Annual Environmental Management Report 2013

Sydney International Container Terminal 3

EP0050 17 January 2014

EP Risk Management

Annual Environmental Management Report 2013

for

Sydney International Container Terminal 3

Contents

Page number

Acronyms and Glossary iii

Executive summary iv

1. Introduction 1

1.1 Project overview 1
1.2 Background to this report 1
1.3 Purpose and scope of this report 2
1.4 Annual Environmental Management reports 4
1.5 Environmental plans 4
1.6 Construction status 6

2. Project approvals and licenses 8

2.1 Approvals and licenses 8
2.2 Approval modifications 9

3. Approvals Compliance Review 10

3.1 MCoA Compliance Review 10
3.2 Commonwealth Project Approvals Review 12
3.3 Compliance Status 12

4. Complaints 16

4.1 Complaint management and reporting 16
4.2 Complaint summary 16

5. Assessment of impact predictions 18

6. Summary of monitoring results 19

7. Environmental performance 20

7.1 Environmental objectives and targets 20
7.2 Environmental performance 25

8. Annual independent environmental audit 26

8.1 Audit purpose 27
8.2 Audit findings 27
8.3 Audit conclusion 28

9. Conclusions 29

List of tables

Table 1-1	Report location where MCoA requirements are addressed	3
Table 1- 2	Annual Environmental Management Reports to Date Example table	4
Table 1-3	Construction Environmental Management Plans	5
Table 1-4	Construction activities from Sept 2012 to Sept 2013	6
Table 2-1	Approvals and licenses required for construction	8
Table 2-2	Modifications to approval	9
Table 3-1	MCoA compliance status as at November 2013	12
Table 6-1	Construction Environmental Monitoring	19
Table 7-1	Project environmental objectives and targets – compliance status	21

List of appendices

Appendix A	MCoA Compliance Checklist
Appendix B	Comparison of EIS Predictions and conclusions
Appendix C	Federal Approvals
Appendix D	Complaints Register
Appendix E	Monthly Environmental Monitoring Reports

Acronyms and Glossary

ANZECC	Australian and New Zealand Environmental and Conservation Council
ASS	Acid Sulphate Soil
CCC	Community Consultative Committee
CEMP	Construction Environmental Management Plan
DDG	Dust Deposition Gauge
DP&I	NSW Department of Planning and Industry
EIS	Environmental Impact Statement
EM	Environmental Manager
EPA	Environmental Protection Authority
EPL	Environmental Protection Licence (issued by EPA)
ER	Environmental Representative
ESCP	Erosion and Sedimentation Control Plan
HVAS	High Volume Air Sampler
JSEA	Job Safety and Environmental Analysis
LORAC	Laing O'Rourke
MCoA	Minister's Conditions of Approval
NATA	National Association of Testing Authorities
NSWP	NSW Ports
OEH	Office of Environment & Heritage
PASS	Potential Acid Sulphate Soil
PEHEP	Penrhyn Estuary Habitat Enhancement Plan
PM_x	Particulate Matter with an aerodynamic diameter of less than or equal to x microns
PPV	Peak Particle Velocity
Sensitive Receivers	Occupants of residential or institutional land uses that may be impacted by dust, noise or vibration
SPC	Sydney Ports Corporation
TSP	Total Suspended Particulates (airborne)
TSS	Total Suspended Solids (waterborne)

Executive summary

This Annual Environmental Management Report has been prepared according to Condition B4.2 of the Minister's Conditions of Approval (MCoA) for the Port Botany Expansion. Condition B4.2 sets out the following requirements for an environmental management report to be completed annually during construction:

- detail compliance with the MCoA conditions;
- contain a copy of the Complaints Register, and details of how complaints were addressed and resolved;
- include a comparison of the environmental impacts and performance predicted in the Environmental Impact Statement (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;
- 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.

This report satisfies the requirements for the first year of construction of terminal operations infrastructure known as Sydney Port Botany Terminal 3, which is being constructed and later operated by Sydney International Container Terminal Limited (SICTL). This report covers the period from September 2012, the beginning of construction activities to September 2013 and concludes that the project is compliant and meeting environmental requirements to date.

Compliance with MCoA conditions, licenses and approvals

As part of a separate requirement in the MCoA, an Annual Independent Environmental Audit was performed in August-September 2013, in accordance with MCoA Condition B4.5, that reviewed compliance against the MCoA, including all modifications, and the Commonwealth approval to date. The results of the audit have been used to compile this Annual Environmental Management Report.

The overall outcome of the audit was very positive with a high level of compliance to requirements set out in the scope of the audit.

The findings of the audit in relation to the NSW and Commonwealth approvals were:

NSW Minister's Conditions of Approval:	**Compliant, with 6 Issues of Concern and 4 Opportunities for Improvement identified and closed**
Commonwealth Project Approval:	**One non conformance; an administrative error late submission of approval**
License to Sell/Possess Radiation Apparatus:	**Compliant**

Complaints management

The management and handling of complaints is performed systematically and in a timely manner. Complaints are recorded in a register that complies with the requirements of MCoA B3.1 and are reported to the department. Two complaints received during the period were not due to non conformance or lack of environmental controls of construction activities on site.

Comparison to impact predictions

The comparison performed in the Annual Independent Environmental Audit of the environmental impacts and performance predicted in the EIS found that the predictions and conclusions made are largely realised in the construction outcomes to date and that generally there were positive outcomes. The maximum daily truck numbers for the Patrick and SICTL works combined is 145 as compared with the prediction of 103 and was found to not as predicted. This has had no observable effect on traffic congestion near site.

Environmental monitoring

Environmental monitoring was performed and reported monthly as required by the MCoA, EIS and Penrhyn Estuary Habitat Enhancement Plan (PEHEP). Analysis of the monitoring data shows that the project met all environmental monitoring criteria for the period.

Environmental performance

The Annual Independent Environmental Audit found that environmental monitoring was performed and reported as required by the MCoA, EIS and PEHEP. Analysis of the monthly monitoring data shows that the project met all environmental monitoring criteria for the period.

The various contractors achieved an excellent to satisfactory level of implementation of their approved Construction Environment Management Plans (CEMPs) and management of environmental controls on the project with respect to their relevant scope and approved CEMPs.

Whilst overall, compliance to environmental management was good and no non-conformance recorded. Some Issues of Concern, Observation, and Opportunities for Improvement were identified at the audit in relation to sub-contractor management, liquid storage and house and record keeping. All have been addressed and closed. No major incidents have been reported to date.

1. Introduction

1.1 Project overview

The Sydney Port Botany Terminal 3 Project (SPBT3) follows on as part of the terminal operations infrastructure construction planning approval of the Port Botany Expansion Project (PBE). 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.

SICTL Leased the 45 hectare site and awarded several contracts to construction contractors for the civil works, building works and crane delivery and assembly work along with ancillary works commencing in September 2012.

The Main civil works construction contract was awarded to Laing O'Rourke and the maintenance and operations building works contract was awarded to Grindley Constructions. The main substation and high voltage connection works was awarded to Downer. These contractor performed works under their own approved CEMP's. The crane delivery, assembly and ancillary works has been undertaken by several contractors and working under the SICTL Framework CEMP.

1.2 Background to this report

The project is based on the design of the preferred alternative in the Environmental Impact Statement (EIS) prepared by SPC in 2003. After a Commission of Inquiry, the NSW Minister for Planning granted staged development consent in 2005 and 2006 under the Environmental Planning and Assessment Act 1979, subject to a number of Minister's Conditions of Approval (MCoA). The MCoA covers three different project components:

- *Construction Terminal Footprint Infrastructure* – those aspects of the development associated with the establishment of the port footprint (as generally outlined in sections 8.2 – 8.5 of Volume 1 of the EIS) including dredging and reclamation, compaction and preloading, wharf construction, road and rail infrastructure linkages (including the GSW), and Penrhyn Estuary enhancement works.
- *Construction Terminal Operations Infrastructure* – those aspects of the development associated with the establishment of terminal operations infrastructure (as generally described in section 8.6 of Volume 1 of the EIS) including hardstand areas (container storage, car parks and truck queuing areas), quay cranes, rail mounted gantries, administration facilities, workshops etc.
- *Terminal Operations* – relates to long term operation of the expanded port.

Construction works commenced on the Construction Terminal Footprint Infrastructure component in May 2008, and was completed in November 2012 with the completion of the Grade separation. Construction works commenced on the Construction Terminal Operations Infrastructure component on September 2012.

These components are addressed by Schedules 2A and 2B of the MCoA (Schedule 2C of the MCoA is not relevant to this component of the project, as it relates only to terminal operation).

In addition, the Commonwealth granted consent in 2006 under the Environment Protection and Biodiversity Conservation Act 1999, for aspects of the project relating to migratory birds and applied to SPBT3 to works such as stormwater drainage near the Penrhyn Estuary.

1.3 Purpose and scope of this report

The purpose of this Annual Environmental Management Report is to satisfy the requirements of MCoA Condition B4.2 for the first year of terminal operations infrastructure construction, nominally from 11 September 2012 to 30 September 2013. Condition B4.2 requires an environmental management report annually during construction with the following requirements:

> *'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;*
> - *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 12 months of commencement of construction, and every 12 months thereafter;*
> - *be approved by the Director-General; and*
> - *be made available for public inspection.'*

Each of these requirements, are addressed in this report, Table 1-1 below shows where each location reference can be found.

Table 1-1 Report location where MCoA requirements are addressed

MCoA B4.2 Requirement	Reference location
Detail compliance with the conditions of the MCoA	▪ Section 3 ▸ Appendix A MCoA Compliance Checklist ▸ Appendix C Federal Approval
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	▪ Section 4
Include a comparison of the environmental impacts and performance predicted in the EIS and additional information documents provided to the Department & COI	▪ Section 5 ▸ Appendix B Comparison of EIS Predictions and Conclusions
Detail results of all environmental monitoring required under the development consent and other approvals, including interpretations and discussion by a suitably qualified person	▪ Section 6 ▸ Appendix E Monthly Environmental Monitoring Reports
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 action taken to prevent recurrence of that type of incident	▪ Section 7

This report will be submitted to the Department of Planning and Infrastructure (DP&I) for approval by the Director-General, and then be made publicly available via the NSW Ports and SICTL website.

NB: the results of the separate *Annual Independent Environmental Audit* required under MCoA Condition B4.5 have been used to compile sections of this report. Appendices A, B and C are based on the Annual Independent Environmental Audit report for SPBT3 project, August/September 2012, dated 12/12/2013.

1.4 Annual Environmental Management reports

The sequence of Annual Environmental Management Reports over the life of the project is shown in Table 1-2 below.

Table 1- 2 Annual Environmental Management Reports to Date Example table

Period	Report Title	Submission Date
June 2008 to May 2009	Annual Environmental Management Report 2009	August 2009
June 2009 to May 2010	Annual Environmental Management Report 2010	August 2010
June 2010 to May 2011	Annual Environmental Management Report 2011	August 2011
June 2011 to November 2012	Annual Environmental Management Report 2012	January 2013
September 2012 to September 2013	Annual Environmental Management Report 2013 (this report)	January 2014

1.5 Environmental plans

A number of Construction Environmental Management Plans have been prepared and approved by DP&I that take into account environmental actions and measures identified in, or required by, the MCoA, PEHEP, EIS and contracts between SICTL and the various contractors. The Main civil works construction contract was awarded to Laing O'Rourke. The maintenance and operations building works contract was awarded to Grindley Constructions. The main substation and high voltage connection works was awarded to Downer. These contractors performed works under their own approved CEMP's. The crane delivery, assembly and ancillary works has been undertaken by several contractors (Kone Cranes, Inver/ZPMC, Fujitsu, Cargotec/Calmar) working under the SICTL Framework CEMP.

The purpose of these plans is to guide construction activities, by specifying measures to manage impact on the environment. These measures have been developed from the MCoA, EIS, PEHEP, licences, permits, analysis of aspects and impacts, and other relevant documents. Environmental monitoring is also defined in the sub-plans, to quantify any impact and measure compliance with environmental requirements undertaken by Laing O'Rourke.

A list of approved CEMP and sub plans required by the MCoA is provided in Table 1-3 below.

Table 1-3 Construction Environmental Management Plans

Scope of works summary	Contractor	Approved CEMP title	Date approved
▪ Civil Construction ▸ Ground Improvement, earthworks, trenching for services and utilities ▸ Internal roads, pavements, crane footings, high mast and bollards lighting, fencing landscaping and drainage ▸ Container stacking yards, container stacking beams, rail beams and rails ▸ Kerbs and footpaths, signs ▸ Rail siding elements ▸ Storm Water Improvement Device (SQID) installation ▸ Terminal Services and utilities ▸ Temporary roads for various contractors	Laing O'Rourke	Sydney Port Botany Terminal 3 Project Main Works Construction Environmental Management Plan ▸ Air Quality and Dust Management Plan ▸ Soil and Water Management Plan ▸ Construction Traffic Management Plan ▸ Construction Waste Management Plan ▸ Construction noise Management Plan ▸ Emergency Response and Incident Management Plan	4/9/12 17/12/12
Building Construction ▪ 3 Storey Operations Building ▪ Maintenance Building incorporating a high bay maintenance shed & 3 levels for amenities, office space & services ▪ Single storey security gate house & AQIS building ▪ Single storey drivers amenity building ▪ Single storey rail depot building	Grindley Constructions	Project Specific Construction Environmental Management Plan (CEMP) ▸ Dust Management Plan ▸ Soil and Water Management Plan ▸ Construction Traffic Management plan ▸ Construction Noise Management Plan ▸ Construction Waste management Plan ▸ Emergency response Management Plan.	30/1/13
Main Substation Construction ▪ Supply and Installation of 11kV Power Cables ▪ Connection to Penrhyn Rd Substation ▪ Construction and Commissioning of 11kV Main Substation	Downer Australia	Construction Environmental Management Plan ▸ Air Quality and Dust Management Plan ▸ Soil and Water Management Plan ▸ Construction Traffic Management Plan ▸ Construction Noise Management Plan	30/11/12

		▸ Construction Waste Management Plan ▸ Emergency Response and Incident Management Plan	
SICTL Cranes and other associated infrastructure ▪ Supply and installation & Commissioning of Automated Stacking Cranes (ASC) Cranes ▪ Supply and installation of Quay Cranes (QC) Cranes ▪ Supply and installation and commissioning of Information, Communication and Technology Infrastructure	SICTL	Framework Construction Environment Plan ▸ Soil and water Quality Management Plan ▸ Acid Sulphate Soil Management Plan ▸ Construction Traffic Management Plan ▸ Construction Noise and Vibration Management Plan ▸ Construction Waste Management Plan ▸ Emergency Response and Incident Management Plan	25/5/13

The latest versions of the approved CEMP's are available on the SICTL website.

1.6 Construction status

Construction activities are summarised in the table below for the period of September 2012 to September 2013.

Table 1-4 Construction activities from Sept 2012 to Sept 2013

Dates	Activity
September – December 2012	▸ Site establishment including delivery and setting up site sheds, offices and facilities and creating temporary access and haul roads on the site ▸ Installation of environmental controls such as wind erosion fencing and sediment fencing ▸ Eastern drainage depression installation within Penrhyn Estuary ▸ Earthworks and ground improvements ▸ Installation of environmental controls such as turbidity curtains within Penrhyn Estuary ▸ Drainage activities and headwall installation ▸ Concrete Precast elements made on site for future services and utilities work
December 2012 – May 2013	▸ Earthworks and ground improvements ▸ Drainage activities and headwall installation ▸ Precast concrete fabrication for utilities and services work ▸ Commencing of concrete batch plant installation. ▸ Continuous Flight Augur piling for the stacking crane rail beams. ▸ Site utilities

	▸ Electrical substation construction ▸ Concrete paving
June - September 2013	▸ Earthworks and ground improvements ▸ Drainage activities ▸ Site utilities ▸ Precast concrete fabrication for utilities and services work ▸ Concrete batch plant operations ▸ Concrete paving ▸ Noise Barrier construction ▸ Crane rail installation

2. Project approvals and licenses

2.1 Approvals and licenses

Table 2.1 provides a summary of approval and licenses required for SPBT3 to date.

Table 2-1 Approvals and licenses required for construction

Approval/License	Relevant Authority	Date/Details
Approvals		
NSW Development Consent, Stage 1 (Ref: DA-494-11-2003i)	DP&I	13 October 2005
NSW Development Consent, Stage 2 (Ref: DA-494-11-2003i)	DP&I	22 August 2006
Commonwealth Approval under EPBC Act (Ref. 2002/543)	DSEPAC/ Department of Environment	3 January 2006
Provision of Utility Services for the Port Botany Expansion – Part 5 (EP&A Act) Approval	SPC	October 2008
Licences & Permits		
Licence to sell and/or possess radioactive substances or items containing radioactive substances.	EPA	▪ Radiation Licence: RL30128
NB: No EPL issued for this phase of works	EPA	▪ Nil

2.2 Approval modifications

Table 2.2 summarises all modifications to the project approval

Table 2-2 Modifications to approval

Approval	Date	Number	Variation
MCoA	11 Sept 2007	MOD 107-9-2006-i	Minor text changes
	11 Sept 2007	MOD 134-11-2006-i	Condition B2.40
	11 Sept 2007	MOD 149-12-2006-i	Conditions B2.9 and B2.22
	17 Sept 2007	MOD 78-9-2007-i	Conditions C2.20 & C2.25
	21 Sept 2008	MOD 60-9-2008	Conditions B2.46 & C2.25
	12 Dec 2008	MOD 68-12-2008	Condition B2.19
	20 Mar 2009	DA-494-11-2003i MOD7	Changes to location of rail corridor
	30 May 2009	DA-494-11-2003i MOD8	Condition B2.9
	18 June 2009	DA-494-11-2003i MOD9	Adding a new Condition B2.10B
	13 July 2009	DA-494-11-2003i MOD10	Revising Condition B2.10B
	21 Nov 2011	DA-494-11-2003i MOD11	Changes to building heights and locations
	6 Jun 2012	DA-494-11-2003i MOD12	Changes to stormwater first flush system
	31 Oct 2012	DA-494-11-2003i MOD13	Changes to stormwater for the southern expansion area
	April 2013	DA-494-11-2003i MOD14	Changes to temporary uses at northern tip of Hayes Dock and Traffic Impact Assessment. Condition C1.2
	20 March 2013	DA-494-11-2003i MOD15	Changes to Quay Crane Operations Condition C2.22
Commonwealth Approval under EPCB Act	7 Dec 206	Ref. 2002/543	Minor text changes

3. Approvals Compliance Review

Compliance with the approvals described in Table 2-2 was assessed in the Annual Independent Environmental Audit in September 2013 (refer Appendix A and B). The main outcomes and findings of each of the approvals are presented below.

3.1 MCoA Compliance Review

The Annual Independent Environmental Audit found that there were no non-conformances identified at the audit; however a number of Issues of Concern (IOC) and Opportunities for Improvement (OFI) were raised in relation to the MCoA's. These findings and outcomes are summarised below:

- MCoA OFI 1. Condition B1.3. The Legal and Other requirements registers for SICTL and Laing O'Rourke refer to the Dangerous Goods Act 1975 and Rivers and Foreshores Improvement Act 1948 – these have been repealed. Update of the legal register in the CEMP is required. Action taken: Register updated. Closed.
- MCoA OFI 2. Condition B2.20. The SICTL Construction Noise Management Plan does not specifically require internal audits / inspection of plant except as a reactive action to complaint or incident Action taken: No further action required. The majority of plant is managed by Laing O'Rourke and other subcontractors managing plant have now left the site. Closed
- MCoA OFI 3. Condition B2.33 The SICTL Waste Management Plan does not include any monitoring requirements for waste. Section 11 of the CEMP – Monitoring and Measurement includes monitoring for air, water noise and vibration etc., but not waste. Action taken: A new section 6.1 has been added to the WMP – Monitoring and auditing of waste measures. Closed
- MCoA OFI 4. Condition B2.33. This condition requires that the type and quantities of waste generated are identified. The Laing O'Rourke Waste Management Plan does not estimate quantities. Action taken: Laing O'Rourke has provided detailed accounts of waste generated. At this stage of the development it is considered that adjustment of the CEMP would not be worthwhile. Closed
- MCoA IOC 1. Condition B2.41. Grindley Letter from DP&I regarding the approval of the Grindley Construction Safety Study being subject to being updated to recognise that there would be a clear separation of the Grindley and Laing O'Rourke works and requirement put in place to ensure where there are any overlapping of works, safety measures would be consistent across the two areas. Action taken: Plan has been subsequently updated to reflect this requirement. Closed Refer Addendum #1 for closure details.

- MCoA IOC 2. Condition B2.43. Laing O'Rourke Approval letter from DP&I noted that approval was subject to the procedures in 13.4, 13.13 and 13.14 referring to the Environmental Representative also being contacted in relation to the incident. Review of document provided at the audit found (hard copy) that these sections have not been revised to include the ER being contacted in an emergency. Action taken: This was revised following the audit. Closed.
- MCoA IOC 3. Condition B2.43. The Condition States: "a single set of emergency procedures, consistent with the existing Port Botany Emergency Plan, should be developed that can be scaled as appropriate for any incident or emergency" There are several Emergency Response Plans relating to various contractors' scopes of work, however there was no clear single set of procedures which provide an umbrella document covering the whole project. It is not clear which Emergency Response Plan takes precedence and who is responsible for overall / principal response or who would be responsible for EPA Notification. Action taken: A SPBT3 Project Emergency Response – Incident Escalation Coordination Procedure has been developed by SICTL to provide guidance to all contractors on site in the event of an emergency. Closed.
- MCoA IOC 4. Condition B3.1. NSW Ports Complaints reports were only submitted on a 6 monthly basis for the period 15 April – 15 October 2012 (a quarterly report followed this), with no quarterly report for period April – July 2013 to date. The MCoA requires reports to be provided quarterly. Closed.
- MCoA IOC 5. Condition B4.2. The Annual Environmental Management Report for the period June 2011 to November 2012 covers an 18 month period – the MCoA requires a reporting period of 12 months. The letter of Approval by DP&I notes this discrepancy and notes that "subsequent reports should therefore be submitted in a timely manner". The next AEMR is scheduled to be submitted in Nov 2013 following the submission of this audit report. Closed.
- MCoA IOC 6. Condition B4.4. The Grindley site Induction checklist is insufficient to demonstrate that a training program is in place as no specific training material was available on site. The induction material also does not address noise. It was unclear whether the site OHS/environment officer had received any appropriate environmental training. Action: The ER has prepared additional induction material suitable for Grindley staff and subcontractors. Closed.

3.2 Commonwealth Project Approvals Review

The EPBC Act is presently administered by the Department of Environment. One non-compliance was raised in relation to the EPBC Approval conditions on NSW Ports. Condition 8 of the Approval required that by 1st of July each year after the date of this approval or as otherwise agreed by the minister, written certification of compliance with the approval must be provided. The written certification was provided on 4th September 2013, which is just over 2 months overdue. In each other aspect the project was found to be compliant. Refer to Appendix C.

3.3 Compliance Status

The MCoA's compliance status is described in Table 3-1 bellow. It compares the Grade Separation Works Post Construction Status as at the last report, to the current Terminal Operation Infrastructure Construction status. The third and fourth column shows the status of each Condition of Approval as one of:

- Complete;
- Compliant & Ongoing;
- Future Action.

Table 3-1 MCoA compliance status as at November 2013

MCoA No.	Condition Title	Compliance status	
		December 2012 GSW Post Construction	**November 2013** Terminal Operations Infrastructure Construction
A1.1	Scope of Development	Compliant & Ongoing	**Compliant & Ongoing**
A1.2	Scope of Development	Compliant & Ongoing	**Compliant & Ongoing**
A1.3	Statutory Requirement	Compliant & Ongoing	**Compliant & Ongoing**
A1.4	Port Through Capacity Limits	Compliant & Ongoing	**Compliant & Ongoing**
A1.5	Estuary Flushing Protocol	Complete	**Complete**
A2.1	Staging of Development	Complete	**Complete**
A2.2	Staging of Development	Complete	**Complete**
A2.3	Staging of Development	Complete	**Complete**
A2.4	Port Freight Logistics Plan	Complete	**Complete**
A3.1	Commencement of Construction of Terminal Operations Infrastructure	Compliant & Ongoing	**Compliant & Ongoing**

B1.1	Application of Schedules	Compliant & Ongoing	**Compliant & Ongoing**
B1.2	Application of Schedule	Compliant & Ongoing	**Compliant & Ongoing**
B1.3	Construction Environmental Management Plan (CEMP)	Compliant & Ongoing	**Compliant & Ongoing**
B1.4	Compliance Certification	Compliant & Ongoing	**Compliant & Ongoing**
B1.5	Compliance Certification	Future Action	**Future Action**
B2.1	Air Quality Management – Odour Impacts and Sediment Sampling	Compliant & Ongoing	**Compliant & Ongoing**
B2.2	Air Quality Management – Odour Impacts and Sediment Sampling	Complete	**Complete**
B2.3	Air Quality Management – Odour Impacts and Sediment Sampling	Complete	**Complete**
B2.4	Dust Management Plan	Compliant & Ongoing	**Compliant & Ongoing**
B2.5	Soil and Water Management Plan	Compliant & Ongoing	**Compliant & Ongoing**
B2.6	Acid Sulphate Soils	Complete	**Compliant & Ongoing**
B2.7	Pollution Prevention	Compliant & Ongoing	**Compliant & Ongoing**
B2.8	Impact of Dredging	Complete	**Complete**
B2.9	Impact of Dredging on Water Quality	Complete	**Complete**
B2.9A	Impact of Dredging on Water Quality	Complete	**Complete**
B2.10	Impact of Dredging on Water Quality	Complete	**Complete**
B2.10A	Impact of Dredging on Water Quality	Complete	**Complete**
B2.10B	Impact of Dredging on Water Quality	Complete	**Complete**
B2.11	Impact of Dredging on Water Quality	Complete	**Complete**
B2.12	Impact of Dredging on Water Quality	Complete	**Complete**
B2.13	Consultation with Sydney Water	Complete	**Complete**
B2.14	Traffic, Transport and Infrastructure Management. – Construction Traffic Management Plan	Compliant & Ongoing	**Compliant & Ongoing**
B2.15	Safety Audit	Compliant & Ongoing	**Compliant & Ongoing**
B2.16	Port Traffic Handbook	Compliant & Ongoing	**Compliant & Ongoing**
B2.17	Rail Siding Capacity	Future Action	**Future Action**
B2.18	Rail Access to New Terminal	Complete	**Complete**
B2.19	Noise and Vibration Management – Restrictions to Hours	Compliant & Ongoing	**Compliant & Ongoing**
B2.19A	Noise and Vibration Management – Restrictions to Hours	Compliant & Ongoing	**Compliant & Ongoing**
B2.19B	Noise and Vibration Management – Restrictions to Hours	Compliant & Ongoing	**Compliant & Ongoing**
B2.20	Construction Noise Management Plan	Compliant & Ongoing	**Compliant & Ongoing**

B2.21	Construction Noise Goals	Compliant & Ongoing	**Compliant & Ongoing**
B2.22	Construction Noise Criteria (Dredging)	Complete	**Complete**
B2.22A	Construction Noise Criteria (Dredging)	Complete	**Complete**
B2.23	Construction Noise Barrier	Future Action	**Complete**
B2.23A	Construction Noise Barrier	Future Action	**Complete**
B2.24	Other Construction Noise Matters	Compliant & Ongoing	**Compliant & Ongoing**
B2.25	Other Construction Noise Matters	Compliant & Ongoing	**Compliant & Ongoing**
B2.26	Other Construction Noise Matters	Compliant & Ongoing	**Compliant & Ongoing**
B2.27	Port Traffic & Rail Noise Management Plan	Future Action	**Future Action**
B2.28	Rail Noise Working Group	Future Action	**Compliant & Ongoing**
B2.29	Rail Noise Assessment (Botany Yard to Cooks River)	Future Action	**Future Action**
B2.30	Terminal Design and Flushing of Penrhyn Estuary	Complete	**Complete**
B2.31	Penrhyn Estuary Habitat Enhancement Plan (PEHEP)	Complete	**Complete**
B2.32	PEHEP – Alternative Compensatory Habitat Options	Complete	**Complete**
B2.33	Construction Waste Management Plan	Compliant & Ongoing	**Compliant & Ongoing**
B2.34	Waste Management On-site	Compliant & Ongoing	**Compliant & Ongoing**
B2.35	Waste Management On-site	Compliant & Ongoing	**Compliant & Ongoing**
B2.36	Hazardous and Industrial Waste	Compliant & Ongoing	**Compliant & Ongoing**
B2.37	Visual Amenity Plan	Complete	**Complete**
B2.38	Protection of Remains of Government Pier & Associated Cultural Deposits	Complete	**Compliant & Ongoing**
B2.39	Potential for Discovery of Aboriginal Heritage Objects	Compliant & Ongoing	**Compliant & Ongoing**
B2.40	Hydrodynamic & Coastal Processes	Compliant & Ongoing	**Compliant & Ongoing**
B2.40A	Hydrodynamic & Coastal Processes	Future Action	**Compliant & Ongoing**
B2.41	Construction Safety Study	Complete	**Compliant & Ongoing**
B2.42	Fire Safety Study	Complete	**Complete**
B2.43	Emergency Response and Incident Management Plan	Compliant & Ongoing	**Compliant & Ongoing**
B2.44	Impact on Aviation Operations at Sydney Airport	Compliant & Ongoing	**Complete**
B2.45	Impact on Aviation Operations at Sydney Airport	Compliant & Ongoing	**Complete**
B2.46	Obstacle Limitation Surface	Complete	**Compliant & Ongoing**

B2.47	Terminal Construction Lighting Design	Compliant & Ongoing	**Compliant & Ongoing**
B2.48	Development & Certification of Navigational & Surveillance Technologies	Complete	**Complete**
B3.1	Community Information/Complaints Handling	Compliant & Ongoing	**Compliant & Ongoing**
B3.2	Community Consultative Committee	Compliant & Ongoing	**Compliant & Ongoing**
B3.3	Community Consultative Committee	Compliant & Ongoing	**Compliant & Ongoing**
B3.4	Community Enhancement	Complete	**Complete**
B3.5	Banksia Street Pedestrian Bridge	Complete	**Complete**
B4.1	Incident Reporting	Compliant & Ongoing	**Compliant & Ongoing**
B4.2	Annual Environmental Management Report	Compliant & Ongoing	**Compliant & Ongoing**
B4.3	Environmental Representative	Compliant & Ongoing	**Compliant & Ongoing**
B4.4	Environmental Training	Compliant & Ongoing	**Compliant & Ongoing**
B4.5	Environmental Auditing	Compliant & Ongoing	**Compliant & Ongoing**
B4.6	Maintenance and Management Plan for Extended Area	Complete	**Compliant & Ongoing**

4. Complaints

4.1 Complaint management and reporting

The handling of complaints was performed in accordance with the requirements of the MCoA B3.1. A number of complying methods are available for community comments, inquiries and complaints to be made regarding the development. These methods were adequately published consist of the following:

- a toll free 1800 hotline number that is widely advertised via Construction Updates and site signage, this number is the same number that has been used by SPC through the earlier and planning stages of this project.
- a specific email address that is also widely advertised via newsletter and site signage
- SICTL Website includes contact numbers and email for complaints and general enquiry information regarding the project

NSW Ports administers the 1800 177 722 line. The inquiry or complaint is distributed immediately to relevant contractor and recorded in the enquiries and complaints register.

SICTL keep a register of comments, inquiries and complaints as required. The register records:

- the date and time of the comment, inquiry or complaint;
- the means by which the comment, inquiry or complaint was made;
- personal details of the commenter, inquirer or complainant, or a note if no details were provided;
- the nature of the complaint;
- actions taken in relation to the comment, inquiry or complaint;
- If no action was taken, the reason no action was taken is recorded; and
- quarterly reports are supplied to the Department by NSW Ports detailing the above.

4.2 Complaint summary

Three approaches were made to the project between September 2012 and September 2013. Two complains and one inquiry.

- The first received on 23/11/12 regarding vibration in Dent St. Vibration monitoring was offered and accepted and the results showed construction site activities were not responsible for vibration at the noise at the residence.
- The second received the 13/3/13 an inquiry regarding upcoming night works deemed inaudible by independent monitoring at a nearby location.

- A complaint regarding the lights on the newly installed Quay Cranes was investigated and lights were found to be in compliance with airport regulation.

These complaints were not due to non conformance or non compliance with environmental controls of construction activities on site.

Complaints were reported to the DP&I as required. Information on inquiry and complaints was presented at the relevant CCC meetings. Construction Updates and CCC minutes are on the NSW Ports website as required. For Complaints Register refer to Appendix D.

5. Assessment of impact predictions

An assessment against the predictions made and the conclusions drawn in the development application, EIS, additional information and Commission of Inquiry material was undertaken during the Annual Independent Environmental Audit in September 2013. An audit checklist was prepared by reviewing all source material and extracting relevant information relating to predictions and conclusions. Detailed findings are included in the checklist in Appendix B of this report.

The assessment of predictions and conclusions used the following categories to reflect outcomes:

- largely as predicted / concluded, or positive outcome;
- partially as predicted, or unknown; or
- not as predicted, or negative outcome.

Overall, the assessment found that the predictions and conclusion drawn in the documentation are largely realised in the construction outcomes to date, generally with positive outcomes when compared to the predictions/conclusions.

It was not possible to verify whether the predictions are accurate, as no monitoring is conducted in levels of pedestrian and cyclist activity (EIS Chapter 21.7.1);

The assessment identifies one instance where the construction outcomes were not as predicted or negative outcomes in relation to combined traffic. Due to the concurrent activities from March 2013 on both SICTL and Patrick and the accelerated SICTL works requiring increase in the truck deliveries for parts of 2013 Monitoring of traffic due to the concurrent activities. A PBE Cumulative Traffic Assessment (April 2013) was undertaken by a Parking and Traffic Consultant on behalf of SICTL and Patrick to investigate the cumulative traffic by SICTL and Patrick on the road system. The maximum daily truck numbers for the Patrick and SICTL works combined is 145 as compared with the prediction of 103 and was found to not be as predicted. This has had no observable effect on traffic congestion near site.

6. Summary of monitoring results

A number of environmental parameters are monitored throughout construction to measure environmental impacts. Monitoring is required by the MCoA's, EIS, and contractual obligations between NSW Ports and SICTL.

Monitoring has been undertaken for dust, noise, water quality, shorebird observation and acid sulphate soils.

Table 6-1 Construction Environmental Monitoring

Element	Requirement	Location	No	Parameter	Frequency
Shorebirds	PEHEP	On site	-	Shorebird numbers	Weekly
Noise	EIS	Residential areas, sensitive receiver locations	6	LA10(15min), RBL – dB(a)	Monthly
Dust	EIS	HVAS – Botany Golf Course Gauges – Residential areas, Penrhyn Estuary	1 4	PM 10 TSP	Real Time Continuous Monthly
Acid Sulphate	MCoA B2.6	On site where suspected	-	PASS/ASS	As required

Analysis of monitoring results shows that the project has met all environmental monitoring requirements. No exceedance has been found to date. Monthly monitoring results and monitoring findings and interpretations are presented in Appendix E.

7. Environmental performance

7.1 Environmental objectives and targets

The four CEMPs required for the construction of Terminal infrastructure have numerous objective and targets set by SICTL and the various contractors. Broadly all the objectives and targets have been met. The compliance status of the stated targets and objective are summaries in the following Table 7-1.

Table 7-1 Project environmental objectives and targets – compliance status

Objective	Targets	OK?	Compliance Status as at end September 2012
SICTL			
Effective site environmental controls	▪ Environmental controls are developed and implemented prior to starting work on site. ▪ Complete an effective inspection and maintenance regime.	✓ ✓	▪ The annual audit reported no non-conformance and one opportunity for improvement that was implemented ▪ Monthly audits on contractors have all been performed to date
Environmental performance	▪ Zero major environmental incidents and no breaches.	✓	▪ No major environmental incidents have been reported to date
Effective implementation environmental systems	▪ Full compliance with Planning Approval requirements.	✓	▪ The annual audit found no non-conformances with the MCoA
Community issues carefully managed	▪ Zero valid complaints.	✓	▪ Two complaints received were found not to be due to any non-conformance with regulations or environmental performance issues originating on this site.
Laing O'Rourke			
Effective site environmental controls	▪ Environmental controls are developed and implemented prior to starting work on site. ▪ Achieve alignment with SICTL expectations in relation to best practice control measures. ▪ Complete a rigorous and effective inspection and maintenance regime. ▪ Maintenance issues addressed within specified timeframes.	✓ ✓ ✓ ✓	▪ The annual audit reported no-non-conformance, SWMS are submitted and checked prior to starting work, weekly inspections are recorded and environmental controls are maintained to date, Monthly Environmental Monitoring Reporting is compliant to date. ▪ Regular monthly audits by SICTL show LOR are compliant ▪ Weekly and monthly inspections by the EM ensure environmental controls are maintained ▪ Maintenance issues are addressed in a timely manner

Objective	Targets	OK?	Compliance Status as at end September 2012
Environmental performance	▪ Zero major environmental incidents and no breaches. ▪ Zero infringement notices from the EPA or notices from Local Council. ▪ All environmental spills to be reported to SICTL within 2 hrs of occurrence. ▪ Major incidents must be reported immediately.	✓ ✓ ✓ ✓	▪ No major environmental incidents or breaches have been reported ▪ No infringements received or recorded ▪ All spills reported and cleaned up appropriately ▪ No major incident reported to date
Effective implementation of the environmental system	▪ 90% or better internal audit results. ▪ Full compliance with Planning Approval requirements.	✓ ✓	▪ Internal and external audit results show 90% or better on environmental system implementation. ▪ No non-conformances were recorded on the annual audit
Community issues carefully managed	▪ Zero valid complaints. ▪ All complaints reported to SICTL's Representative immediately and responded to within two hours.	✓ ✓	▪ Community complaints to date could not be attributed to construction activities on the project. ▪ All enquiries and complains were reported and responded to in a timely manner
Downer			
Compliance with environmental legislation	▪ 100 % compliance with all legal requirements and Licenses	✓	▪ No non-conformance was recorded during internal or external audits on legal requirements
Conformance with the CEMP	▪ Environmental incidents and non-conformance reported and logged within 24 hours of occurrence ▪ Corrective actions assigned and completed within designated time frame	✓ ✓	▪ a non conformance was recorded regarding the storage and disposal of concrete in a timely manner ▪ A corrective action report (CAR) was completed and actioned in a timely manner
Ensure commitments made to relevant stakeholders are implemented throughout construction	▪ Respond to all complaints within a 24 hour period	✓	▪ No complaints were received regarding Downer scope of works

Objective	Targets	OK?	Compliance Status as at end September 2012
Ensure compliance to CEMP requirements by undertaking inspections and audits	▪ Environmental surveillance /weekly inspections undertaken ▪ Audits completed as per the audit program	✓ ✓	▪ Regular surveillance and weekly inspections were recorded. ▪ Regular audits were completed.
Environmental training and awareness of all staff to ensure competence and compliance with management controls in CEMP	▪ Environmental inductions conducted ▪ Specific environmental training delivered by appropriately qualified personnel prior to construction work	✓ ✓	▪ All site personnel received induction training which contained a relevant environmental component. ▪ Environmental training was delivered by appropriately qualified persons.
Grindley			
Effective Site Environmental Controls	▪ Achieve alignment with SICTL expectations in relation to best practice control measures ▪ Fulfil environmental obligations	✓ ✓	▪ Environmental controls have been implemented in accordance with the CEMP. ▪ No non-conformance were recorded in the annual audit
Increase amount of waste being recycled, reduce waste costs	▪ 85% of waste to be recycled	✓	▪ Waste monitoring and segregation ensured that at least 85% of waste was able to be recycled
Environmental Performance	▪ Zero major environmental incidents and no breaches. ▪ Zero infringement notices ▪ All environmental spills to be reported to SICTL within 2 hrs of occurrence.	✓ ✓ ✓	▪ No major environmental incidents or breaches were recorded ▪ No infringement or warning were received to date ▪ No environmental spill have been reported to date
Reduce the amount of environmental impact our operations have on the environment	▪ Environmental issues identified and controlled prior to causing negative impacts on the project or on the environment	✓	▪ Environmental monitoring and controls have prevented negative impacts on the project and environment.
Effective implementation of the environmental system	▪ 90% or better internal audit results. ▪ Full compliance with Planning Approval requirements.	✓ ✓	▪ Internal audits show 90% or better on environmental systems ▪ No non- conformance were recorded on planning approval at the annual audit

Objective	Targets	OK?	Compliance Status as at end September 2012
Community issues carefully handled	▪ Zero valid complaints all complaints reported to SICTL's Representative	✓	▪ No Complaints have been received regarding Grindley scope of works.

7.2 Environmental performance

A review of effectiveness of environmental management was undertaken during the Annual Independent Environmental Audit in September 2013. The effectiveness of environmental management was assessed primarily through the site inspection, interviews with key personnel, review of monitoring results and site records (e.g. inspection checklists etc.)

The assessment indicated that the four CEMP's and associated sub-plans were effectively implemented and the mitigation measures therein have achieved varying levels from the different contractors an excellent to satisfactory level of environmental protection was observed, with no breaches or major incidents reported. No areas were identified in which environmental performance was non-conforming; however a number of issues of concern and opportunities for improvement are noted for most contractors at the audit. These were identified in relation to the areas of sub-contractor management, liquid storage and house and record keeping. All have been addressed and closed. No major incidents have been reported to date.

There was no environmental monitoring exceedance recorded in the monthly environment reports to date (see appendix E) for the monthly environmental monitoring reporting. These are also uploaded to the SICTL project website for public availability and these results are discussed at the CCC meetings as recorded in the minutes of the meetings available on the NSW Ports website.

8. Annual independent environmental audit

An independent environmental audit was required to be undertaken for the Sydney Port Botany Terminal 3 in accordance with MCoA Condition B4.5

The audit was performed by suitably qualified auditor approved by the Director-General within one year of commencement of construction. Construction of the terminal operations infrastructure commenced on 12 September 2012. The on-site component of the audit was conducted over 4 days; 29, 30 August and 3 and 4 September 2013. The independent environmental audit was completed in accordance with the principals ISO 14010 – Guidelines and General Principles for Environmental Auditing and ISO 14011 – Procedures for Environmental Auditing.

At the time of the audit, the following assessment was made against relevant Ministers Conditions of Approval including Modifications 1-15, the Commonwealth EPCB Approval, no Environmental Protection License was in force at the time. The assessment of construction against EIS predictions made and conclusions drawn included assessments against the following documents:

- Port Botany Expansion: Environmental Impact Statement (ten volumes),prepared by URS Pty Ltd and dated November 2003
- The Port Botany Expansion Commission of Inquiry - Primary Submission (two volumes), prepared by URS Pty Ltd and dated May 2004
- The Port Botany Expansion Commission of Inquiry - Supplementary Submission to Environmental Impact Statement, prepared by URS Pty Ltd and dated August 2004
- The Port Botany Expansion Environmental Impact Statement - Supplementary Submission (two volumes), prepared by URS Pty Ltd and dated October 2004

The review of effectiveness of environmental management primarily involved site visits to the various contractors and subcontractors work sites, observation of activities, interviews with their management and supervisors and review of site documentation and records. Actual practice on site was reviewed both in terms of good environmental practice and the commitments made in the respective Construction Environmental Management Plans (CEMPs), sub-plans and Impact Mitigation Plans.

The site field visit component of the audit included a visit to all major construction areas/activities of the site as described in the Independent Environmental Audit Report December 2013.

8.1 Audit purpose

The purpose of the audit was to undertake the required assessment and review of compliance, EIS predictions and the effectiveness of environmental management and mitigation works as required under MCoA B4.5 which states:

"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. Audits would be made publicly available and would:

> *(a) be carried out in accordance with ISO 14010 and ISO 14011 – Procedures for Environmental Auditing;*
>
> *(b) Assess compliance with the requirement of this consent, other licences/ approvals;*
>
> *(c) Assess the construction against the predictions made and conclusions drawn in the development application, EIS, additional information and Commission of Inquiry material; and*
>
> *(d) Review effectiveness of environmental management including any environmental impact mitigation works.*

8.2 Audit findings

It was found that overall there was a high level of compliance to the Ministers Conditions of Approval. No non-compliances were identified at the audit however six (6) Issues of Concern and three (3) Opportunities for Improvement were raised in relation to the MCoAs. Section 3.1 previously summarised the finding which were addressed and closed at the time. Also refer to the tables in Appendix A, B and C for the detailed audit findings.

The assessment against the predictions made and conclusions drawn in the EIS and other associated documentation, once again found that the predictions and conclusions are largely realised in the construction outcomes to date. The assessment found that there were generally positive outcomes when compared with the predictions and conclusions. However, one prediction has been raised as a result of an audit finding in relation to the predicted maximum daily truck transport. Peak daily truck numbers for SICTL and Patrick construction combined did not always agree with the predicted 145 moments at peak construction. Detailed findings are included in the checklist in Appendix B.

