meetings will also be undertaken as and when required. They will cover specific environmental issues and shall include water resource management.

Personnel directly involved in utilising water resources on site will be given specific training in the construction, operation and maintenance of the various measures to be implemented. Training of site personnel will be ongoing through the project to ensure environmental awareness and competency is incorporated into all work during the project.

Personnel conducting measuring, monitoring and reporting activities are to be suitably trained or experienced in the activity. Records of all training are to be filed in accordance with the project filing system.

6. Monitoring

Water usage on site will be tracked and recorded by the contractor on a monthly basis. If excessive consumption or fluctuations of greater than 20% occur, investigations will be undertaken and appropriate actions taken to address the problem.

Items that require repair or action will be documented on the weekly checklist. Items that require specific and detailed action will be recorded on the Project's Corrective Action Register.

A detailed inspection will also be conducted three to four days prior to long weekends, RDO weekends or other periods when the site will be shut down for a lengthy time period. This will enable items requiring attention to be identified, raised on an Environmental Improvement Request (EIR) and implemented.

The Contractor will be responsible for providing appropriate resources in terms of labour, plant and equipment to enable the items to be rectified in the nominated timeframes.

Inspections by the contractor are to be recorded on Weekly Environmental Inspection Checklist. If deemed necessary, additional sedimentation control measures will be implemented to ensure that water quality is maintained throughout the works.

Improvement requests received from the SICTL Environmental Representative or other appropriate agencies shall be assessed and responded to by the contractor within 24 hours if the issue is not environmentally threatening.