The auditor noted one non-compliance was raised in relation to the EPBC Approval conditions. Condition 8 of the Approval required that by First of July each year after the date of this approval or as otherwise agreed by the minister, written certification of compliance with the approval must be provided. The written certification was provided on 4th September 2013, which is just over 2 months overdue. This issue is outside SICTL scope. Refer to Appendix C for detailed checklist and findings.

8.3 Audit conclusion

It can be concluded that the Annual Independent Audit was performed within the timeframe required by a suitably qualified person with the Director Generals approval. The audit found no non-conformance with the MCoAs and that the EIS predictions and conclusions are largely realised in construction outcomes to date. The assessment found that there were generally positive outcomes when compared with the prediction and conclusions of the EIS. The EPBC certificate of compliance was two months overdue, however all audit finding have been addressed to the auditors satisfaction and closed.

9. Conclusions

This Annual Environmental Management Report is the first for the construction of terminal operations infrastructure and addresses the requirements of MCoA Condition B4.2 for the period September 2012 to 30 September 2013.

The findings of the Annual Independent Environmental Audit performed in September 2013 addressed similar MCoA requirements, and found that the project is compliant with the MCoA. No non conformances were raised against the MCoA's. Opportunities for improvement and issues of concern have been addressed and closed.

The management and handling of complaints is performed systematically and in a timely manner. Complaints are recorded in a register that complies with the requirements of MCoA B3.1 and are reported to the department. Two complaints received were not due to non conformance or lack of environmental controls of construction activities on site.

The comparison of the environmental impacts and performance predicted in the EIS found that the predictions and conclusions are largely realised in the construction outcomes to date and that generally there were positive outcomes. Maximum daily truck numbers during concurrent SICTL and Patrick work were found to be not as predicted. This has had no observable effect on traffic congestion near site.

Environmental monitoring was performed and reported as required by the MCoA, EIS and PEHEP. Analysis of the monitoring data shows that the project met all environmental monitoring criteria for the period.

The various contractors achieved an excellent to satisfactory level of implementation and management of environmental control on the project with respect to their relevant approved environmental management plans and no major incidents have been reported to date.

This report is submitted to the Director General for approval and will be available for public inspection on the NSW Ports and SICTL web site.

Appendix A

MCoA Compliance Checklist

Appendix A Audit Checklist for - Sydney Port Botany Terminal 3 Project Audit Ministers Conditions of Approval (MCoA)

MCoA No	Auditee	MCoA Requirement	Comments, observations, discussion Evidence, supporting documentation	Audit Outcome * See footer for key		
				C ✓	Finding O IOC NC ♦ ☒ ☒	NA
		SCHEDULE A: OVERALL SCOPE OF DEVELOPMENT WORKS AND GENERAL PROVISIONS				
A1		**GENERAL**				
		Scope of Development				
A1.1	SPC/NSWP SICTL	The approved aspects of the development shall be carried out generally in accordance with: a) Development Application DA-494-11-2003-i, lodged with Department on 26 November 2003. b) Port Botany Expansion: Environmental Impact Statement (ten volumes), prepared by URS and dated Nov 2003; c) Port Botany Expansion Commission of Inquiry – Primary Submission (two volumes), prepared by URS dated May 2004 d) Port Botany Expansion Commission of Inquiry – Supplementary Submission to Environmental Impact Statement, prepared by URS and dated August 2004 e) Port Botany Expansion Environmental Impact Statement – Supplementary Submission (two volumes), prepared by URS and dated October 2004; f) modification application MOD-107-9-2006-i, accompanied by *Port Botany Expansion, Section 96(1A) Application: Modification of Consent Conditions*, prepared by SPC and dated September 2006; g) modification application MOD-134-11-2006-i, accompanied by *Port Botany Expansion, Section 96(1A) Modification – Wharf Structure Design*, prepared by SPC and dated November 2006; h) modification application MOD-149-12-2006-i, accompanied by *Port Botany Expansion, Section 96(1A) Modification – Application to Modify Conditions B2.9 and B2.22 of the Port Botany Consent*, prepared by SPC and dated 1 December 2006;	No non-compliances against the MCoA were identified during this audit.	C		

MCoA No	Auditee	MCoA Requirement	Comments, observations, discussion Evidence, supporting documentation	Audit Outcome * See footer for key		
				C ✓	Finding O IOC NC ♦ ⊠ ☒	NA
		i) modification application MOD-78-9-2007-i, accompanied by *Port Botany Expansion – Modification of Conditions C2.20 & C2.25*, prepared by SPC, dated July 2007; j) modification application MOD-60-9-2008, accompanied by *Port Botany Expansion – Modification of Conditions B2.46 & C2.25*, prepared by SPC, dated 27 August 2008; k) modification application MOD-68-12-2008, accompanied by a letter from SPC dated December 2008; l) modification application MOD-08-03-2009, accompanied by a letter from Sydney Ports Corporation dated 16 February 2009 and assessment report titled Port Botany Expansion – Rail *Operations Section 96(1A) Modification* dated February 2009 m) modification application DA-494-11-2003-I MOD 8, accompanied by an assessment report *titled "Port Botany Expansion – Sip Turning Area Dredging Section 96 (1A) Modification* dated May 2009; n) modification application DA-494-11-2003-I MOD 9 accompanied by an assessment report titled *"Port Botany Expansion – Additional High Spot Dredging off Molineux Point Section 96 (1A) Modification"* dated May 2009. o) modification application DA-494-11-2003-I MOD 10, accompanied by an assessment within the letter titled *"Port Botany Expansion – Section 96(1A) Modification – Additional Ship Turning Area Dredging"* dated 8 July 2009; p) modification application DA-494-11-2003-i MOD 11, accompanied by an assessment report titled *"Sydney Port Botany Terminal No. 3 PKG-17.1 Planning Section 75W Modification Operations Building and Maintenance Building"* dated 14 September 2011;				
A1.1 cont'd	SPC/NSWP LORAC	q) modification application DA-494-11-2003-i MOD 12, accompanied by an assessment report titled *"Sydney Port Botany Terminal No. 3 PKG-17.1 Planning Section 75W Modification to Stormwater First Flush System" dated 15 February 2012 and supplementary advice provided on 6 June 2012 in relation to other proprietary SQID devices;* r) modification application DA-494-11-2003-i MOD 13, accompanied by an assessment report titled *"Project No. 231658 Section 75W*	No non-compliances against the MCoA were identified during this audit.	C		

MCoA No	Auditee	MCoA Requirement	Comments, observations, discussion Evidence, supporting documentation	Audit Outcome * See footer for key		
				C ✓	Finding O IOC NC ♦ ☒ ☒	NA
		Modification to Stormwater Management System for Southern Expansion Area" dated 31 October 2012; s) modification application DA-494-11-2003-i MOD 14, accompanied by assessment reports titled "Port Botany Expansion – Section 75W Modification 14 to DA-494-11-2003i for Temporary Uses at northern tip of Hayes Dock", dated January 2013; and "Port Botany Expansion, Cumulative Construction Traffic Impact Assessment, Terminal Operations Infrastructure (March 2013 – March 2014)", dated April 2013; t) modification application DA-494-11-2003-i MOD 15, accompanied by assessment report titled 'SICTL Quay Crane Operations', prepared by HPH and dated 20 March 2013; u) the conditions of this consent Insofar as they relate to the approved development.				
A1.2	SPC/NSWP SICTL	In the event of an inconsistency between: a) the conditions of this consent and any document listed from condition A1.1a) to t) inclusive,, the conditions of this consent shall prevail to the extent of the inconsistency; and b) any document listed from condition A1.1a) to t) inclusive, the most recent document shall prevail to the extent of the inconsistency.	Noted No compliance obligations related to this condition	C		
		Statutory Requirements				
A1.3	SPC/NSWP SICTL	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.	Noted No Environment Protection Licence is required as part of this package of works The Federal EPBC Approval 2002/543 remains valid and was assessed at this audit. (refer to Main report and Appendix 3)	C		

MCoA No	Auditee	MCoA Requirement	Comments, observations, discussion Evidence, supporting documentation	Audit Outcome * See footer for key		
				C ✓	Finding O IOC NC ♦ ⊠ ☒	NA
COMMENCEMENT OF CONSTRUCTION OF TERMINAL OPERATIONS INFRASTRUCTURE						
A3.1	SPC/NSWP	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 stand alone 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.	*Assessed as compliant at previous audits. No further assessment required*	C		

MCoA No	Auditee	MCoA Requirement	Comments, observations, discussion Evidence, supporting documentation	Audit Outcome * See footer for key		
				C ✓	Finding O IOC NC ♦ ☒ ☒	NA
		SCHEDULE B – CONSTRUCTION WORKS AND ONGOING ENVIRONMENTAL MANAGEMENT OF THE NON-OPERATIONAL ASPECTS OF THE TERMINAL				
		GENERAL REQUIREMENTS				
		Application of Schedule				
B1.2	SPC/NSWP	The conditions in this Schedule of the consent relate the following aspects of the development: a) development activities and works associated with the construction phase(s) of terminal footprint infrastructure including transportation and delivery of materials and construction personnel to/from the site;	Noted No compliance issues related to this condition	C		
B1.2	SPC/NSWP LORAC / Grindley Downer Kone Cranes/ Inver Fujitsu	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.	The outcomes of the Sydney Port Botany Terminal 3 construction project indicate that all of the relevant Minister's Conditions of Approval have been complied with. Whilst no non-compliances have been identified, some observations and Issues of Concern will require action by various contractors / subcontractors to improve environmental performance.	C		
		Construction Environmental Management Plan (CEMP)				
B1.3	LORAC / Grindley Downer SICTL	The Applicant shall prepare a Construction Environmental Management Plan (CEMP) which, must be approved by the Director-General prior to the commencement of any site preparation or construction works. The CEMP must:	Grindley Yes. Project Specific Construction Environment Management Plan (CEMP) Port Botany Terminal 3 Project Revision 4 dated 23 Jan 2013 – Approved. 30 Jan 2013 Felicity Greenway Laing O'Rourke Yes – Main Works CEMP dated August 2012. Letter dated 04/09/2012 from A/Director Infrastructure Projects granted approval for CEMP Rev 5 August 2012 Downer Australia Yes – CEMP Rev 4.0 sighted. Revision 3.5 was received by DP&I on 23/11/2012. Letter dated 30/11/2012 from A/Director	C		

MCoA No	Auditee	MCoA Requirement	Comments, observations, discussion Evidence, supporting documentation	Audit Outcome * See footer for key		
				C ✓	Finding O IOC NC ♦ ☒ ☒	NA
			Infrastructure Projects granted approval for the CEMP and other sub-plans as required by the MCoA. All works by Downer had been completed prior to the commencement of the audit. SICTL Yes. Framework Construction Environment Management Plan (FCEMP) Revision 1 dated 2 April 2013 including statement of commitments tracking in Appendix 6 – Approved 22 May 2013 Chris Wilson, Executive Director Development Assessment Systems and Approvals.			
		-Describe all activities to be undertaken on the site during site establishment and construction;	Grindley Yes. Section 1.3 – Scope of Works section and 2.3 Construction Phases and 2.3.1 Construction Activities for description of construction activities. Laing O'Rourke Yes - Addressed in Section 2 – Scope Table SICTL Yes – described in Section 2 - Scope	C		
		-Describe relevant stages/phases of construction, including a work program outlining relevant timeframes for each stage/phase.	Grindley Yes. Section 2.3 – Construction Phases Laing O'Rourke Addressed in Section 2 – Scope Table (pages 8 – 11 of Main Works CEMP) includes expected duration of construction activities per section plus a gantt chart following the table. SICTL Yes – In section 2 - Scope – table showing expected duration of construction activities	C		
		-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;	Grindley Yes – Section 2.3.1 – Construction Activities (to end of Grindley involvement) Laing O'Rourke Addressed in Section 2 – Scope Table includes monitoring requirements	C		

MCoA No	Auditee	MCoA Requirement	Comments, observations, discussion Evidence, supporting documentation	Audit Outcome * See footer for key		
				C ✓	Finding O IOC NC ♦ ☒ ☒	NA
			SICTL Yes – Section 3 – Objectives and Targets section of Framework CEMP			
		-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;	Grindley Legal and Other Requirements Register (form 814 – not in CEMP), Acts (no regs) listed in Appendix D – Site Specific Aspects and Impacts Register *Observation: Regulations are listed in the CEMP (only Acts)* Laing O'Rourke Addressed in Section 5-legal and Other Requirements. *Opportunity for Improvement: DG Act 1975 and Rivers and Foreshores Improvement Act 1948 have been repealed. Update of register required. Fixed following audit* SICTL Section 5 – Legal and Other Requirements Section - general listing of legislation and specific requirements of the approval. Specific requirements detailed in Appendix 1 – Legal and Other Requirements. Same listing as in Laing O'Rourke Register *Opportunity for Improvement: DG Act 1975 and Rivers and Foreshores Improvement Act 1948 have been repealed. Update of register required. – Fixed following audit*		**O**	
		-include specific consideration of measures to address any requirements of the Department, DEC, DNR and the Council during site establishment and construction;	Grindley Section 1.7.1 – Schedule of Licences and Consents provides actions required by Grindley against relevant MCoA and Licences (no licences required) Laing O'Rourke Compliance Certificate Report –Appendix 1 –Stakeholder correspondence summary. Responses from stakeholders	**C**		

MCoA No	Auditee	MCoA Requirement	Comments, observations, discussion Evidence, supporting documentation	Audit Outcome * See footer for key		
				C ✓	Finding O IOC NC ♦ ☒ ☒	NA
			retained and documented in the Appendix (see Folder) SICTL Yes – Appendix 6 – Statement of commitments tracking against MCoA.			
		-describe roles and responsibilities for all relevant employees involved in site establishment or construction;	Grindley Overview provided in Section 4.4.1, stating that specific and general responsibilities are outlined in Job descriptions. Specific responsibilities noted in Management Representative's job description. Section 3.1 – Position Descriptions. Site Manager and Site Environment Officer – Paul Dunand (primary responsibility for site environmental management). Also lists Approved ER – Jason Ambler (Liang O'Rourke) Laing O'Rourke Section 9 of CEMP – Responsibilities and Accountabilities Section includes key responsibilities and authorities for Project Leader (Richard Hofton) Environmental Manager, Project Environment Representative (Noel and Eladio -provide approval letters), Construction Manager (now David Cocking), Superintendent (Gary Todd), Contractors, Engineering Personnel, Procurement Personnel, Regional Group Quality and Environmental Manager (Chris Greenaway), and all personnel. Section also states that authorities and responsibilities are defined and communicated in Job Descriptions and project documentation. Management and Staff have signed off in Appendix 17 –Staff acknowledgement Register-commenced 23/11/12 to 9/05/13. Signatures sighted. Presentation on CEMP 8/11/12 for initial training -17 participants.	C		

MCoA No	Auditee	MCoA Requirement	Comments, observations, discussion Evidence, supporting documentation	Audit Outcome * See footer for key C ✓	Finding O IOC NC ♦ ⊠ ☒	NA
			SICTL Yes – Key responsibilities and Authorities are outlined in Section 7 of the Framework CEMP including Project Manager, ER, contractors, Engineering personnel and all personnel.			
		-detail how environmental performance of the site preparation and construction works will be monitored, and what actions will be taken to address identified adverse environmental impacts;	Grindley Section 2.5 - Weekly site inspections, 3 monthly by Environment Manager Laing O'Rourke Section 12.2 of the CEMP – Reporting states that issues resulting from weekly inspections, monitoring, non-compliance and general issues will be collated into the Monthly Project Report and provided to SICTL as required. Section 15 –Operational Control Section 17 – Monitoring and Measurement provides a table indicating the aspect (e.g. water), means (type of monitoring), location, time frame and responsibilities. Section indicates that issues beyond normal practice or maintenance are to be documented on F1228 Environmental Improvement Request (not used-added to CAR Register). Non-conformances to operational control procedures to EMS to be raised through Non-conformance Report or logged onto HSEQ Corrective Actions Register Incidents logged into Impact and summarised in Monthly Environment Report (internal) and into client report (SICTL) SICTL Yes – objectives and targets – section 3 of Framework CEMP – Monthly environmental monitoring report	C		

MCoA No	Auditee	MCoA Requirement	Comments, observations, discussion Evidence, supporting documentation	Audit Outcome * See footer for key		
				C ✓	Finding O IOC NC ♦ ☒ ☒	NA
		- include all Management Plans/Studies and Monitoring Programs required in this schedule	Grindley Appropriate for Grindley involvement Laing O'Rourke Section 17 and Appendix 13 (Sub-plans) Yes – sub-plans prepared and are on website SICTL Yes – Framework CEMP with Appendices and Sub plans included	C		
		- include arrangements for community consultation and complaints handling procedures during construction;	Grindley Yes - Complaints Handling section -2.10 – refers to SPC 1800 project information line process. Complaints Register Laing O'Rourke Yes – Sections 17.2 – Community and Stakeholder Management, 17.3 – Community Notifications Procedure and 17.4 – Enquiries and Complaint Response. Contacts were current at the time of the audit. SICTL Yes – Section 11 of Framework CEMP – Monitoring and measurement – Community Notifications procedure and Enquiries and Complaints response.	C		
		-be made available for public inspection after approval of the Director General	Grindley Yes - Available on the SICTL website Laing O'Rourke Yes - Available on the SICTL website SICTL Yes – available on the SICTL website	C		

MCoA No	Auditee	MCoA Requirement	Comments, observations, discussion Evidence, supporting documentation	Audit Outcome * See footer for key		
				C ✓	Finding O IOC NC ♦ ☒ ☒	NA
		- Separate CEMPs may be prepared and submitted for works associated with the construction of the terminal footprint.	Grindley Yes – the CEMP is for this purpose Laing O'Rourke Sub-Plans prepared SICTL Yes – the Framework CEMP has been prepared and submitted for the construction of the terminal footprint.	C		
		Compliance Certification				
B1.4	LORAC Grindley Downer SICTL	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 activities relating to that event, subject to the prior agreement of the Director-General.	See below			
		a) commencement of construction works associated with the development;	Addressed in previous audits - construction of port footprint			NA
		b) commencement of each phase of construction works established under the program required under condition B1.3; and	Laing O'Rourke Pre- construction Compliance Certificate Report including Stakeholder correspondence Summary sighted dated 16/07/12 Rev 0.1 submission to DP&I. Letter dated 04/09/2012 from A/Director Infrastructure Projects granted approval for Compliance Certification Report Rev 02 20/08/12 Grindley –CEMP Compliance Certificate Report Rev D dated 24 August 2013 sighted. Letter dated 30/01/2013 from A/Director Infrastructure Projects granted approval for Compliance Certification Report Rev C 17/01/12 (subject to correction of date to 2013)	C		

MCoA No	Auditee	MCoA Requirement	Comments, observations, discussion Evidence, supporting documentation	Audit Outcome * See footer for key		
				C ✓	Finding O IOC NC ♦ ☒ ☒	NA
			Downer Letter dated 30/11/2012 from A/Director Infrastructure Projects granted approval for Compliance Certification Report Revision 3.4. SICTL Yes. Framework Construction Environment Management Plan (FCEMP) Revision 1 dated 2 April 2013 including statement of commitments tracking in Appendix 6 – Approved 22 May 2013			
		c) completion of each phase of construction works established under the program required by condition B1.3.	A MCoA Post-Construction Compliance Report RPT-EN-002(0) for the Construction of Grade Separation Works (Baulderstone) dated 05/01/2013 was prepared and was submitted to DP&I in January 2013.	C		
		The certifying documentation shall clearly outline any on-going environmental management, monitoring or reporting requirements associated with the concluded construction works phase.	Compliance Certificate Reports outline ongoing environmental management requirements within their respective scopes of work.	C		
B1.5	SPC/NSWP SICTL	Notwithstanding condition B1.4, 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.	There had been no requests for additional compliance reporting at the time of the audit	C		
B2		**CONSTRUCTION ENVIRONMENTAL PERFORMANCE**				
		Air Quality Management				
		Odour Impacts and Sediment Sampling				
B2.1	LORAC / Grindley	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. [S129 prohibits odour emission without a licence]	Laing O'Rourke Noted – assessment of odour part of site inspection Grindley Noted – assessment of odour part of site inspection. CEMP 4.4.1 Odour reporting in induction checklist.	C		

MCoA No	Auditee	MCoA Requirement	Comments, observations, discussion Evidence, supporting documentation	Audit Outcome * See footer for key		
				C ✓	Finding O IOC NC ♦ ⊠ ⊠	NA
		Dust Management Plan				
B2.4	LORAC / Grindley SICTL	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:	Laing O'Rourke Air Quality and Dust Management Plan 3-01 prepared – (Rev 3.1 dated 21/08/12). Dust monitoring by Liang O'Rourke. 2 Exceedances of PM10 in June 2013 –Issued July 2–not related to works on site Grindley Dust management is addressed in the CEMP Section 4.4.1 – Air Quality and Dust Management and Impact Mitigation Plan (IMP-006 in Appendix E). SICTL An Air Quality and Dust Management Sub-plan is attached to the Framework CEMP	C		
		-minimise or prevent the emission of dust from the site;	All plans require actions to minimise or prevent emissions of dust	C		
		-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 wind blown or traffic generated dust;	Laing O'Rourke Yes – Section 3.4 of Dust Plan under Mitigation Measures Section 3.6 suppression improvement Grindley Yes – Impact Mitigation Plan SICTL Yes – Section 3.4 – Mitigation Measures	C		
		-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	Laing O'Rourke Yes – Section 3.4 of Air Quality and Dust Management Plan under Mitigation Measures Grindley Yes – Impact Mitigation Plan SICTL Yes – Section 3.4 – Mitigation Measures	C		

MCoA No	Auditee	MCoA Requirement	Comments, observations, discussion Evidence, supporting documentation	Audit Outcome * See footer for key		
				C ✓	Finding O IOC NC ♦ ☒ ☒	NA
		-ensure that all dust source surfaces are sealed.	Laing O'Rourke Yes – Section 3.4 of Dust Plan under Mitigation Measures Grindley Yes – Impact Mitigation Plan SICTL Yes – Section 3.4 – Mitigation Measures	C		
		The Plan shall be approved by the Director-General prior to commencement of construction.	Laing O'Rourke Letter dated 04/09/2012 from A/Director Infrastructure Projects granted approval for Air Quality and Dust Management Plan Rev 3 20/08/12 Grindley Letter dated 30/01/2013 from /Director Infrastructure Projects granted approval for Dust Management Plan and Appendix E of the CEMP subject to the Plan being updated to clarify SPC role to avoid off site impacts. Plan was reviewed and noted that changes have been effected. SICTL Yes. Part of Framework Construction Environment Management Plan (FCEMP) Revision 1 dated 2 April 2013 Approved 22 May 2013 – subject to revisions being made relating to covering of vehicles and sealing of dust source surfaces asap. Revisions have been verified. Downer Letter dated 30/11/2012 from A/Director Infrastructure Projects granted approval for CEMP and all related sub-plans	C		

MCoA No	Auditee	MCoA Requirement	Comments, observations, discussion Evidence, supporting documentation	Audit Outcome * See footer for key		
				C ✓	Finding O IOC NC ♦ ⊠ ☒	NA
		Soil and Water Management				
		Soil and Water Management Plan				
B2.5	LORAC / Grindley	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:	Laing O'Rourke Soil and Water Quality Management Plan 3-.1 (dated 21/08/12) sighted and on SICTL website. Grindley Addressed in Section 5 - Sediment & Erosion Control, Stormwater Management, and Appendix H Erosion and Sediment Control Plan Stormwater Discharge log maintained (form 406). 3 test results- none were within required limits, than no discharge. SICTL A Soil and Water Management Plan is included as an Appendix to the Framework CEMP in Appendix 8 – Sub-Plans	C		
		-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;	Laing O'Rourke Yes – addressed under Section 4.3 - Mitigation Measures Grindley Yes – section 5 SICTL Yes - addressed in section 3.1 – 3.3 of SWMP	C		
		-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	Laing O'Rourke Yes – addressed under Section 4.3 - Mitigation Measures Grindley Yes – Section 5 of CEMP	C		

MCoA No	Auditee	MCoA Requirement	Comments, observations, discussion Evidence, supporting documentation	Audit Outcome * See footer for key		
				C ✓	Finding O IOC NC ♦ ☒ ☒	NA
			SICTL Yes - addressed in section 3.1 – 3.3 of SWMP			
		-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.	Laing O'Rourke Yes – addressed under Section 4.3 - Mitigation Measures. Corrective action process described within CEMP. Grindley Yes – inspections for monitoring, non-conformance system referenced in plan SICTL Yes - addressed in section 5.1 and 5.2 – Water monitoring, monitoring of controls	C		
		The Plan shall be approved by the Director-General prior to commencement of construction.	Laing O'Rourke Letter dated 04/09/2012 from A/Director Infrastructure Projects granted approval for Soil and Water Quality Management Plan Rev 3 20/08/12. Grindley Soil and Water Plan incorporated as part of CEMP. Letter dated 30/01/2013 from /Director Infrastructure Projects granted approval for Soil and Water Plan (section 5 of the CEMP) SICTL Yes. Part of Framework Construction Environment Management Plan (FCEMP) Revision 1 dated 2 April 2013 Approved 22 May 2013. Downer Letter dated 30/11/2012 from A/Director Infrastructure Projects granted approval for CEMP and all related sub-plans	C		

MCoA No	Auditee	MCoA Requirement	Comments, observations, discussion Evidence, supporting documentation	Audit Outcome * See footer for key		
				C ✓	Finding O IOC NC ♦ ☒ ☒	NA
		Acid Sulphate Soils				
B2.6	LORAC / Grindley	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.	Laing O'Rourke Acid Sulphate Soils Management Plan 3-00 is in place (Rev 0.6 - 07/06/12). 9/07/13 –reported suspected ASS to NSW Maritime (RMS) Sighted emails to Graeme Dunlavie (RMS) dated 9/07/13 advising that notification is required under Condition 2.6 of the Approval and outlining the lab results and notifying them that appropriate mitigation measures would be put in place. Return email from Graeme Dunlavie dated 9/07/13 indicated the matter was referred to Dennis Buttigieg in the Property Service Branch. No further response had been received from RMS at the time of the audit Grindley Referenced in CEMP (new CEMP 4.4.1) – Table 1.7.1 Schedule of Licences and Consents – states it is outside the scope of the CEMP. SICTL An Acid Sulphate Soils Management Plan is included as an Appendix to the Framework CEMP in Appendix 8 – Sub-Plans	C		
		Pollution Prevention				
B2.7	LORAC / Grindley	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. [S120 prohibits pollution without a licence.]	Laing O'Rourke Addressed under Section 2 of Soil and Water Management Plan as a reference to the Section of the Act. Grindley Site inspection to confirm. Section 2.7 –Pollution prevention and section 5.2.2 Pumping of stormwater.	C		

MCoA No	Auditee	MCoA Requirement	Comments, observations, discussion Evidence, supporting documentation	Audit Outcome * See footer for key		
				C ✓	Finding O IOC NC ♦ ⊠ ☒	NA
			SICTL Addressed in the Framework CEMP. No physical work by SICTL Site Inspections were carried out at all Contractor and subcontractor work sites and compliance to Section 120 was assessed. No areas of non-compliance were noted; however some IOCs have been raised in areas where controls could be improved. For further information refer to section 3.4 of report – Effectiveness of Environmental Management.			
		Impact of Dredging				
B2.8 – 2.12	Nil	All activities associated with dredging and reclamation works must be carried out in a manner that protects seagrass beds between the dredge area and Foreshore Beach, and between the dredge area and Parallel Runway.	No dredging or reclamation works are being undertaken are part of this phase of works. Conditions B2.8 – B2.12 are not applicable and are not included in the scope of this audit			**NA**
		Consultation with Sydney Water				
B2.13	SICTL	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.	SICTL have entered into an agreement with Sydney water for the supply of a Combined Water connection. The agreement authorises connection to the water system subject to conditions at Lot 2 Penrhyn Road Port Botany. Acceptance of Customer agreement signed by a SICTL representative – dated 20/12/2012 was sighted.	**C**		
		Traffic, Transport and Infrastructure Management				
		Construction Traffic Management Plan				
B2.14	LORAC / Grindley	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. Plan must include, but not be confined to, mitigation measures identified in EIS such as:	Laing O'Rourke Works Program – Traffic Management Plan (last updated 17/12/12 sighted. This is a stand alone plan. Grindley Yes – Site Specific Traffic Management Plan Rev 02 (now Ver 3 – last week updated but not on doc). References Traffic	**C**		

MCoA No	Auditee	MCoA Requirement	Comments, observations, discussion Evidence, supporting documentation	Audit Outcome * See footer for key		
				C ✓	Finding O IOC NC ♦ ☒ ☒	NA
			Management Plan Document Ref SA67- Appendix J. Email from RMS- no objection. Dated 5 Dec 12. Approved as part of CEMP SICTL A Traffic Management Plan has been prepared as part of the Framework CEMP – Appendix 8 Downer Letter dated 30/11/2012 from A/Director Infrastructure Projects granted approval for CEMP and all related sub-plans			
		-identification of preferred haulage routes;	Yes P9 and 10 of TMP	C		
		-access routes and, signage and access arrangements on site;	Yes	C		
		-measures to limit the impact on Foreshore Rd. and Botany Rd.;	Yes	C		
		-need for restrictions on delivery hours and/or routes; and,	Yes	C		
		-development of traffic management measures during construction works to ensure minimal traffic disruptions	Yes	C		
		The plan must be submitted and approved by the Director-General prior to the commencement of construction.	Laing O'Rourke Letter dated 04/09/2012 from A/Director Infrastructure Projects granted approval for Construction Traffic Management Plan Rev 02 22/06/2012. Grindley Letter dated 30/01/2013 from /Director Infrastructure Projects granted approval of the Construction Traffic Management Plan (Appendix J to CEMP) subject to page 13 being updated. Plan reviewed – page 13 includes interaction with other contractors and cumulative traffic issues.	C		

MCoA No	Auditee	MCoA Requirement	Comments, observations, discussion Evidence, supporting documentation	Audit Outcome * See footer for key		
				C ✓	Finding O IOC NC ♦ ☒ ☒	NA
			SICTL Yes. Part of Framework Construction Environment Management Plan (FCEMP) Revision 1 dated 2 April 2013 Approved 22 May 2013 Downer Letter dated 30/11/2012 from A/Director Infrastructure Projects granted approval for CEMP and all related sub-plans			
		Safety Audit				
B2.15	SPC/NSWP	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.	Not required for this package of works or scope of this audit			**NA**
B2.16	LORAC Grindley SICTL	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.	Laing O'Rourke A Port Traffic Handbook is included as part of the Traffic Management Plan. The Plan is sent to Transport /delivery companies and drivers via Project Centre and outlook. Sighted several samples of correspondence (e.g. Bakers, Benedicts, and Concrete Recyclers) Grindley Yes – Grindley Port Traffic Handbook located in Appendix B of Traffic Management Plan. Copies of the Plan are required to be sent out with Purchase order to transport companies. SICTL A Port Traffic Handbook is provided as Appendix 1 to the Construction Traffic Management Plan	**C**		

MCoA No	Auditee	MCoA Requirement	Comments, observations, discussion Evidence, supporting documentation	Audit Outcome * See footer for key		
				C ✓	Finding O IOC NC ♦ ☒ ☒	NA
		Rail Siding Capacity				
B2.17	SPC/NSWP	To maximise the increase in rail mode share associated with the expansion of the Port, rail siding capacity shall be provided in accordance with the Plan required by condition A2.4 of Schedule A.	Future activity – related to A 2.4			**NA**
		Rail Access to New Terminal				
B2.18	SPC/NSWP Baulderstone	The Applicant shall ensure that Grade separation of Penrhyn Road over the rail access to the new berth includes the grade separation of the inter-terminal road over the rail access to Patrick's terminal. This is required to ensure efficient operation of both road and rail access to all existing and proposed new berths.	Grade Separation Works are complete	**C**		
		Noise and Vibration Management				
		Restriction to Hours				
B2.19	LORAC / Grindley SICTL	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.	The ER maintains an Out of Hours Work Register (sighted version as at 05/09/2013). The Register includes out of hours works details for all contractors undertaking work on site – Laing O'Rourke, Grindley, Cargotec, Fujitsu, Kone and Inver. Entries in the Register indicated that all works undertaken out of the approved hours were assessed by the Environmental Manager / ER, considered as inaudible at residential receivers and approved by the ER. Reasons for undertaking work OOH are also documented. There have been no noise related complaints since commencement of this this package of works.	**C**		
B2.19A	LORAC / Grindley SICTL	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	There have been no out of hours works required that are audible at residential premises and require approval	**C**		

MCoA No	Auditee	MCoA Requirement	Comments, observations, discussion Evidence, supporting documentation	Audit Outcome * See footer for key		
				C ✓	Finding O IOC NC ♦ ☒ ☒	NA
		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	LORAC / Grindley SICTL	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.	Noted – No Environment Protection Licence on this package of works			**NA**
		Construction Noise Management Plan				
B2.20	LORAC / Grindley SICTL	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:	Laing O'Rourke Yes - Construction Noise and Vibration Management Plan 3-1 20/08/2012 and 12/09/12 sighted – available on SICTL website. Grindley Addressed in Section 4.4.5 of CEMP - Appendix I – Construction Noise Management Plan (CNMP) (12 page document) embedded in CEMP. SICTL A Construction Noise and Vibration Management Plan is included as a sub-plan in Appendix 8 of the Framework CEMP	**C**		
		-identify general activities that will be carried out and associated noise sources;	Laing O'Rourke Yes – addressed in Section 4 Construction Noise and Vibration Management – Noise Impact Grindley Addressed in Section 2.4 CNMP Construction Noise Sources identifies sources and typical sound power levels for plant items SICTL Activity Specific Risks are addressed in Section 2.4 of the CNVP including supply and installation of automated stacking cranes and Quay cranes and communication infrastructure.	**C**		

MCoA No	Auditee	MCoA Requirement	Comments, observations, discussion Evidence, supporting documentation	Audit Outcome * See footer for key		
				C ✓	Finding O IOC NC ♦ ☒ ☒	NA
B2.20 Cont'd	LORAC / Grindley SICTL	-assess construction noise impacts at the relevant receivers;	Laing O'Rourke Yes – addressed in Section 9 of CNMP – monitoring Grindley Addressed in Sections 2.4 Noise criteria stated for 6 locations and 2.5 – Assessment of impacts SICTL Section 2.8 of the CNVP – Monitoring – states that there will be a coordinated approach due to multiple contractors working on the site and this will be coordinated by SICTL.	C		
		-provide details of overall management methods and procedures that will be implemented to control noise during the construction stage;	Laing O'Rourke Yes – addressed in Section 8 – Mitigation Measures Grindley Addressed in Section 2.6 – Control Measures to be implemented listed SICTL Yes – addressed in Section 2.7 – Mitigation Measures	C		
B2.20 Cont'd		- 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; • 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;	Laing O'Rourke Yes – addressed in Section 8 – Mitigation Measures Grindley As above - Section 2.6 – Control Measures SICTL Yes – addressed in Section 2.7 – Mitigation Measures	C		

MCoA No	Auditee	MCoA Requirement	Comments, observations, discussion Evidence, supporting documentation	Audit Outcome * See footer for key		
				C ✓	Finding O IOC NC ♦ ☒ ☒	NA
		• 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; • preventing vehicle, plant and equipment queuing and idling outside the hours of construction prescribed by this consent.				
B2.20 Cont'd	LORAC / Grindley SICTL	-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;	Laing O'Rourke Addressed in Section 2.10 incident response (reactive) Section 3.2 – Enquiries and Complaint response Grindley Addressed in NMP section 2.7 Complaints handling SICTL Yes – addressed in Section 3.2 – Enquiries and Complaint Response	C		
		-detail noise monitoring, reporting and response procedures consistent with DEC requirements;	Laing O'Rourke Primarily monitoring undertaken by LORAC. Addressed under section 2.9 – Monitoring . There has been no incidences where out of hours works have required EPA approval or consultation	C		

MCoA No	Auditee	MCoA Requirement	Comments, observations, discussion Evidence, supporting documentation	Audit Outcome * See footer for key C ✓	Finding O IOC NC ♦ ⊠ ☒	NA
			Grindley Addressed in Section 2.5 of the NMP (Appendix I). The plan notes that the noise monitoring will be conducted by the ER or approved consultant. SICTL Yes –Section 2.8 of the CNVP – Monitoring – states that there will be a coordinated approach due to multiple contractors working on the site and this will be coordinated by SICTL.			
	LORAC / Grindley SICTL	-provide for internal audits of compliance of all plant and equipment;	Laing O'Rourke Addressed in section 2.10 – all plant and machinery will be checked and verified for noise levels and appropriate exhaust / fittings/ noise attenuators – check records Grindley Section 2.6 – Control Measures includes requirements for regular checks are undertaken to ensure that all plant and equipment are in good working order and being operated correctly. SICTL Section 2.9 of the CNVP – Incident Planning and Response requires that remedial work would be implemented if noise goals are exceeded and that all plant and machinery will be checked and verified for noise levels if any noise complaints are received. *Opportunity for Improvement: The CNVP does not specifically require internal audits / inspection of plant except as a reactive action to complaint or incident*		**O SICTL**	

MCoA No	Auditee	MCoA Requirement	Comments, observations, discussion Evidence, supporting documentation	Audit Outcome * See footer for key		
				C ✓	Finding O IOC NC ♦ ☒ ☒	NA
	B2.20 cont'd	-indicate site establishment timetabling to minimise noise impacts;	Laing O'Rourke Yes – addressed in Section 8 – Mitigation Measures Grindley As above - Section 2.6 – Control Measures SICTL Yes – addressed in Section 2.7 – Mitigation Measures	C		
		-procedures for notifying residents of construction activities likely to affect noise amenity;	Laing O'Rourke Yes – addressed in Section 3 of CVMP – Community Notifications – written notification two weeks prior to commencement of works – letterbox drop and CCC Grindley Notified by Letter drop SICTL Section 3.1 of the CNVP provides and Community communications procedure for residents identified as being impacted by the project works – written notification two weeks prior to commencement of works.	C		
		-address the requirements of DEC; and	There is no Environment Protection Licence and there have been no incidences where out of hours works were audible or has required EPA approval or consultation.	C		
	B2.20 cont'd	-be approved by the Director-General prior to the commencement of any works on the site.	Laing O'Rourke Letter dated 04/09/2012 from A/Director Infrastructure Projects granted approval for Construction Noise Management Plan 20/08/2012.	C		

MCoA No	Auditee	MCoA Requirement	Comments, observations, discussion Evidence, supporting documentation	Audit Outcome * See footer for key		
				C ✓	Finding O IOC NC ♦ ☒ ☒	NA
			Grindley Letter dated 30/01/2013 from /Director Infrastructure Projects granted approval of the Construction Noise Management Plan (Appendix I of the CEMP, Rev 02 23/01/2013) subject to the editorial error referencing the year date as 2012 being corrected to 2013. CEMP has been revised at Rev 5 dated 08/08/2013. SICTL Yes. Part of Framework Construction Environment Management Plan (FCEMP) Revision 1 dated 2 April 2013 Approved 22 May 2013 Downer Letter dated 30/11/2012 from A/Director Infrastructure Projects granted approval for CEMP and all related sub-plans			
		Construction Noise Goals				
B2.21	LORAC / Grindley SICTL	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.	Laing O'Rourke Laing O'Rourke is primarily responsible for conducting noise monitoring. The July 2013 monitoring report notes in Section 3 – Noise Monitoring that recorded LAeq levels exceeded the noise goals for noise emissions from the Port Botany expansion Project at four locations (5 in June, 3 in May, 4 in April), however at each monitoring location extraneous, non-project related noises were the dominant noise sources. These noise sources included road traffic, both local and main, and aircraft noise. No Terminal 3 construction activities were audible at any monitoring locations.	C		

MCoA No	Auditee	MCoA Requirement	Comments, observations, discussion Evidence, supporting documentation	Audit Outcome * See footer for key		
				C ✓	Finding O IOC NC ♦ ☒ ☒	NA
			Night time noise monitoring was undertaken in April for concrete batching and pavement works. Conditional approval was granted by Department of Planning and Infrastructure to undertake these works outside of the standard construction hours for the site. Attended audibility trials for certain activities outside of standard construction hours have been undertaken in previous months and night time monitoring results during April have shown that concrete batching and paving works were deemed inaudible at the closest residential locations to the Terminal 3 construction site.			
		Construction of Noise Barrier				
B2.23	LORAC / SICTL	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.	The noise barrier was under construction at the time of the audit and will be completed prior to commencement of operations. Independent advice from an independent expert Avifauna (Phil Straw) was provided in a letter dated 29/06/2012.	**C**		
B2.23A	SICTL	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.	Future activity for operator of facility			**NA**

MCoA No	Auditee	MCoA Requirement	Comments, observations, discussion Evidence, supporting documentation	Audit Outcome * See footer for key		
				C ✓	Finding O IOC NC ♦ ☒ ☒	NA
		Other Construction Noise Matters				
B2.24	LORAC / Grindley SICTL	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.	Some plant and machinery were fitted with "quackers" (Laing O'Rourke) but others were not. However, noise from the site is deemed "inaudible" It was considered that noise impact from "beepers" was insignificant and was not audible off site.	C		
B2.25	LORAC / SICTL	The Applicant must install all physical noise management measures as early as is practicable during construction of the Port Botany Expansion project.	The permanent noise barrier was under construction at the time of the audit. .	C		
B2.26	LORAC / Grindley SICTL	The Applicant must not undertake any blasting on the premises	No blasting has occurred on the project	C		
		Port Traffic and Rail Noise Management Plan				
B2.27	SPC/NSWP	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 Currently in development. NSW Ports Responsible for coordinating			NA
		Rail Noise Working Group				
B2.28	SPC/NSWP	While expansion will generate an increase of trains on freight rail lines, the manager of the freight line RailCorp is subject to an Environment Protection licence with the EPA. The Applicant must establish a Rail Noise Working Group prior to the operation of the development. The Rail Noise Working Group shall address all associated rail noise issues and shall include but not be limited to RailCorp, ARTC, SPC, DOP, relevant councils and representatives of Community Consultative Committee and is required to consult with relevant regulatory authorities including DEC.	Future requirement – operational phase			NA

MCoA No	Auditee	MCoA Requirement	Comments, observations, discussion Evidence, supporting documentation	Audit Outcome * See footer for key		
				C ✓	Finding O IOC NC ♦ ☒ ☒	NA
		Rail Noise Assessment – Botany Yard – Cooks River				
B2.29	SPC/NSWP	Prior to construction of Stage 4 – rail duplicated line, a noise assessment should be conducted by the Rail Noise Working Group to identify potential impacts on residents and to recommend mitigation measures, including identification of responsibility for implementation of such measures.	Future requirement –for Rail Noise Management Group (NSW Ports) operations			**NA**
B2.30 – B2.32		**Penrhyn Estuary (aquatic and terrestrial, surface water quality and related issues)** **Conditions B2.30 to B2.32 were a once off requirement and are not part of the scope of this audit**				**NA**
		Waste Management				
		Construction Waste Management Plan				
B2.33	LORAC / Grindley SICTL	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 including but not limited to:	Laing O'Rourke Waste Management Plan3-01 20/08/12. Letter dated 04/09/2012 from A/Director Infrastructure Projects granted approval for Construction Waste Management Plan 20/08/2012. Grindley Appendix G of CEMP - Waste Management Plan, Impact Mitigation Plan 004 – Appendix E. Letter dated 30/01/13 from A/Director Infrastructure Projects granted approval for Construction Waste Management Plan 23/01/12 subject to editorial error referencing the date as 2012 being corrected to 2013. Fix – now dated 20/08/13. SICTL A Waste Management Plan is included as a sub-plan in Appendix 8 of the Framework CEMP.	**C**		

MCoA No	Auditee	MCoA Requirement	Comments, observations, discussion Evidence, supporting documentation	Audit Outcome * See footer for key		
				C ✓	Finding O IOC NC ♦ ☒ ☒	NA
		-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;	Laing O'Rourke The types of waste that would be generated are identified in Section 4.2.1 – Waste Sources, and a description of how the wastes would be handled, stored etc are in section 4.2.6 – Storage / Handling and Section 4.4 – Mitigation Measures. *Opportunity for Improvement: Quantities of waste that would be generated are not identified in the WMP* Grindley Section 2 of Waste Management Plan – 2.1 Waste Sources – estimates provided SICTL The types of waste that would be generated are identified in Section 4.2.1 – Waste Sources, and a description of how the wastes would be handled, stored etc. are in section 4.2.5 – Storage / Handling and Section 4.3 – Mitigation Measures.		**O** **LORAC** **SICTL**	
	LORAC / Grindley SICTL	-identification of a designated area for the storage and collection of waste and recyclable materials to be provided on the site;	Laing O'Rourke Appendix 2 of the Waste Management sub-plan provide a map showing locations on site where waste will be segregated and stored in bays. Grindley Addressed in section 2.2 of WMP – Storage and handling – location map provided in section 2.4 SICTL Appendix 1 of the SICTL Waste Management Plan provide a map showing locations on site where waste will be segregated and stored in bays (same map as Laing O'Rourke)	**C**		

MCoA No	Auditee	MCoA Requirement	Comments, observations, discussion Evidence, supporting documentation	Audit Outcome * See footer for key		
				C ✓	Finding O IOC NC ♦ ☒ ☒	NA
		-description of how the effectiveness of these measures would be monitored and, if non-compliance detected, actions to be required;	Laing O'Rourke Yes – addressed in Section 6.1 of the Waste Management Plan 3-01 – Auditing of Waste Management Measures and 6.2 – Waste Tracking Grindley Yes – Addressed in Section 2.5 Monitoring SICTL *Opportunity for Improvement: The SICTL Waste Management Plan does not include any monitoring requirements for waste. Section 11 of the CEMP – Monitoring and Measurement includes monitoring for air, water noise and vibration etc., but not waste* *Action taken: A new section has been added to the WMP – Monitoring and auditing of waste measures.*		**O SICTL**	
		-measures to involve and encourage employees and contractors to minimise domestic waste production on site and to reuse/recycle where possible.	Laing O'Rourke Yes – addressed in Section 4.2.3 of Waste Management Plan – Waste Minimisation and Recycling Grindley Yes – addressed in section 2.3 – Recycling / Reusing waste SICTL Yes – addressed in Section 4.3 of SICTL waste management plan – Mitigation measures	**C**		

MCoA No	Auditee	MCoA Requirement	Comments, observations, discussion Evidence, supporting documentation	Audit Outcome * See footer for key		
				C ✓	Finding O IOC NC ♦ ⊠ ☒	NA
		Waste Management On-Site				
B2.34	LORAC / Grindley SICTL	Management of waste must be in accordance with the environment protection licence issued by EPA under the Protection of the Environment Operations Act 1997.	No EPL on site See below.			**NA**
B2.35	LORAC / Grindley SICTL	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.	All wastes on generated on site are classified in accordance with the 2008 guidelines and disposed of appropriately. A sample of waste dockets for liquid and solid waste was sighted from a number of contractors and subcontractors. Contractors on site are generally responsible for management of waste and engagement of waste subcontractors. Laing O'Rourke A waste register is maintained by Laing O'Rourke. Records are retained in the project filing system. Copies of the EPLs of the waste management contractors are also maintained within the Liang O'Rourke records system. Grindley Grindley previously engaged the services of Bingo Group for waste management, and have recently changed to DATS. A copy of the EPL for DATS was retained on site and quarterly reports are provided with a breakdown of waste streams. A letter from DATS confirms that all wastes are transported and disposed of at Green Star licensed waste processing facilities.	**C**		
		Hazardous and Industrial Waste				
B2.36	LORAC / Grindley SICTL	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.	Laing O'Rourke, Grindley, Kone Cranes, Fujitsu, Inver No Hazardous Wastes outside these criteria have been generated.	**C**		

MCoA No	Auditee	MCoA Requirement	Comments, observations, discussion Evidence, supporting documentation	Audit Outcome * See footer for key		
				C ✓	Finding O IOC NC ♦ ⊠ ☒	NA
		Potential for Discovery of Aboriginal Heritage Objects				
B2.39	LORAC / Grindley SICTL	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.	No Aboriginal artefacts or objects have been uncovered to date. Protocols are in place should artefacts or objects be uncovered.	C		
		Hazards and Risk Management				
		Construction Safety Study				
B2.41	LORAC / Grindley SICTL	The Applicant shall prepare a Construction Safety Study prior to commencement of construction of terminal operations infrastructure, 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 2 months prior to commencement of commissioning. The study shall be submitted for the approval of Director-General prior to the commencement of construction of the terminal operations infrastructure.	Laing O'Rourke A construction Safety Study has been prepared by Laing O'Rourke and has been approved by DP&I. Letter dated 04/09/2012 from A/Director Infrastructure Projects granted approval for the Construction Safety Study Rev 1 02/08/12. Grindley A construction Safety Study has been prepared by Grindley Constructions and has been approved by the DP&I. Letter dated 30/01/2013 from A/Director Infrastructure Projects granted approval for the Construction Safety Study Rev A Nov 2012 subject to the study being updated to recognise that there would be a clear separation of the Grindley and Laing O'Rourke works and requirement put in place to ensure where there are any overlapping of works, safety measures would be consistent across the two areas. *Issue of Concern* *The current Grindley CEMP does not reflect the changes required to be made as per the letter dated 30/01/2013.*		**IOC Grindley**	

MCoA No	Auditee	MCoA Requirement	Comments, observations, discussion Evidence, supporting documentation	Audit Outcome * See footer for key		
				C ✓	Finding O IOC NC ♦ ⊠ ☒	NA
			SICTL A Construction Safety Study Report (v 03/13) has been prepared by SICTL and covers the activities relating to Supply and installation of automated stacking cranes, supply and installation of information and technology infrastructure and delivery and fabrication of shuttle carriers. Letter dated 31/05/2013 from A/Director Infrastructure Projects granted approval for the Construction Safety Study (Ver 03/13) Downer Letter dated 30/11/2012 from A/Director Infrastructure Projects granted approval for CEMP and all related sub-plans including the Construction Safety Study Report.			
		Fire Safety Study				
B2.42	SICTL	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, 1992). 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.	A fire Safety Study has been prepared and submitted to DP&I and NSW Fire and Rescue. DP&I have reviewed the Fire Safety Study and comments were provided to SICTL and SPC on 30/08/2012. A letter from Sydney Ports dated 31 August 2012 notes that there may be delays in obtaining final approval from NSW Fire and Rescue due to issues outside SICTL control. In the letter, SPC note that they have had discussions with DP&I, and that SPC have no objection to SICTL commencing works that do not have an impact on the assessment, methodology and recommendations of the Fire Safety Study on the understanding that they do it at their own risk. Subsequent to the audit, The Fire Safety Study was approved by Fire and Rescue NSW in a letter dated 25 October 2013.	**C**		

MCoA No	Auditee	MCoA Requirement	Comments, observations, discussion Evidence, supporting documentation	Audit Outcome * See footer for key		
				C ✓	Finding O IOC NC ♦ ☒ ☒	NA
		Emergency Incident Management				
		Emergency Response and Incident Management Plan				
B2.43	LORAC / Grindley SICTL	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: -terminal security and public safety issues; -effective spill containment and management; -effective fire fighting capabilities; -effective response to emergencies and critical incidents; and -a single set of emergency procedures, consistent with the existing Port Botany Emergency Plan, should be developed that can be scaled as appropriate for any incident or emergency.	Laing O'Rourke Emergency Response and Incident Management Plan 3-01 Rev 3.1 dated 21/08/12. Letter dated 04/09/2012 from A/Director Infrastructure Projects granted approval for Emergency Response and Incident Management Plan Rev 03 20/08/12 subject to the procedures in section 13.4, 13.13 and 13.14 referring to the Environmental Representative also being contacted in relation to the incident. *Issue of Concern: Review of document provided at the audit found (hard copy) that these sections have not been revised to include the ER being contacted in an emergency. The Plan was revised following the audit* Grindley Section 4 – Site Emergency Response Plan – very general – requirement to notify SICTL not specified – clarify. Emergency Contacts section doesn't mention Laing O'Rourke or SICTL. SICTL Framework CEMP includes Appendix 4 – Emergency Preparedness and Incident Response which list the types of emergencies that could occur on site, the response and responsibilities for actions. *Issue of Concern– There are several Emergency Response Plans relating to various contractors' scopes of work, however there was no clear single set of procedures which provide a guiding document covering the whole project. It is not clear*		**IOC LORAC SICTL**	

MCoA No	Auditee	MCoA Requirement	Comments, observations, discussion Evidence, supporting documentation	Audit Outcome * See footer for key C ✓	Finding O IOC NC ♦ ☒ ☒	NA
			which Emergency Response Plan takes precedence and who is responsible for overall / principal response or who would be responsible for EPA Notification. *Action taken: A SPBT Project Emergency Response – Incident Escalation Coordination Procedure has been developed by SICTL to provide guidance to all contractors on site in the event of an emergency* Downer Letter dated 30/11/2012 from A/Director Infrastructure Projects granted approval for CEMP and all related sub-plans including the Emergency Response and Incident Management Plan.			
		Aviation Construction Management				
		Impact on Aviation Operations at Sydney Airport				
B2.44	SPC/NSWP	The Applicant shall ensure that all aspects associated with construction considers the required lateral separation distances to minimise the interference to Sydney Airport radar and navigational systems.	This was assessed as compliant at previous audits and was not reassessed			**NA**
B2.45	SPC/NSWP	The Applicant shall ensure design of the navigation channel and ship turning areas considers the required lateral separation distances to minimise interference to Sydney Airport radar and navigational systems. Design shall be undertaken in consultation with Air Services Australia.	Design of the navigation channel and ship turning areas has been completed previously by others. See Conditions B2.44 and B2.48.			**NA**

MCoA No	Auditee	MCoA Requirement	Comments, observations, discussion Evidence, supporting documentation	Audit Outcome * See footer for key		
				C ✓	Finding O IOC NC ♦ ☒ ☒	NA
		Obstacle limitation Surface				
B2.46	SICTL Grindley	The Applicant shall ensure that all construction equipment is below 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.	SICTL Letter from SACL (dated 28/05/2013 Peter Bleasdale) to SICTL indicates no objection to the shipping movement of the BBC PLATA through Botany Bay to Hutchison Terminal subject to the conditions: max height of ship including cargo not to exceed 51.0m above AHD. Grindley Addressed in CEMP Section 4.4.9 Site Emergency Response Plans / Environmental Impact Issues / Aviation Management	C		
		Terminal Construction Lighting Design				
B2.47	SICTL LORAC	The Applicant shall ensure design specifications of any construction lighting conform to the requirements of Regulation 94 of the Civil Aviation Regulations 1988.	SICTL The Framework CEMP requires that all construction lighting is minimal and facing downwards. Liang O'Rourke The main works CEMP requires that all construction lighting is minimal and facing downwards	C		
		COMMUNITY INFORMATION, INVOLVEMENT AND CONSULTATION				
		Community Information and Complaints Handling				
B3.1	SPC/NSWP	The Applicant must meet the following requirements in relation to community consultation and complaints management:	Coordinated overall by NSW Ports, assigned to relevant contractors as required	C		
	SPC/NSWP LORAC / Grindley SICTL	-all monitoring, management and reporting documents required under the development consent shall be made publicly available;	Environmental Management Plans, Monitoring Report and Project updates are available on the website: http://www.hutchisonports.com.au/port-botany-expansion. Monitoring plans on the website date from September 2012 to July 2013 as at the time of the audit. The audit report from this independent audit is required to be uploaded to the website.	C		

MCoA No	Auditee	MCoA Requirement	Comments, observations, discussion Evidence, supporting documentation	Audit Outcome * See footer for key		
				C ✓	Finding O IOC NC ♦ ☒ ☒	NA
		-provide means by which public comments, inquiries and complaints can be received, and ensure that those means are adequately publicised; and	A General Enquiries line and a Complaints line is provided on the Hutchison Ports website for the Port Botany Expansion Project. The Auditor phoned the complaints line just prior to commencement of the audit and confirmed that the complaints number provided is correct and for that purpose.	C		
		-includes details of a register to be kept of all comments, inquiries and complaints received by the above means, including the following register fields:	SICTL Complaints Register sighted. Only one complaint has been received and that was received by email on 10/08/2013 at 14.41 hrs. The complaint is entered into the register in relation to the visual size and bulk of Quay cranes and the lights flashing on top. The Register shows that SICTL responded within 24 hours and attempted to organise a meeting with the complainant however the meeting has been postponed by the complainant. Lights have been turned off during the day temporarily and this step has been acknowledged. At the time of the audit, only the one complaint recorded for the construction phase to date.	C		
		-the date and time, where relevant, of the comment, inquiry or complaint;				
		-means by which comment, inquiry, complaint was made (telephone, fax, mail, email, person);				
		-any personal details of the commenter, inquirer or complainant that were provided, or if no details were provided, a note to that effect;				
		-the nature of the complaint;				
	SPC/NSWP LORAC / Grindley SICTL	-any action(s) taken by the Applicant in relation to the comment, inquiry or complaint, including any follow-up contact with the commenter, inquirer or complainant; and	Actions taken are documented in the register	C		
		-if no action was taken by the Applicant in relation to the comment, inquiry or complaint, the reason(s) why no action was taken.	As above – no complaints where no action was taken	C		
	SPC/NSWP	-Provide quarterly reports to the Department and DEC, where relevant, outlining details of complaints received.	Quarterly Complaints reports are forwarded to DP&I. Sighted reports15 April – 15 October 2012; 15 Oct 12 – 15 Jan 13; 15 Jan to 15 April 2013. *Issue of Concern: Complaints reported 6 monthly in April – Oct 12, and none since April 2013.*		**IOC**	

MCoA No	Auditee	MCoA Requirement	Comments, observations, discussion Evidence, supporting documentation	Audit Outcome * See footer for key		
				C ✓	Finding O IOC NC ♦ ☒ ☒	NA
		Community Consultative Committee				
B3.2	SPC/NSWP	Within 6 months of this consent or prior to commencement of construction, whichever is earlier, the Applicant shall establish a Community Consultative Committee to oversee the environmental performance of the development. This committee shall:	Construction and Operations Community Consultative Committee in place (Minutes are on the NSW Ports website) http://www.nswportsbotany.com.au/projects/port-botany-expansion/	**C**		
		(a) be comprised of 2 representatives from the Applicant, including the person responsible for environmental management, 1 representative from Botany Bay City Council; and at least 3 representatives from the local community, whose appointment has been approved by the Director-General in consultation with the Council.	There are at least 2 representatives of NSW Ports, The ER (Eladio Perez – EPRM) and The Environmental Manager from Laing O'Rourke are primarily responsible for environmental Management, Steven Poulton represents City of Botany Bay Council, Bronwyn Englaro represents Randwick City Council. Community representatives are John Burgess, Paul Pickering	**C**		
		(b) be chaired by an independent party approved by the Director-General;	Roberta Ryan is Independent Chairperson	**C**		
		(c) meet at least four times a year, or as otherwise agreed by the CCC;	Minutes on website indicate more than 4 times yearly (actual = 5 times yearly). Meeting minutes available for 2/07/13; 07/05/13, 12/02/13, 06/11/12; 11/09/12 and 5/07/12	**C**		
		(d) review and provide advice on the environmental performance of the development, including any construction or environmental management plans, monitoring results, audit reports, or complaints; &	Minutes reviewed – includes presentations of management plans, environmental monitoring, discussions, advice etc. The CCC meeting held on 12 Feb 12 discussed the outcomes of the last PBE Grade separation audit.	**C**		
		Note: The Applicant may, with the approval of the Director-General, combine the function of this CCC with the function of other Community Consultative mechanisms the area, however, if it does this it must ensure that the above obligations are fully met in the combined process.	The CCC remains as a separate entity, however the July 2013 meeting minutes indicated that members are giving consideration to integrating it with the Port Botany Neighbourhood Liaison Group after completion of the construction phase.	**C**		
B3.3	SPC/NSWP	The Applicant shall, at its own expense:				
		(a) ensure that 2 of its representatives attend the Committee's meetings;	Minutes indicated that representatives from NSW Ports, and SICTL / Hutchison Ports attend the committee meetings	**C**		

MCoA No	Auditee	MCoA Requirement	Comments, observations, discussion Evidence, supporting documentation	Audit Outcome * See footer for key		
				C ✓	Finding O IOC NC ♦ ☒ ☒	NA
		(b) provide the Committee with regular information on environmental performance/management;	Yes – regular information on environmental performance and management is provided	C		
		(c) provide meeting facilities for the Committee;	Yes	C		
		(d) arrange site inspections for the Committee, if necessary;	As required	C		
		(e) take minutes of the Committee's meetings;	Minutes sighted on website	C		
		(f) make these minutes available on the Applicant's website within 14 days of the Committee meeting, or as agreed to by the Committee;	As per agreement by the committee. Last meeting minutes posted on website as at the time of the audit was 2 July 2013. Next meeting October 2013.	C		
		(g) respond to any advice or recommendations the Committee may have in relation to the environmental management or performance of the development; and	Yes – minutes show responses to advice / recommendations / questions.	C		
		(h) forward 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.	Minutes have been forwarded to DP&I within one month of the committee meeting as required (relevant emails sighted)	C		
B4		**ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING**				
		Incident Reporting				
B4.1	SPC/NSWP SICTL	The Director-General shall be notified of any incident with actual or potential significant off-site impacts on people or biophysical environment within 12 hours of Applicant, or other relevant party undertaking the development, becoming aware of the incident. Full written detail of the incident shall be provided to the D-G within seven days of the date on which the incident occurred. The D-G may require additional measures to be implemented to address the cause	There have been no environmental incidents that would be required to report to the DG Contractors Incident reports were reviewed and key project personnel were interviewed as part of the audit confirming that there have been no significant environmental incidents.	C		

MCoA No	Auditee	MCoA Requirement	Comments, observations, discussion Evidence, supporting documentation	Audit Outcome * See footer for key		
				C ✓	Finding O IOC NC ♦ ☒ ☒	NA
		or impact of any incident, as it relates to this consent, reported in accordance with this condition, within such period as the D-G may require.				
		Annual Environmental Management Report (AEMR)				
B4.2	SPC/NSWP	The Applicant must prepare an Annual Environmental Management Report for the development. The Annual Environmental Management Report must:	The 2012 AEMR report is available on the NSW Ports Website. The 2013 Annual Environmental Management Report will be prepared following release of this independent audit report.	C		
		-detail compliance with the conditions of this consent;	Yes	C		
		-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;	Yes (no complaints received for reporting period)	C		
		-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;	Yes - Appendix 3	C		
		-detail results of all environmental monitoring required under the development consent and other approvals, including interpretations and discussion by a suitably qualified person;	Yes – Appendix 4	C		
		-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;	Yes – report states all performance goals achieved	C		
		-be prepared within twelve months of commencement of construction, and every twelve months thereafter;	As noted in previous audit reports, the AEMR cannot be prepared until this audit report has been released. This audit was conducted 12 months after commencement of construction and the AEMR will be prepared shortly after.	C		

MCoA No	Auditee	MCoA Requirement	Comments, observations, discussion Evidence, supporting documentation	Audit Outcome * See footer for key		
				C ✓	Finding O IOC NC ♦ ⊠ ⊠	NA
		-be approved by the Director-General; and	The previous (Fourth) Annual Environmental Management Report which was submitted in January 2013. The report was approved by the Director General on 19 March 2013 however it was noted that the report covered an eighteen month period rather that the 12 monthly requirement. It notes that subsequent reports should be submitted in a timely manner. *Issue of Concern: DP&I require that the AEMR are to be submitted in a more timely manner (12 monthly as per MCoA)*		**IOC NSW Ports**	
		-be made available for public inspection.	The AEMR is available on the NSW Ports Website	**C**		
		Environmental Representative				
B4.3	SICTL LORAC	Prior to the commencement of construction, a suitably qualified and experienced Environmental Representative(s) shall be nominated and approved by the D-G. 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 D-G. The Environmental Representative shall be:	The following persons have been appointed as ER and back-up ER on the project. Both have been approved by DP&I: • Noel Storan – approved by DP&I 19/03/2013 • Eladio Perez - approved by DP&I 10/04/2013 Letters from DP&I provide verification of appointment Prior to the appointment of Noel and Eladio, Jason Ambler (Laing O'Rourke) was initially appointed as ER – verified in letter. 17/07/12	**C**		
		a) the primary contact point in relation to environmental performance of construction phases;	The responsibilities of the Project Environment Representative are listed in the SICTL Framework CEMP and reflect the requirements of parts a) to f) of this condition.	**C**		
		responsible for all Management Plans and Monitoring Programs required under this consent, in relation to construction phases;				
		responsible for considering/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;				

MCoA No	Auditee	MCoA Requirement	Comments, observations, discussion Evidence, supporting documentation	Audit Outcome * See footer for key C ✓ / Finding O IOC NC ♦ ⊠ ☒ / NA
		d) responsible for the management of procedures and practices for receiving and responding to complaints & inquiries in relation to the environmental performance of construction phases;		
		e) required to facilitate an induction/training program for relevant persons involved with construction phases;		
		f) 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 environment be likely to occur.		
		Environmental Training		
B4.4	LORAC / Grindley Kone Cranes	Prior to 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 management and operation of plant and equipment, including pollution control equipment, where relevant. Program shall include, but not necessarily limited to: a) identification of relevant employment positions associated with the development that have an operational or management role related to environmental performance; b) details of appropriate training requirements for relevant employees; c) program for training relevant employees in operational and/ or management issues associated with environmental performance; d) program to confirm/update environmental training and knowledge during employment of relevant persons.	Laing O'Rourke Environmental Training Material was sighted for Laing O'Rourke. It provides a good framework for relevant environmental management requirements on the project. All employees are required to undergo this training at induction. In addition, environmental topics are presented by the Environmental Manager at toolbox meetings and other sessions. Recent erosion and sediment control training (May 2013 – approx. 200 participants) and spill kit training (Feb and Mar – approx. 300 participants). Records of training were sighted and are retained on site. Fujitsu Fujitsu employees work on the LORAC site and are required to be inducted by LORAC Grindley Addressed in Section 2.12 of CEMP, Section 2.8 of Construction Noise Management Plan and in traffic management plan. Staff and personnel required to undergo project specific induction training. Induction material is limited	**IOC Grindley**

MCoA No	Auditee	MCoA Requirement	Comments, observations, discussion Evidence, supporting documentation	Audit Outcome * See footer for key		
				C ✓	Finding O IOC NC ♦ ⊠ ☒	NA
			to a checklist listing OHS and environmental topics – no specific training material was available at site. *Issue of Concern: Induction checklist is insufficient to demonstrate that a training program is in place. The induction material does not address noise. It was unclear whether the site OHS/environment officer had received any appropriate environmental training* *Action – The ER is preparing induction material that should also be used to induct Grindley staff and subcontractors.* Kone Cranes Training material (PowerPoint photo slides including environmental content) were available in the site files and are used for induction purposes Inver Inver had been on-site for one week at the time of the audit, and induction included sign-off of SWMS 0159 which dealt with diesel spills. SICTL The ER checks that appropriate inductions have been conducted on behalf of SICTL			
		Environmental Auditing				
B4.5	SPC/NSWP 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. Audits would be made publicly available and would:	This independent audit was conducted within the required 12 months. Construction commenced Sept 2012	C		
		-be carried out in accordance with ISO 14010 and ISO 14011 – Procedures for Environmental Auditing;	Carried out in accordance with ISO19011 - this supersedes ISO 14010 and 14011.	C		

MCoA No	Auditee	MCoA Requirement	Comments, observations, discussion Evidence, supporting documentation	Audit Outcome * See footer for key		
				C ✓	Finding O IOC NC ♦ ☒ ☒	NA
		-assess compliance with requirements of this consent, other licences/approvals;	Yes – refer to this appendix – all Ministers Conditions of Approval relevant to the current scope of works is included	C		
		-assess the construction against the predictions made and conclusions drawn in the development application, EIS, additional information and Commission of Inquiry material; and	Yes – Refer to Appendix 2 of this report	C		
		-review effectiveness of environmental management, including any environmental impact mitigation works.	Yes – Refer to Section 3.4 of the main Environmental Audit Report	C		
		Note: An independent and transparent environmental audit can verify compliance (or otherwise) with the Minister's consent and various approvals. Auditing also provides an opportunity for continued improvement in environmental performance.	Noted.	C		
		Maintenance and Management Plan for Expanded Area				
B4.6	SPC/NSWP	Within 1 month of full reclamation, or as otherwise agreed to by D-G, the Applicant shall prepare a Maintenance and Management Plan for the expanded area to address maintenance issues including safety, vegetation management, feral pest management, other issues identified by the Applicant in consultation with DOP. The preparation and implementation is required in case the expanded area is not leased to a new operator immediately upon construction completion. The Plan is required until such time as a lease is signed	Maintenance Management Plan dated 28/09/11 referenced in last audit for Grade Separation Works. No further action required			NA

Appendix B

Comparison of EIS
Predictions & Conclusions

Appendix B – Comparison of EIS, additional information and Commission of Inquiry (COI) Material and S96 Application checklists

Part 1 - EIS Predictions & Conclusions Audit Checklist

Note: predictions relating to dredging impacts during construction have not been included in this checklist as dredging was completed in 2011. However, predictions relating to dredging impacts over the longer term have been retained.

Ch 14 - Land Use

Section	Predictions / Conclusions	Assessment	Audit Outcomes See footer for key			
			☺	😐	☹	NA
-	No construction predictions made. All issues raised refer to other chapters.	Noted				NA

Ch 15 - Hydrodynamics and Coastal Processes

Section	Predictions / Conclusions	Assessment	Audit Outcomes See footer for key			
			☺	😐	☹	NA
-	No construction predictions made for Hydrodynamic and Coastal Processes	Noted				NA

Ch 16 - Hydrology and Water Quality

Section	Predictions / Conclusions	Assessment	Audit Outcomes See footer for key			
			☺	😐	☹	NA
16.4.1	It is anticipated that construction activity would not cause blockages to water flow through Springvale and Floodvale Drains and the Mill Stream.	No recorded blockages. Construction activities on current package of works would have minimal impact	☺			
16.4.2	Initial consolidation of material in the reclaimed area is expected to take up to two years. During this time the surface of the reclamation, if not protected, may be subject to erosion.	The reclaimed area was in the terminal construction phase at the time of the audit, and a substantial area was in the process of being sealed. Erosion of the surface was not a significant issue	☺			

Key to audit outcomes:

☺= *Largely as predicted/concluded – positive outcome*; 😐 = *Partially as predicted / or unknown* ☹ = *Not as predicted – negative outcome*; **NA** = *Not applicable*

Section	Predictions / Conclusions	Assessment	Audit Outcomes			
			See footer for key			
			☺	😐	☹	NA
16.4.2	Dredged or construction material stockpiles and active construction areas may be subject to erosion and sedimentation from surface runoff.	Stockpiles were on site at the time of the audit. These were generally being managed and no significant erosion or sedimentation from surface runoff was noted.	☺			
16.4.2	There is a potential for spills and leaks from plant and equipment and onsite fuel storage during construction.	Potential is noted. Diesel and other liquids are kept on site, and overall, the potential for spills and leaks is controlled through bunded storage areas, double skinned tanks, and refuelling operations by trained subcontractor suppliers. Minor spills have been cleaned up, spill kits are provided on site	☺			

Ch 17 - Groundwater

Section	Predictions / Conclusions	Assessment	Audit Outcomes			
			See footer for key			
			☺	😐	☹	NA
17.4.4	However, it is not expected that any of these works (excavation and pile driving associated with construction of road and rail bridges) would significantly impede groundwater flow, and as a result, groundwater levels would not be affected during construction irrespective of the construction method.	SPC continue to undertake groundwater monitoring in accordance with the Port Botany Expansion Project Groundwater Monitoring Plan – Appendix J of the PEHEP. Monthly monitoring commenced in April 2002. Ongoing monitoring is required until one year following completion of reclamation. The first Port Botany Annual Post Construction Monitoring Report was released and is posted on the SPC website. There is no indication in the monitoring report that groundwater flows are significantly impeded.	☺			
17.4.4	Services for the proposed Port Botany Expansion would be installed underground in shallow trenches (up to approximately 1.2 m deep) along Foreshore Road and Penrhyn Road. It is expected that in these areas the groundwater would be below the depth of the trenching	Generally true. No change from last audit report – activities for Terminal 3 would not have any further impact	☺			

Key to audit outcomes:

☺= *Largely as predicted/concluded – positive outcome*; 😐 = *Partially as predicted / or unknown* ☹ = *Not as predicted – negative outcome*; **NA** = *Not applicable*

Section	Predictions / Conclusions	Assessment	Audit Outcomes			
			See footer for key			
			☺	😐	☹	NA
	activities. Therefore, the construction of services would generally not involve excavation below the water table. Service trenches would be backfilled using excavated material or sand bedding, and therefore, even if excavation did intercept the water table, it is expected that groundwater levels would not be affected.					
17.5	The construction of the proposed Port Botany Expansion would, however, have the potential to cause minor localised contamination of groundwater from fuel and oil spills/leaks from construction equipment or machinery.	Noted that there is potential, however, there have been no reported spills likely to affect groundwater. Larger volumes of fuels of oils stored on site are stored in double skinned tanks.	☺			

Ch 18 – Geology, Soils and Geotechnical

Section	Predictions / Conclusions	Assessment	Audit Outcomes			
			See footer for key			
			☺	😐	☹	NA
18.3.2	The majority of the construction works would involve reclamation and construction of the hardstand, berths and port infrastructure with expected negligible impact on soil erosion. However, construction of other infrastructure in the vicinity of Penrhyn Estuary would involve removal of vegetation and other activities that would disturb soils with the possibility of soil erosion.	Prediction largely true. No further removal of vegetation as part of Terminal 3 construction	☺			
18.3.3	Once the reclamation is above the water level, any sulphide contained within the sandy sediment matrix may be subject to oxidation. However the overall risk of adverse ecological effects from these oxidised PASS is considered to be low	Prediction true. Since commencement of construction of the Terminal infrastructure, there has been one instance where PASS has been identified. The identified PASS was appropriately managed through the protocols in the Acid Sulphate Soils Management sub-plan	☺			

Key to audit outcomes:

☺= *Largely as predicted/concluded – positive outcome*; 😐 = *Partially as predicted / or unknown* ☹ = *Not as predicted – negative outcome*; **NA** = *Not applicable*

Section	Predictions / Conclusions	Assessment	Audit Outcomes			
			See footer for key			
			☺	😐	☹	NA
18.3.3	Sediment and soil currently below the water table disturbed during the earthworks for the proposed habitat enhancement activities in Penrhyn Estuary may have acid generating potential	Prediction true.- see above	☺			
18.3.4	Disturbance of estuarine sediment during the proposed construction activities would result in only localised and temporary remobilisation of contaminated sediment and is therefore not likely to cause a significant risk to human health or the environment.	No disturbance of estuarine sediments during Terminal 3 infrastructure works	☺			

Ch 19 – Aquatic Ecology

Section	Predictions / Conclusions	Assessment	Audit Outcomes			
			See footer for key			
			☺	😐	☹	NA
19.6.1	Vibration would occur as a result of construction and operation of the new terminal. Most aquatic animals would tend to habituate to the changes in noise and vibration, therefore, impacts could be considered as low.	Minimal vibration is generated during the Terminal 3 infrastructure works				NA
19.6.2	The removal of mangroves would require a permit from NSW Fisheries under the FM Act. Given the small size of the stand relative to other areas in Botany Bay, this loss is considered to be ecologically sustainable. On the other hand, the creation of additional saltmarsh habitat is considered a positive effect as it would represent a substantial increase of almost 4%, based on West et al (1985), in the area of this habitat within Botany Bay.	No mangroves were removed as part of the Terminal 3 infrastructure works				NA

Key to audit outcomes:

☺= *Largely as predicted/concluded – positive outcome*; 😐 = *Partially as predicted / or unknown* ☹ = *Not as predicted – negative outcome*; **NA** = *Not applicable*

Ch 20 – Terrestrial Ecology

Section	Predictions / Conclusions	Assessment	Audit Outcomes See footer for key			
			☺	😐	☹	NA
20.10	The proposed Port Botany Expansion would result in changes to the terrestrial environment on the northern side of Botany Bay between the Parallel Runway and Penrhyn Road.	Noted. No work done in this area for Terminal 3. The vegetation planted during the port footprint phase continue to thrive.	☺			
20.10	Key impacts from the proposal on the 23 shorebird and one seabird species considered as regular or occasional visitors to Penrhyn Estuary could include disturbance to feeding and roosting from a change in lighting regime, increased movement, noise from construction and operation of the port (and associated infrastructure such as railway lines) and potential entry/exit flyway barriers due to the enclosure of Penrhyn Estuary.	SPC also conducts shorebird monitoring in accordance with the Bird Monitoring Plan in the PEHEP – states that monitoring will continue until success levels are assessed after 5 years following commencement of port operations (page 50 of PEHEP Report Exec Summary) The Port Botany Post Construction Monitoring report released Sept 2013 notes that "the PEHE works have expanded both feed and roosting habitats for shorebirds and has eliminated much disturbance in the estuary"	☺			

Ch 21 – Traffic & Transport

Section	Predictions / Conclusions	Assessment	Audit Outcomes See footer for key ☺	☹	NA
21.7.1	1. Construction generated truck traffic volumes would be significantly lower than the existing volume generated by the port. The estimated 103 truck deliveries per day in the second year, which is the maximum during the construction period, represents about 7% of the existing 1,450 port trucks on an average day). 2. Construction traffic would also represent a very small proportion of peak traffic volumes. As a result, the impact of construction vehicles on the performance of the road system would likely be very minor.	By late 2012, SICTL works accelerated requiring an increase in the truck deliveries for parts of 2013. In March 2013 Patricks were also preparing to start construction activities resulting in a further increase if forecast truck deliveries in 2013 Due to the concurrent activities, A "PBE Cumulative Traffic Assessment" (April 2013) was undertaken by Parking and Traffic Consultants (on behalf of SICTL and Patrick) to investigate the cumulative impact on traffic by SICTL and Patrick on the road system. Key outcome of the report relevant to **Part 1** of prediction: • Maximum daily truck numbers for the Patrick and SICTL works combined is **145** (as compared with prediction of **103**. Key outcomes of the report relevant to **Part 2** of prediction included: • The commuter model results indicate that both the intersections of Foreshore Road with Botany Road/Penrhyn Road and Foreshore Road with SICTL access road are operating at Level of Service C (Satisfactory) and B (good with acceptable delays and spare capacity) respectively both with and without the construction traffic associated with the development of the Patrick development site • An analysis of "average delay" and "level of service" indicates that the construction traffic will have a very minor impact on the overall operation of the road network, which is consistent with the findings of the EIS	☺ ☺		☹	

Key to audit outcomes:

☺= *Largely as predicted/concluded – positive outcome*; 😐 = *Partially as predicted / or unknown* ☹ = *Not as predicted – negative outcome*; **NA** = *Not applicable*

Section	Predictions / Conclusions	Assessment	Audit Outcomes See footer for key			
			☺	😐	☹	NA
		• There will be no notable difference for traffic on Foreshore Road including the intersection of the Foreshore Road and the SICTL access bridge • Section 6 of the report concludes that "the road network provides sufficient capacity to accommodate the construction traffic movements with no amendments to existing infrastructure"				
21.7.1	The materials to be delivered to the site (rocks, piling equipment and concrete) would generally be transported by standard articulated and rigid trucks, although depending on the sources, some rock materials may also be delivered by barge. The use of restricted access oversize/overmass vehicles would be unlikely, except possibly for transport of some plant and equipment to and from the construction site (e.g. loaders, dozers, rollers, cranes and graders).	Generally true. Materials are generally transported by standard articulated trucks and rigid trucks. No materials delivered by barge.	☺			
21.7.1	Normal construction working hours would generally apply for landside activities (7 am to 6 pm Monday to Friday; 7 am to 1 pm Saturday). These are generally considered as "daytime" working hours and are in line with EPA guidelines and working hours of other construction projects around Sydney. Some works may be undertaken outside of these hours (e.g. maintenance or road and rail works) to minimise impact on other users. Where the project requires construction work outside these hours, the regulatory authorities and affected stakeholders would be notified.	The approved hours (condition B2.19) are 7 am to 6.00pm Mon – Friday, however, for Saturdays are from 8.00am to 1.00pm (change from prediction). There have been no works requiring approvals as all works to date have been assessed as inaudible at the nearest residential receivers.	☺			
21.7.1	As pedestrian and cyclist activity on Foreshore Road is currently very low, the construction traffic is expected to have a negligible impact on these road users.	Noted. Pedestrian and cyclist activity is not being monitored (not required to be monitored)		😐		
21.7.1	Construction of the intersection would cause some minor and temporary disruption to traffic using Foreshore Rd.	Noted. Intersection works completed	☺			

Key to audit outcomes:

☺= *Largely as predicted/concluded – positive outcome*; 😐 = *Partially as predicted / or unknown* ☹ = *Not as predicted – negative outcome*; **NA** = *Not applicable*

Section	Predictions / Conclusions	Assessment	Audit Outcomes			
			See footer for key			
			☺	😐	☹	NA
21.7.1	These operations (on the inter-terminal access corridor) would not add significantly to construction traffic on the southern side of Penrhyn Estuary.	Prediction true	☺			
21.7.1	The installation/connection of services would not add significantly to construction traffic.	Prediction true	☺			

Chapter 22 – Noise & Vibration

Section	Predictions / Conclusions	Assessment	Audit Outcomes			
			See footer for key			
			☺	😐	☹	NA
22.6	Vibration criteria to protect buildings from damage would be complied with. The vibration comfort criteria would also be complied with.	There are no activities relating to the construction of Terminal 3 that would cause significant vibration	☺			

Chapter 23 – Air Quality

Section	Predictions / Conclusions	Assessment	Audit Outcomes See footer for key			
			☺	😐	☹	NA
23.10	Dispersion modelling of dust emissions from construction of the proposed new terminal showed that PM10 (24-hour) concentrations and monthly dust depositions did not exceed the project criterion of 16 µg/m3 and 2 g/m2/month respectively at residences closest to the work sites (to the north of Foreshore Road) for the periods of maximum construction activity.	Dust Management Sub-Plan has been prepared and dust is being monitored No dust complaints to date No criteria has been set for project, however, dust goal of 4g/m2/month has been set as a guideline.	☺			
23.10	Concentrations of PM10 during construction would result in at most two additional exceedences per year of the 50µg/m3 criteria measured in the vicinity of the site in recent years, which is not considered to be significant.	Some PM10 exceedances (eg 10/06/13) have been recorded on the project however investigations have found that no construction work was being undertaken on the day. The monitoring report suggests that it is likely that the dust was generated from lawn and landscaping works in the area.	☺			
23.10	Predicted TSP concentrations are significantly lower than EPA criteria of 90µg/m3 beyond the site boundary.	TSP not required to be separately reported and are not measured as TSP – only PM 10 is measured.		😐		
23.10	An assessment of greenhouse gas emissions found that construction and operation of the Port Botany Expansion would reduce overall greenhouse gas emissions in the future “Long Term” operating scenario, when compared to the “do nothing” scenario.	Future action				**NA**

Key to audit outcomes:

☺= *Largely as predicted/concluded – positive outcome*; 😐 = *Partially as predicted / or unknown* ☹ = *Not as predicted – negative outcome*; **NA** = *Not applicable*

Chapter 24 – Cultural Heritage

Section	Predictions / Conclusions	Assessment	Audit Outcomes See footer for key			
			☺	😐	☹	NA
24.7.1	The construction of the proposed development would have no identifiable impact on Aboriginal archaeological heritage values as there were no Aboriginal sites recorded within the primary study area and the potential for submerged Aboriginal sites is negligible given that any cultural material would have been exposed to, and affected greatly by, waves, tides and currents.	Noted. No Aboriginal artefacts found to date	☺			
24.10	European structures of maritime cultural heritage significance have been identified in close proximity to the proposed reclamation and dredging area. The main maritime heritage feature identified was the former Government Pier. The Pier would be conserved by Sydney Ports Corporation as part of the development.	The Pier was built into the design of the Penrhyn Estuary enhancement – addressed in the SPC Public Realm Concept Design Report. Pier has been conserved	☺			

Chapter 26 – Social Impact Assessment

Section	Predictions / Conclusions	Assessment	Audit Outcomes			
			See footer for key			
			☺	😐	☹	NA
26.6	During construction of the proposed expansion, most of the social impacts would be on the local Port Botany community and the community of people using the recreational facilities near the port. Social impacts during this phase would include a partial restriction on recreational use of Foreshore Beach and areas of Botany Bay, increased traffic on local roads, and increased noise levels.	The Terminal 3 works do not impact on Foreshore Beach	☺			

Chapter 29 – Bird Hazard

Section	Predictions / Conclusions	Assessment	Audit Outcomes			
			See footer for key			
			☺	😐	☹	NA
29.3.2	Pooling of water may occur on the reclaimed land from uneven surfaces. Birds may take advantage of 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.	No significant pooling of water was observed on the project site. Temporary pooling following rain events drain quickly.	☺			
29.3.2	Construction sites may also attract birds if workers feed birds and leave food scraps.	Whilst there was no evidence of birds being attracted to the construction site during the site inspection, it was noted that several bins containing food waste were not covered. No specific training or procedures are in place to ensure that food waste bins are covered at all times. Recommend that this requirement is highlighted to contractors operating on the site.		😐		
29.3.2	Areas illuminated at night are likely to attract birds, especially Silver Gulls. Such 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.	Minor out of hours work have occurred, however this is unlikely to have attracted predators or birds.	☺			

Key to audit outcomes:

☺= *Largely as predicted/concluded – positive outcome*; 😐 = *Partially as predicted / or unknown* ☹ = *Not as predicted – negative outcome*; **NA** = *Not applicable*

Chapter 30 – Operational Aviation Issues

Section	Predictions / Conclusions	Assessment	Audit Outcomes See footer for key ☺	☹	NA
30.4.1	There would be no anticipated impact on OLS (Obstacle Limitation Surface) during construction as equipment, including lighting masts and pile drivers, would be selected so as not to intrude into the OLS (i.e. less than 52 m LAT). Given that the OLS is the lower of the surfaces which control aircraft safety, the PAN-OPS would also not be compromised by the proposed development.	Condition B2.46 of the MCoA was modified to allow for breaches of the OLS subject to SACL approval and requires approval to breach the OLS. Approvals have been obtained from SACL for the breaches of the OLS by shipping carrying cranes. Refer to MCoA checklist.		☹		

Chapter 32 – Emergency & Incident Management

Section	Predictions / Conclusions	Assessment	Audit Outcomes See footer for key C	O	NC	NA
	No construction predictions made for Emergency & Incident Management					**NA**

Chapter 33 – Water & Wastewater

Section	Predictions / Conclusions	Assessment	Audit Outcomes See footer for key ☺	☹	NA
33.2.1	It is estimated that during construction of the new terminal, approximately 15 ML of potable water would be required per year.	The 2010 audit found only 22% of predicted usage. Water usage is not currently measured. The water meter is in the NSW Ports area and as such it has not been possible to monitor usage directly. A commitment has been made to address this issue and measurement will be commencing this year.		☹		
33.3.1	The volume of wastewater generated during construction would depend on the number of construction workers at the site and the nature of the construction activities being undertaken. For significant periods of the construction program, up to 160	Figures provided by Laing O'Rourke show approximate generation of 8,200 litres per day at the time of the audit (peak activity period). The pumpout from the Laing O'Rourke offices would represent approximately 70% of site usage. This equates to around 10,500 litres per day	☺			

Key to audit outcomes:

☺= *Largely as predicted/concluded – positive outcome*; ☹ = *Partially as predicted / or unknown* ☹ = *Not as predicted – negative outcome*; **NA** = *Not applicable*

	construction workers would be on site. With this number of workers, the peak domestic wastewater volume during construction would be about 14 kL per day.	for the site, which is within the predicted range				

Chapter 34 – Waste

Section	Predictions / Conclusions	Assessment	Audit Outcomes See footer for key ☺	☹	NA
34.2	Activities during the construction of the Port Botany Expansion resulting in the generation of waste would include: • dredging and reclamation; • construction of road and rail connections; • construction of public recreation facilities; • construction of wharf structures and pavements; • installation of utility connections; • construction of road and rail exchange facilities; • construction of buildings; and • landscaping.	Noted	☺			
34.2	**CONSTRUCTION WASTE** / **ESTIMATED ANNUAL QUANTITY OF WASTE FOR DISPOSAL** Construction materials (rock, concrete, timber, masonry, bricks, plasterboards, metal and packaging materials) — 3,000 tonnes Road and rail waste (road stone/railway ballast/concrete and metal railway lines) — 200 tonnes Dredged material — None (contained on site) Green Waste — None (reused on site) Excavated soil — None (contained on site) Domestic waste (glass, aluminium cans, paper and cardboard, milk bottles, soft drink bottles and food waste) — 720 m³ Human waste — 14,000 kL	LORAC provided the following waste figures for period Sept 2012 – Sept 2013 provided (majority of site waste generation): **Waste Type** / **Total waste** / **Amount recycled** / **Amount disposed** Mixed Construction — 1193.93 T — 1131.72 T — 62.21 T Concrete — 2488.28 T — 2488.28 T — 0 T Steel — 7.14 T — 7.14 T — 0 T Spoil — 43938.55 T — 43938.55 T — 0 T Compound – General Rubbish — 374.4 m³ — 0 m³ — 374.4 m³ Compound – Comingled — 30 m³ — 30 m³ — 0 m³ Compound – Paper & Cardboard — 187 m³ — 187 m³ — 0 m³ Septic Waste — 1950 kL — 0 kL — 1950 kL Hazardous (solid) — 47.26 T — 0 kL — 47.26 T Hazardous (liquid) — 13.2 kL — 0 kL — 13.2 kL A high percentage of recycling is noted – actual figures are positive compared with predictions	☺			

Chapter 35 – Energy

Section	Predictions / Conclusions	Assessment	Audit Outcomes See footer for key			
			☺	😐	☹	NA
35.2	During the construction phase, energy consumption would result from activities including: ▪ dredging and reclamation works, enhancement of public recreation areas and Penrhyn Estuary; ▪ berth and port infrastructure works; ▪ development of terminal facilities; and ▪ procurement and delivery of construction materials. Electricity would be used for small hand-held construction tools and site office equipment.	Noted	☺			
35.2	The use of fuels and electricity would be minimised during the construction phase for environmental reasons as well as economic savings	The Energy Management sub-plan provides initiatives for reducing energy. As noted in the previous audit (Grade Separation Works) the prediction is difficult to quantitatively assess.	☺			

Part 2 - COI Predictions & Conclusions – audit checklist

Primary Submission Volume 1

Section	Predictions / Conclusions	Assessment	Audit Outcome * See footer for key			
			☺	😐	☹	NA
-	No predictions/conclusions relevant to construction.					**NA**

Primary Submission Volume 2

Section	Predictions / Conclusions	Assessment	Audit Outcome * See footer for key			
			☺	😐	☹	NA
-	No predictions/conclusions relevant to construction.					**NA**

Supplementary Submission

Section	Predictions / Conclusions	Assessment	Audit Outcome * See footer for key			
			☺	😐	☹	NA
Document 3B Section 4.2.5	Compared with the existing volume of truck trips generated by the port (120 for the AM peak and 55 for the PM peak), the volume of construction generated vehicles is significantly lower, and would hence represent a very small proportion of peak traffic volumes (<10%). As a result, the impact of construction vehicles on the performance of the road system is likely to be negligible.	A "PBE Cumulative Traffic Assessment" (April 2013) concluded that There will be no notable difference for traffic on Foreshore Road including the intersection of the Foreshore Road and the SICTL access bridge Section 6 of the report concludes that "the road network provides sufficient capacity to accommodate the construction traffic movements with no amendments to existing infrastructure". Refer to section 21.7.1 of this checklist.		😐		

Key to audit outcomes:

☺= *Largely as predicted/concluded – positive outcome*; 😐 = *Partially as predicted / or unknown* ☹ = *Not as predicted – negative outcome*; **NA** = *Not applicable*

Document 4A	Cumulative (background + Port Botany construction) frequency of exceedance of the Department of Environment and Conservation (DEC) 24-hour PM10 criteria of 50 µg/m3. In addition to the 27 exceedances of the criteria resulting from background air quality, the Port Botany construction works result in a maximum 2 additional days where the criteria may be exceeded.	Some PM10 exceedances were recorded (June 2013) however investigation found the source was not from construction activities – see prediction 23.10		😐		

Part 3 - S96 Applications - Predictions & Conclusions Audit Checklist

S96 Application – September 2008, no MOD-60-9-2008 (B2.46)

Section	Predictions / Conclusions	Assessment	Audit Outcome * See footer for key			
			☺	😐	☹	NA
	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.	Condition B2.46 of the MCoA was modified to allow for breaches of the OLS subject to SACL approval and requires approval to breach the OLS. Approvals have been obtained from SACL for the breaches of the OLS by shipping carrying cranes. Refer to MCoA checklist.	☺			

S96 Application – December 2008, no MOD-68-12-2008 (B2.19)

Section	Predictions / Conclusions	Assessment	Audit Outcome * See footer for key			
			☺	😐	☹	NA
	No prediction – change to condition – B2.19A	See B2.19 MCoA Checklist – needs approval from DoP for out of hours work for non-scheduled activities.- Complies	☺			

Key to audit outcomes:

☺= *Largely as predicted/concluded – positive outcome*; 😐 = *Partially as predicted / or unknown* ☹ = *Not as predicted – negative outcome*; **NA** = *Not applicable*

S96 Application – March 2009, no MOD 08-03-2009 (B2.23A) (Rail Corridor)

Section	Predictions / Conclusions	Assessment	Audit Outcome * See footer for key			
			☺	😐	☹	NA
-	There would be some reduced impacts around the northern edge of Penrhyn Estuary as the rail track in this location and the rail bridge crossing the flushing channel would no longer be required. This would reduce potential impacts to shorebirds using the Estuary and have the beneficial effect of removing the need for culverts crossing the discharge locations of Floodvale and Springvale Drains and the associated potential for disturbance of contaminated sediments.	Future activity – by new port operator.				

Key to audit outcomes:

☺= *Largely as predicted/concluded – positive outcome*; 😐 = *Partially as predicted / or unknown* ☹ = *Not as predicted – negative outcome*; **NA** = *Not applicable*

Appendix C

Federal Approvals

Appendix C EPBC Approvals – EPBC 2002/543 Audit Checklist

Para-graph	Auditee SPC/ NSW Ports	Approval Requirement	Comments, observations, discussion Evidence, supporting documentation	Audit Outcome * See footer for key C ✓	Finding O IOC NC ◆ ☒ ☒	NA
1	SPC	The person taking the action must construct the port expansion involving the creation of five additional shipping berths, the provision of road, rail and terminal infrastructure and the enhancement of public and ecologically significant areas, in accordance with the site plan shown at ANNEXURE 2 to this approval.	Noted Construction of the new container terminal footprint is complete and in accordance with the approved site plan.	**C**		
2	SPC	Prior to the commencement of construction, the person taking the action must inform the Minister how radar and air navigation issues associated with the port expansion have been resolved to the satisfaction of Airservices Australia.	SPC received confirmation from the Department of Environment, Water, Heritage and the Arts (DEWHA – dated 2/07/07) that this condition has been satisfactorily addressed and was not reassessed at this audit.	**C**		
3	SPC/NSWP	The person taking the action must prepare and submit for the Minister's approval a habitat enhancement plan for Penrhyn Estuary to manage impacts on listed migratory bird species during the construction and operation of the new port facilities at Port Botany. The action must not commence until the plan has been approved. The approved PEHEP must be implemented.	The Penrhyn Estuary Habitat Enhancement Plan was approved prior to commencement of construction. Letter from DEWHA dated 27/03/09 approved condition 3 under the EPBC Act. This was assessed as compliant at the last 4 audits for the Port Botany Expansion project. The Penrhyn Estuary enhancement works are completed and were in accordance with the PEHEP. The PEHEP post construction monitoring program commenced in early 2012 with the first year of monitoring completed in March 2013.	**C**		

Para-graph	Auditee SPC/ NSW Ports	Approval Requirement	Comments, observations, discussion Evidence, supporting documentation	Audit Outcome * See footer for key C ✓	Finding O IOC NC ◆ ⊠ ☒	NA
4	SPC/NSWP	Should the person taking the action wish to amend or change the habitat enhancement plan approved under paragraph 3, a revised version of the plan must be submitted to the Minister for approval. If the Minister approves such a revised plan, that plan must be implemented in place of the plan as originally approved.	No revisions have been made of the PEHEP, however a review was conducted in March 2012 and resubmitted for approval in August 2012 (see Item 6 below).	**C**		
5	SPC/NSWP	If the Minister believes that it is necessary or desirable for the better protection of the environment to do so, the Minister may request the person taking the action to make specified revisions to a plan or plans approved pursuant to paragraphs 3 or 4, and to submit the revised plan for the Minister's approval. The person taking the action must comply with any such request. If the Minister approves a revised plan pursuant to this condition, the person taking the action must implement that plan instead of the plan as originally approved.	No Notifications or requests had been made at the time of the audit	**C**		
6	SPC/NSWP	The habitat enhancement plan required under condition 3 must be reviewed and resubmitted to the Minister for approval every five years or as otherwise agreed by the Minister. The resubmitted plan must incorporate the relevant results of the independent audit report required under condition 7	As reported in the previous audit report (Grade Separation Audit December 2012) the PEHEP was reviewed in March 2012 and resubmitted for approval on 29 August 2012 as part of the certification letter referred to in item 8 below. There have been no material changes to the PEHEP in the previous 5 years necessitating revision or submission of the Plan for further approval by the Minister. The Annual Certification letter submitted under Condition 8 states that "A review to the PEHEP is planned following the completion of construction of the terminal operating infrastructure in the first quarter of 2014…"	**C**		

Para-graph	Auditee SPC/ NSW Ports	Approval Requirement	Comments, observations, discussion Evidence, supporting documentation	Audit Outcome * See footer for key C ✓	Finding O IOC NC ◆ ⊠ ☒	NA
7	SPC/NSWP	After construction of the new port facilities at Port Botany has been completed, and every five years thereafter or as otherwise agreed by the Minister, the person taking the action must ensure that an independent audit of compliance with the conditions of approval for the new port facilities at Port Botany, and the effectiveness of measures to mitigate impacts on listed migratory bird species, is carried out. The independent auditor must be accredited by the Quality Society of Australasia, or such other similar body as the Minister may notify in writing. The audit criteria must be agreed by the Minister and the audit report must address the criteria to the satisfaction of the Minister. An audit report must be given to the Minister within six months of the fifth anniversary of completion of construction of the new port facilities at Port Botany, and within six months of every fifth anniversary thereafter.	Port facilities are currently under construction – future action			**NA**
8	SPC/NSWP	By 1 July of each year after the date of this approval or as otherwise agreed by the Minister, the Chief Executive Office of Sydney Ports Corporation must provide written certification that Sydney Ports Corporation has complied with the conditions of approval.	Sydney Ports letter dated 4 September 2013 and signed by the CEO and Director provides certification of compliance with the conditions of approval. It is noted that the certification letter is 2 months overdue		**NC**	
9	SPC	If, at any time after 5 years from the date of this approval, the Minister notifies Sydney Ports Corporation in writing that the Minister is not satisfied that there has been substantial commencement of construction of the action, construction of the action must not thereafter be commenced.	Approval was issued on 3/01/2008 and construction commenced in July 2008 which is well within the required timeframe.	**C**		

Appendix D

Complaints Register

SICTL Sydney Port Botany Terminal 3 Complaints Handling Register											
Item	**Date**	**Time**	**Comment Inquiry Complaint**	**Means**	**Name**	**Contact details**	**Nature of complaint**	**Action Taken/ follow up**	**If not action why**	**Quarterly Report to DP&I**	**Status Open Closed**
1	23/11/2012	12:35	Complaint	Email received by NSW Ports and forwarded to SICTL/ LORAC	Mr Loui Scotti	19 Dent street Banksmeadow 2019 Mobile: 0410 523 292	Vibration Complaint	Vibration monitoring offered to resident. Offer accpeted to be undertaken on Friday 30th November.The results indicate that vibration levels were within the relevant standards and that construction activities undertaken on the Terminal 3 construction site were not the cause of any perceivable vibration or noise at the residence	N/A	Yes	Closed
2	13/03/2013	8:30	Inquiry	Phone	Mr Tom Carpenter	20 Dent St Banksmeadow 2019 Phone: 9316 9794	Night Works	Inquiry regarding night works and audibility. Upcoming night works consist of substation fit out and will be inaudible, previous testing of concrete cutting, batch plant operation and unloading of trucks was deemed inaudible by independent survey at a nearby location.	N/A	Yes	Closed

3	20/08/2013	14:51	Complaint	email	Mr Dennis Hourn	email: juliehourn@bigpond.com Dennis Hourn <dhourn@bigpond.net.au> Secretary Strata 62214 Sir Joseph Banks Park Hotel: 23 Anniversary Street Botany Phone : 02 9666 7374 Mobile : 0406 091 248	Visual size and bulk of Quay Cranes and the lights flashing on top.	SICTL responded within 24 hours and tried to organise a meeting with the complainant, NSWP and SICTL representatives, but complainant has postponed twice. Lights initially have been turned off during the day temporarily and this positive step has been acknowledged. Lights are in compliance with airport regulations. No futher action required.	N/A	Yes	Closed

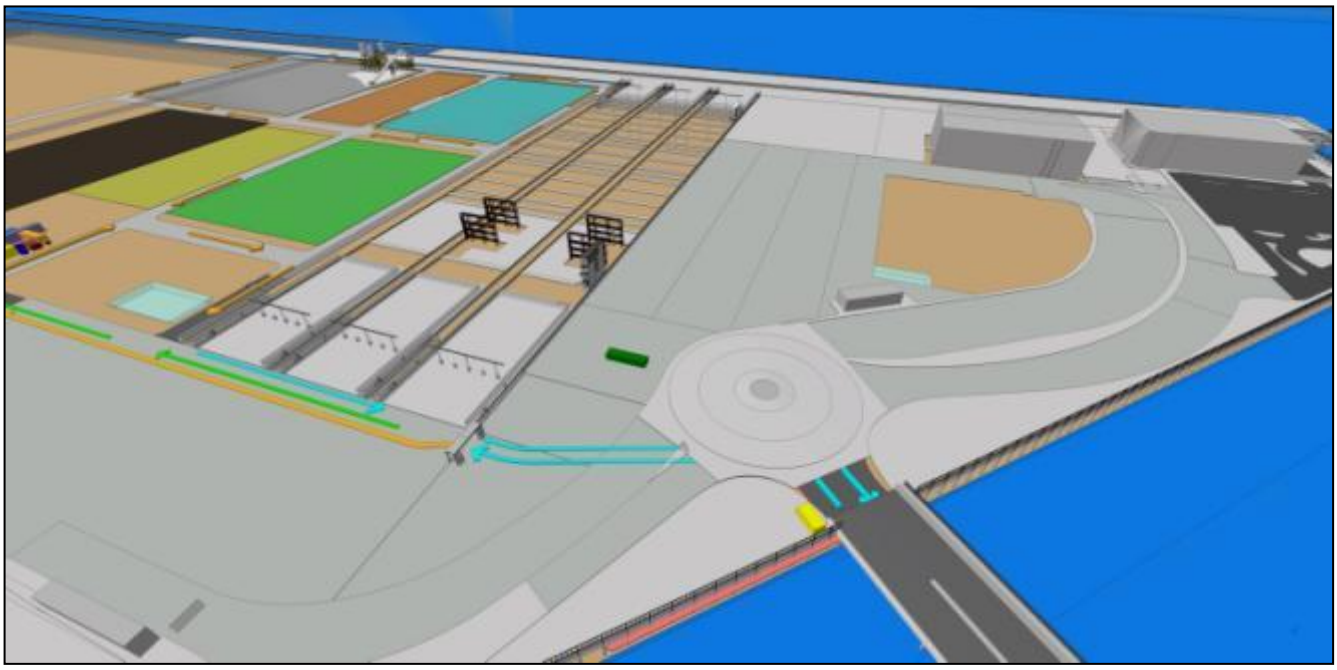
Appendix E

Monthly Environmental
Monitoring Reports

Sydney Port Botany Terminal 3

Monthly Environmental Monitoring Report

September 2013



Client:	SICTL
Client's Representative:	Mott McDonald
LORA Contract No.:	G52

Controlled Copy no.: 1

Revision History

Rev	Date	Description	Reviewed	INT/Date	Authorised
0	03/10/13	Issue	JA	03/10/13	JA

Contents:

1.0 Introduction 4

1.1 Construction Activities 4

2.0 Dust Monitoring and Air Quality 4

3.0 Noise Monitoring 4

3.1 Day time noise monitoring 4

4.0 Soil and Water Quality Monitoring 5

4.1 Water Monitoring 5

5.0 Shorebird Monitoring 5

6.0 Environmental Inspections and Audits 5

7.0 Appendices 6

Appendix 1 – Dust Monitoring Results 7

Appendix 2 – Noise Monitoring Results 9

Day Monitoring 9

Noise Monitoring Locations 10

Appendix 3 – September 2013 Terminal 3 Water Monitoring Results 11

Appendix 4 – September 2013 Terminal 3 Shorebird Observations 13

1.0 Introduction

This report provides results for environmental monitoring activities associated with the Terminal 3 expansion at Port Botany for the month of September 2013.

Monitoring has been undertaken for dust, noise, water quality and shorebird observations.

No environmental complaints have been received by Laing O'Rourke this month in regards to the Terminal 3 expansion works.

1.1 Construction Activities

Laing O'Rourke construction activities undertaken for the month of August 2013 included the following:

- Earthworks and ground improvements
- Drainage activities
- Services works
- Concrete batch plant and paving operations
- Noise wall installation and painting
- Landscaping

2.0 Dust Monitoring and Air Quality

Four dust deposition gauges are installed in the areas surrounding the Port Botany Expansion. Dust deposition results for September 2013 have yet to be received from our laboratory. August 2013 results are reported in Appendix 1.

A real-time dust monitor has been installed at the Botany Golf Club for reporting of PM_{10} particulate matter. There have been no dust complaints received this month. Dust monitoring results are given in this report and are outlined in Appendix 1.

There have been no dust complaints received this month and all results considered representative of the Terminal 3 construction project are within EPA and Project criteria. Dust monitoring results are given in this report and are outlined in Appendix 1.

3.0 Noise Monitoring

Monthly construction noise monitoring was undertaken during September 2013. Noise monitoring locations have been based on noise-sensitive receptors in the project Environmental Impact Statement and approved for the Port Botany Expansion construction activities.

Attended noise measurements were carried out for a period of 15 minutes at each location. During the monitoring event, observations were made on the weather as well as the surrounding noise sources and environment.

3.1 Day time noise monitoring

Noise measurements were undertaken on 12th September 2013. Work activities being undertaken on the Terminal 3 project included ground improvements and earthworks, stormwater drainage and services installation, batch plant operation, paving, noise wall installation, landscaping and material deliveries.

The Interim Construction Noise Guideline (2009, DECCW) sets out management levels for noise at residences and how they are to be applied. This guideline has been used in conjunction with the project Environmental Impact Statement to determine noise goals for the project. Recorded LAeq levels exceeded the noise goals for noise emissions from the Port Botany expansion Project at 5 of the 6 locations, however at each monitoring location extraneous, non-project related noises were the dominant noise sources. These noise sources included road traffic, both local and main, and aircraft noise. No Terminal 3 construction activities were audible at any monitoring locations.

It is noted that the intent of the Interim Construction Noise Guideline is to minimise noise impact from the construction works and is only applicable to the contribution of the noise from the Port Botany construction site. At the attended monitoring events, as has been noted on other stages of the Port Botany expansion project, the measured noise levels were controlled and dominated by other extraneous noise sources as listed above.

Noise monitoring results are shown in Appendix 2.

4.0 Soil and Water Quality Monitoring

Physical water parameters required to be monitored are pH, turbidity and visible oil and grease when dewatering activities are undertaken. Other contaminants may be tested for in areas of concern if the presence of contamination is observed.

4.1 Water Monitoring

Water monitoring has been undertaken during September for dewatering activities undertaken during drainage works. All dewatering results have been compliant with the discharge criteria set in the project Environmental Impact Statement. Dewatering results are summarised in Appendix 3.

5.0 Shorebird Monitoring

No shorebird observations were obtained this month. This may be due to the noise wall construction impeding views of Penrhyn Estuary from the Terminal 3 site. Shorebird observations from the Terminal 3 site during September 2013 are outlined in Appendix 4.

6.0 Environmental Inspections and Audits

Weekly environmental inspections have been undertaken during September 2013 for the Terminal 3 project site. Inspections have focused on dust suppression with dry conditions through the month. No significant environmental issues were observed or identified. Completed inspection sheets may be available on request.

7.0 Appendices

Appendix 1 – Dust Monitoring Results
Appendix 2 – Noise Monitoring Results
Appendix 3 – Water Monitoring Results
Appendix 4 – Terminal 3 Shorebird Observations

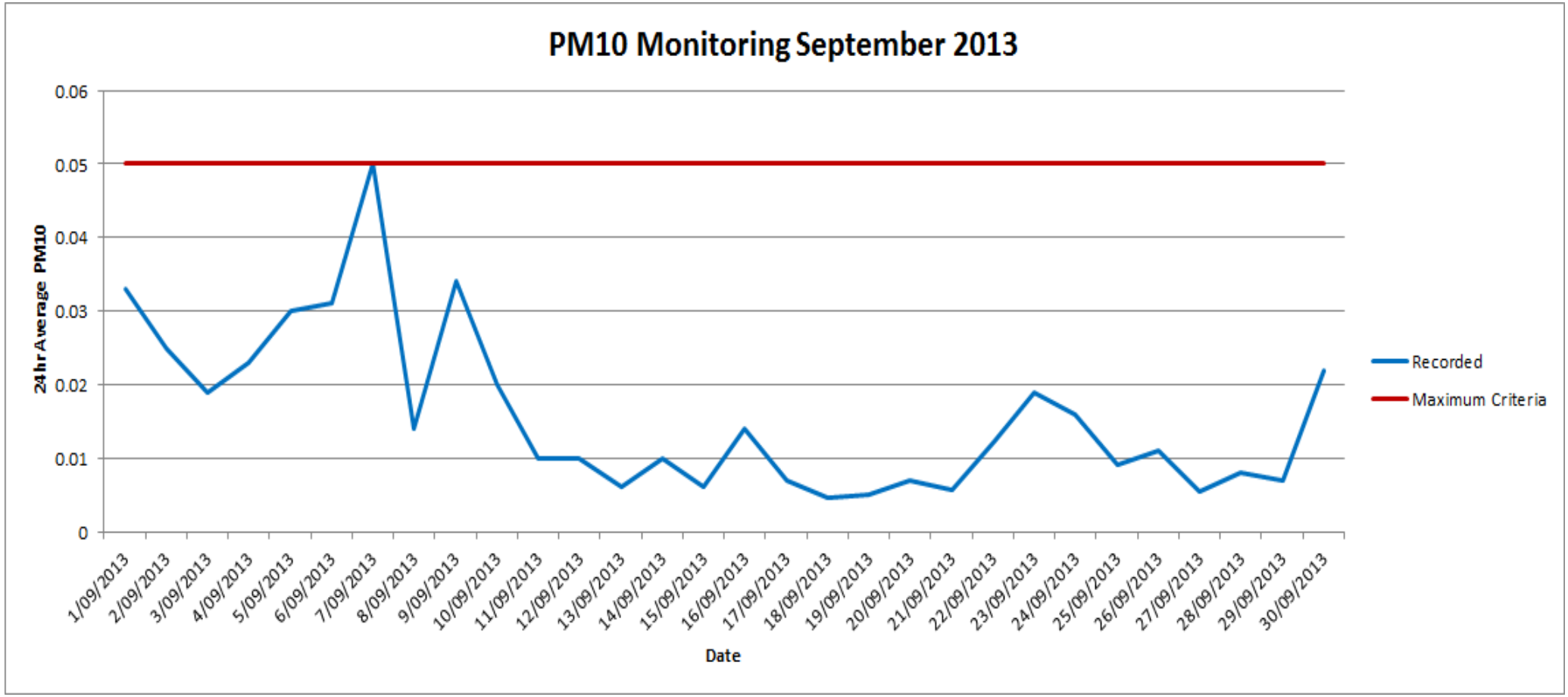
Appendix 1 – Dust Monitoring Results

Dust Deposition Gauge Results - August 2013

No.	Monitoring Location	Ash	Combustible matter	Total Soluble matter	Total Insoluble matter	Total Solids	Sample ID (File Reference)	EPA Guideline (Total Insoluble matter)	Comments (i.e. any exceedances of EPA objectives)	Work Activities / Observations During Monitoring Period
1	Upper Penrhyn Estuary	0.8	0.4	0.8	1.2	2.0	EN1303552-003	4	Within EPA guideline levels	Earthworks Drainage works Deliveries Paving Concrete batch plant Structural works Utilities Noise wall install
2	14 The Esplanade	0.4	0.3	0.6	0.7	1.3	EN1303552-001	4	Within EPA guideline levels	
3	74 Australia Ave	1.0	0.3	0.6	1.3	1.9	EN1303552-002	4	Within EPA guideline levels	
4	Botany Golf Course	0.7	0.3	0.4	1.0	1.4	EN1303552-004	4	Within EPA guideline levels	

All Units in g/m².month

PM_{10} Monitoring Results – September 2013



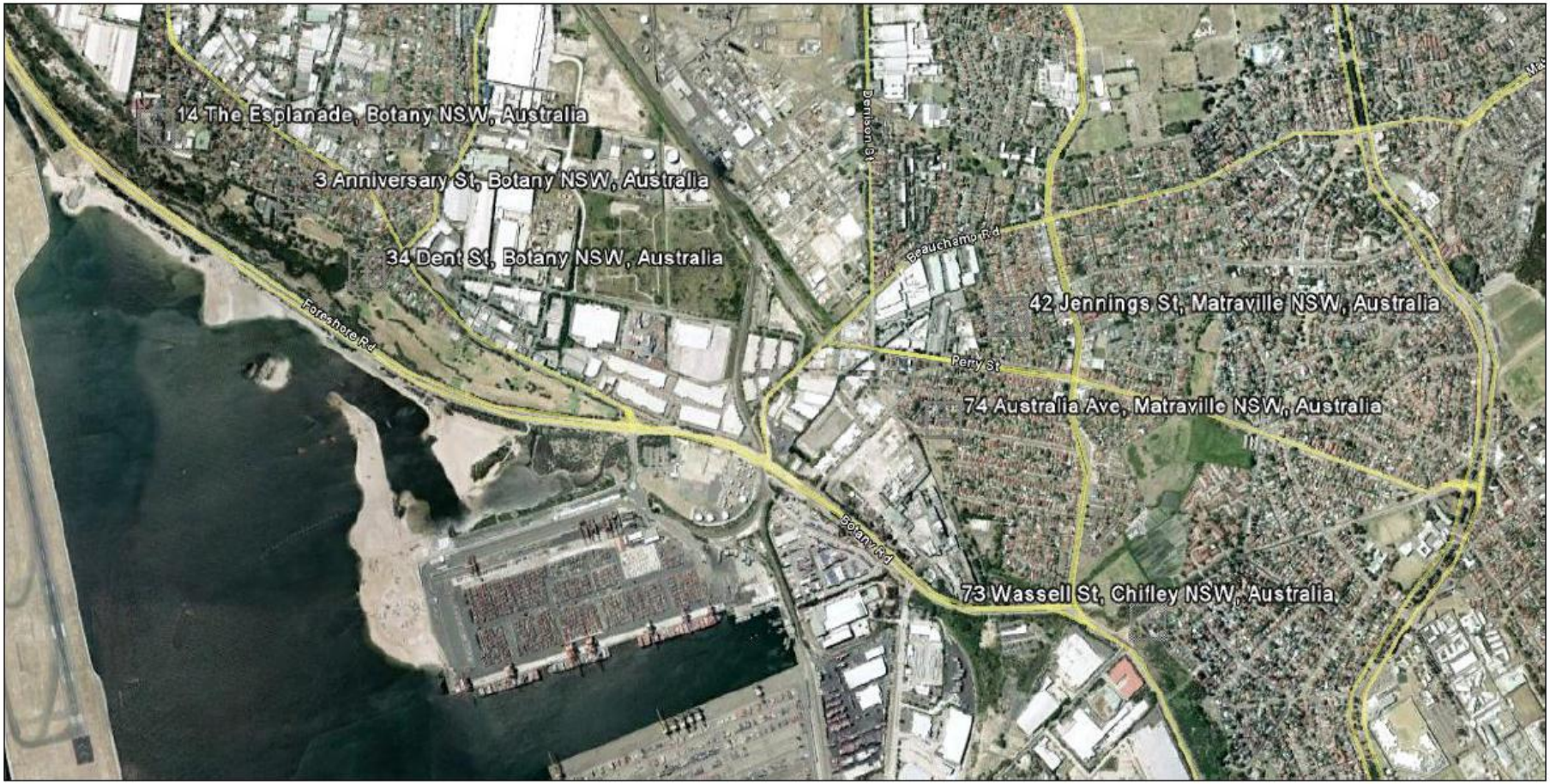
Appendix 2 – Noise Monitoring Results

Day Monitoring

Noise Sensitive Area	Monitoring Location	Date	Time (24hr) & Duration (mins)	Construction Activities	Standard or Out of Hours Works (Day/Evening/Night)	Weather Conditions	In Response to Complaint?	RBL (dBA) - from EIS	Noise Goal[1] (RBL+ 5dBA)	Recorded Noise Level LAeq (15 min) (dBA)	Recorded Noise Level LA1 (dBA)	Recorded Noise Level LA10 (dBA)	Recorded Noise Level L90 (dBA)	Noise Goal Difference (dBA)	Comments
Location 1 - Chelmsford Avenue	14 The Esplanande	12/09/2013	10:30	Ground improvement works Drainage works Material deliveries Batch Plant Pavement Works	Standard Day	Fine	No	49	54	58	63	61	52	4	Noise from Foreshore Rd traffic, aircraft noise, local traffic, park noise. Terminal 3 construction inaudible
Location 2 - Dent Street	34 Dent St	12/09/2013	11:20	Ground improvement works Drainage works Material deliveries Batch Plant Pavement Works	Standard Day	Fine	No	47	52	64	66	64	60	12	Local traffic and foreshore road noise, aircraft noise, park noise. Terminal 3 construction inaudible
Location 3 - Jennings Street	42 Jenning St	12/09/2013	12:05	Ground improvement works Drainage works Material deliveries Batch Plant Pavement Works	Standard Day	Fine	No	40	45	67	82	62	51	22	Local traffic noise, aircraft noise. Terminal 3 construction inaudible
Location 4- North of Golf Course	3 Anniversary Rd	12/09/2013	10:50	Ground improvement works Drainage works Material deliveries Batch Plant Pavement Works	Standard Day	Fine	No	57	62	60	64	61	55	-2	Local traffic noise, aircraft noise. Terminal 3 construction inaudible
Location 5- Australia Avenue	74 Australia Ave	12/09/2013	13:00	Ground improvement works Drainage works Material deliveries Batch Plant Pavement Works	Standard Day	Fine	No	42	47	57	62	59	54	10	Local/distant traffic noise, aircraft noise, local industry. Terminal 3 construction inaudible
Location 6- Military Road	73 Wassell St	12/09/2013	12:35	Ground improvement works Drainage works Material deliveries Batch Plant Pavement Works	Standard Day	Fine	No	46	51	56	58	56	53	5	Noise from Bunnerong Rd, Local traffic noise, local industry. Terminal 3 construction inaudible

Note 1: Noise goals are applicable to the noise contribution from the Terminal 3 Port Botany Expansion related construction activities only

Noise Monitoring Locations



Location 1	Location 2	Location 3	Location 4	Location 5	Location 6
14 The Esplanade	34 Dent St	42 Jennings St	3 Anniversary Rd	74 Australia Ave	73 Wassell St

Appendix 3 – September 2013 Terminal 3 Water Monitoring Results

Dewatering Location	Date	AM/PM	Meets Criteria	Discharge Location	Oil and Grease (visual)	Horiba Water Monitor	
						pH	Turbidity
SC07	2-Sep	AM	Yes	Bay - SC07	No	7.6	0.8
SC07	2-Sep	PM	Yes	Bay - SC07	No	7.3	1.5
SC07	3-Sep	AM	Yes	Bay - SC07	No	7.5	3.6
SC07	3-Sep	PM	Yes	Bay - SC07	No	7.2	2.8
SC07	4-Sep	AM	Yes	Bay - SC07	No	7.1	5.1
SC07	4-Sep	PM	Yes	Bay - SC07	No	6.9	4.3
SC07	5-Sep	AM	Yes	Bay - SC07	No	7.3	4.2
SC07	5-Sep	PM	Yes	Bay - SC07	No	6.9	5.1
SC07	6-Sep	AM	Yes	Bay - SC07	No	7.0	1.8
SC07	6-Sep	PM	Yes	Bay - SC07	No	7.1	1.6
SC07	9-Sep	AM	Yes	Bay - SC07	No	7.0	2.3
SC07	9-Sep	PM	Yes	Bay - SC07	No	7.3	0.8
SC07	10-Sep	AM	Yes	Bay - SC07	No	7.2	1.2
SC07	10-Sep	PM	Yes	Bay - SC07	No	7.5	2.4
SC07	11-Sep	AM	Yes	Bay - SC07	No	7.1	3.3
SC07	11-Sep	PM	Yes	Bay - SC07	No	7.4	6.4
SC07	12-Sep	AM	Yes	Bay - SC07	No	7.2	1.8
SC07	12-Sep	PM	Yes	Bay - SC07	No	7.3	1.6
SC07	13-Sep	AM	Yes	Bay - SC07	No	7.4	2.3
SC07	13-Sep	PM	Yes	Bay - SC07	No	7.3	3.1
SC07	24-Sep	AM	Yes	Bay - SC07	No	7.0	4.5
SC07	24-Sep	PM	Yes	Bay - SC07	No	6.9	2.0
SC07	25-Sep	AM	Yes	Bay - SC07	No	7.2	2.3
SC07	25-Sep	PM	Yes	Bay - SC07	No	6.9	2.5
SC07	26-Sep	AM	Yes	Bay - SC07	No	6.8	3.1
SC07	26-Sep	PM	Yes	Bay - SC07	No	7.1	4.8
SC07	27-Sep	AM	Yes	Bay - SC07	No	7.3	2.7
SC07	27-Sep	PM	Yes	Bay - SC07	No	7.2	6.1
SC07	30-Sep	AM	Yes	Bay - SC07	No	7.0	5.1
SC07	30-Sep	PM	Yes	Bay - SC07	No	7.2	8.9
Bay - SC07	2-Sep	AM	N/A	N/A	No	7.4	1.1
Bay - SC07	10-Sep	AM	N/A	N/A	No	7.7	2.1
Bay - SC07	24-Sep	AM	N/A	N/A	No	7.2	2.0
SC14b	2-Sep	AM	Yes	Estuary SC14	No	7.3	2.7
SC14b	2-Sep	PM	Yes	Estuary SC14	No	7.4	3.8
SC14b	3-Sep	AM	Yes	Estuary SC14	No	6.9	2.6
SC14b	3-Sep	PM	Yes	Estuary SC14	No	7.2	5.8
SC14b	4-Sep	AM	Yes	Estuary SC14	No	7.3	3.2
SC14b	4-Sep	PM	Yes	Estuary SC14	No	7.1	3.8
SC14b	5-Sep	AM	Yes	Estuary SC14	No	7.1	3.2
SC14b	5-Sep	PM	Yes	Estuary SC14	No	7.2	4.2
SC14b	6-Sep	AM	Yes	Estuary SC14	No	7.1	1.8
SC14b	6-Sep	PM	Yes	Estuary SC14	No	7.3	5.6
SC14b	9-Sep	AM	Yes	Estuary SC14	No	7.0	1.8

SC14b	9-Sep	PM	Yes	Estuary SC14	No	7.3	2.6
SC14b	10-Sep	AM	Yes	Estuary SC14	No	7.5	3.1
Estuary SC14	2-Sep	AM	N/A	N/A	No	7.2	0.7
Estuary SC14	9-Sep	AM	N/A	N/A	No	7.3	1.5
SC14c	2-Sep	AM	Yes	Estuary SC14	No	6.8	3.8
SC14c	2-Sep	PM	Yes	Estuary SC14	No	6.9	4.2
SC14c	3-Sep	AM	Yes	Estuary SC14	No	7.4	2.9
SC14c	3-Sep	PM	Yes	Estuary SC14	No	7.6	1.8
SC14c	4-Sep	AM	Yes	Estuary SC14	No	7.4	2.6
SC14c	4-Sep	PM	Yes	Estuary SC14	No	7.4	2.3
SC14c	5-Sep	AM	Yes	Estuary SC14	No	7.5	4.8
SC14c	5-Sep	PM	Yes	Estuary SC14	No	7.3	4.6
SC14c	6-Sep	AM	Yes	Estuary SC14	No	7.2	5.2
SC14c	6-Sep	PM	Yes	Estuary SC14	No	7.2	1.8
SC14c	9-Sep	AM	Yes	Estuary SC14	No	7.0	3.1
SC14c	9-Sep	PM	Yes	Estuary SC14	No	7.2	2.0
SC14c	10-Sep	AM	Yes	Estuary SC14	No	7.1	1.6
Estuary SC14	2-Sep	AM	N/A	N/A	No	7.7	1.0
Estuary SC14	9-Sep	AM	N/A	N/A	No	7.5	1.3

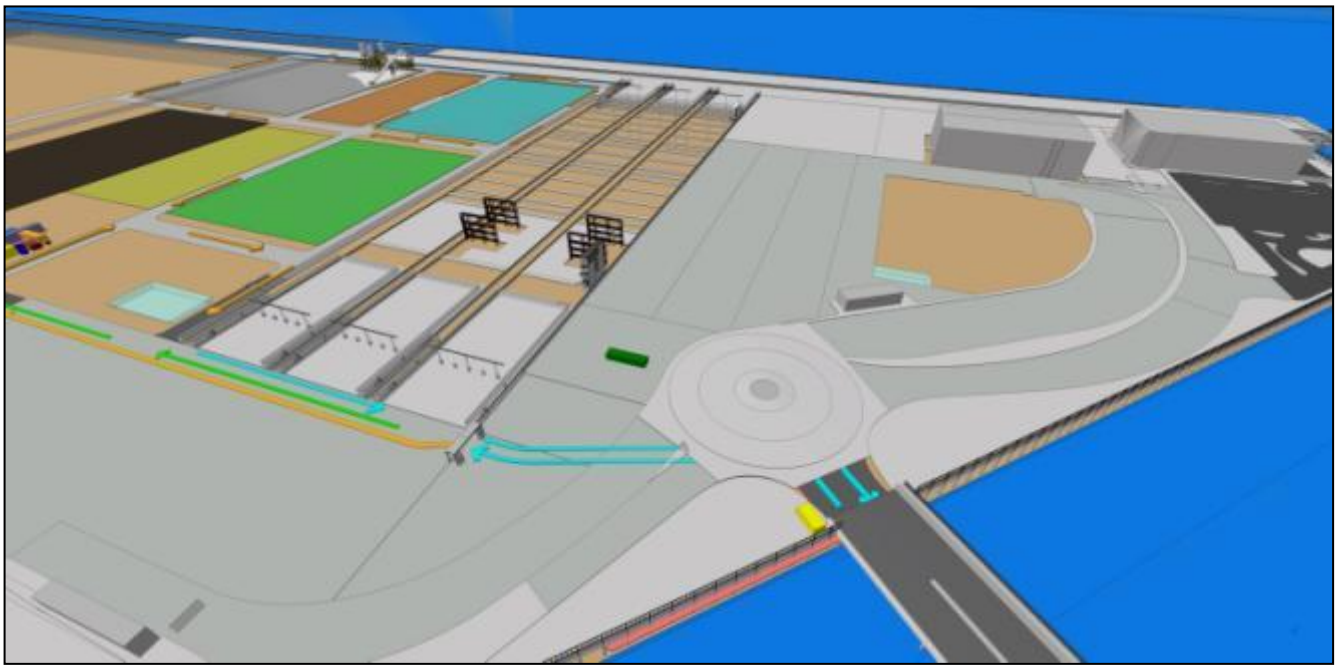
Appendix 4 – September 2013 Terminal 3 Shorebird Observations

No shorebird observations were obtained this month. This may be due to the noise wall construction impeding views of Penrhyn Estuary from the Terminal 3 site.

Sydney Port Botany Terminal 3

Monthly Environmental Monitoring Report

August 2013



Client:	SICTL
Client's Representative:	Mott McDonald
LORA Contract No.:	G52

Controlled Copy no.: 1

Revision History

Rev	Date	Description	Reviewed	INT/Date	Authorised
0	03/09/13	Issue	JA	03/09/13	JA

Contents:

1.0 Introduction 4

1.1 Construction Activities 4

2.0 Dust Monitoring and Air Quality 4

3.0 Noise Monitoring 4

3.1 Day time noise monitoring 5

4.0 Soil and Water Quality Monitoring 5

4.1 Water Monitoring 5

5.0 Shorebird Monitoring 5

6.0 Environmental Inspections and Audits 5

7.0 Appendices 6

Appendix 1 – Dust Monitoring Results 7

Appendix 2 – Noise Monitoring Results 9

Day Monitoring 9

Noise Monitoring Locations 10

Appendix 3 – August 2013 Terminal 3 Water Monitoring Results 11

Appendix 4 – August 2013 Terminal 3 Shorebird Observations 14

1.0 Introduction

This report provides results for environmental monitoring activities associated with the Terminal 3 expansion at Port Botany for the month of August 2013.

Monitoring has been undertaken for dust, noise, water quality and shorebird observations.

No environmental complaints have been received by Laing O'Rourke this month in regards to the Terminal 3 expansion works.

1.1 Construction Activities

Laing O'Rourke construction activities undertaken for the month of August 2013 included the following:

- Earthworks and ground improvements
- Drainage activities
- Services works
- Concrete batch plant and paving operations
- Noise wall installation and painting
- Landscaping

2.0 Dust Monitoring and Air Quality

Four dust deposition gauges are installed in the areas surrounding the Port Botany Expansion. Dust deposition results for August 2013 have yet to be received from our laboratory. July 2013 results are reported in Appendix 1.

A real-time dust monitor has been installed at the Botany Golf Club for reporting of PM_{10} particulate matter. There have been no dust complaints received this month. Dust monitoring results are given in this report and are outlined in Appendix 1.

One exceedance of project criteria was observed during August 2013. The project real-time PM_{10} monitor located at Botany Golf Course returned readings of 56µg/m3 on 30/08/13, which is in excess of the project daily average criteria of 50µg/m3. It is noted, however, that the wind direction was predominately carrying from the north and north-east over the whole day as indicated on the Bureau of Meteorology records. As Botany Golf Course is located to the north-east of the Terminal 3 site, it is considered that these readings are not representative of the construction works taking place.

Surrounding construction contractors have been contacted regarding the above results, with limited works undertaken due the public holiday and wet weather conditions. It is likely that these results could be generated with lawn and landscaping works undertaken in close proximity to the real-time monitor at Botany Golf Course. No dust or emissions have been observed leaving the Port Botany expansion site and no complaints regarding air quality or dust have been received by the project. No observations of dust leaving the Terminal 3 site were recorded.

There have been no dust complaints received this month and all results considered representative of the Terminal 3 construction project are within EPA and Project criteria. Dust monitoring results are given in this report and are outlined in Appendix 1.

3.0 Noise Monitoring

Monthly construction noise monitoring was undertaken during August 2013. Noise monitoring locations have been based on noise-sensitive receptors in the project Environmental Impact Statement and approved for the Port Botany Expansion construction activities.

Attended noise measurements were carried out for a period of 15 minutes at each location. During the monitoring event, observations were made on the weather as well as the surrounding noise sources and environment.

3.1 Day time noise monitoring

Noise measurements were undertaken on 16th August 2013. Work activities being undertaken on the Terminal 3 project included ground improvements and earthworks, stormwater drainage and services installation, batch plant operation, paving, noise wall installation, landscaping and material deliveries.

The Interim Construction Noise Guideline (2009, DECCW) sets out management levels for noise at residences and how they are to be applied. This guideline has been used in conjunction with the project Environmental Impact Statement to determine noise goals for the project. Recorded LAeq levels exceeded the noise goals for noise emissions from the Port Botany expansion Project at two locations, however at each monitoring location extraneous, non-project related noises were the dominant noise sources. These noise sources included road traffic, both local and main, and aircraft noise. No Terminal 3 construction activities were audible at any monitoring locations.

It is noted that the intent of the Interim Construction Noise Guideline is to minimise noise impact from the construction works and is only applicable to the contribution of the noise from the Port Botany construction site. At the attended monitoring events, as has been noted on other stages of the Port Botany expansion project, the measured noise levels were controlled and dominated by other extraneous noise sources as listed above.

Noise monitoring results are shown in Appendix 2.

4.0 Soil and Water Quality Monitoring

Physical water parameters required to be monitored are pH, turbidity and visible oil and grease when dewatering activities are undertaken. Other contaminants may be tested for in areas of concern if the presence of contamination is observed.

4.1 Water Monitoring

Water monitoring has been undertaken during August for dewatering activities undertaken during drainage works and headwall installation. All dewatering results have been compliant with the discharge criteria set in the project Environmental Impact Statement. Dewatering results are summarised in Appendix 3.

5.0 Shorebird Monitoring

Few shorebird sightings are being received across the Project, with all sightings being restricted to the adjacent Penrhyn Estuary. Shorebird observations from the Terminal 3 site during August 2013 are outlined in Appendix 4.

6.0 Environmental Inspections and Audits

Weekly environmental inspections have been undertaken during August 2013 for the Terminal 3 project site. Inspections have focused on dust suppression with dry conditions through the month. No significant environmental issues were observed or identified. Completed inspection sheets may be available on request.

7.0 Appendices

Appendix 1 – Dust Monitoring Results
Appendix 2 – Noise Monitoring Results
Appendix 3 – Water Monitoring Results
Appendix 4 – Terminal 3 Shorebird Observations

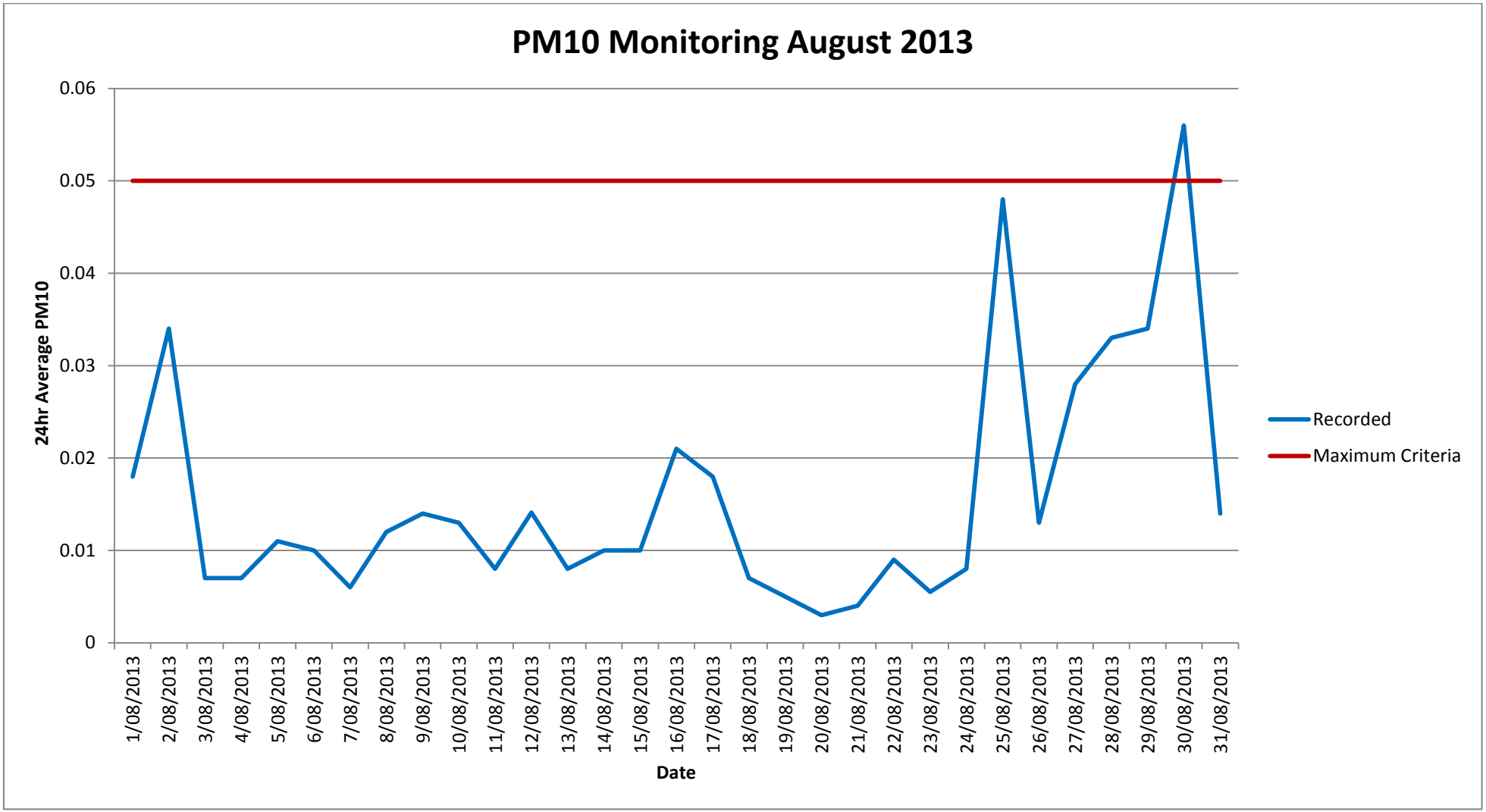
Appendix 1 – Dust Monitoring Results

Dust Deposition Gauge Results - July 2013

No.	Monitoring Location	Ash	Combustible matter	Total Soluble matter	Total Insoluble matter	Total Solids	Sample ID (File Reference)	EPA Guideline (Total Insoluble matter)	Comments (i.e. any exceedances of EPA objectives)	Work Activities / Observations During Monitoring Period
1	Upper Penrhyn Estuary	0.9	0.7	2.2	1.6	3.8	EN1302719-003	4	Within EPA guideline levels	Earthworks Drainage works Deliveries Paving Concrete batch plant Structural works Utilities Noise wall install
2	14 The Esplanade	0.4	1.0	0.7	1.4	2.1	EN1302719-001	4	Within EPA guideline levels	
3	74 Australia Ave	0.6	0.8	<0.1	1.4	1.4	EN1302719-002	4	Within EPA guideline levels	
4	Botany Golf Course	0.9	0.3	3.9	1.2	5.1	EN1302719-004	4	Within EPA guideline levels	

All Units in g/m².month

PM_{10} Monitoring Results – August 2013



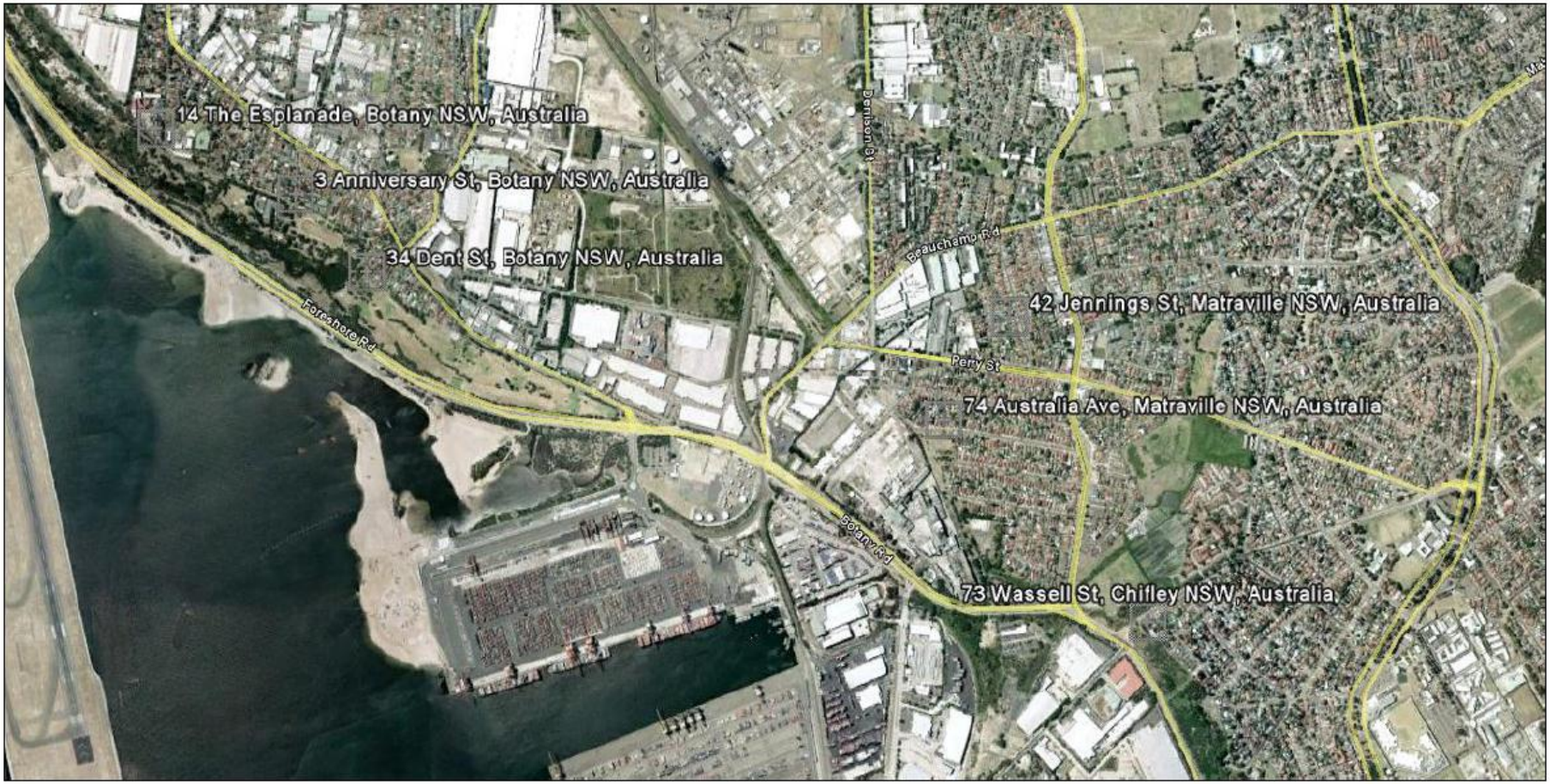
Appendix 2 – Noise Monitoring Results

Day Monitoring

Noise Sensitive Area	Monitoring Location	Date	Time (24hr) & Duration (mins)	Construction Activities	Standard or Out of Hours Works (Day/Evening/Night)	Weather Conditions	In Response to Complaint?	RBL (dBA) - from EIS	Noise Goal[1] (RBL+ 5dBA)	Recorded Noise Level LAeq (15 min) (dBA)	Recorded Noise Level LA1 (dBA)	Recorded Noise Level LA10 (dBA)	Recorded Noise Level L90 (dBA)	Noise Goal Difference (dBA)	Comments
Location 1 - Chelmsford Avenue	14 The Esplanande	16/08/2013	10:30	Ground improvement works Drainage works Material deliveries Batch Plant Pavement Works	Standard Day	Fine	No	49	54	51	58	55	46	-3	Noise from Foreshore Rd traffic, aircraft noise, local traffic, park noise. Terminal 3 construction inaudible
Location 2 - Dent Street	34 Dent St	16/08/2013	11:20	Ground improvement works Drainage works Material deliveries Batch Plant Pavement Works	Standard Day	Fine	No	47	52	52	58	55	49	0	Local traffic and foreshore road noise, aircraft noise, park noise. Terminal 3 construction inaudible
Location 3 - Jennings Street	42 Jenning St	16/08/2013	12:05	Ground improvement works Drainage works Material deliveries Batch Plant Pavement Works	Standard Day	Fine	No	40	45	60	73	60	48	15	Local traffic noise, aircraft noise. Terminal 3 construction inaudible
Location 4- North of Golf Course	3 Anniversary Rd	16/08/2013	10:50	Ground improvement works Drainage works Material deliveries Batch Plant Pavement Works	Standard Day	Fine	No	57	62	53	62	55	49	-9	Local traffic noise, aircraft noise. Terminal 3 construction inaudible
Location 5- Australia Avenue	74 Australia Ave	16/08/2013	13:00	Ground improvement works Drainage works Material deliveries Batch Plant Pavement Works	Standard Day	Fine	No	42	47	52	57	52	44	5	Local/distant traffic noise, aircraft noise, local industry. Terminal 3 construction inaudible
Location 6- Military Road	73 Wassell St	16/08/2013	12:35	Ground improvement works Drainage works Material deliveries Batch Plant Pavement Works	Standard Day	Fine	No	46	51	48	54	50	44	-3	Noise from Bunnerong Rd, Local traffic noise, local industry. Terminal 3 construction inaudible

Note 1: Noise goals are applicable to the noise contribution from the Terminal 3 Port Botany Expansion related construction activities only

Noise Monitoring Locations



Location 1	Location 2	Location 3	Location 4	Location 5	Location 6
14 The Esplanade	34 Dent St	42 Jennings St	3 Anniversary Rd	74 Australia Ave	73 Wassell St

Appendix 3 – August 2013 Terminal 3 Water Monitoring Results

Dewatering Location	Date	AM/PM	Meets Criteria	Discharge Location	Oil and Grease (visual)	Horiba Water Monitor	
						pH	Turbidity
SC07	1-Aug	AM	Yes	Bay - SC07	No	7.2	1.2
SC07	1-Aug	PM	Yes	Bay - SC07	No	7.3	1.3
SC07	2-Aug	AM	Yes	Bay - SC07	No	7.3	2.4
SC07	2-Aug	PM	Yes	Bay - SC07	No	7.2	1.8
SC07	5-Aug	AM	Yes	Bay - SC07	No	7.1	0.6
SC07	5-Aug	PM	Yes	Bay - SC07	No	7.5	0.5
SC07	6-Aug	AM	Yes	Bay - SC07	No	7.1	1.3
SC07	6-Aug	PM	Yes	Bay - SC07	No	7.4	1.1
SC07	7-Aug	AM	Yes	Bay - SC07	No	6.9	2.5
SC07	7-Aug	PM	Yes	Bay - SC07	No	7.0	2.4
SC07	8-Aug	AM	Yes	Bay - SC07	No	7.5	2.1
SC07	8-Aug	PM	Yes	Bay - SC07	No	6.8	3.6
SC07	9-Aug	AM	Yes	Bay - SC07	No	6.9	2.4
SC07	9-Aug	PM	Yes	Bay - SC07	No	6.9	2.6
SC07	12-Aug	AM	Yes	Bay - SC07	No	7.2	1.8
SC07	12-Aug	PM	Yes	Bay - SC07	No	7.3	0.6
SC07	13-Aug	AM	Yes	Bay - SC07	No	7.6	0.4
SC07	13-Aug	PM	Yes	Bay - SC07	No	7.0	1.7
SC07	14-Aug	AM	Yes	Bay - SC07	No	7.1	1.3
SC07	14-Aug	PM	Yes	Bay - SC07	No	7.0	1.0
SC07	15-Aug	AM	Yes	Bay - SC07	No	6.8	2.6
SC07	15-Aug	PM	Yes	Bay - SC07	No	7.2	5.3
SC07	16-Aug	AM	Yes	Bay - SC07	No	7.3	5.4
SC07	16-Aug	PM	Yes	Bay - SC07	No	7.2	3.8
SC07	19-Aug	AM	Yes	Bay - SC07	No	7.1	2.9
SC07	19-Aug	PM	Yes	Bay - SC07	No	7.1	3.0
SC07	20-Aug	AM	Yes	Bay - SC07	No	6.9	2.6
SC07	20-Aug	PM	Yes	Bay - SC07	No	7.5	2.8
SC07	21-Aug	AM	Yes	Bay - SC07	No	7.4	2.7
SC07	21-Aug	PM	Yes	Bay - SC07	No	7.3	5.6
SC07	22-Aug	AM	Yes	Bay - SC07	No	7.1	5.1
SC07	22-Aug	PM	Yes	Bay - SC07	No	7.5	3.6
SC07	23-Aug	AM	Yes	Bay - SC07	No	7.5	4.8
SC07	23-Aug	PM	Yes	Bay - SC07	No	6.9	8.1
SC07	26-Aug	AM	Yes	Bay - SC07	No	6.8	1.6
SC07	26-Aug	PM	Yes	Bay - SC07	No	7.1	3.4
SC07	27-Aug	AM	Yes	Bay - SC07	No	7.4	1.8
SC07	27-Aug	PM	Yes	Bay - SC07	No	7.2	1.3
SC07	28-Aug	AM	Yes	Bay - SC07	No	7.3	2.5
SC07	28-Aug	PM	Yes	Bay - SC07	No	6.8	2.8
SC07	29-Aug	AM	Yes	Bay - SC07	No	6.9	2.4
SC07	29-Aug	PM	Yes	Bay - SC07	No	6.9	1.9
SC07	30-Aug	AM	Yes	Bay - SC07	No	7.2	4.8
SC07	30-Aug	PM	Yes	Bay - SC07	No	7	1.8

Bay - SC07	1-Aug	AM	N/A	N/A	No	7.4	0.6
Bay - SC07	5-Aug	AM	N/A	N/A	No	7.5	0.8
Bay - SC07	12-Aug	AM	N/A	N/A	No	7.5	1.2
Bay - SC07	20-Aug	AM	N/A	N/A	No	7.2	1.8
Bay - SC07	26-Aug	AM	N/A	N/A	No	7.2	0.8
SC14a	2-Aug	AM	Yes	Estuary SC14	No	7.2	2.9
SC14a	2-Aug	PM	Yes	Estuary SC14	No	7.3	0.8
SC14a	5-Aug	AM	Yes	Estuary SC14	No	7.8	0.9
SC14a	5-Aug	PM	Yes	Estuary SC14	No	7.1	1.3
SC14a	6-Aug	AM	Yes	Estuary SC14	No	6.8	1.5
SC14a	6-Aug	PM	Yes	Estuary SC14	No	6.9	2.4
SC14a	7-Aug	AM	Yes	Estuary SC14	No	6.8	2.6
SC14a	7-Aug	PM	Yes	Estuary SC14	No	7.0	4.1
SC14a	8-Aug	AM	Yes	Estuary SC14	No	7.1	3.8
SC14a	8-Aug	PM	Yes	Estuary SC14	No	7.4	6.6
SC14a	9-Aug	AM	Yes	Estuary SC14	No	7.2	5.3
SC14a	9-Aug	PM	Yes	Estuary SC14	No	7.0	5.2
SC14a	12-Aug	AM	Yes	Estuary SC14	No	7.3	4.8
SC14a	12-Aug	PM	Yes	Estuary SC14	No	7.0	4.6
SC14a	13-Aug	AM	Yes	Estuary SC14	No	6.9	6.8
SC14a	13-Aug	PM	Yes	Estuary SC14	No	7.5	6.2
SC14a	14-Aug	AM	Yes	Estuary SC14	No	7.6	5.4
SC14a	14-Aug	PM	Yes	Estuary SC14	No	7.0	5.8
SC14a	15-Aug	AM	Yes	Estuary SC14	No	7.1	6.6
SC14a	15-Aug	PM	Yes	Estuary SC14	No	7.3	5.4
SC14a	16-Aug	AM	Yes	Estuary SC14	No	6.7	5.3
SC14a	16-Aug	PM	Yes	Estuary SC14	No	6.8	5.8
SC14a	19-Aug	AM	Yes	Estuary SC14	No	6.7	2.6
SC14a	19-Aug	PM	Yes	Estuary SC14	No	7.2	2.8
SC14a	20-Aug	AM	Yes	Estuary SC14	No	7.3	0.6
Estuary SC14	2-Aug	AM	N/A	N/A	No	7.2	1.2
Estuary SC14	6-Aug	AM	N/A	N/A	No	7.1	0.9
Estuary SC14	14-Aug	AM	N/A	N/A	No	7.2	1.0
SC14b	2-Aug	AM	Yes	Estuary SC14	No	6.8	1.8
SC14b	2-Aug	PM	Yes	Estuary SC14	No	6.8	1.6
SC14b	5-Aug	AM	Yes	Estuary SC14	No	6.9	2.8
SC14b	5-Aug	PM	Yes	Estuary SC14	No	6.8	2.6
SC14b	6-Aug	AM	Yes	Estuary SC14	No	7.2	2.3
SC14b	6-Aug	PM	Yes	Estuary SC14	No	7.3	5.4
SC14b	7-Aug	AM	Yes	Estuary SC14	No	6.9	5.3
SC14b	7-Aug	PM	Yes	Estuary SC14	No	7.0	2.8
SC14b	8-Aug	AM	Yes	Estuary SC14	No	7.1	2.4
SC14b	8-Aug	PM	Yes	Estuary SC14	No	7.2	1.6
SC14b	9-Aug	AM	Yes	Estuary SC14	No	7.1	1.8
SC14b	9-Aug	PM	Yes	Estuary SC14	No	7.1	1.8
SC14b	12-Aug	AM	Yes	Estuary SC14	No	7.0	1.4

SC14b	12-Aug	PM	Yes	Estuary SC14	No	6.9	2.6
SC14b	13-Aug	AM	Yes	Estuary SC14	No	7.0	0.8
SC14b	13-Aug	PM	Yes	Estuary SC14	No	7.3	0.7
SC14b	14-Aug	AM	Yes	Estuary SC14	No	7.1	1.2
SC14b	14-Aug	PM	Yes	Estuary SC14	No	7.2	2.3
SC14b	15-Aug	AM	Yes	Estuary SC14	No	6.8	3
SC14b	15-Aug	PM	Yes	Estuary SC14	No	7.4	3.2
SC14b	16-Aug	AM	Yes	Estuary SC14	No	7.5	4.5
SC14b	16-Aug	PM	Yes	Estuary SC14	No	7.4	2.6
SC14b	19-Aug	AM	Yes	Estuary SC14	No	7.2	6.6
SC14b	19-Aug	PM	Yes	Estuary SC14	No	7.0	4.8
SC14b	20-Aug	AM	Yes	Estuary SC14	No	7.0	4.2
SC14b	20-Aug	PM	Yes	Estuary SC14	No	7.2	2.5
SC14b	21-Aug	AM	Yes	Estuary SC14	No	7.3	3.6
SC14b	21-Aug	PM	Yes	Estuary SC14	No	7.0	3.3
SC14b	22-Aug	AM	Yes	Estuary SC14	No	7.1	1.9
SC14b	22-Aug	PM	Yes	Estuary SC14	No	7.0	5.8
SC14b	23-Aug	AM	Yes	Estuary SC14	No	6.8	5.4
SC14b	23-Aug	PM	Yes	Estuary SC14	No	6.9	4.6
SC14b	26-Aug	AM	Yes	Estuary SC14	No	7.2	2.8
SC14b	26-Aug	PM	Yes	Estuary SC14	No	7.2	1.1
SC14b	27-Aug	AM	Yes	Estuary SC14	No	7.1	6.1
SC14b	27-Aug	PM	Yes	Estuary SC14	No	7.3	2.9
SC14b	28-Aug	AM	Yes	Estuary SC14	No	7.2	3.4
SC14b	28-Aug	PM	Yes	Estuary SC14	No	7.1	2.1
SC14b	29-Aug	AM	Yes	Estuary SC14	No	7.3	2.6
SC14b	29-Aug	PM	Yes	Estuary SC14	No	7.3	5.1
SC14b	30-Aug	AM	Yes	Estuary SC14	No	7.1	2.8
SC14b	30-Aug	PM	Yes	Estuary SC14	No	6.9	0.6
Estuary SC14	2-Aug	AM	N/A	N/A	No	7.2	1.8
Estuary SC14	6-Aug	AM	N/A	N/A	No	7.1	2.0
Estuary SC14	14-Aug	AM	N/A	N/A	No	7.0	1.2
Estuary SC14	20-Aug	AM	N/A	N/A	No	7.0	0.8
Estuary SC14	26-Aug	AM	N/A	N/A	No	7.3	0.6
SC14c	30-Aug	PM	Yes	Estuary SC14	No	7.0	6.2
Estuary SC14	30-Aug	PM	N/A	N/A	No	7.4	0.8

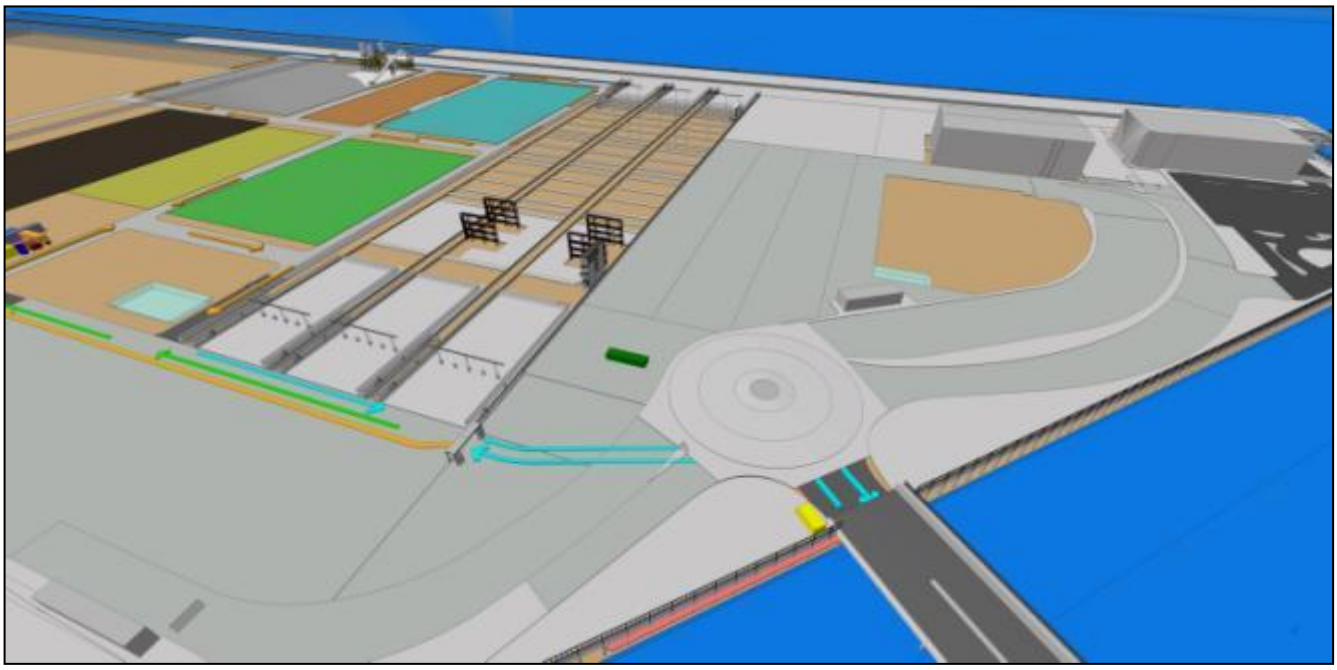
Appendix 4 – August 2013 Terminal 3 Shorebird Observations

Date	Bird Type	Location	Reported by	Action
30/08/13	Pied Oyster Catcher	Roosting Island – Penrhyn Estuary	J Ambler	No action required, not within work area, no threat to birds apparent

Sydney Port Botany Terminal 3

Monthly Environmental Monitoring Report

July 2013



Client:	SICTL
Client's Representative:	Mott McDonald
LORA Contract No.:	G52

Controlled Copy no.: 1

Revision History

Rev	Date	Description	Reviewed	INT/Date	Authorised
0	01/08/13	Issue	JA	01/08/13	JA

Contents:

1.0 Introduction 4

1.1 Construction Activities 4

2.0 Dust Monitoring and Air Quality 4

3.0 Noise Monitoring 4

3.1 Day time noise monitoring 4

4.0 Soil and Water Quality Monitoring 5

4.1 Water Monitoring 5

5.0 Shorebird Monitoring 5

6.0 Environmental Inspections and Audits 5

7.0 Appendices 6

Appendix 1 – Dust Monitoring Results 7

Appendix 2 – Noise Monitoring Results 9

Day Monitoring 9

Noise Monitoring Locations 10

Appendix 3 – June 13 Terminal 3 Water Monitoring Results 11

Appendix 4 – June 13 Terminal 3 Shorebird Observations 14

1.0 Introduction

This report provides results for environmental monitoring activities associated with the Terminal 3 expansion at Port Botany for the month of July 2013.

Monitoring has been undertaken for dust, noise, water quality and shorebird observations.

No environmental complaints have been received by Laing O'Rourke this month in regards to the Terminal 3 expansion works.

1.1 Construction Activities

Laing O'Rourke construction activities undertaken for the month of July 2013 included the following:

- Earthworks and ground improvements
- Drainage activities
- Site utilities
- Concrete batch plant and paving operations
- Noise wall installation
- Landscaping

2.0 Dust Monitoring and Air Quality

Four dust deposition gauges are installed in the areas surrounding the Port Botany Expansion. Dust deposition results for July 2013 have yet to be received from our laboratory. June 2013 results are reported in Appendix 1.

A real-time dust monitor has been installed at the Botany Golf Club for reporting of PM_{10} particulate matter. Technical difficulties were encountered with this monitor resulting in lost data from July 12th to July 26th. It is noted that no observations of dust leaving site were recorded and that no dust complaints were received during this period. All technical issues have since been resolved.

There have been no dust complaints received this month. All results considered representative of the project are within EPA and Project criteria. Dust monitoring results are given in this report and are outlined in Appendix 1.

3.0 Noise Monitoring

Monthly construction noise monitoring was undertaken during July 2013. Noise monitoring locations have been based on noise-sensitive receptors in the project Environmental Impact Statement and approved for the Port Botany Expansion construction activities.

Attended noise measurements were carried out for a period of 15 minutes at each location. During the monitoring event, observations were made on the weather as well as the surrounding noise sources and environment.

3.1 Day time noise monitoring

Noise measurements were undertaken on 15th July 2013. Work activities being undertaken on the Terminal 3 project included ground improvements and earthworks, stormwater drainage and services installation, batch plant operation, paving, noise wall installation, landscaping and material deliveries.

The Interim Construction Noise Guideline (2009, DECCW) sets out management levels for noise at residences and how they are to be applied. This guideline has been used in conjunction with the project Environmental Impact Statement to determine noise goals for the project. Recorded LAeq levels exceeded the noise goals for noise emissions from the Port Botany expansion Project at four locations, however at each monitoring location extraneous, non-project related noises were the dominant noise sources. These

noise sources included road traffic, both local and main, and aircraft noise. No Terminal 3 construction activities were audible at any monitoring locations.

It is noted that the intent of the Interim Construction Noise Guideline is to minimise noise impact from the construction works and is only applicable to the contribution of the noise from the Port Botany construction site. At the attended monitoring events, as has been noted on other stages of the Port Botany expansion project, the measured noise levels were controlled and dominated by other extraneous noise sources as listed above.

Noise monitoring results are shown in Appendix 2.

4.0 Soil and Water Quality Monitoring

Physical water parameters required to be monitored are pH, turbidity and visible oil and grease when dewatering activities are undertaken. Other contaminants may be tested for in areas of concern if the presence of contamination is observed.

4.1 Water Monitoring

Water monitoring has been undertaken during July for dewatering activities undertaken during drainage works and headwall installation. All dewatering results have been compliant with the discharge criteria set in the project Environmental Impact Statement. Dewatering results are summarised in Appendix 3.

5.0 Shorebird Monitoring

Few shorebird sightings are being received across the Project, with all sightings being restricted to the adjacent Penrhyn Estuary. Shorebird observations from the Terminal 3 site during July 2013 are outlined in Appendix 4.

6.0 Environmental Inspections and Audits

Weekly environmental inspections have been undertaken during July 2013 for the Terminal 3 project site. Inspections have focused on erosion and sediment controls with high rainfall at the end of the month. No significant environmental issues were observed or identified. Completed inspection sheets may be available on request.

7.0 Appendices

Appendix 1 – Dust Monitoring Results
Appendix 2 – Noise Monitoring Results
Appendix 3 – Water Monitoring Results
Appendix 4 – Terminal 3 Shorebird Observations

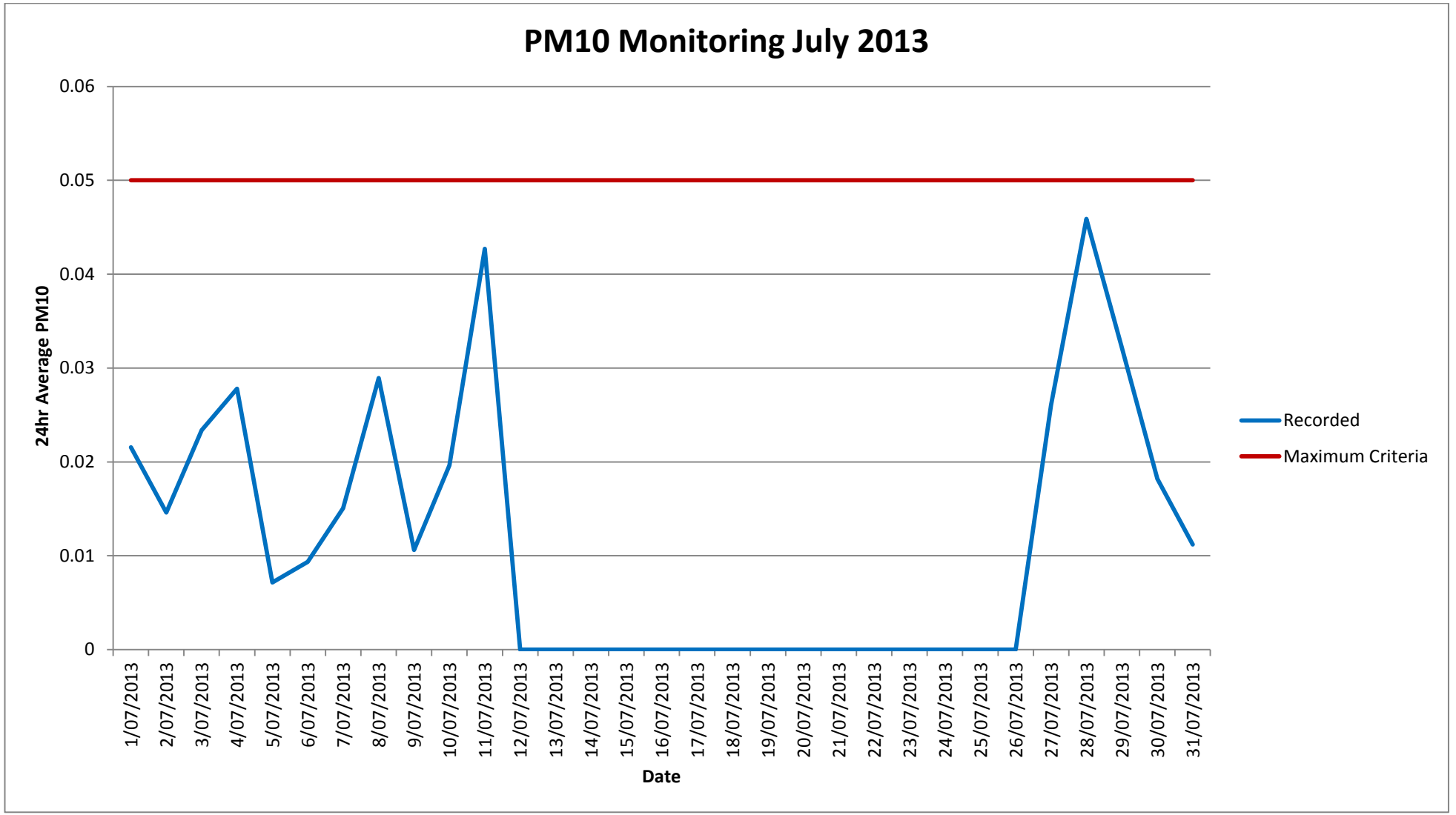
Appendix 1 – Dust Monitoring Results

Dust Deposition Gauge Results - June 2013

No.	Monitoring Location	Ash	Combustible matter	Total Soluble matter	Total Insoluble matter	Total Solids	Sample ID (File Reference)	EPA Guideline (Total Insoluble matter)	Comments (i.e. any exceedances of EPA objectives)	Work Activities / Observations During Monitoring Period
1	Upper Penrhyn Estuary	0.9	0.7	2.2	1.6	3.8	EN1302719-003	4	Within EPA guideline levels	Earthworks Drainage works Deliveries Paving Concrete batch plant Structural works Utilities
2	14 The Esplanade	0.4	1.0	0.7	1.4	2.1	EN1302719-001	4	Within EPA guideline levels	
3	74 Australia Ave	0.6	0.8	<0.1	1.4	1.4	EN1302719-002	4	Within EPA guideline levels	
4	Botany Golf Course	0.9	0.3	3.9	1.2	5.1	EN1302719-004	4	Within EPA guideline levels	

All Units in g/m².month

PM_{10} Monitoring Results – June 2013



Appendix 2 – Noise Monitoring Results

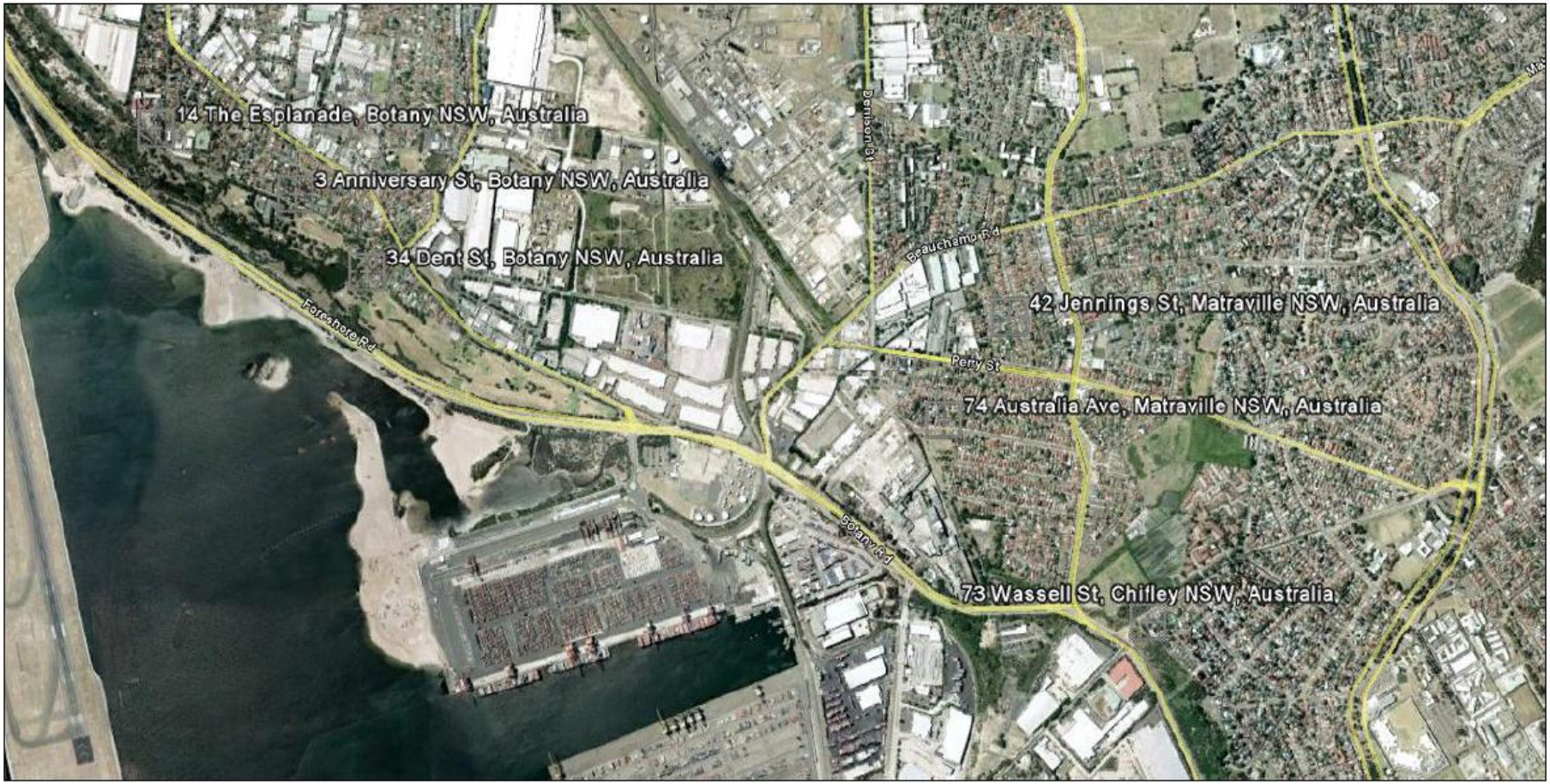
Day Monitoring

Noise Monitoring Results - SPBT3 June 2013

Noise Sensitive Area	Monitoring Location	Date	Time (24hr) & Duration (mins)	Construction Activities	Standard or Out of Hours Works (Day/Evening/Night)	Weather Conditions	In Response to Complaint?	RBL (dBA) - from EIS	Noise Goal[1] (RBL+ 5dBA)	Recorded Noise Level LAeq (15 min) (dBA)	Recorded Noise Level LA1 (dBA)	Recorded Noise Level LA10 (dBA)	Recorded Noise Level L90 (dBA)	Noise Goal Difference (dBA)	Comments
Location 1 - Chelmsford Avenue	14 The Esplanande	15/07/2013	11:30	Ground improvement works Drainage works Material deliveries Batch Plant Pavement Works	Standard Day	Fine	No	49	54	56	61	59	53	2	Noise from Foreshore Rd traffic, aircraft noise, local traffic, park noise. Terminal 3 construction inaudible
Location 2 - Dent Street	34 Dent St	15/07/2013	12:20	Ground improvement works Drainage works Material deliveries Batch Plant Pavement Works	Standard Day	Fine	No	47	52	60	64	62	55	8	Local traffic and foreshore road noise, aircraft noise, park noise. Terminal 3 construction inaudible
Location 3 - Jennings Street	42 Jenning St	15/07/2013	13:05	Ground improvement works Drainage works Material deliveries Batch Plant Pavement Works	Standard Day	Fine	No	40	45	68.9	83.3	67	44	23.9	Local traffic noise, aircraft noise. Terminal 3 construction inaudible
Location 4- North of Golf Course	3 Anniversary Rd	15/07/2013	11:55	Ground improvement works Drainage works Material deliveries Batch Plant Pavement Works	Standard Day	Fine	No	57	62	58	65	63	45	-4	Local traffic noise, aircraft noise. Terminal 3 construction inaudible
Location 5- Australia Avenue	74 Australia Ave	15/07/2013	14:10	Ground improvement works Drainage works Material deliveries Batch Plant Pavement Works	Standard Day	Fine	No	42	47	50	72	55	46	3	Local/distant traffic noise, aircraft noise, local industry. Terminal 3 construction inaudible
Location 6- Military Road	73 Wassell St	15/07/2013	13:30	Ground improvement works Drainage works Material deliveries Batch Plant Pavement Works	Standard Day	Fine	No	46	51	51	60	55	44	0	Noise from Bunnerong Rd, Local traffic noise, local industry. Terminal 3 construction inaudible

Note 1: Noise goals are applicable to the noise contribution from the Terminal 3 Port Botany Expansion related construction activities only

Noise Monitoring Locations



Location 1	Location 2	Location 3	Location 4	Location 5	Location 6
14 The Esplanade	34 Dent St	42 Jennings St	3 Anniversary Rd	74 Australia Ave	73 Wassell St

Appendix 3 – July 2013 Terminal 3 Water Monitoring Results

Dewatering Location	Date	AM/PM	Meets Criteria	Discharge Location	Oil and Grease (visual)	Horiba Water Monitor	
						pH	Turbidity
ASC1	3-Jul	AM	Yes	Estuary - SC10	No	7.2	0.3
ASC1	3-Jul	PM	Yes	Estuary - SC10	No	7.3	0.4
ASC1	4-Jul	AM	Yes	Estuary - SC10	No	7.8	1.4
ASC1	4-Jul	PM	Yes	Estuary - SC10	No	7.6	1.6
ASC1	5-Jul	AM	Yes	Estuary - SC10	No	7.4	1.2
ASC1	5-Jul	PM	Yes	Estuary - SC10	No	7.3	2.4
ASC1	8-Jul	AM	Yes	Estuary - SC10	No	6.8	0.8
ASC1	8-Jul	PM	Yes	Estuary - SC10	No	6.9	4.2
ASC1	9-Jul	AM	Yes	Estuary - SC10	No	7.2	3.2
ASC1	9-Jul	PM	Yes	Estuary - SC10	No	7.4	4.8
ASC1	10-Jul	AM	Yes	Estuary - SC10	No	7.2	4.6
ASC1	10-Jul	PM	Yes	Estuary - SC10	No	7.6	3.2
ASC1	11-Jul	AM	Yes	Estuary - SC10	No	7.5	2.6
ASC1	11-Jul	PM	Yes	Estuary - SC10	No	8.1	0.3
ASC1	12-Jul	AM	Yes	Estuary - SC10	No	7.7	5.4
ASC1	12-Jul	PM	Yes	Estuary - SC10	No	7.5	4.6
ASC1	15-Jul	AM	Yes	Estuary - SC10	No	7.6	3.8
ASC1	15-Jul	PM	Yes	Estuary - SC10	No	7.4	4.6
ASC1	16-Jul	AM	Yes	Estuary - SC10	No	7.8	4
ASC1	16-Jul	PM	Yes	Estuary - SC10	No	7.5	2.2
ASC1	17-Jul	AM	Yes	Estuary - SC10	No	7.3	1.8
ASC1	17-Jul	PM	Yes	Estuary - SC10	No	7.3	1.7
ASC1	18-Jul	AM	Yes	Estuary - SC10	No	7.2	2.3
ASC1	18-Jul	PM	Yes	Estuary - SC10	No	7.4	3
Estuary - SC10	3-Jul	AM	N/A	N/A	No	7.8	0.5
Estuary - SC10	9-Jul	AM	N/A	N/A	No	7.9	1.2
Estuary - SC10	17-Jul	AM	N/A	N/A	No	7.8	0.8
ASC3	8-Jul	AM	Yes	Estuary - SC05	No	6.9	2.3
ASC3	8-Jul	PM	Yes	Estuary - SC05	No	6.8	3.6
ASC3	9-Jul	AM	Yes	Estuary - SC05	No	7	3.4
ASC3	9-Jul	PM	Yes	Estuary - SC05	No	7.4	3.1
ASC3	10-Jul	AM	Yes	Estuary - SC05	No	7.3	3.7
ASC3	10-Jul	PM	Yes	Estuary - SC05	No	7.8	2.8
ASC3	11-Jul	AM	Yes	Estuary - SC05	No	7.3	4.2
ASC3	11-Jul	PM	Yes	Estuary - SC05	No	7.2	2.5
ASC3	12-Jul	AM	Yes	Estuary - SC05	No	7.2	2.6
ASC3	12-Jul	PM	Yes	Estuary - SC05	No	6.8	3.8
ASC3	15-Jul	AM	Yes	Estuary - SC05	No	7.3	3.9
ASC3	15-Jul	PM	Yes	Estuary - SC05	No	7.4	1.2
ASC3	16-Jul	AM	Yes	Estuary - SC05	No	7.3	0.7
ASC3	16-Jul	PM	Yes	Estuary - SC05	No	7.9	0.5
ASC3	17-Jul	AM	Yes	Estuary - SC05	No	7.8	2.4
ASC3	17-Jul	PM	Yes	Estuary - SC05	No	7.1	2.5
ASC3	18-Jul	AM	Yes	Estuary - SC05	No	7	4.9
ASC3	18-Jul	PM	Yes	Estuary - SC05	No	7.1	4.8

ASC3	19-Jul	AM	Yes	Estuary - SC05	No	7.3	3.6
ASC3	19-Jul	PM	Yes	Estuary - SC05	No	7.5	4.6
ASC3	22-Jul	AM	Yes	Estuary - SC05	No	7.2	4.1
ASC3	22-Jul	PM	Yes	Estuary - SC05	No	7.6	5.2
Estuary - SC10	8-Jul	AM	N/A	N/A	No	7.7	0.5
Estuary - SC10	16-Jul	AM	N/A	N/A	No	7.7	1.6
Estuary - SC10	22-Jul	PM	N/A	N/A	No	7.3	1.1
SC12a	1-Jul	AM	Yes	Estuary SC12	No	7.6	5.6
SC12a	1-Jul	PM	Yes	Estuary SC12	No	7.4	5.8
SC12a	2-Jul	AM	Yes	Estuary SC12	No	7.3	4.9
SC12a	2-Jul	PM	Yes	Estuary SC12	No	7.8	6.6
SC12a	3-Jul	AM	Yes	Estuary SC12	No	7.4	5.2
SC12a	3-Jul	PM	Yes	Estuary SC12	No	7.7	2.4
Estuary - SC12	1-Jul	AM	N/A	N/A	No	7.8	1.9
SC07	3-Jul	AM	Yes	Bay - SC07	No	7.8	5.6
SC07	3-Jul	PM	Yes	Bay - SC07	No	7.4	5.3
SC07	4-Jul	AM	Yes	Bay - SC07	No	7.4	5.2
SC07	4-Jul	PM	Yes	Bay - SC07	No	6.8	6.5
SC07	5-Jul	AM	Yes	Bay - SC07	No	6.7	3.2
SC07	5-Jul	PM	Yes	Bay - SC07	No	7	3.4
SC07	8-Jul	AM	Yes	Bay - SC07	No	7.1	5.3
SC07	8-Jul	PM	Yes	Bay - SC07	No	7.2	4.8
SC07	9-Jul	AM	Yes	Bay - SC07	No	6.9	4.6
SC07	9-Jul	PM	Yes	Bay - SC07	No	7.8	4.9
SC07	10-Jul	AM	Yes	Bay - SC07	No	7.6	5.3
SC07	10-Jul	PM	Yes	Bay - SC07	No	7.7	2.8
SC07	11-Jul	AM	Yes	Bay - SC07	No	7.7	5.6
SC07	11-Jul	PM	Yes	Bay - SC07	No	7.9	4.3
SC07	12-Jul	AM	Yes	Bay - SC07	No	8	1.1
SC07	12-Jul	PM	Yes	Bay - SC07	No	7.5	4.4
SC07	15-Jul	AM	Yes	Bay - SC07	No	7.4	6.6
SC07	15-Jul	PM	Yes	Bay - SC07	No	7.6	5.6
SC07	16-Jul	AM	Yes	Bay - SC07	No	7.4	7.3
SC07	16-Jul	PM	Yes	Bay - SC07	No	7.8	5.6
SC07	17-Jul	AM	Yes	Bay - SC07	No	7.7	6.3
SC07	17-Jul	PM	Yes	Bay - SC07	No	7.8	6.6
SC07	18-Jul	AM	Yes	Bay - SC07	No	7	7.9
SC07	18-Jul	PM	Yes	Bay - SC07	No	7.3	10.2
SC07	19-Jul	AM	Yes	Bay - SC07	No	7.1	4.6
SC07	19-Jul	PM	Yes	Bay - SC07	No	7.1	4.7
SC07	22-Jul	AM	Yes	Bay - SC07	No	7.9	8.5
SC07	22-Jul	PM	Yes	Bay - SC07	No	6.9	9.2
SC07	23-Jul	AM	Yes	Bay - SC07	No	7.5	11.6
SC07	23-Jul	PM	Yes	Bay - SC07	No	7.4	10.5
SC07	24-Jul	AM	Yes	Bay - SC07	No	7.2	3.2
SC07	24-Jul	PM	Yes	Bay - SC07	No	7.3	2.5
SC07	25-Jul	AM	Yes	Bay - SC07	No	7	2.1
SC07	25-Jul	PM	Yes	Bay - SC07	No	7.4	5.1
SC07	26-Jul	AM	Yes	Bay - SC07	No	7.4	3.2

SC07	26-Jul	PM	Yes	Bay - SC07	No	7.2	2.6
SC07	29-Jul	AM	Yes	Bay - SC07	No	6.9	2.4
SC07	29-Jul	PM	Yes	Bay - SC07	No	7.4	0.8
SC07	30-Jul	AM	Yes	Bay - SC07	No	7.3	2.4
SC07	30-Jul	PM	Yes	Bay - SC07	No	6.9	1.3
SC07	31-Jul	AM	Yes	Bay - SC07	No	7.5	6.8
SC07	31-Jul	PM	Yes	Bay - SC07	No	7.1	4.9
Bay - SC07	3-Jul	AM	N/A	N/A	No	7.9	2.1
Bay - SC07	9-Jul	AM	N/A	N/A	No	7.8	1.4
Bay - SC07	15-Jul	AM	N/A	N/A	No	7.8	2.6
Bay - SC07	22-Jul	AM	N/A	N/A	No	7.4	1.8
Bay - SC08	29-Jul	AM	N/A	N/A	No	7.3	0.8

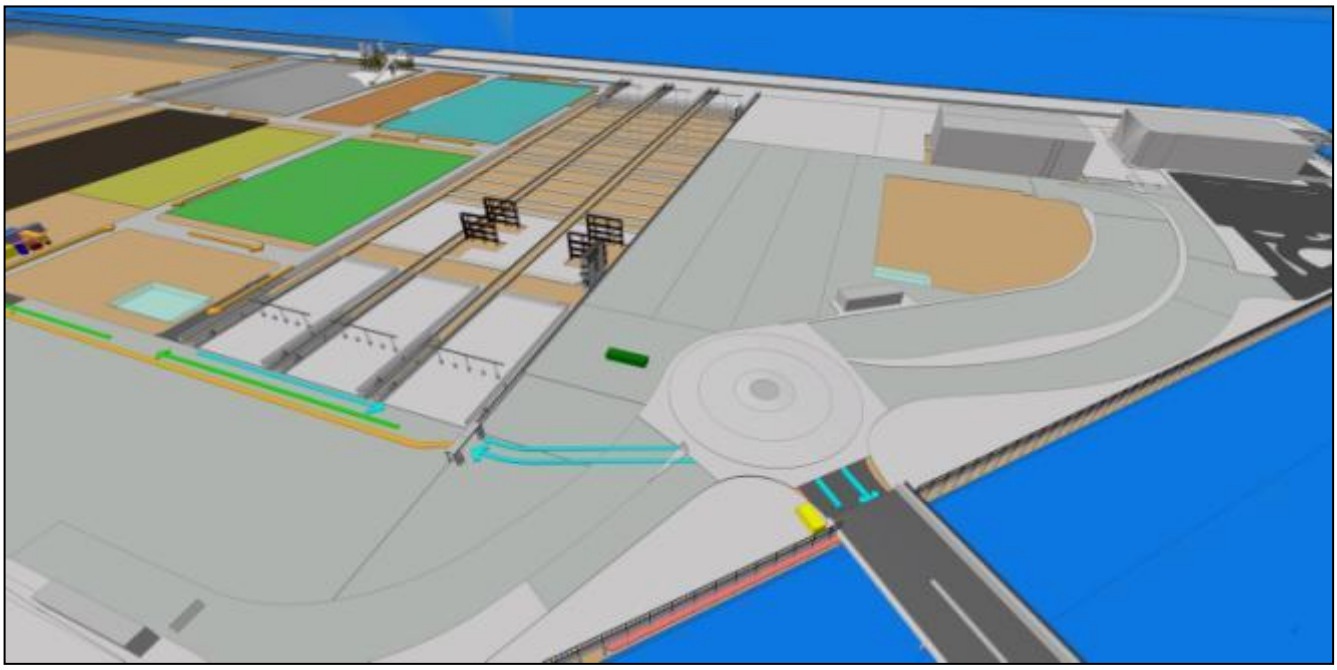
Appendix 4 – July 2013 Terminal 3 Shorebird Observations

Date	Bird Type	Location	Reported by	Action
09/07/13	2 x Pied Oyster Catcher	Penrhyn Estuary adjacent SC14	J Ambler	Birds were within Penrhyn Estuary and outside active worksite and at no risk. No action required.
19/07/13	2 x Pied Oyster Catcher	Penrhyn Estuary adjacent SC14	J Ambler	Birds were within Penrhyn Estuary and outside active worksite and at no risk. No action required.
31/07/13	2 x Pied Oyster Catcher	Penrhyn Estuary adjacent SC15	J Ambler	Birds were within Penrhyn Estuary and outside active worksite and at no risk. No action required.

Sydney Port Botany Terminal 3

Monthly Environmental Monitoring Report

June 2013



Client:	SICTL
Client's Representative:	Mott McDonald
LORA Contract No.:	G52

Controlled Copy no.: 1

Revision History

Rev	Date	Description	Reviewed	INT/Date	Authorised
0	02/07/13	Issue	JA	02/07/13	JA

Contents:

1.0 Introduction 4

1.1 Construction Activities 4

2.0 Dust Monitoring and Air Quality 4

3.0 Noise Monitoring 5

3.1 Day time noise monitoring 5

4.0 Soil and Water Quality Monitoring 5

4.1 Water Monitoring 5

5.0 Shorebird Monitoring 5

6.0 Environmental Inspections and Audits 5

7.0 Appendices 6

Appendix 1 – Dust Monitoring Results 7

Appendix 2 – Noise Monitoring Results 9

Day Monitoring 9

Noise Monitoring Locations 10

Appendix 3 – June 13 Terminal 3 Water Monitoring Results 11

Appendix 4 – June 13 Terminal 3 Shorebird Observations 13

1.0 Introduction

This report provides results for environmental monitoring activities associated with the Terminal 3 expansion at Port Botany for the month of June 2013.

Monitoring has been undertaken for dust, noise, water quality and shorebird observations.

No environmental complaints have been received by Laing O'Rourke this month in regards to the Terminal 3 expansion works.

1.1 Construction Activities

Laing O'Rourke construction activities undertaken for the month of June 2013 included the following:

- Earthworks and ground improvements
- Drainage activities
- Site utilities
- Precast concrete fabrication for utilities and services work
- Concrete batch plant operations
- Concrete paving
- Noise wall construction
- Crane rail installation

2.0 Dust Monitoring and Air Quality

Four dust deposition gauges are installed in the areas surrounding the Port Botany Expansion. Dust deposition results for June 2013 have yet to be received from our laboratory. May 2013 results are reported in Appendix 1.

A real-time dust monitor has been installed at the Botany Golf Club for reporting of PM_{10} particulate matter. Two exceedances of project criteria were observed during June 2013 and discussed below.

The project real-time PM_{10} monitor located at Botany Golf Course returned readings of 56µg/m3 on 10/06/13 and 61.2µg/m3 on 12/06/13, which is in excess of the project daily average criteria of 50µg/m3. It is noted, however, that the first reading occurred on the Queen's Birthday public holiday Monday when no Laing O'Rourke construction work was undertaken on the Terminal 3 site. It is also noted that wind speeds averaged only 5.84km/hr over this period with a maximum of 11.3km/hr, which is considered too low to generate any dust issues from the site. Due to wet weather on 12/06/13, only limited works were undertaken and the site was effectively too wet for dust emissions to affect offsite air quality. It is also noted that wind speeds averaged only 7.23km/hr over this period with a maximum of 19.3km/hr, which is considered too low to generate any dust issues from the site. Laing O'Rourke does not consider the Terminal 3 construction site to have contributed to these results.

Surrounding construction contractors have been contacted regarding the above results, with limited works undertaken due the public holiday and wet weather conditions. It is likely that these results could be generated with lawn and landscaping works undertaken in close proximity to the real-time monitor at Botany Golf Course. No dust or emissions have been observed leaving the Port Botany expansion site and no complaints regarding air quality or dust have been received by the project.

There have been no dust complaints received this month. All results considered representative of the project are within EPA and Project criteria. Dust monitoring results are given in this report and are outlined in Appendix 1.

3.0 Noise Monitoring

Monthly construction noise monitoring was undertaken during June 2013. Noise monitoring locations have been based on noise-sensitive receptors in the project Environmental Impact Statement and approved for the Port Botany Expansion construction activities.

Attended noise measurements were carried out for a period of 15 minutes at each location. During the monitoring event, observations were made on the weather as well as the surrounding noise sources and environment.

3.1 Day time noise monitoring

Noise measurements were undertaken on 6^{h} June 2013. Work activities being undertaken on the Terminal 3 project included ground improvements and earthworks, stormwater drainage and services installation, batch plant operation, paving and material deliveries.

The Interim Construction Noise Guideline (2009, DECCW) sets out management levels for noise at residences and how they are to be applied. This guideline has been used in conjunction with the project Environmental Impact Statement to determine noise goals for the project. Recorded LAeq levels exceeded the noise goals for noise emissions from the Port Botany expansion Project at five locations, however at each monitoring location extraneous, non-project related noises were the dominant noise sources. These noise sources included road traffic, both local and main, and aircraft noise. No Terminal 3 construction activities were audible at any monitoring locations.

It is noted that the intent of the Interim Construction Noise Guideline is to minimise noise impact from the construction works and is only applicable to the contribution of the noise from the Port Botany construction site. At the attended monitoring events, as has been noted on other stages of the Port Botany expansion project, the measured noise levels were controlled and dominated by other extraneous noise sources as listed above.

Noise monitoring results are shown in Appendix 2.

4.0 Soil and Water Quality Monitoring

Physical water parameters required to be monitored are pH, turbidity and visible oil and grease when dewatering activities are undertaken. Other contaminants may be tested for in areas of concern if the presence of contamination is observed.

4.1 Water Monitoring

Water monitoring has been undertaken during June for dewatering activities undertaken during drainage works and headwall installation. All dewatering results have been compliant with the discharge criteria set in the project Environmental Impact Statement. Dewatering results are summarised in Appendix 3.

5.0 Shorebird Monitoring

Shorebird observations from the Terminal 3 site during June 2013 are outlined in Appendix 4. With the shorebird breeding season over, sightings of target shorebirds around the Terminal 3 site have reduced.

6.0 Environmental Inspections and Audits

Weekly environmental inspections have been undertaken during June 2013 for the Terminal 3 project site. Inspections have focused on erosion and sediment controls with high rainfall at the end of the month. No significant environmental issues were observed or identified. Completed inspection sheets may be available on request.

7.0 Appendices

Appendix 1 – Dust Monitoring Results
Appendix 2 – Noise Monitoring Results
Appendix 3 – Water Monitoring Results
Appendix 4 – Terminal 3 Shorebird Observations

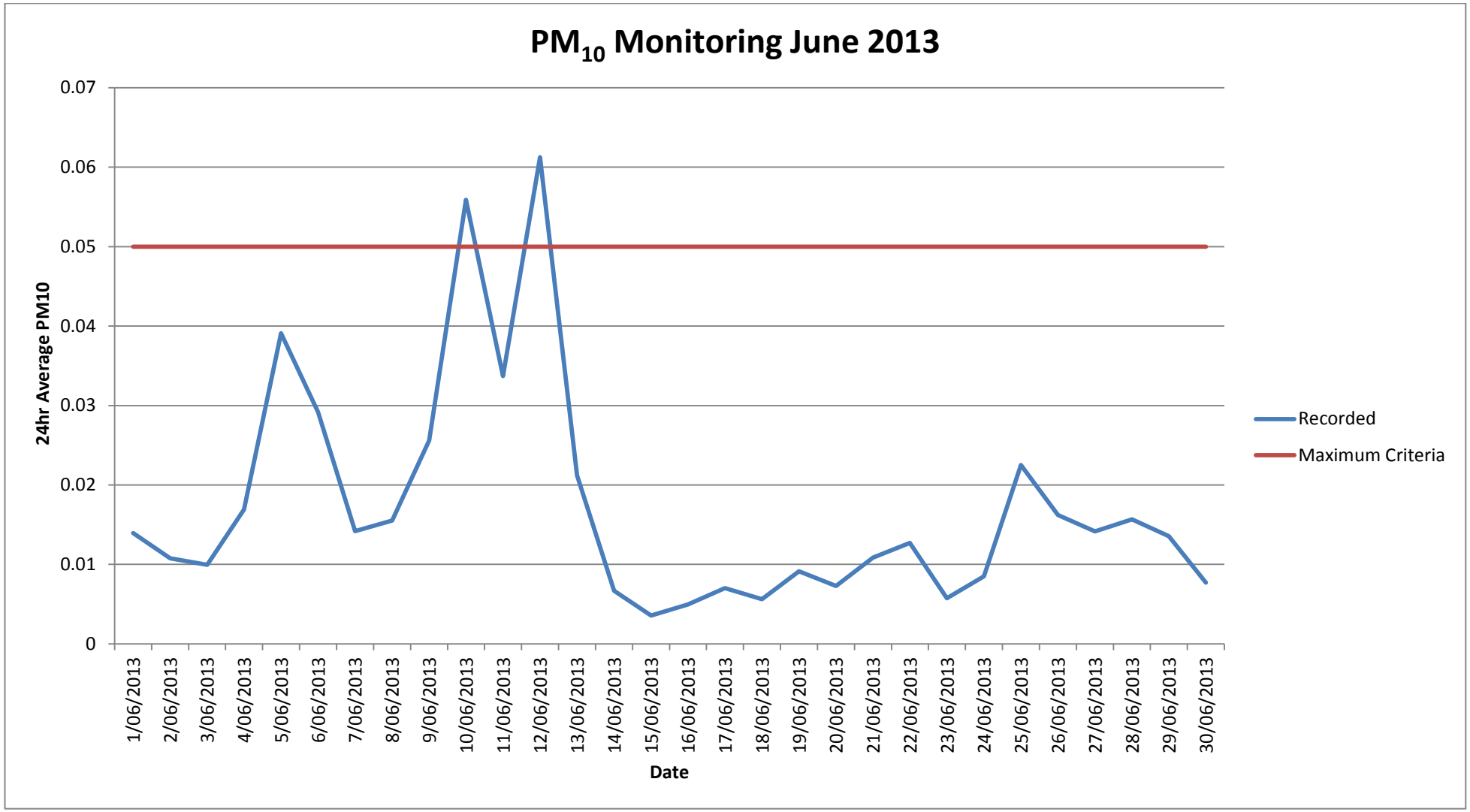
Appendix 1 – Dust Monitoring Results

Dust Deposition Gauge Results - May 2013

No.	Monitoring Location	Ash	Combustible matter	Total Soluble matter	Total Insoluble matter	Total Solids	Sample ID (File Reference)	EPA Guideline (Total Insoluble matter)	Comments (i.e. any exceedances of EPA objectives)	Work Activities / Observations During Monitoring Period
1	Upper Penrhyn Estuary	0.9	0.1	1.0	1.0	2.0	EN1302238-003	4	Within EPA guideline levels	Earthworks Drainage works Deliveries Paving Concrete batch plant Structural works Utilities
2	14 The Esplanade	0.5	<0.1	1.6	0.5	2.1	EN1302238-001	4	Within EPA guideline levels	
3	74 Australia Ave	1.2	0.2	1.1	1.4	2.5	EN1302238-002	4	Within EPA guideline levels	
4	Botany Golf Course	0.4	0.1	0.2	0.5	0.7	EN1302238-004	4	Within EPA guideline levels	

All Units in g/m².month

PM_{10} Monitoring Results – June 2013



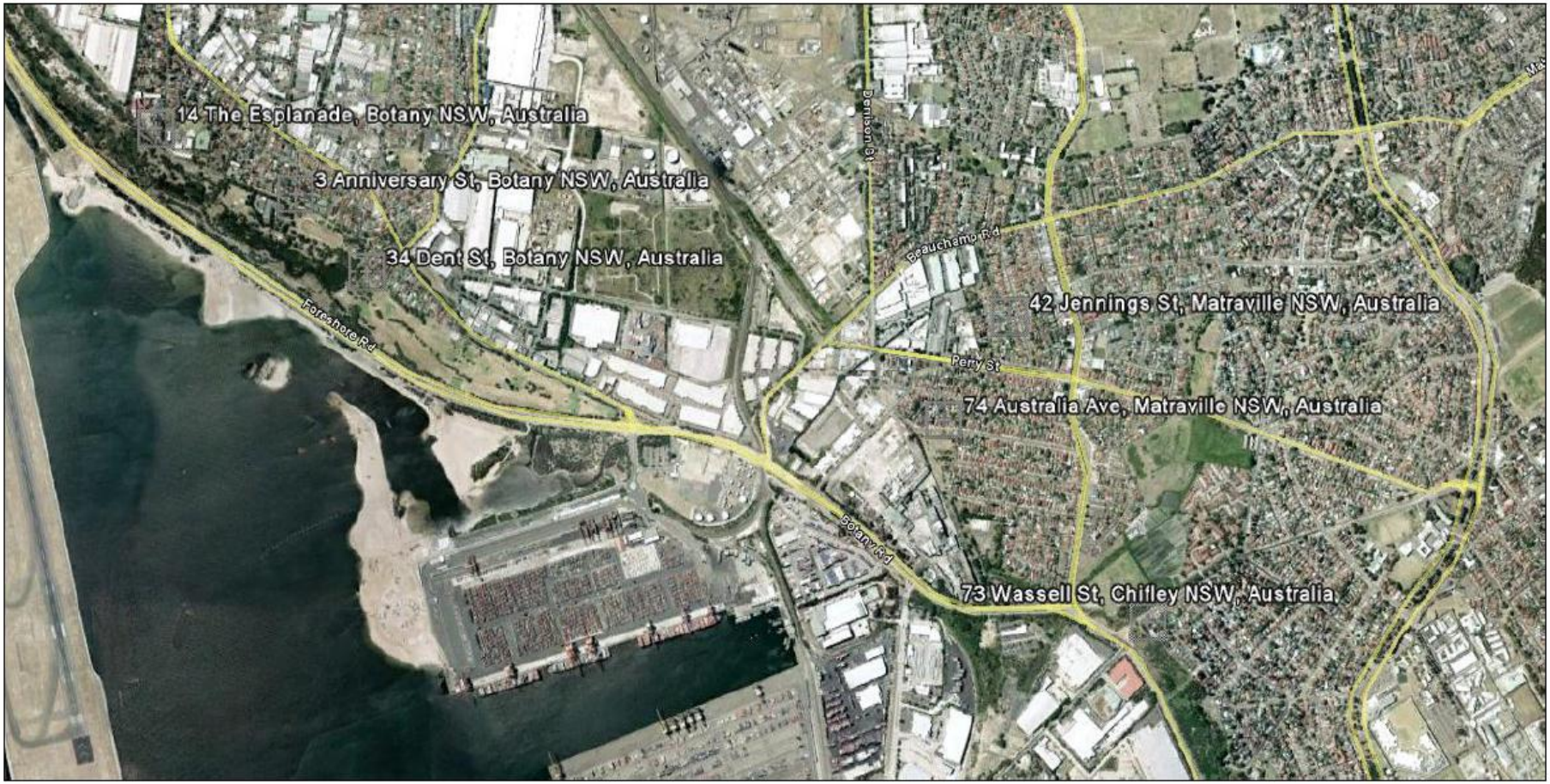
Appendix 2 – Noise Monitoring Results

Day Monitoring

Noise Sensitive Area	Monitoring Location	Date	Time (24hr) & Duration (mins)	Construction Activities	Standard or Out of Hours Works (Day/Evening/Night)	Weather Conditions	In Response to Complaint?	RBL (dBA) - from EIS	Noise Goal[1] (RBL+ 5dBA)	Recorded Noise Level LAeq (15 min) (dBA)	Recorded Noise Level LA1 (dBA)	Recorded Noise Level LA10 (dBA)	Recorded Noise Level L90 (dBA)	Noise Goal Difference (dBA)	Comments
Location 1 - Chelmsford Avenue	14 The Esplanande	6/06/2013	11:00	Ground improvement works Drainage works Material deliveries Batch Plant Pavement Works	Standard Day	Fine	No	49	54	58	66	54	41	4	Noise from Foreshore Rd traffic, aircraft noise, local traffic, walkway noise. Terminal 3 construction inaudible
Location 2 - Dent Street	34 Dent St	6/06/2013	11:55	Ground improvement works Drainage works Material deliveries Batch Plant Pavement Works	Standard Day	Fine	No	47	52	58	67	60	50	6	Local traffic noise, aircraft noise, park noise. Terminal 3 construction inaudible
Location 3 - Jennings Street	42 Jenning St	6/06/2013	12:30	Ground improvement works Drainage works Material deliveries Batch Plant Pavement Works	Standard Day	Fine	No	40	45	64	69	63	51	19	Local traffic noise, aircraft noise. Terminal 3 construction inaudible
Location 4- North of Golf Course	3 Anniversary Rd	6/06/2013	11:25	Ground improvement works Drainage works Material deliveries Batch Plant Pavement Works	Standard Day	Fine	No	57	62	59	66	62	49	-3	Local traffic noise, aircraft noise. Terminal 3 construction inaudible
Location 5- Australia Avenue	74 Australia Ave	6/06/2013	13:35	Ground improvement works Drainage works Material deliveries Batch Plant Pavement Works	Standard Day	Fine	No	42	47	59	67	62	54	12	Local/distant traffic noise, aircraft noise, local industry. Terminal 3 construction inaudible
Location 6- Military Road	73 Wassell St	6/06/2013	13:00	Ground improvement works Drainage works Material deliveries Batch Plant Pavement Works	Standard Day	Fine	No	46	51	53	61	55	50	2	Noise from Bunnerong Rd, Local traffic noise, local industry. Terminal 3 construction inaudible

Note 1: Noise goals are applicable to the noise contribution from the Terminal 3 Port Botany Expansion related construction activities only

Noise Monitoring Locations



Location 1	Location 2	Location 3	Location 4	Location 5	Location 6
14 The Esplanade	34 Dent St	42 Jennings St	3 Anniversary Rd	74 Australia Ave	73 Wassell St

Appendix 3 – June 13 Terminal 3 Water Monitoring Results

Dewatering Location	Date	AM/PM	Meets Criteria	Discharge Location	Oil and Grease (visual)	Horiba Water Monitor	
						pH	Turbidity
SC12a	3/06/2013	AM	Yes	Adjacent Estuary	None	7.63	4.3
SC12a	3/06/2013	PM	Yes	Adjacent Estuary	None	7.62	2.2
SC12a	4/06/2013	AM	Yes	Adjacent Estuary	None	7.65	2.8
SC12a	4/06/2013	PM	Yes	Adjacent Estuary	None	7.58	3.1
SC12a	5/06/2013	AM	Yes	Adjacent Estuary	None	7.67	3.3
SC12a	5/06/2013	PM	Yes	Adjacent Estuary	None	7.61	4.2
SC12a	6/06/2013	AM	Yes	Adjacent Estuary	None	7.73	4.8
SC12a	6/06/2013	PM	Yes	Adjacent Estuary	None	7.64	3.9
SC12a	7/06/2013	AM	Yes	Adjacent Estuary	None	7.45	3.8
SC12a	7/06/2013	PM	Yes	Adjacent Estuary	None	7.66	4.5
SC12a	11/06/2013	AM	Yes	Adjacent Estuary	None	7.43	5.1
SC12a	11/06/2013	PM	Yes	Adjacent Estuary	None	7.5	4.0
SC12a	12/06/2013	AM	Yes	Adjacent Estuary	None	7.54	4.7
SC12a	12/06/2013	PM	Yes	Adjacent Estuary	None	7.55	5.3
SC12a	13/06/2013	AM	Yes	Adjacent Estuary	None	7.48	1.2
SC12a	13/06/2013	PM	Yes	Adjacent Estuary	None	7.52	0.4
SC12a	14/06/2013	AM	Yes	Adjacent Estuary	None	7.55	1.9
SC12a	14/06/2013	PM	Yes	Adjacent Estuary	None	7.58	1.1
SC12a	17/06/2013	AM	Yes	Adjacent Estuary	None	7.56	1.7
SC12a	17/06/2013	PM	Yes	Adjacent Estuary	None	7.86	1.8
SC12a	18/06/2013	AM	Yes	Adjacent Estuary	None	8.21	3.4
SC12a	18/06/2013	PM	Yes	Adjacent Estuary	None	7.89	8.1
SC12a	19/06/2013	AM	Yes	Adjacent Estuary	None	7.60	2.1
Estuary	3/06/2013	AM	N/A	N/A	None	7.63	2.3
Estuary	11/06/2013	AM	N/A	N/A	None	7.59	2.0
Estuary	18/06/2013	PM	N/A	N/A	None	7.96	2.4
SC13	13/06/2013	AM	Yes	Adjacent Bay	None	7.59	5.4
SC13	13/06/2013	PM	Yes	Adjacent Bay	None	7.50	5.6
SC13	14/06/2013	AM	Yes	Adjacent Bay	None	7.56	5.3
SC13	14/06/2013	PM	Yes	Adjacent Bay	None	7.60	5.8
SC13	17/06/2013	AM	Yes	Adjacent Bay	None	7.62	6.1
SC13	17/06/2013	PM	Yes	Adjacent Bay	None	7.63	6.3
SC13	18/06/2013	AM	Yes	Adjacent Bay	None	7.56	2.6
SC13	18/06/2013	PM	Yes	Adjacent Bay	None	7.45	2.8
SC13	19/06/2013	AM	Yes	Adjacent Bay	None	7.49	3.2
SC13	19/06/2013	PM	Yes	Adjacent Bay	None	7.48	2.9
SC13	20/06/2013	AM	Yes	Adjacent Bay	None	7.53	2.1
SC13	20/06/2013	PM	Yes	Adjacent Bay	None	7.52	2.9
SC13	21/06/2013	AM	Yes	Adjacent Bay	None	7.64	3.4
SC13	21/06/2013	PM	Yes	Adjacent Bay	None	7.48	3.8
SC13	24/06/2013	AM	Yes	Adjacent Bay	None	7.01	4.2
SC13	24/06/2013	PM	Yes	Adjacent Bay	None	7.43	3.6
SC13	25/06/2013	AM	Yes	Adjacent Bay	None	7.38	3.0
SC13	25/06/2013	PM	Yes	Adjacent Bay	None	7.42	3.8
SC13	26/06/2013	AM	Yes	Adjacent Bay	None	7.64	4.2

SC13	26/06/2013	PM	Yes	Adjacent Bay	None	7.91	5.6
SC13	27/06/2013	AM	Yes	Adjacent Bay	None	7.88	4.8
SC13	27/06/2013	PM	Yes	Adjacent Bay	None	7.70	5.1
SC13	28/06/2013	AM	Yes	Adjacent Bay	None	7.71	6.9
SC13	28/06/2013	PM	Yes	Adjacent Bay	None	7.34	6.3
Bay	13/06/2013	AM	N/A	N/A	None	7.54	5.6
Bay	18/06/2013	AM	N/A	N/A	None	7.62	4.8
Bay	24/06/2013	AM	N/A	N/A	None	7.65	4.6
SC6 - SQID	24/06/2013	AM	Yes	Adjacent Bay	None	7.62	19.6
Bay	24/06/2013	AM	N/A	N/A	None	7.83	10.1
SC8	27/06/2013	AM	Yes	Adjacent Estuary	None	8.01	6.8
SC8	27/06/2013	PM	Yes	Adjacent Estuary	None	8.02	6.6
SC8	28/06/2013	AM	Yes	Adjacent Estuary	None	7.86	9.1
SC8	28/06/2013	PM	Yes	Adjacent Estuary	None	7.89	8.6
Estuary	27/06/2013	AM	N/A	N/A	None	7.64	3.8

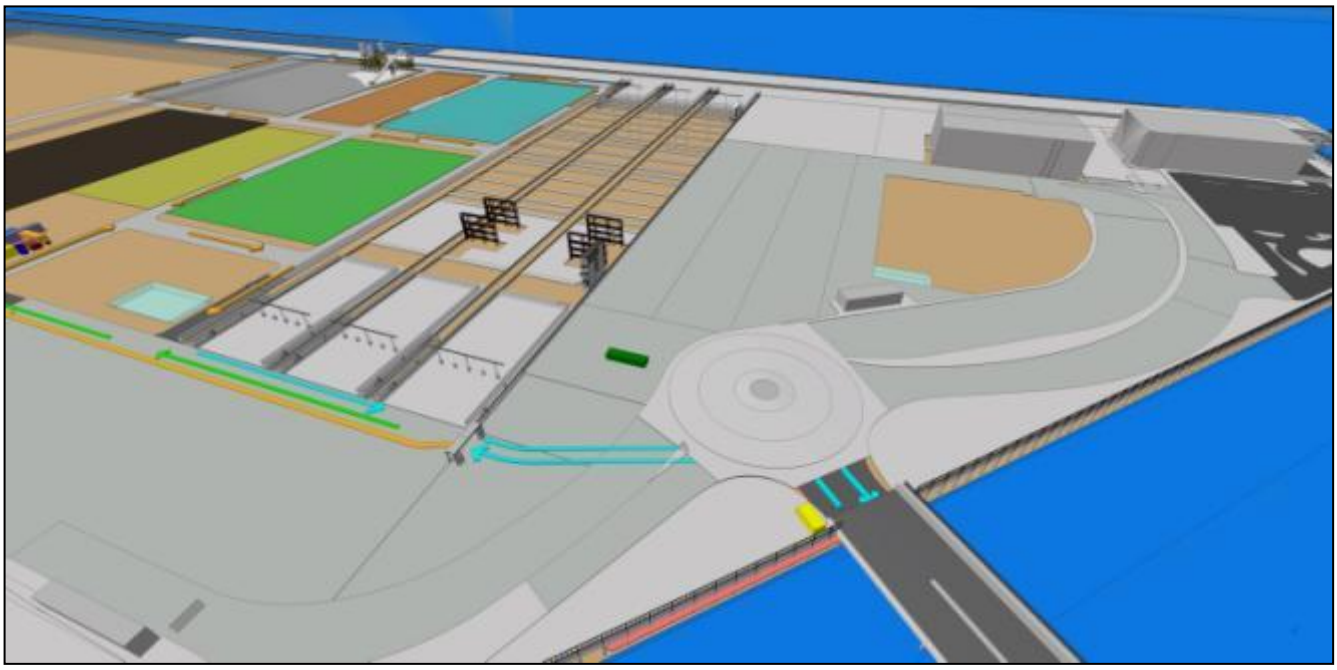
Appendix 4 – June 13 Terminal 3 Shorebird Observations

Date	Bird Type	Location	Reported by	Action
3/06/2013	2 x Pied Oyster Catcher	Penrhyn Estuary adjacent SC12	J Ambler	Birds were within Penrhyn Estuary and outside active worksite and at no risk. No action required.
4/06/2013	2 x Pied Oyster Catcher	Penrhyn Estuary adjacent SC12	J Ambler	Birds were within Penrhyn Estuary and outside active worksite and at no risk. No action required.
5/06/2013	2 x Pied Oyster Catcher	Penrhyn Estuary adjacent SC12	J Ambler	Birds were within Penrhyn Estuary and outside active worksite and at no risk. No action required.
12/06/2013	1 x Bar Tailed Godwit	Upper Estuary – adjacent SC15	J Ambler	Birds were within Penrhyn Estuary and outside active worksite and at no risk. No action required.

Sydney Port Botany Terminal 3

Monthly Environmental Monitoring Report

May 2013



Client:	SICTL
Client's Representative:	Mott McDonald
LORA Contract No.:	G52

Controlled Copy no.: 1

Revision History

Rev	Date	Description	Reviewed	INT/Date	Authorised
0	01/06/13	Issue	JA	01/06/13	JA

Contents:

1.0 Introduction 4

1.1 Construction Activities 4

2.0 Dust Monitoring and Air Quality 4

3.0 Noise Monitoring 4

3.1 Day time noise monitoring 4

4.0 Soil and Water Quality Monitoring 5

4.1 Water Monitoring 5

5.0 Shorebird Monitoring 5

6.0 Environmental Inspections and Audits 5

7.0 Appendices 6

Appendix 1 – Dust Monitoring Results 7

Appendix 2 – Noise Monitoring Results 9

Day Monitoring 9

Noise Monitoring Locations 10

Appendix 3 – May 13 Terminal 3 Water Monitoring Results 11

Appendix 4 – Terminal 3 Shorebird Observations May 2013 13

1.0 Introduction

This report provides results for environmental monitoring activities associated with the Terminal 3 expansion at Port Botany for the month of May 2013.

Monitoring has been undertaken for dust, noise, water quality and shorebird observations.

No environmental complaints have been received by Laing O'Rourke this month in regards to the Terminal 3 expansion works.

1.1 Construction Activities

Construction activities undertaken for the month of May 2013 included the following:

- Earthworks and ground improvements
- Drainage activities
- Site utilities
- Precast concrete fabrication for utilities and services work
- Electrical substation construction
- Continuous Flight Augur (CFA) piling for the stacking crane rail beams and noise walls
- Concrete batch plant operations
- Concrete paving

2.0 Dust Monitoring and Air Quality

Four dust deposition gauges are installed in the areas surrounding the Port Botany Expansion. Dust deposition results for May 2013 have yet to be received from our laboratory. April 2013 results are reported in Appendix 1. A real-time dust monitor has been installed at the Botany Golf Club for reporting of PM_{10} particulate matter. No exceedances of project or EPA criteria have been observed during May 2013. Dust monitoring results are given in this report and are outlined in Appendix 1.

There have been no dust complaints received this month. All results are within EPA and Project criteria.

3.0 Noise Monitoring

Monthly construction noise monitoring was undertaken during May 2013. Noise monitoring locations have been based on noise-sensitive receptors in the project Environmental Impact Statement and approved for the Port Botany Expansion construction activities.

Attended noise measurements were carried out for a period of 15 minutes at each location. During the monitoring event, observations were made on the weather as well as the surrounding noise sources and environment.

3.1 Day time noise monitoring

Noise measurements were undertaken on 9th May 2013. Work activities being undertaken on the Terminal 3 project included ground improvements and earthworks, stormwater drainage and services installation, batch plant operation, paving and material deliveries.

The Interim Construction Noise Guideline (2009, DECCW) sets out management levels for noise at residences and how they are to be applied. This guideline has been used in conjunction with the project Environmental Impact Statement to determine noise goals for the project. Recorded LAeq levels exceeded the noise goals for noise emissions from the Port Botany expansion Project at three locations, however at each monitoring location extraneous, non-project related noises were the dominant noise sources. These noise sources included road traffic, both local and main, and aircraft noise. No Terminal 3 construction activities were audible at any monitoring locations.

It is noted that the intent of the Interim Construction Noise Guideline is to minimise noise impact from the construction works and is only applicable to the contribution of the noise from the Port Botany construction site. At the attended monitoring events, as has been noted on other stages of the Port Botany expansion project, the measured noise levels were controlled and dominated by other extraneous noise sources as listed above.

Day-time noise monitoring results are shown in Appendix 2.

4.0 Soil and Water Quality Monitoring

Physical water parameters required to be monitored are pH, turbidity and visible oil and grease when dewatering activities are undertaken. Other contaminants may be tested for in areas of concern if the presence of contamination is observed.

4.1 Water Monitoring

Water monitoring has been undertaken during May for dewatering activities undertaken during drainage works and headwall installation. All dewatering results have been compliant with the discharge criteria set in the project Environmental Impact Statement. Dewatering results are summarised in Appendix 3.

5.0 Shorebird Monitoring

Shorebird observations from the Terminal 3 site during May 2013 are outlined in Appendix 4. With the shorebird breeding season over, sightings of target shorebirds around the Terminal 3 site have reduced.

6.0 Environmental Inspections and Audits

Weekly environmental inspections have been undertaken during May 2013 for the Terminal 3 project site. Inspections have focused on erosion and sediment controls with high rainfall at the end of the month. No significant environmental issues were observed or identified. Completed inspection sheets may be available on request.

7.0 Appendices

Appendix 1 – Dust Monitoring Results
Appendix 2 – Noise Monitoring Results
Appendix 3 – Water Monitoring Results
Appendix 4 – Terminal 3 Shorebird Observations

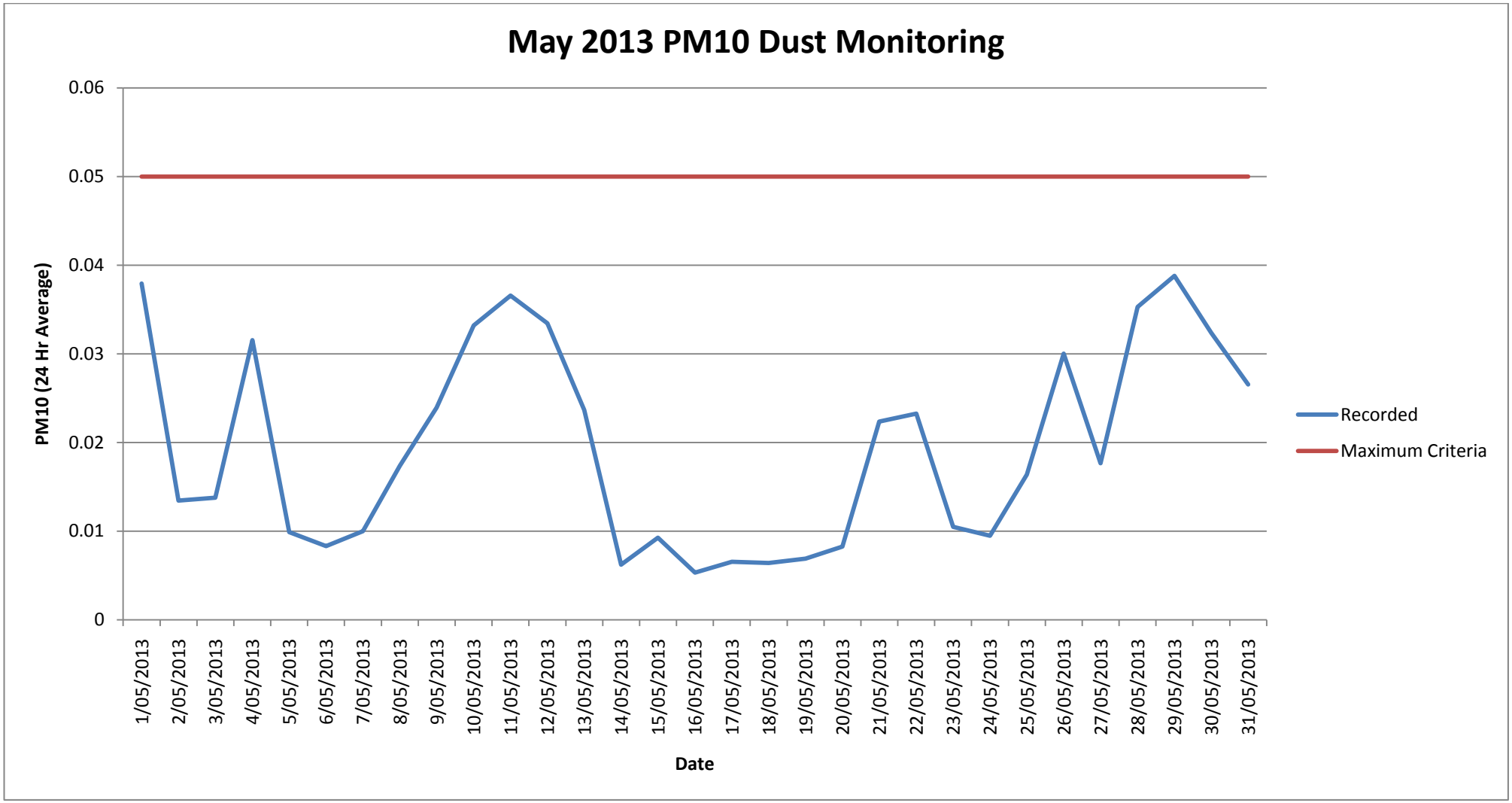
Appendix 1 – Dust Monitoring Results

Dust Deposition Gauge Results - April 2013

No.	Monitoring Location	Ash	Combustible matter	Total Soluble matter	Total Insoluble matter	Total Solids	Sample ID (File Reference)	EPA Guideline (Total Insoluble matter)	Comments (i.e. any exceedances of EPA objectives)	Work Activities / Observations During Monitoring Period
1	Upper Penrhyn Estuary	0.6	0.2	1.0	0.8	1.8	EN1301784-003	4	Within EPA guideline levels	Earthworks Drainage works Deliveries Paving Concrete batch plant Structural works Utilities
2	14 The Esplanade	0.3	0.1	0.8	0.4	1.2	EN1301784-001	4	Within EPA guideline levels	
3	74 Australia Ave	1.0	0.3	0.6	1.3	1.9	EN1301784-002	4	Within EPA guideline levels	
4	Botany Golf Course	0.6	0.3	1.0	0.9	1.9	EN1301784-004	4	Within EPA guideline levels	

All Units in g/m².month

PM_{10} Monitoring Results – May 2013



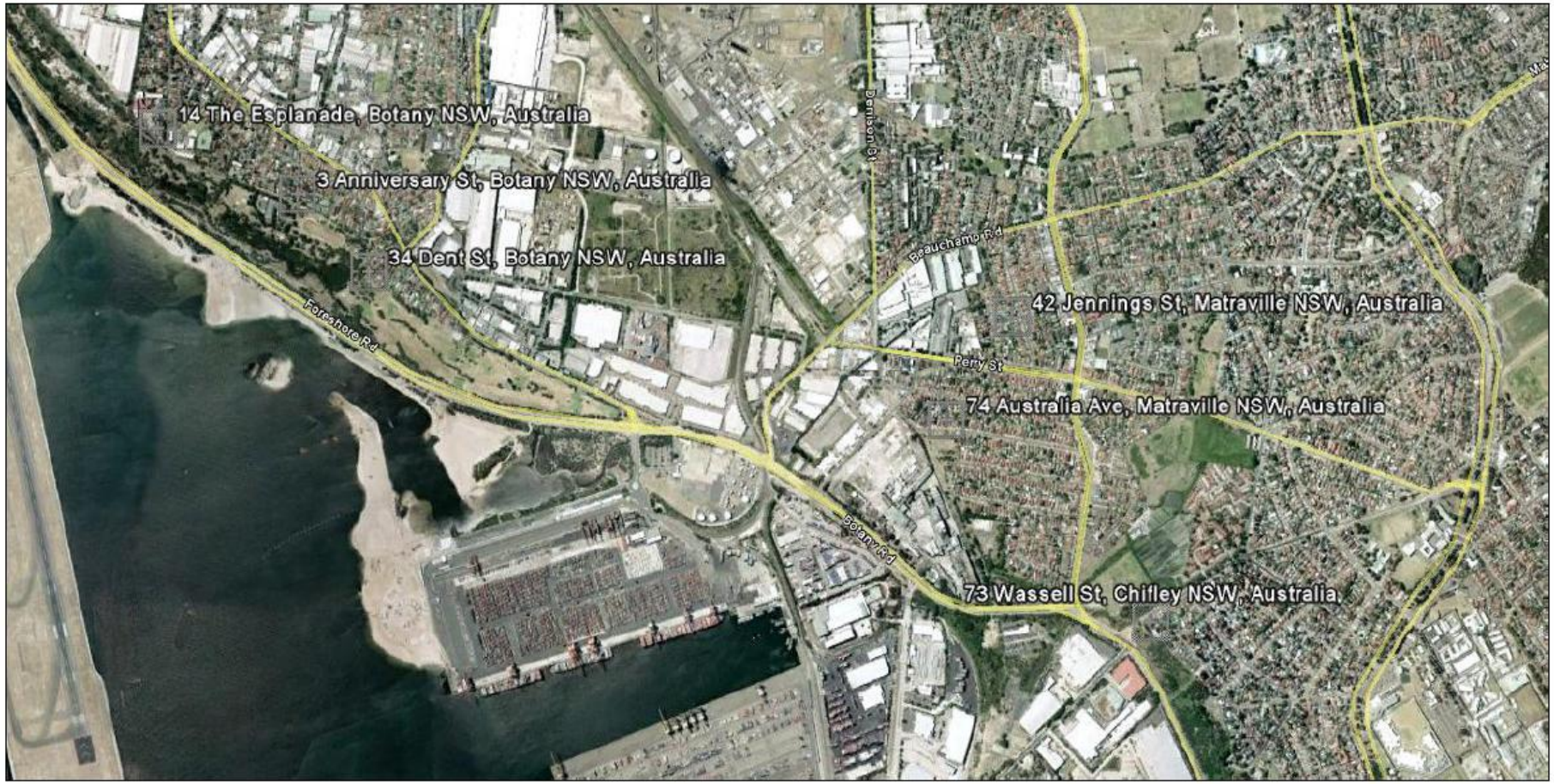
Appendix 2 – Noise Monitoring Results

Day Monitoring

Noise Sensitive Area	Monitoring Location	Date	Time (24hr) & Duration (mins)	Construction Activities	Standard or Out of Hours Works (Day/Evening/Night)	Weather Conditions	In Response to Complaint?	RBL (dBA) - from EIS	Noise Goal[1] (RBL+ 5dBA)	Recorded Noise Level LAeq (15 min) (dBA)	Recorded Noise Level LA1 (dBA)	Recorded Noise Level LA10 (dBA)	Recorded Noise Level L90 (dBA)	Noise Goal Difference (dBA)	Comments
Location 1 - Chelmsford Avenue	14 The Esplanande	9/05/2013	11:00	Ground improvement works Drainage works Material deliveries CFA Piling Works Batch Plant Pavement Works	Standard Day	Fine	No	49	54	49	54	51	46	-5	Noise from Foreshore Rd traffic, aircraft noise, local traffic, park noise. Terminal 3 construction inaudible
Location 2 - Dent Street	34 Dent St	9/05/2013	11:55	Ground improvement works Drainage works Material deliveries CFA Piling Works Batch Plant	Standard Day	Fine	No	47	52	53	61	56	48	1	Local traffic noise, aircraft noise, park noise. Terminal 3 construction inaudible
Location 3 - Jennings Street	42 Jenning St	9/05/2013	12:30	Ground improvement works Drainage works Material deliveries CFA Piling Works Batch Plant	Standard Day	Fine	No	40	45	63	74	66	48	18	Local traffic noise, aircraft noise. Terminal 3 construction inaudible
Location 4- North of Golf Course	3 Anniversary Rd	9/05/2013	11:25	Ground improvement works Drainage works Material deliveries CFA Piling Works Batch Plant	Standard Day	Fine	No	57	62	49	53	51	47	-13	Local traffic noise, aircraft noise. Terminal 3 construction inaudible
Location 5- Australia Avenue	74 Australia Ave	9/05/2013	13:35	Ground improvement works Drainage works Material deliveries CFA Piling Works Batch Plant	Standard Day	Fine	No	42	47	51	63	54	43	4	Local/distant traffic noise, aircraft noise, local industry. Terminal 3 construction inaudible
Location 6- Military Road	73 Wassell St	9/05/2013	13:00	Ground improvement works Drainage works Material deliveries CFA Piling Works Batch Plant	Standard Day	Fine	No	46	51	51	58	53	47	0	Noise from Bunnerong Rd, Local traffic noise, local industry. Terminal 3 construction inaudible

Note 1: Noise goals are applicable to the noise contribution from the Terminal 3 Port Botany Expansion related construction activities only

Noise Monitoring Locations



Location 1	Location 2	Location 3	Location 4	Location 5	Location 6
14 The Esplanade	34 Dent St	42 Jennings St	3 Anniversary Rd	74 Australia Ave	73 Wassell St

Appendix 3 – May 13 Terminal 3 Water Monitoring Results

Dewatering Location	Date	AM/PM	Meets Criteria	Discharge Location	Oil and Grease (visual)	Horiba Water Monitor	
						pH	Turbidity
SC12 - SQID	1/05/2013	AM	Yes	Adjacent Estuary	None	7.27	2.4
SC12 - SQID	1/05/2013	PM	Yes	Adjacent Estuary	None	7.25	2.6
SC12 - SQID	2/05/2013	AM	Yes	Adjacent Estuary	None	7.42	4.2
SC12 - SQID	2/05/2013	PM	Yes	Adjacent Estuary	None	7.32	4.8
SC12 - SQID	3/05/2013	AM	Yes	Adjacent Estuary	None	7.52	3.4
SC12 - SQID	3/05/2013	PM	Yes	Adjacent Estuary	None	7.24	3.2
SC12 - SQID	6/05/2013	AM	Yes	Adjacent Estuary	None	7.22	6.2
SC12 - SQID	6/05/2013	PM	Yes	Adjacent Estuary	None	7.32	4.3
SC12 - SQID	7/05/2013	AM	Yes	Adjacent Estuary	None	7.54	4.4
SC12 - SQID	7/05/2013	PM	Yes	Adjacent Estuary	None	7.43	6.4
SC12 - SQID	8/05/2013	AM	Yes	Adjacent Estuary	None	7.16	2.3
SC12 - SQID	8/05/2013	PM	Yes	Adjacent Estuary	None	7.52	2.1
SC12 - SQID	9/05/2013	AM	Yes	Adjacent Estuary	None	7.52	8.4
SC12 - SQID	9/05/2013	PM	Yes	Adjacent Estuary	None	7.65	5.4
SC12 - SQID	10/05/2013	AM	Yes	Adjacent Estuary	None	7.58	6.6
SC12 - SQID	10/05/2013	PM	Yes	Adjacent Estuary	None	7.54	2.4
SC12 - SQID	13/05/2013	AM	Yes	Adjacent Estuary	None	7.38	4.5
SC12 - SQID	13/05/2013	PM	Yes	Adjacent Estuary	None	7.36	6.6
SC12 - SQID	14/05/2013	AM	Yes	Adjacent Estuary	None	7.42	5.4
SC12 - SQID	14/05/2013	PM	Yes	Adjacent Estuary	None	7.40	5.2
SC12 - SQID	15/05/2013	AM	Yes	Adjacent Estuary	None	7.38	4.9
Estuary	1/05/2013	PM	N/A	N/A	No	7.69	1.6
Estuary	8/05/2013	PM	N/A	N/A	No	7.73	1.2
SC12a	14/05/2013	AM	Yes	Adjacent Estuary	None	7.35	4.8
SC12a	14/05/2013	PM	Yes	Adjacent Estuary	None	7.26	6.1
SC12a	15/05/2013	AM	Yes	Adjacent Estuary	None	7.31	8.3
SC12a	15/05/2013	PM	Yes	Adjacent Estuary	None	7.56	0.6
SC12a	16/05/2013	AM	Yes	Adjacent Estuary	None	7.63	0.3
SC12a	16/05/2013	PM	Yes	Adjacent Estuary	None	7.56	0.5
SC12a	17/05/2013	AM	Yes	Adjacent Estuary	None	7.68	1.4
SC12a	17/05/2013	PM	Yes	Adjacent Estuary	None	7.62	1.8
SC12a	20/05/2013	AM	Yes	Adjacent Estuary	None	7.54	3.5
SC12a	20/05/2013	PM	Yes	Adjacent Estuary	None	7.55	2.2
SC12a	21/05/2013	AM	Yes	Adjacent Estuary	None	7.6	6.6
SC12a	21/05/2013	PM	Yes	Adjacent Estuary	None	7.47	4.3
SC12a	22/05/2013	AM	Yes	Adjacent Estuary	None	7.62	4.6
SC12a	22/05/2013	PM	Yes	Adjacent Estuary	None	7.61	4.2
SC12a	23/05/2013	AM	Yes	Adjacent Estuary	None	7.58	3.9
SC12a	23/05/2013	PM	Yes	Adjacent Estuary	None	7.63	6.3
SC12a	24/05/2013	AM	Yes	Adjacent Estuary	None	7.59	5.1
SC12a	24/05/2013	PM	Yes	Adjacent Estuary	None	7.48	4.8
SC12a	27/05/2013	AM	Yes	Adjacent Estuary	None	7.46	5.2
SC12a	27/05/2013	PM	Yes	Adjacent Estuary	None	7.65	3.1
SC12a	28/05/2013	AM	Yes	Adjacent Estuary	None	7.63	8.2
SC12a	28/05/2013	PM	Yes	Adjacent Estuary	None	7.63	0.5

SC12a	29/05/2013	AM	Yes	Adjacent Estuary	None	7.61	1.2
SC12a	29/05/2013	PM	Yes	Adjacent Estuary	None	7.53	2.3
SC12a	30/05/2013	AM	Yes	Adjacent Estuary	None	7.56	1.8
SC12a	30/05/2013	PM	Yes	Adjacent Estuary	None	7.61	0.4
SC12a	31/05/2013	AM	Yes	Adjacent Estuary	None	7.59	0.3
SC12a	31/05/2013	PM	Yes	Adjacent Estuary	None	7.58	1.3
Estuary	15/05/2013	PM	N/A	N/A	No	7.78	0.4
Estuary	22/05/2013	AM	N/A	N/A	No	7.76	0.6
Estuary	29/05/2013	AM	N/A	N/A	No	7.72	1.2

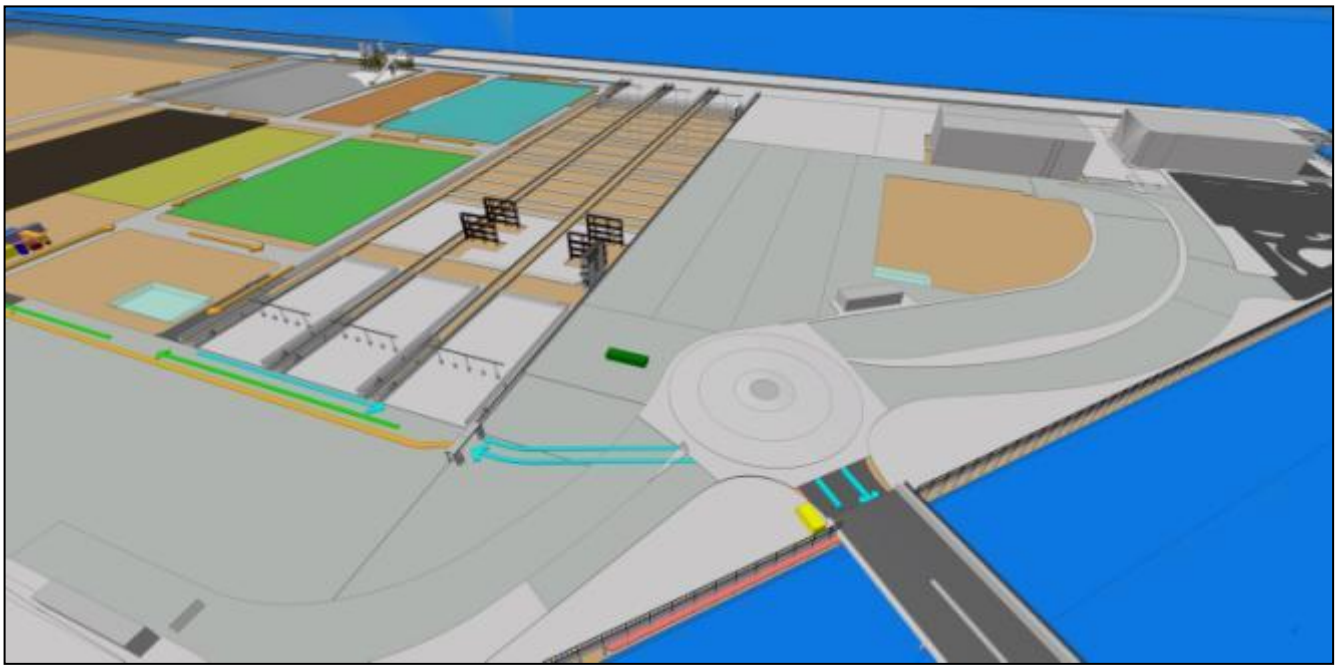
Appendix 4 – Terminal 3 Shorebird Observations May 2013

Date	Bird Type	Location	Reported by	Action
10/05/2013	4 x Red Capped Plover	Future Phase Area 3A	J Ambler	Birds were outside active worksite and at no risk. No action required.
29/05/2013	1 x Bar Tailed Godwit	Upper Estuary adjacent SC15	J Ambler	Birds were outside active worksite and at no risk. No action required.

Sydney Port Botany Terminal 3

Monthly Environmental Monitoring Report

April 2013



Client:	SICTL
Client's Representative:	Mott McDonald
LORA Contract No.:	G52

Controlled Copy no.: 1

Revision History

Rev	Date	Description	Reviewed	INT/Date	Authorised
0	02/05/13	Issue	JA	02/05/13	JA

Contents:

1.0 Introduction 4

1.1 Construction Activities 4

2.0 Dust Monitoring and Air Quality 4

3.0 Noise Monitoring 4

3.1 Day time noise monitoring 4

3.2 Night time noise monitoring 5

4.0 Soil and Water Quality Monitoring 5

4.1 Water Monitoring 5

5.0 Shorebird Monitoring 5

6.0 Environmental Inspections and Audits 5

7.0 Appendices 6

Appendix 1 – Dust Monitoring Results 7

Appendix 2 –Noise Monitoring Results 9

Day Monitoring 9

Night Monitoring 10

Noise Monitoring Locations 11

Appendix 3 – April 13 Water Monitoring Results 12

Appendix 4 – Terminal 3 Shorebird Observations 13

1.0 Introduction

This report provides results for environmental monitoring activities associated with the Terminal 3 expansion at Port Botany for the month of April 2013.

Monitoring has been undertaken for dust, noise, water quality and Shore bird observations.

No environmental complaints have been received this month in regards to the Terminal 3 expansion works.

1.1 Construction Activities

Construction activities undertaken for the month of April 2013 included the following:

- Earthworks and ground improvements
- Drainage activities
- Site utilities
- Precast concrete fabrication for utilities and services work
- Electrical substation construction
- Continuous Flight Augur piling for the stacking crane rail beams and noise walls
- Concrete batch plant operations
- Concrete paving

2.0 Dust Monitoring and Air Quality

Three dust deposition gauges are installed in the areas surrounding the Port Botany Expansion. Dust deposition results for April 2013 have yet to be received from our laboratory. March 2013 results are reported in Appendix 1. A real-time dust monitor has been installed at the Botany Golf Club for reporting of PM_{10} particulate matter. No exceedances of project or EPA criteria have been observed during April 2013. Dust monitoring results are given in this report and are outlined in Appendix 1.

There have been no dust complaints received this month. All results are within EPA and Project criteria.

3.0 Noise Monitoring

Monthly construction noise monitoring was undertaken during April 2013. Noise monitoring locations have been based on noise-sensitive receptors in the project Environmental Impact Statement and approved for the Port Botany Expansion construction activities.

Attended noise measurements were carried out for a period of 15 minutes at each location. During the monitoring event, observations were made on the weather as well as the surrounding noise sources and environment.

3.1 Day time noise monitoring

Noise measurements were undertaken on 26th April 2013. Work activities being undertaken on the Terminal 3 project included ground improvements and earthworks, stormwater drainage installation, CFA piling operations, batch plant operation, paving and material deliveries.

The Interim Construction Noise Guideline (2009, DECCW) sets out management levels for noise at residences and how they are to be applied. This guideline has been used in conjunction with the project Environmental Impact Statement to determine noise goals for the project. Recorded LAeq levels exceeded the noise goals for noise emissions from the Port Botany expansion Project at four locations, however at each monitoring location extraneous, non-project related noises were the dominant noise sources. These noise sources included road traffic, both local and main, and aircraft noise. No Terminal 3 construction activities were audible at any monitoring locations.

It is noted that the intent of the Interim Construction Noise Guideline is to minimise noise impact from the construction works and is only applicable to the contribution of the noise from the Port Botany construction site. At the attended monitoring events, as has been noted on other stages of the Port Botany expansion project, the measured noise levels were controlled and dominated by other extraneous noise sources as listed above.

Day-time noise monitoring results are shown in Appendix 2.

3.2 Night time noise monitoring

Night time noise monitoring has been undertaken for concrete batching and pavement works. Conditional approval was granted by Department of Planning and Infrastructure to undertake these works outside of the standard construction hours for the site. Attended audibility trials for certain activities outside of standard construction hours have been undertaken in previous months and night time monitoring results during April have shown that concrete batching and paving works were deemed inaudible at the closest residential locations to the Terminal 3 construction site. Activities undertaken during this monitoring event included:

- Concrete batch plant operation.
- Concrete agitator trucks driving between pour location and batch plant.
- Vibrating screed used at the pour site.
- Vibrating pokers used at the pour site.
- Rail grinding works in SC11.
- Grading and rolling works on SC2 landside.
- Excavation of the ground and loading of moxy's in SC11 / SC4.

Night-time noise monitoring results are shown in Appendix 2.

4.0 Soil and Water Quality Monitoring

Physical water parameters required to be monitored are pH, turbidity and visible oil and grease when dewatering activities are undertaken. Other contaminants may be tested for in areas of concern if the presence of contamination is observed.

4.1 Water Monitoring

Water monitoring has been undertaken during April for dewatering activities undertaken during drainage works. All dewatering results have been compliant with the discharge criteria set in the project Environmental Impact Statement. Dewatering results are summarised in Appendix 3.

5.0 Shorebird Monitoring

Shorebird observations from the Terminal 3 site during April 2013 are outlined in Appendix 4. With the shorebird breeding season over, sightings of shorebirds around the Terminal 3 site have reduced.

6.0 Environmental Inspections and Audits

Weekly environmental inspections have been undertaken during April 2013 for the Terminal 3 project site. No significant environmental issues were observed or identified. Completed inspection sheets may be available on request.

7.0 Appendices

Appendix 1 – Dust Monitoring Results
Appendix 2 – Noise Monitoring Results
Appendix 3 – Water Monitoring Results
Appendix 4 – Terminal 3 Shorebird Observations

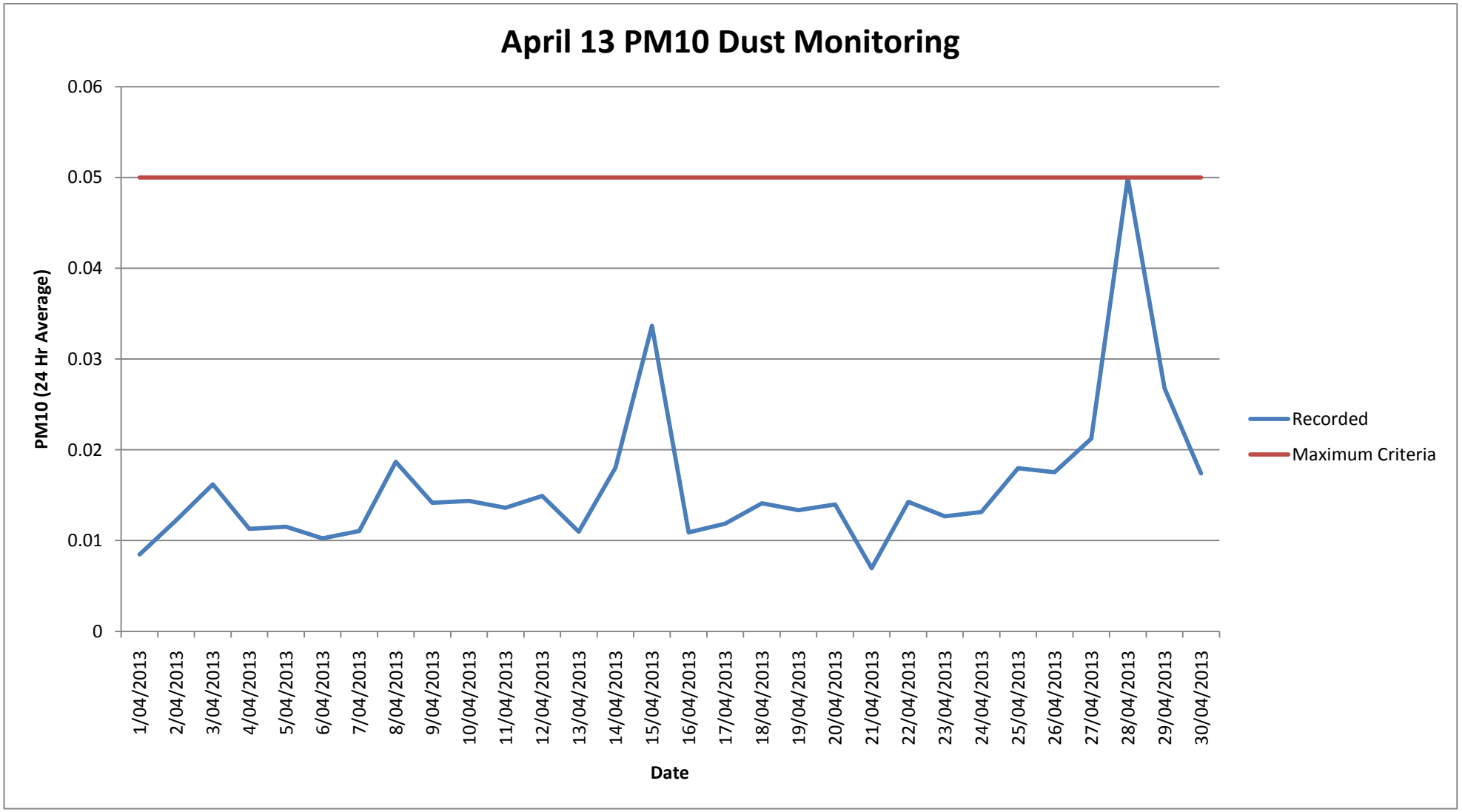
Appendix 1 – Dust Monitoring Results

Dust Deposition Gauge Results - April 2013

No.	Monitoring Location	Ash	Combustible matter	Total Soluble matter	Total Insoluble matter	Total Solids	Sample ID (File Reference)	EPA Guideline (Total Insoluble matter)	Comments (i.e. any exceedances of EPA objectives)	Work Activities / Observations During Monitoring Period
1	Upper Penrhyn Estuary	0.8	0.4	2.3	1.2	3.5	EN1301439-003	4	Within EPA guideline levels	Earthworks Drainage works Deliveries Paving Concrete batch plant CFA piling Structural works
2	14 The Esplanade	0.5	0.4	0.6	0.9	1.5	EN1301439-001	4	Within EPA guideline levels	
3	74 Australia Ave	0.8	0.5	1.8	1.3	3.1	EN1301439-002	4	Within EPA guideline levels	

All Units in g/m².month

PM_{10} Monitoring Results – April 2013



Appendix 2 –Noise Monitoring Results

Day Monitoring

Noise Sensitive Area	Monitoring Location	Date	Time (24hr) & Duration (mins)	Construction Activities	Standard or Out of Hours Works (Day/Evening/Night)	Weather Conditions	In Response to Complaint?	RBL (dBA) - from EIS	Noise Goal[1] (RBL+ 5dBA)	Recorded Noise Level LAeq (15 min) (dBA)	Recorded Noise Level LA1 (dBA)	Recorded Noise Level LA10 (dBA)	Recorded Noise Level L90 (dBA)	Noise Goal Difference (dBA)	Comments
Location 1 - Chelmsford Avenue	14 The Esplanande	26/04/2013	11:30	Ground improvement works Drainage works Material deliveries CFA Piling Works Batch Plant Pavement Works	Standard Day	Fine	No	49	54	51	54	52	48	-3	Noise from Foreshore Rd traffic, aircraft noise, local traffic, park noise
Location 2 - Dent Street	34 Dent St	26/04/2013	12:15	Ground improvement works Drainage works Material deliveries CFA Piling Works Batch Plant	Standard Day	Fine	No	47	52	60	69	64	54	8	Local traffic noise, aircraft noise
Location 3 - Jennings Street	42 Jenning St	26/04/2013	14:05	Ground improvement works Drainage works Material deliveries CFA Piling Works Batch Plant	Standard Day	Fine	No	40	45	57	66	60	51	12	Local traffic noise, aircraft noise
Location 4- North of Golf Course	3 Anniversary Rd	26/04/2013	12:45	Ground improvement works Drainage works Material deliveries CFA Piling Works Batch Plant	Standard Day	Fine	No	57	62	57	64	60	50	-5	Local traffic noise, aircraft noise
Location 5- Australia Avenue	74 Australia Ave	26/04/2013	13:30	Ground improvement works Drainage works Material deliveries CFA Piling Works Batch Plant	Standard Day	Fine	No	42	47	49	59	52	45	2	Local/distant traffic noise, aircraft noise
Location 6- Military Road	73 Wassell St	26/04/2013	14:45	Ground improvement works Drainage works Material deliveries CFA Piling Works Batch Plant	Standard Day	Fine	No	46	51	52	58	55	48	1	Noise from Bunnerong Rd, Local traffic noise

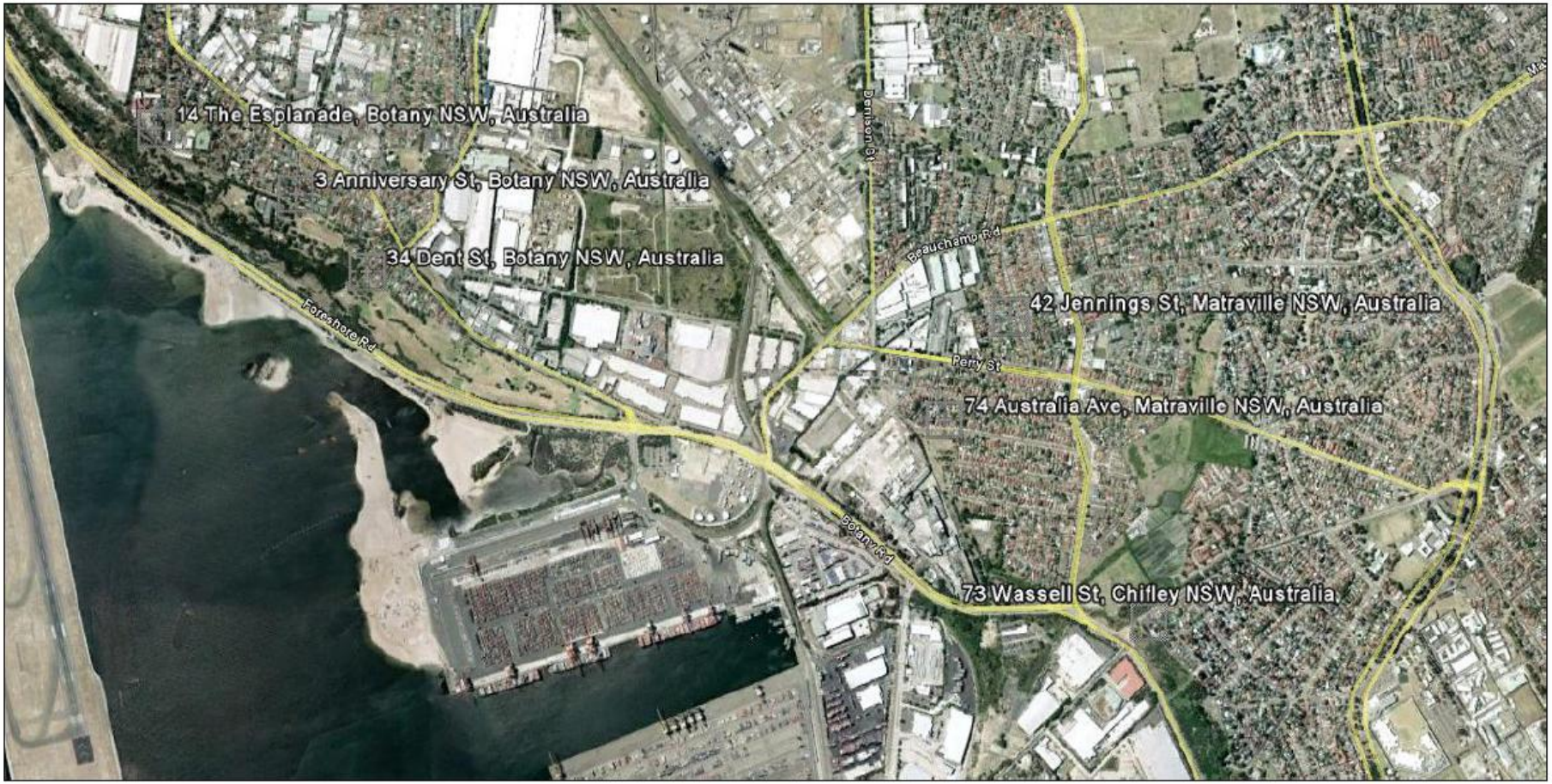
Note 1: Noise goals are applicable to the noise contribution from the Terminal 3 Port Botany Expansion related construction activities only

Night Monitoring

Results of Attended Noise Measurements – Tuesday, April 2013				
Location	**Measurement Time**	**L_{A90} (dBA)**	**L_{Amin} (dBA)**	**Comments**
Dent St (park end – rear)	22:00- 22:15	51	48	Site noise inaudible at all times. Dominated by road traffic and insect noise.
Dent St (park end – rear)	22:30 – 22:45	50	44	Site noise inaudible at all times. Dominated by road traffic and insect noise.
Dent St (park end – rear)	22:46 – 23:01	48	43	Site noise inaudible at all times. Dominated by road traffic and insect noise.
Dent St (park end – rear)	23:02 – 23:17	48	46	Site noise inaudible at all times. Dominated by road traffic and insect noise.
Dent St (park end – rear)	23:18 – 23:33	48	46	Site noise inaudible at all times. Dominated by road traffic and insect noise.
Dent St (park end – rear)	23:34 – 23:49	49	46	Site noise inaudible at all times. Dominated by road traffic and insect noise.
Dent St (park end – rear)	23:50 – 24:05	48	44	Site noise inaudible at all times. Dominated by road traffic and insect noise.
Dent St (park end – rear)	24:06 – 24:21	47	44	Site noise inaudible at all times. Dominated by road traffic and insect noise.
Dent St (park end – rear)	24:22 – 24:37	47	44	Site noise inaudible at all times. Dominated by road traffic and insect noise.
Australia Ave	24:51 – 01:06	48	48	Site noise inaudible at all times. Dominated by road traffic and industrial noise from operational Port area.
Australia Ave	01:07 – 01:22	48	46	Site noise inaudible at all times. Dominated by road traffic and industrial noise from operational Port area.
Australia Ave	01:23 – 01:38	47	46	Site noise inaudible at all times. Dominated by road traffic and industrial noise from operational Port area.
Australia Ave	01:39 – 01:54	47	46	Site noise inaudible at all times. Dominated by road traffic and industrial noise from operational Port area.
Australia Ave	01:55 – 02:10	50	48	Site noise inaudible at all times. Dominated by road traffic and industrial noise from operational Port area.
Dent St (park end – rear)	2:27 – 2:42	44	42	Site noise inaudible at all times. Dominated by road traffic and insect noise.
Dent St (park end – rear)	2:43 – 2:58	46	44	Site noise inaudible at all times. Dominated by road traffic and insect noise.
Dent St (park end – rear)	2:59 – 3:14	49	45	Site noise inaudible at all times. Dominated by road traffic and insect noise.
Dent St (park end – rear)	3:15 – 3:30	49	45	Site noise inaudible at all times. Dominated by road traffic and insect noise.
Dent St (park end – rear)	3:31 – 3:46	50	47	Site noise inaudible at all times. Dominated by road traffic and insect noise.
Dent St (park end – rear)	3:47 – 4:02	49	45	Site noise inaudible at all times. Dominated by road traffic and insect noise.

Note: During these measurements the weather was observed as being hot with calm winds.

Noise Monitoring Locations



Location 1	Location 2	Location 3	Location 4	Location 5	Location 6
14 The Esplanade	34 Dent St	42 Jennings St	3 Anniversary Rd	74 Australia Ave	73 Wassell St

Appendix 3 – April 13 Water Monitoring Results

Dewatering Discharge Monitoring							
Dewatering Location	Date	AM/PM	Meets Criteria	Discharge Location	Oil and Grease (visual)	Horiba Water Monitor	
						pH	Turbidity
SC13 - Outlet	2/04/2013	AM	Yes	Adjacent Bay	None	6.98	3.2
SC13 - Outlet	2/04/2013	PM	Yes	Adjacent Bay	None	6.99	3.1
SC13 - Outlet	3/04/2013	AM	Yes	Adjacent Bay	None	7.43	2.1
SC13 - Outlet	3/04/2013	PM	Yes	Adjacent Bay	None	7.25	2.4
SC13 - Outlet	4/04/2013	AM	Yes	Adjacent Bay	None	7.32	3.6
SC13 - Outlet	4/04/2013	PM	Yes	Adjacent Bay	None	7.87	3.2
SC13 - Outlet	5/04/2013	AM	Yes	Adjacent Bay	None	7.19	2.1
SC13 - Outlet	5/04/2013	PM	Yes	Adjacent Bay	None	7.74	1.2
SC13 - Outlet	8/04/2013	AM	Yes	Adjacent Bay	None	7.91	1.4
SC13 - Outlet	8/04/2013	PM	Yes	Adjacent Bay	None	7.32	0.8
SC13 - Outlet	9/04/2013	AM	Yes	Adjacent Bay	None	8.02	0.4
SC13 - Outlet	9/04/2013	PM	Yes	Adjacent Bay	None	8.21	1.4
SC13 - Outlet	10/04/2013	AM	Yes	Adjacent Bay	None	7.69	1.2
SC13 - Outlet	10/04/2013	PM	Yes	Adjacent Bay	None	7.38	3.3
SC13 - Outlet	11/04/2013	AM	Yes	Adjacent Bay	None	7.28	1.2
SC13 - Outlet	11/04/2013	PM	Yes	Adjacent Bay	None	7.83	2.6
SC13 - Outlet	12/04/2013	AM	Yes	Adjacent Bay	None	7.32	2.9
SC13 - Outlet	12/04/2013	PM	Yes	Adjacent Bay	None	7.18	3.6
SC13 - Outlet	15/04/2013	AM	Yes	Adjacent Bay	None	7.12	0.9
SC13 - Outlet	15/04/2013	PM	Yes	Adjacent Bay	None	7.36	2.4
SC13 - Outlet	16/04/2013	AM	Yes	Adjacent Bay	None	7.24	1.6
Bay Reading	3/04/2013	PM	N/A	N/A		7.32	3.6
Bay Reading	11/04/2013	AM	N/A	N/A		7.21	2.0
SC12 - SQID	17/04/2013	AM	Yes	Adjacent Bay	None	7.43	2.4
SC12 - SQID	17/04/2013	PM	Yes	Adjacent Bay	None	7.56	4.3
SC12 - SQID	18/04/2013	AM	Yes	Adjacent Bay	None	7.54	2.2
SC12 - SQID	18/04/2013	PM	Yes	Adjacent Bay	None	7.52	2.8
SC12 - SQID	19/04/2013	AM	Yes	Adjacent Bay	None	7.68	4.3
SC12 - SQID	19/04/2013	PM	Yes	Adjacent Bay	None	7.65	5.5
SC12 - SQID	22/04/2013	AM	Yes	Adjacent Bay	None	7.41	3.2
SC12 - SQID	22/04/2013	PM	Yes	Adjacent Bay	None	7.86	5.6
SC12 - SQID	23/04/2013	AM	Yes	Adjacent Bay	None	7.67	3.2
SC12 - SQID	23/04/2013	PM	Yes	Adjacent Bay	None	7.53	5.5
SC12 - SQID	25/04/2013	AM	Yes	Adjacent Bay	None	7.45	4.3
SC12 - SQID	25/04/2013	PM	Yes	Adjacent Bay	None	7.98	4.6
SC12 - SQID	26/04/2013	AM	Yes	Adjacent Bay	None	7.67	5.4
SC12 - SQID	26/04/2013	PM	Yes	Adjacent Bay	None	7.87	5.2
SC12 - SQID	29/04/2013	AM	Yes	Adjacent Bay	None	7.74	2.2
SC12 - SQID	29/04/2013	PM	Yes	Adjacent Bay	None	7.75	6.8
SC12 - SQID	30/04/2013	AM	Yes	Adjacent Bay	None	7.34	8.2
SC12 - SQID	30/04/2013	PM	Yes	Adjacent Bay	None	7.44	9.3
Estuary	18/04/2013	PM	N/A	N/A		7.56	2.3
Estuary	26/04/2013	PM	N/A	N/A		7.66	3.1

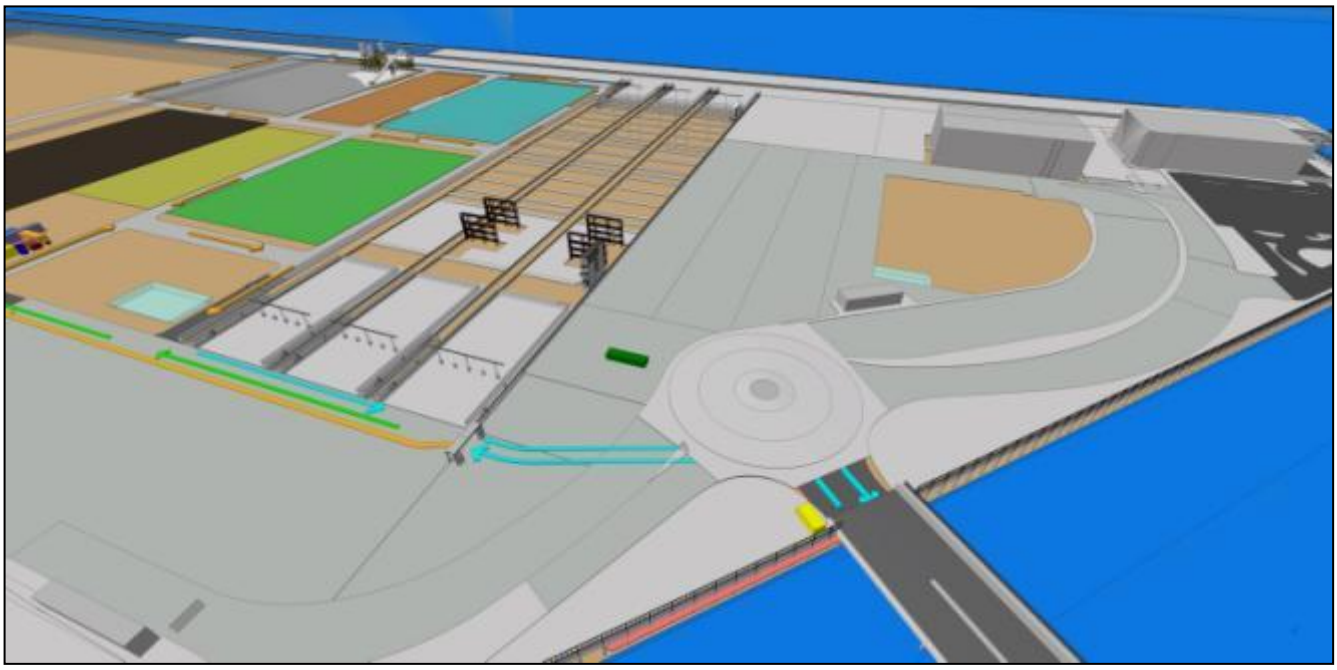
Appendix 4 – Terminal 3 Shorebird Observations

Shorebird Monitoring Database April 2013 - SPBT3 worksite				
Date	**Bird Type**	**Location**	**Reported by**	**Action**
2/04/2013	4 x Pacific Golden Plover	SC10 Revetment	J Ambler	Birds were outside active worksite. No action required.
12/04/2013	16 x Red Capped Plover	Future Phase Area 3A	J Ambler	Birds were outside active worksite. No action required.

Sydney Port Botany Terminal 3

Monthly Environmental Monitoring Report

March 2013



Client:	SICTL
Client's Representative:	Mott McDonald
LORA Contract No.:	G52

Controlled Copy no.: 1

Revision History

Rev	Date	Description	Reviewed	INT/Date	Authorised
0	02/04/13	Issue	JA	02/04/13	JA

Contents:

1.0 Introduction 4

1.1 Construction Activities 4

2.0 Dust Monitoring and Air Quality 4

3.0 Noise Monitoring 4

3.1 Day time noise monitoring 4

3.2 Night time noise monitoring 5

4.0 Soil and Water Quality Monitoring 5

4.1 Water Monitoring 5

5.0 Shorebird Monitoring 5

6.0 Environmental Inspections and Audits 5

7.0 Appendices 6

Appendix 1 – Dust Monitoring Results 7

Appendix 2 – Day-time Noise Monitoring Results 9

Appendix 3 – Water Monitoring Results 10

Appendix 4 – Terminal 3 Shorebird Observations 12

1.0 Introduction

This report provides results for environmental monitoring activities associated with the Terminal 3 expansion at Port Botany for the month of March 2013.

Monitoring has been undertaken for dust, noise, and water quality.

No environmental complaints have been received this month in regards to the Terminal 3 expansion works.

1.1 Construction Activities

Construction activities undertaken for the month of March 2013 included the following:

- Earthworks and ground improvements
- Drainage activities
- Site utilities
- Precast concrete fabrication for utilities and services work
- Electrical substation construction
- Continuous Flight Augur piling for the stacking crane rail beams and noise walls
- Concrete batch plant operations
- Concrete paving

2.0 Dust Monitoring and Air Quality

Three dust deposition gauges are installed in the areas surrounding the Port Botany Expansion. Dust deposition results for March 2013 have yet to be received from our laboratory. February 2013 results are reported in Appendix 1. A real-time dust monitor has been installed at the Botany Golf Club for reporting of PM_{10} particulate matter. No exceedances of project or EPA criteria have been observed during March 2013. Dust monitoring results are given in this report and are outlined in Appendix 1.

There have been no dust complaints received this month. All results are within EPA and Project criteria.

3.0 Noise Monitoring

Monthly construction noise monitoring was undertaken during March 2013. Noise monitoring locations have been based on noise-sensitive receptors in the project Environmental Impact Statement and approved for the Port Botany Expansion construction activities.

Attended noise measurements were carried out for a period of 15 minutes at each location. During the monitoring event, observations were made on the weather as well as the surrounding noise sources and environment.

3.1 Day time noise monitoring

Noise measurements were undertaken on 27th March 2013. Work activities being undertaken on the Terminal 3 project included ground improvements and earthworks, stormwater drainage installation, CFA piling operations, batch plant operation, paving and material deliveries.

The Interim Construction Noise Guideline (2009, DECCW) sets out management levels for noise at residences and how they are to be applied. This guideline has been used in conjunction with the project Environmental Impact Statement to determine noise goals for the project. Recorded LAeq levels exceeded the noise goals for noise emissions from the Port Botany expansion Project at all locations except one, 3 Anniversary Road, Botany. However at each monitoring location, extraneous, non-project related noises were the dominant noise sources. These noise sources included road traffic, both local and main, and aircraft noise.

Construction activities at the Terminal 3 project site were inaudible in all cases.

It is noted that the intent of the Interim Construction Noise Guideline is to minimise noise impact from the construction works and is only applicable to the contribution of the noise from the Port Botany construction site. At the attended monitoring events, as has been noted on other stages of the Port Botany expansion project, the measured noise levels were controlled and dominated by other extraneous noise sources as listed above.

Day-time noise monitoring results are shown in Appendix 2.

3.2 Night time noise monitoring

No night time compliance monitoring was required to be undertaken for active Terminal 3 project works. Noise trials have been undertaken for certain works involving concrete batch plant activities outside of normal construction hours and have indicated the associated activities to be inaudible at residential areas.

4.0 Soil and Water Quality Monitoring

Physical water parameters required to be monitored are pH, turbidity and visible oil and grease when dewatering activities are undertaken. Other contaminants may be tested for in areas of concern if the presence of contamination is observed.

4.1 Water Monitoring

Water monitoring has been undertaken during March for dewatering activities undertaken during drainage works. All dewatering results have been compliant with the discharge criteria set in the project Environmental Impact Statement. Dewatering results are summarised in Appendix 3.

5.0 Shorebird Monitoring

Shorebird observations from the Terminal 3 site during March 2013 are outlined in Appendix 4. With the shorebird breeding season coming to an end, sightings of shorebirds around the Terminal 3 site have reduced.

6.0 Environmental Inspections and Audits

Weekly environmental inspections have been undertaken during March 2013 for the Terminal 3 project site. No significant environmental issues were observed or identified. Completed inspection sheets may be available on request.

7.0 Appendices

Appendix 1 – Dust Monitoring Results
Appendix 2 – Day-time Noise Monitoring Results
Appendix 3 – Water Monitoring Results
Appendix 4 – Terminal 3 Shorebird Observations

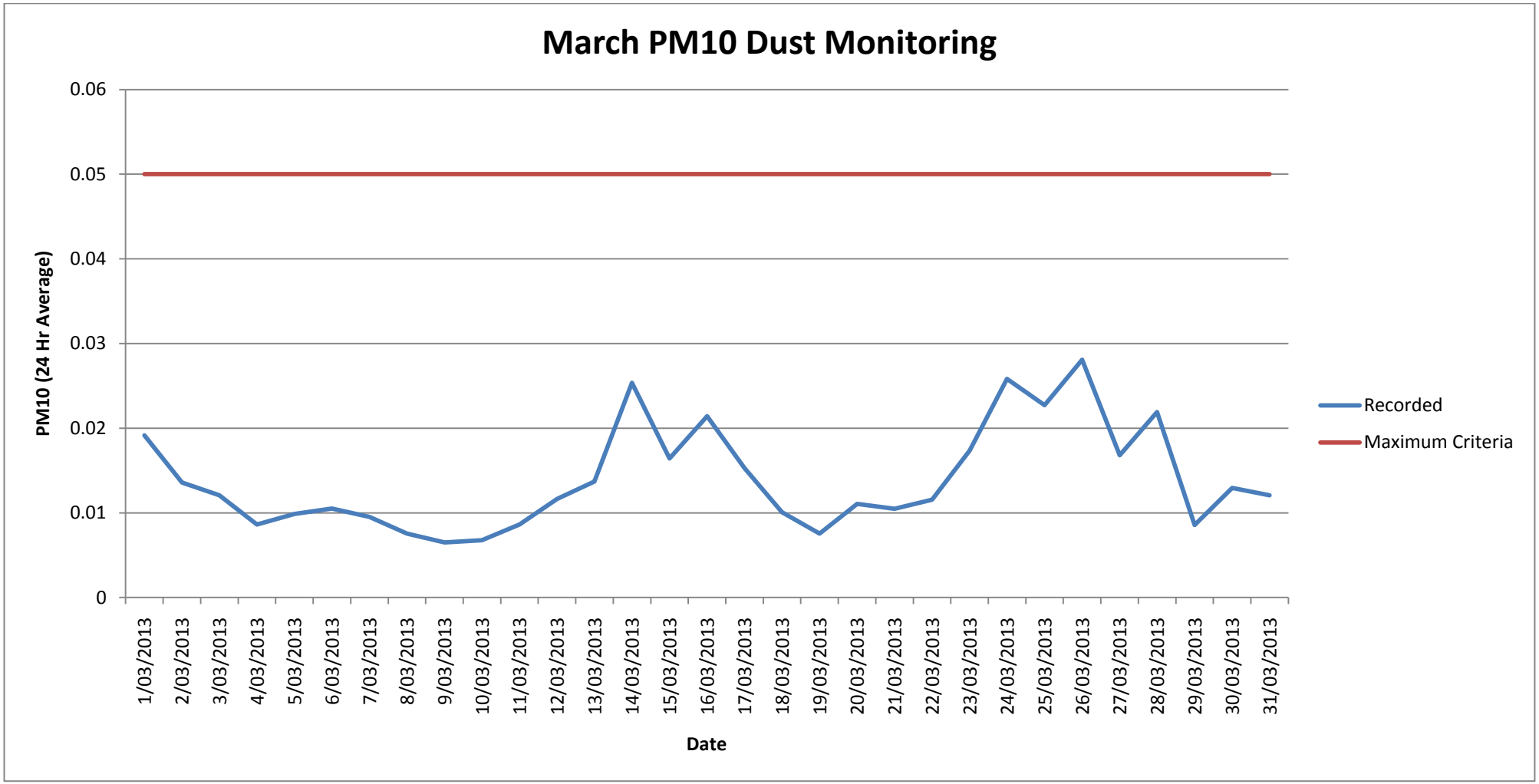
Appendix 1 – Dust Monitoring Results

Dust Deposition Gauge Results - February 2013

No.	Monitoring Location	Ash	Combustible matter	Total Soluble matter	Total Insoluble matter	Total Solids	Sample ID (File Reference)	EPA Guideline (Total Insoluble matter)	Comments (i.e. any exceedances of EPA objectives)	Work Activities / Observations During Monitoring Period
1	Upper Penrhyn Estuary	1.6	0.8	<0.1	2.4	2.4	EN1300690-003	4	Within EPA guideline levels	Earthworks Drainage works Deliveries Paving Concrete batch plant CFA piling Structural works
2	14 The Esplanade	0.8	0.4	0.1	1.2	1.3	EN1300690-001	4	Within EPA guideline levels	
3	74 Australia Ave	1.3	0.6	0.2	1.9	2.1	EN1300690-003	4	Within EPA guideline levels	

All Units in g/m².month

PM_{10} Monitoring Results – March 2013



Appendix 2 – Day-time Noise Monitoring Results

Noise Monitoring Results - SPBT3 March 2013

Noise Sensitive Area	Monitoring Location	Date	Time (24hr) & Duration (mins)	Construction Activities	Standard or Out of Hours Works (Day/Evening/Night)	Weather Conditions	In Response to Complaint?	RBL (dBA) - from EIS	Noise Goal[1] (RBL+ 5dBA)	Recorded Noise Level LAeq (15 min) (dBA)	Recorded Noise Level LA1 (dBA)	Recorded Noise Level LA10 (dBA)	Recorded Noise Level L90 (dBA)	Noise Goal Difference (dBA)	Comments
Location 1 - Chelmsford Avenue	14 The Esplanande	27/03/2013	12:40	Ground improvement works Drainage works Material deliveries CFA Piling Works Batch Plant Pavement Works	Standard Day	Fine	No	49	54	61	69	53	45	7	Noise from Foreshore Rd traffic, aircraft noise, local traffic, park noise
Location 2 - Dent Street	34 Dent St	27/03/2013	13:35	Ground improvement works Drainage works Material deliveries CFA Piling Works Batch Plant	Standard Day	Fine	No	47	52	59	65	63	58	7	Local traffic noise, aircraft noise
Location 3 - Jennings Street	42 Jenning St	27/03/2013	15:55	Ground improvement works Drainage works Material deliveries CFA Piling Works Batch Plant	Standard Day	Fine	No	40	45	61	61	59	44	16	Local traffic noise, aircraft noise
Location 4- North of Golf Course	3 Anniversary Rd	27/03/2013	14:30	Ground improvement works Drainage works Material deliveries CFA Piling Works Batch Plant	Standard Day	Fine	No	57	62	62	69	59	55	0	Local traffic noise, aircraft noise
Location 5- Australia Avenue	74 Australia Ave	27/03/2013	14:55	Ground improvement works Drainage works Material deliveries CFA Piling Works Batch Plant	Standard Day	Fine	No	42	47	51	58	50	41	4	Local/distant traffic noise, aircraft noise
Location 6- Military Road	73 Wassell St	27/03/2013	16:55	Ground improvement works Drainage works Material deliveries CFA Piling Works Batch Plant	Standard Day	Fine	No	46	51	60	69	65	51	9	Noise from Bunnerong Rd, Local traffic noise

Note 1: Noise goals are applicable to the noise contribution from the Terminal 3 Port Botany Expansion related construction activities only

Appendix 3 – Water Monitoring Results

Dewatering Location	Date	AM/PM	Meets Criteria	Discharge Location	Oil and Grease (visual)	Horiba Water Monitor	
						pH	Turbidity
SC3 - Outlet	1/03/2013	AM	Yes	Adjacent Bay	None	7.65	0.4
SC3 - Outlet	1/03/2013	PM	Yes	Adjacent Bay	None	7.98	1.2
SC3 - Outlet	4/03/2013	AM	Yes	Adjacent Bay	None	7.92	0.7
SC3 - Outlet	4/03/2013	PM	Yes	Adjacent Bay	None	7.73	0.3
SC3 - Outlet	5/03/2013	AM	Yes	Adjacent Bay	None	7.34	0.6
SC3 - Outlet	5/03/2013	PM	Yes	Adjacent Bay	None	7.90	1.1
SC3 - Outlet	6/03/2013	AM	Yes	Adjacent Bay	None	7.27	0.2
SC3 - Outlet	6/03/2013	PM	Yes	Adjacent Bay	None	7.12	0.8
SC3 - Outlet	7/03/2013	AM	Yes	Adjacent Bay	None	7.22	0.3
SC3 - Outlet	7/03/2013	PM	Yes	Adjacent Bay	None	7.72	0.6
SC3 - Outlet	8/03/2013	AM	Yes	Adjacent Bay	None	7.93	0.0
SC3 - Outlet	8/03/2013	PM	Yes	Adjacent Bay	None	8.03	0.0
SC3 - Outlet	11/03/2013	AM	Yes	Adjacent Bay	None	7.67	0,1
SC3 - Outlet	11/03/2013	PM	Yes	Adjacent Bay	None	7.87	0.3
SC3 - Outlet	12/03/2013	AM	Yes	Adjacent Bay	None	7.92	0.9
SC3 - Outlet	12/03/2013	PM	Yes	Adjacent Bay	None	7.23	1.0
SC3 - Outlet	13/03/2013	AM	Yes	Adjacent Bay	None	7.35	0.5
SC3 - Outlet	13/03/2013	PM	Yes	Adjacent Bay	None	7.64	0.6
SC3 - Outlet	14/03/2013	AM	Yes	Adjacent Bay	None	8.12	0.6
SC3 - Outlet	14/03/2013	PM	Yes	Adjacent Bay	None	8.01	0.4
SC3 - Outlet	15/03/2013	AM	Yes	Adjacent Bay	None	7.81	0.6
SC3 - Outlet	15/03/2013	PM	Yes	Adjacent Bay	None	7.39	0.3
SC3 - Outlet	18/03/2013	AM	Yes	Adjacent Bay	None	7.23	1.4
SC3 - Outlet	18/03/2013	PM	Yes	Adjacent Bay	None	7.05	1.3
SC3 - Outlet	19/03/2013	AM	Yes	Adjacent Bay	None	7.45	1.9
SC3 - Outlet	19/03/2013	PM	Yes	Adjacent Bay	None	7.42	1.2
SC3 - Outlet	20/03/2013	AM	Yes	Adjacent Bay	None	7.49	0.6
SC3 - Outlet	20/03/2013	PM	Yes	Adjacent Bay	None	7.13	1.1
SC3 - Outlet	21/03/2013	AM	Yes	Adjacent Bay	None	7.19	0.9
SC3 - Outlet	21/03/2013	PM	Yes	Adjacent Bay	None	7.37	0.8
SC3 - Outlet	22/03/2013	AM	Yes	Adjacent Bay	None	7.49	0.9
SC3 - Outlet	22/03/2013	PM	Yes	Adjacent Bay	None	7.36	1.8
SC3 - Outlet	25/03/2013	AM	Yes	Adjacent Bay	None	7.12	1.2
SC3 - Outlet	25/03/2013	PM	Yes	Adjacent Bay	None	7.89	2.6
SC3 - Outlet	26/03/2013	AM	Yes	Adjacent Bay	None	7.63	1.5
SC3 - Outlet	26/03/2013	PM	Yes	Adjacent Bay	None	7.93	0.5
SC3 - Outlet	27/03/2013	AM	Yes	Adjacent Bay	None	7.77	0.9
SC3 - Outlet	27/03/2013	PM	Yes	Adjacent Bay	None	7.49	2.1
Bay Reading	1/03/2013	AM	N/A	N/A	None	7.43	0.5
Bay Reading	7/03/2013	AM	N/A	N/A	None	7.36	0.2
Bay Reading	13/03/2013	AM	N/A	N/A	None	7.64	1.3
Bay Reading	26/03/2013	PM	N/A	N/A	None	7.32	1.6

SC10 - SQID	1/03/2013	AM	Yes	Adjacent Bay	None	7.45	0.5
SC10 - SQID	1/03/2013	PM	Yes	Adjacent Bay	None	7.29	0.9
SC10 - SQID	4/03/2013	AM	Yes	Adjacent Bay	None	7.12	1.7
SC10 - SQID	4/03/2013	PM	Yes	Adjacent Bay	None	7.98	1.3
SC10 - SQID	5/03/2013	AM	Yes	Adjacent Bay	None	8.24	1.6
SC10 - SQID	5/03/2013	PM	Yes	Adjacent Bay	None	7.32	3.2
SC10 - SQID	6/03/2013	AM	Yes	Adjacent Bay	None	7.35	0.5
SC10 - SQID	6/03/2013	PM	Yes	Adjacent Bay	None	7.26	1.8
SC10 - SQID	7/03/2013	AM	Yes	Adjacent Bay	None	7.89	1.4
SC10 - SQID	7/03/2013	PM	Yes	Adjacent Bay	None	8.11	2.2
SC10 - SQID	8/03/2013	AM	Yes	Adjacent Bay	None	7.21	1.1
SC10 - SQID	8/03/2013	PM	Yes	Adjacent Bay	None	7.42	0.9
SC10 - SQID	11/03/2013	AM	Yes	Adjacent Bay	None	7.39	1.2
SC10 - SQID	11/03/2013	PM	Yes	Adjacent Bay	None	7.44	1.8
SC10 - SQID	12/03/2013	AM	Yes	Adjacent Bay	None	7.82	1.5
SC10 - SQID	12/03/2013	PM	Yes	Adjacent Bay	None	7.10	0.8
SC10 - SQID	13/03/2013	AM	Yes	Adjacent Bay	None	7.73	1.2
SC10 - SQID	13/03/2013	PM	Yes	Adjacent Bay	None	7.92	2.1
SC10 - SQID	14/03/2013	AM	Yes	Adjacent Bay	None	7.33	2.4
Estuary Reading	4/03/2013	PM	N/A	N/A	None	7.32	0.8
Estuary Reading	11/03/2013	PM	N/A	N/A	None	7.51	0.9

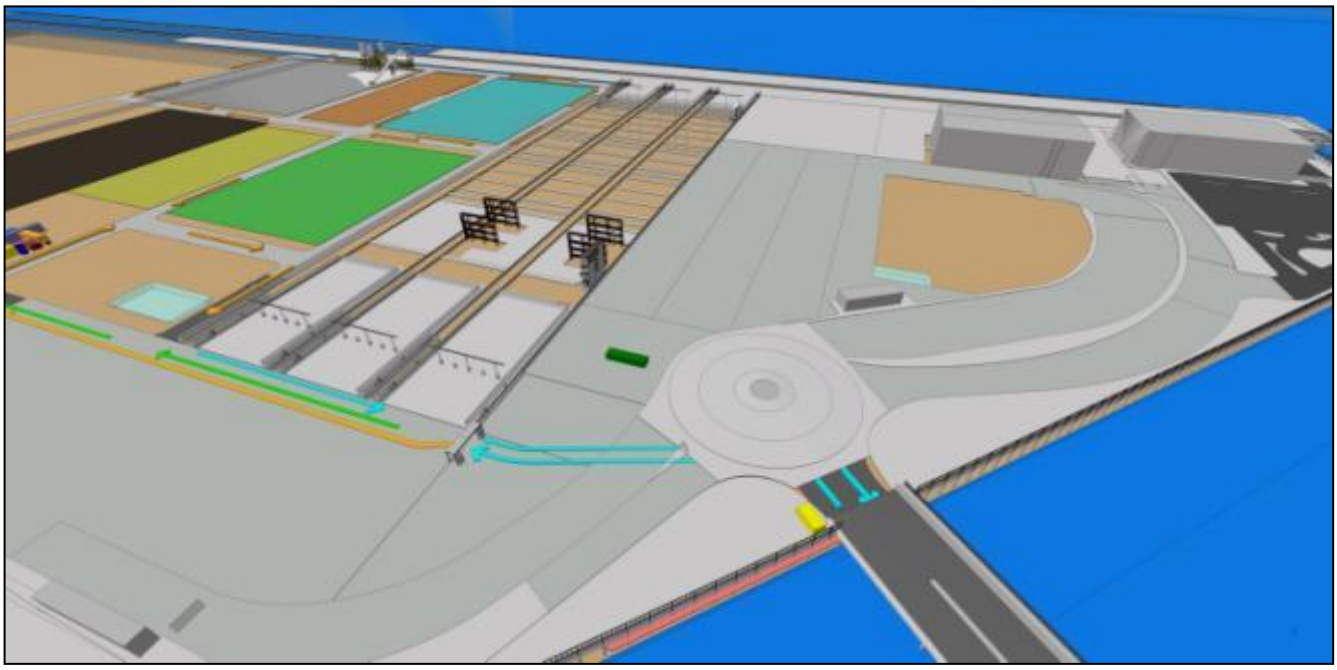
Appendix 4 – Terminal 3 Shorebird Observations

Shorebird Monitoring Database March 2013 - SPBT3 worksite				
Date	**Bird Type**	**Location**	**Reported by**	**Action**
05/03/13	2 x Pacific Golden Plover	SC10 Revetment	J Ambler	Birds were outside active worksite. No action required.
26/03/13	Pacific Golden Plover	SC10 Revetment	J Ambler	Birds were outside active worksite. No action required.

Sydney Port Botany Terminal 3

Monthly Environmental Monitoring Report

February 2013



Client:	SICTL
Client's Representative:	Mott McDonald
LORA Contract No.:	G52

Controlled Copy no.: 1

Revision History

Rev	Date	Description	Reviewed	INT/Date	Authorised
0	01/03/13	Issue	JA	01/03/13	JA

Contents:

1.0 Introduction 4

1.1 Construction Activities 4

2.0 Dust Monitoring and Air Quality 4

3.0 Noise Monitoring 4

3.1 Day time noise monitoring 4

3.2 Night time noise monitoring 5

4.0 Soil and Water Quality Monitoring 5

4.1 Water Monitoring 5

5.0 Shorebird Monitoring 5

6.0 Environmental Inspections and Audits 5

7.0 Appendices 6

Appendix 1 – Dust Monitoring Results 7

Appendix 2 – Day-time Noise Monitoring Results 9

Appendix 3 – Water Monitoring Results 10

Appendix 4 – Terminal 3 Shorebird Observations 13

1.0 Introduction

This report provides results for environmental monitoring activities associated with the Terminal 3 expansion at Port Botany for the month of February 2013.

Monitoring has been undertaken for dust, noise, and water quality.

No environmental complaints have been received this month in regards to the Terminal 3 expansion works.

1.1 Construction Activities

Construction activities undertaken for the month of February 2012 included the following:

- Earthworks and ground improvements
- Drainage activities
- Site utilities
- Precast concrete fabrication for utilities and services work
- Continuous Flight Augur piling for the stacking crane rail beams
- Concrete batch plant commissioning and operations

2.0 Dust Monitoring and Air Quality

Three dust deposition gauges are installed in the areas surrounding the Port Botany Expansion. Dust deposition results for February 2013 have yet to be received from our laboratory. January 2013 results are reported in Appendix 1. A real-time dust monitor has been installed at the Botany Golf Club for reporting of PM_{10} particulate matter. No exceedances of project or EPA criteria have been observed during February 2013. Dust monitoring results are given in this report and are outlined in Appendix 1.

There has been no dust complaints received this month. All results are within EPA and Project criteria.

3.0 Noise Monitoring

Monthly construction noise monitoring was undertaken during February 2013. Noise monitoring locations have been based on noise-sensitive receptors in the project Environmental Impact Statement and approved for the Port Botany Expansion construction activities.

Attended noise measurements were carried out for a period of 15 minutes at each location. During the monitoring event, observations were made on the weather as well as the surrounding noise sources and environment.

3.1 Day time noise monitoring

Noise measurements were undertaken on 22nd February 2013. Work activities being undertaken on the Terminal 3 project included ground improvements and earthworks, headwall and drainage works, concrete precast works, CFA piling operations and material deliveries.

The Interim Construction Noise Guideline (2009, DECCW) sets out management levels for noise at residences and how they are to be applied. This guideline has been used in conjunction with the project Environmental Impact Statement to determine noise goals for the project. Recorded LAeq levels exceeded the noise goals for noise emissions from the Port Botany expansion Project at all locations except one, 3 Anniversary Road, Botany. However at each monitoring location, extraneous, non-project related noises were the dominant noise sources. These noise sources included road traffic, both local and main, and aircraft noise.

Construction activities at the Terminal 3 project site were inaudible in all cases.

It is noted that the intent of the Interim Construction Noise Guideline is to minimise noise impact from the construction works and is only applicable to the contribution of the noise from the Port Botany construction

site. At the attended monitoring events, as has been noted on other stages of the Port Botany expansion project, the measured noise levels were controlled and dominated by other extraneous noise sources as listed above.

Day-time noise monitoring results are shown in Appendix 2.

3.2 Night time noise monitoring

No night time monitoring was required to be undertaken for the Terminal 3 project site.

4.0 Soil and Water Quality Monitoring

Physical water parameters required to be monitored are pH, turbidity and visible oil and grease when dewatering activities are undertaken. Other contaminants may be tested for in areas of concern if the presence of contamination is observed.

4.1 Water Monitoring

Water monitoring has been undertaken during February for dewatering activities undertaken during drainage works. All dewatering results have been compliant with the discharge criteria set in the project Environmental Impact Statement. Dewatering results are summarised in Appendix 3.

5.0 Shorebird Monitoring

Shorebird observations from the Terminal 3 site during February 2013 are outlined in Appendix 4.

6.0 Environmental Inspections and Audits

Weekly environmental inspections have been undertaken during February 2013 for the Terminal 3 project site. No significant environmental issues were observed or identified. Completed inspection sheets may be available on request.

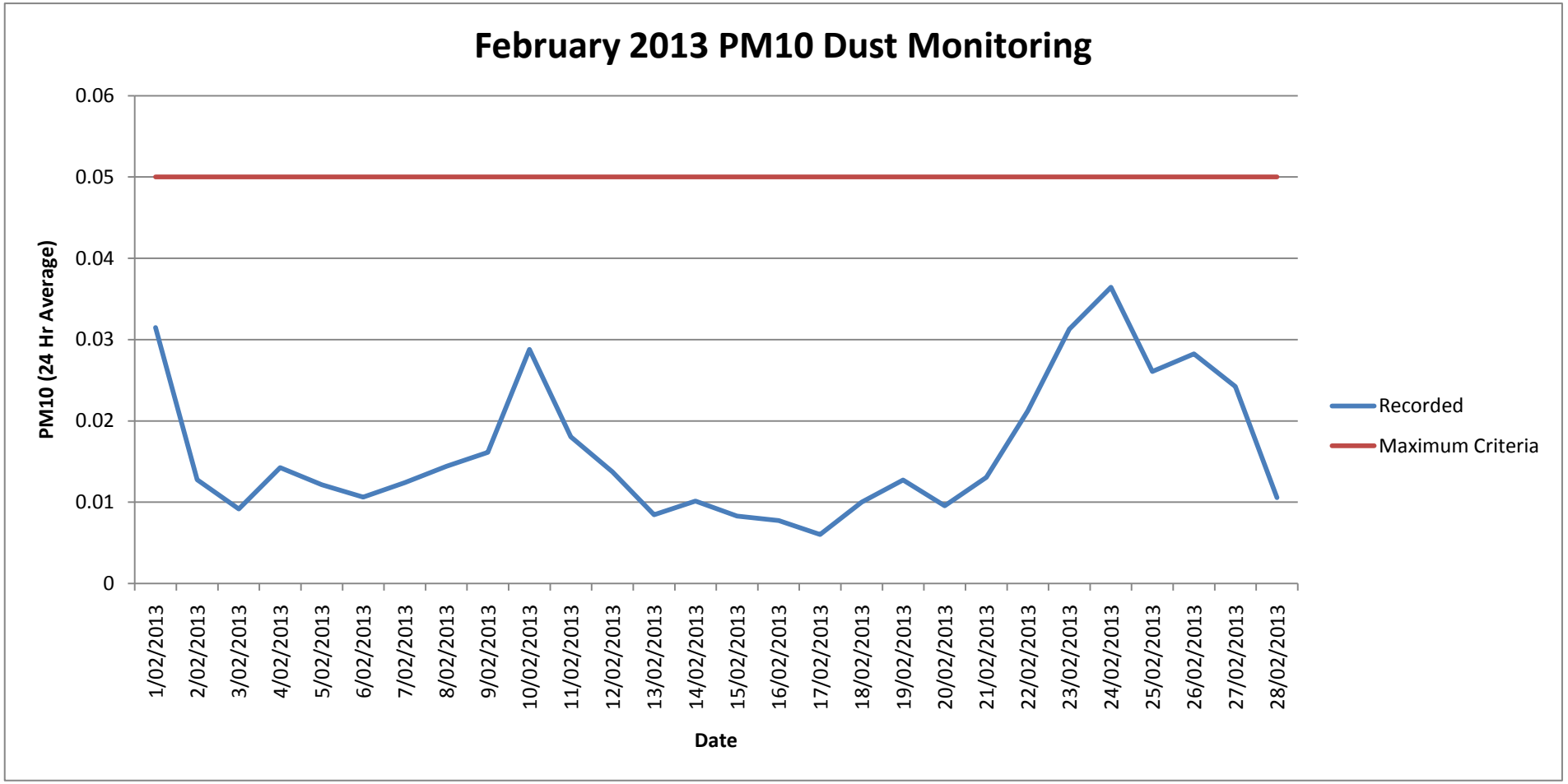
7.0 Appendices

Appendix 1 – Dust Monitoring Results
Appendix 2 – Day-time Noise Monitoring Results
Appendix 3 – Water Monitoring Results
Appendix 4 – Terminal 3 Shorebird Observations

Appendix 1 – Dust Monitoring Results

Dust Deposition Gauge Results - February 2013										
No.	Monitoring Location	Ash	Combustible matter	Total Soluble matter	Total Insoluble matter	Total Solids	Sample ID (File Reference)	EPA Guideline (Total Insoluble matter)	Comments (i.e. any exceedances of EPA objectives)	Work Activities / Observations During Monitoring Period
1	Upper Penrhyn Estuary	1.6	0.8	<0.1	2.4	2.4	EN1300690-003	4	Within EPA guideline levels	Earthworks Drainage works Material deliveries Concrete precast fabrication CFA piling Batch plant
2	14 The Esplanade	0.8	0.4	0.1	1.2	1.3	EN1300690-001	4	Within EPA guideline levels	
3	74 Australia Ave	1.3	0.6	0,2	1.9	2.1	EN1300690-002	4	Within EPA guideline levels	

All Units in g/m².month



Appendix 2 – Day-time Noise Monitoring Results

Noise Monitoring Results - SPBT3 February 2013

Noise Sensitive Area	Monitoring Location	Date	Time (24hr) & Duration (mins)	Construction Activities	Standard or Out of Hours Works (Day/Evening/Night)	Weather Conditions	In Response to Complaint?	RBL (dBA) - from EIS	Noise Goal[1] (RBL+ 5dBA)	Recorded Noise Level LAeq (15 min) (dBA)	Recorded Noise Level LA1 (dBA)	Recorded Noise Level LA10 (dBA)	Recorded Noise Level L90 (dBA)	Noise Goal Difference (dBA)	Comments
Location 1 - Chelmsford Avenue	14 The Esplanande	22/01/2013	8:35	Ground improvement works Drainage works Concrete precast works Material deliveries CFA Piling Works Batch Plant	Standard Day	Fine	No	49	54	61	72	56	48	7	Noise from Foreshore Rd traffic, aircraft noise, local traffic, birds in park
Location 2 - Dent Street	34 Dent St	22/01/2013	9:25	Ground improvement works Drainage works Concrete precast works Material deliveries CFA Piling Works Batch Plant	Standard Day	Fine	No	47	52	62	68	65	60	10	Local traffic noise, aircraft noise
Location 3 - Jennings Street	42 Jenning St	22/01/2013	11:40	Ground improvement works Drainage works Concrete precast works Material deliveries CFA Piling Works Batch Plant	Standard Day	Fine	No	40	45	59	62	59	42	14	Local traffic noise, some aircraft noise
Location 4- North of Golf Course	3 Anniversary Rd	22/01/2013	10:20	Ground improvement works Drainage works Concrete precast works Material deliveries CFA Piling Works Batch Plant	Standard Day	Fine	No	57	62	63	71	60	56	1	Local traffic noise, aircraft noise
Location 5- Australia Avenue	74 Australia Ave	22/01/2013	10:50	Ground improvement works Drainage works Concrete precast works Material deliveries CFA Piling Works Batch Plant	Standard Day	Fine	No	42	47	52	59	52	43	5	Local/distant traffic noise, aircraft noise
Location 6- Military Road	73 Wassell St	22/01/2013	12:45	Ground improvement works Drainage works Concrete precast works Material deliveries CFA Piling Works Batch Plant	Standard Day	Fine	No	46	51	58	67	62	48	7	Noise from Bunnerong Rd, Local traffic noise

Note 1: Noise goals are applicable to the noise contribution from the Terminal 3 Port Botany Expansion related construction activities only

Appendix 3 – Water Monitoring Results

Dewatering Discharge Monitoring

Dewatering Location	Date	Meets Criteria	Discharge Location	Horiba Water Monitor		
				Oil and Grease (visual)	pH	Turbidity
SC3 - Outlet	1/2 am	Yes	Adjacent Bay	None	7.54	2.1
SC3 - Outlet	1/2 pm	Yes	Adjacent Bay	None	7.56	1.8
SC3 - Outlet	4/2 am	Yes	Adjacent Bay	None	7.19	1.6
SC3 - Outlet	4/2 pm	Yes	Adjacent Bay	None	8.03	1.0
SC3 - Outlet	5/2 am	Yes	Adjacent Bay	None	8.34	0.3
SC3 - Outlet	5/2 pm	Yes	Adjacent Bay	None	7.89	2.5
SC3 - Outlet	6/2 am	Yes	Adjacent Bay	None	7.27	2.4
SC3 - Outlet	6/2 pm	Yes	Adjacent Bay	None	7.81	1.4
SC3 - Outlet	7/2 am	Yes	Adjacent Bay	None	7.90	1.7
SC3 - Outlet	7/2 pm	Yes	Adjacent Bay	None	7.98	2.6
SC3 - Outlet	8/2 am	Yes	Adjacent Bay	None	7.57	2.4
SC3 - Outlet	8/2 pm	Yes	Adjacent Bay	None	7.32	1.0
SC3 - Outlet	11/2 am	Yes	Adjacent Bay	None	7.16	0.9
SC3 - Outlet	11/2 pm	Yes	Adjacent Bay	None	7.31	2.3
SC3 - Outlet	12/2 am	Yes	Adjacent Bay	None	8.30	4.1
SC3 - Outlet	12/2 pm	Yes	Adjacent Bay	None	8.21	1.6
SC3 - Outlet	13/2 am	Yes	Adjacent Bay	None	8.07	0.6
SC3 - Outlet	13/2 pm	Yes	Adjacent Bay	None	7.97	0.5
SC3 - Outlet	14/2 am	Yes	Adjacent Bay	None	7.56	1.7
SC3 - Outlet	14/2 pm	Yes	Adjacent Bay	None	7.86	1.3
SC3 - Outlet	15/2 am	Yes	Adjacent Bay	None	7.40	1.9
SC3 - Outlet	15/2 pm	Yes	Adjacent Bay	None	7.78	1.2
SC3 - Outlet	18/2 am	Yes	Adjacent Bay	None	7.01	2.9
SC3 - Outlet	18/2 pm	Yes	Adjacent Bay	None	7.23	2.0
SC3 - Outlet	19/2 am	Yes	Adjacent Bay	None	7.05	1.6
SC3 - Outlet	19/2 pm	Yes	Adjacent Bay	None	7.75	1.2
SC3 - Outlet	20/2am	Yes	Adjacent Bay	None	7.73	1.0
SC3 - Outlet	20/2pm	Yes	Adjacent Bay	None	7.32	1.8
SC3 - Outlet	21/2am	Yes	Adjacent Bay	None	7.36	1.6
SC3 - Outlet	21/2pm	Yes	Adjacent Bay	None	7.31	1.1
SC3 - Outlet	22/2am	Yes	Adjacent Bay	None	7.93	1.7
SC3 - Outlet	22/2 pm	Yes	Adjacent Bay	None	7.39	2.0
SC3 - Outlet	25/2 am	Yes	Adjacent Bay	None	7.65	2.5
SC3 - Outlet	25/2 pm	Yes	Adjacent Bay	None	7.83	2.9
SC3 - Outlet	26/2 am	Yes	Adjacent Bay	None	7.24	1.5
SC3 - Outlet	26/2 pm	Yes	Adjacent Bay	None	7.43	2.9
SC3 - Outlet	27/2 am	Yes	Adjacent Bay	None	7.04	2.3
SC3 - Outlet	27/2 pm	Yes	Adjacent Bay	None	7.56	1.3
SC3 - Outlet	28/2 am	Yes	Adjacent Bay	None	7.32	2.8
SC3 - Outlet	28/2 pm	Yes	Adjacent Bay	None	8.03	2.1
Bay Reading	4/2 am	N/A	N/A	None	7.43	0.4

Bay Reading	12/2 pm	N/A	N/A	None	7.65	1.3
Bay Reading	19/2 am	N/A	N/A	None	7.12	1.6
Bay Reading	27/2 pm	N/A	N/A	None	7.87	1.2
SC10 - SQID	1/2 am	Yes	Adjacent Bay	None	7.23	1.8
SC10 - SQID	1/2 pm	Yes	Adjacent Bay	None	7.12	1.4
SC10 - SQID	4/2 am	Yes	Adjacent Bay	None	7.34	2.6
SC10 - SQID	4/2 pm	Yes	Adjacent Bay	None	7.41	2.7
SC10 - SQID	5/2 am	Yes	Adjacent Bay	None	7.29	0.2
SC10 - SQID	5/2 pm	Yes	Adjacent Bay	None	7.64	0.1
SC10 - SQID	6/2 am	Yes	Adjacent Bay	None	7.35	0
SC10 - SQID	6/2 pm	Yes	Adjacent Bay	None	7.19	0.6
SC10 - SQID	7/2 am	Yes	Adjacent Bay	None	7.93	0.3
SC10 - SQID	7/2 pm	Yes	Adjacent Bay	None	8.34	1.7
SC10 - SQID	8/2 am	Yes	Adjacent Bay	None	8.18	1.9
SC10 - SQID	8/2 pm	Yes	Adjacent Bay	None	7.54	1.4
SC10 - SQID	11/2 am	Yes	Adjacent Bay	None	7.41	1.3
SC10 - SQID	11/2 pm	Yes	Adjacent Bay	None	7.84	1.8
SC10 - SQID	12/2 am	Yes	Adjacent Bay	None	7.25	1.5
SC10 - SQID	12/2 pm	Yes	Adjacent Bay	None	7.18	1.8
SC10 - SQID	13/2 am	Yes	Adjacent Bay	None	7.43	1.1
SC10 - SQID	13/2 pm	Yes	Adjacent Bay	None	7.39	2.5
SC10 - SQID	14/2 am	Yes	Adjacent Bay	None	7.51	2.6
SC10 - SQID	14/2 pm	Yes	Adjacent Bay	None	7.48	3.1
SC10 - SQID	15/2 am	Yes	Adjacent Bay	None	7.91	2.6
SC10 - SQID	15/2 pm	Yes	Adjacent Bay	None	8.21	3.8
SC10 - SQID	18/2 am	Yes	Adjacent Bay	None	7.45	0.1
SC10 - SQID	18/2 pm	Yes	Adjacent Bay	None	7.61	1.6
SC10 - SQID	19/2 am	Yes	Adjacent Bay	None	7.40	1.9
SC10 - SQID	19/2 pm	Yes	Adjacent Bay	None	7.00	1.9
SC10 - SQID	20/2am	Yes	Adjacent Bay	None	7.80	3.7
SC10 - SQID	20/2pm	Yes	Adjacent Bay	None	7.65	3.9
SC10 - SQID	21/2am	Yes	Adjacent Bay	None	7.07	3.2
SC10 - SQID	21/2pm	Yes	Adjacent Bay	None	8.22	1.9
SC10 - SQID	22/2am	Yes	Adjacent Bay	None	7.77	1.1
SC10 - SQID	22/2 pm	Yes	Adjacent Bay	None	7.45	1.5
SC10 - SQID	25/2 am	Yes	Adjacent Bay	None	7.41	1.6
SC10 - SQID	25/2 pm	Yes	Adjacent Bay	None	7.91	0.6
SC10 - SQID	26/2 am	Yes	Adjacent Bay	None	7.87	0.8
SC10 - SQID	26/2 pm	Yes	Adjacent Bay	None	7.30	1.1
SC10 - SQID	27/2 am	Yes	Adjacent Bay	None	7.60	1.2
SC10 - SQID	27/2 pm	Yes	Adjacent Bay	None	7.51	1.7
SC10 - SQID	28/2 am	Yes	Adjacent Bay	None	7.03	2.5
SC10 - SQID	28/2 pm	Yes	Adjacent Bay	None	7.34	0.4
Estuary Reading	4/2 am	N/A	N/A	None	7.65	2.1
Estuary Reading	12/2 pm	N/A	N/A	None	7.39	1.8
Estuary Reading	19/2 am	N/A	N/A	None	7.93	1.5
Estuary Reading	27/2 pm	N/A	N/A	None	7.01	1.2
SC5 - Headwall	11/2 am	Yes	Adjacent Bay	None	7.27	1.6

SC5 - Headwall	11/2 pm	Yes	Adjacent Bay	None	7.45	1.8
SC5 - Headwall	12/2 am	Yes	Adjacent Bay	None	7.31	2.4
SC5 - Headwall	12/2 pm	Yes	Adjacent Bay	None	7.12	2.5
SC5 - Headwall	13/2 am	Yes	Adjacent Bay	None	7.67	1.8
SC5 - Headwall	13/2 pm	Yes	Adjacent Bay	None	7.32	1
SC5 - Headwall	14/2 am	Yes	Adjacent Bay	None	7.8	1.5
SC5 - Headwall	14/2 pm	Yes	Adjacent Bay	None	7.45	1.8
SC5 - Headwall	15/2 am	Yes	Adjacent Bay	None	7.29	1.2
SC5 - Headwall	15/2 pm	Yes	Adjacent Bay	None	7.53	1.7
SC5 - Headwall	18/2 am	Yes	Adjacent Bay	None	7.1	2.7
SC5 - Headwall	18/2 pm	Yes	Adjacent Bay	None	7.34	2.4
SC5 - Headwall	19/2 am	Yes	Adjacent Bay	None	7.04	2.8
SC5 - Headwall	19/2 pm	Yes	Adjacent Bay	None	7.56	2.1
SC5 - Headwall	20/2am	Yes	Adjacent Bay	None	7.9	2.6
SC5 - Headwall	20/2pm	Yes	Adjacent Bay	None	7.89	2.1
SC5 - Headwall	21/2am	Yes	Adjacent Bay	None	7.64	1.8
SC5 - Headwall	21/2pm	Yes	Adjacent Bay	None	7.2	1.2
SC5 - Headwall	22/2am	Yes	Adjacent Bay	None	7.73	1.9
SC5 - Headwall	22/2 pm	Yes	Adjacent Bay	None	7.17	1.2
SC5 - Headwall	25/2 am	Yes	Adjacent Bay	None	7.89	3.9
SC5 - Headwall	25/2 pm	Yes	Adjacent Bay	None	7	3.1
SC5 - Headwall	26/2 am	Yes	Adjacent Bay	None	7.31	3
SC5 - Headwall	26/2 pm	Yes	Adjacent Bay	None	7.43	2.4
SC5 - Headwall	27/2 am	Yes	Adjacent Bay	None	7.37	2.3
SC5 - Headwall	27/2 pm	Yes	Adjacent Bay	None	7.02	1.9
SC5 - Headwall	28/2 am	Yes	Adjacent Bay	None	7.21	1.4
SC5 - Headwall	28/2 pm	Yes	Adjacent Bay	None	7.11	0.4
Estuary Reading	4/2 am	N/A	N/A	None	7.98	1.5
Estuary Reading	12/2 pm	N/A	N/A	None	7.34	2.9
Estuary Reading	19/2 am	N/A	N/A	None	7.2	1.6
Estuary Reading	27/2 pm	N/A	N/A	None	7.54	1.8

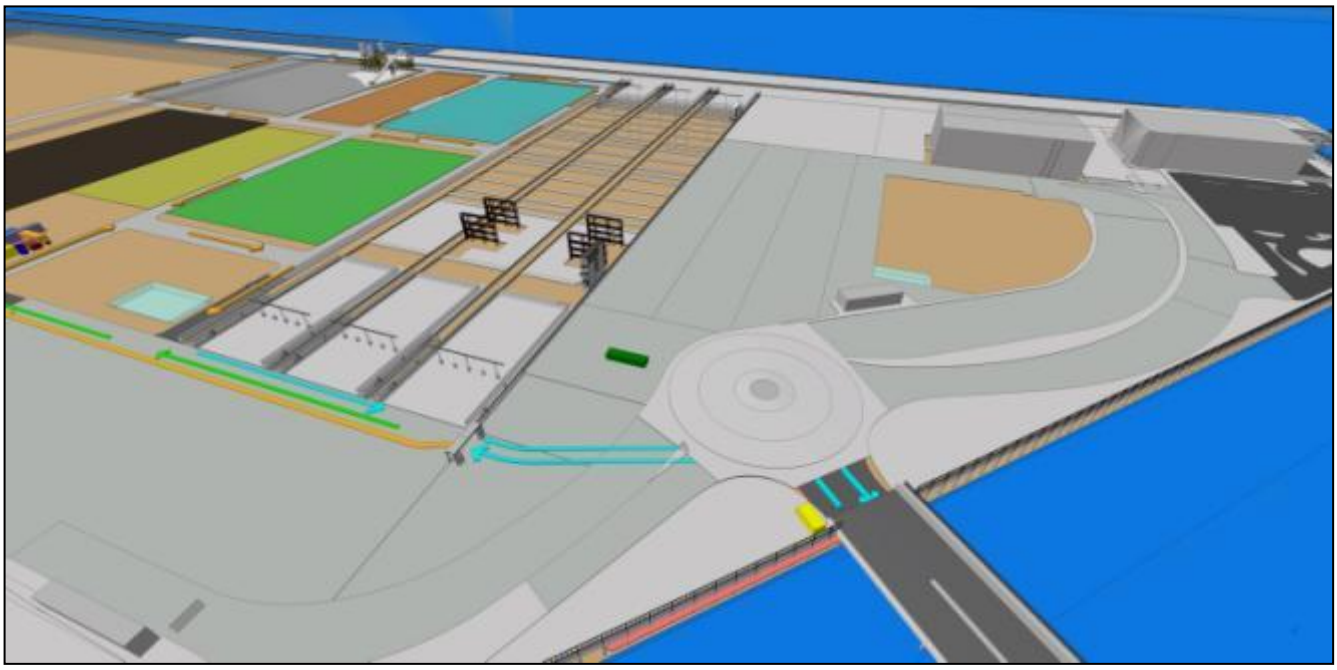
Appendix 4 – Terminal 3 Shorebird Observations

Shorebird Monitoring Database - SPBT3 worksite				
Date	**Bird Type**	**Location**	**Reported by**	**Action**
7/02/2013	Pacific Golden Plover	8No. At SC10 revetment	J. Ambler	Not near active works, no action required
13/02/2013	Pacific Golden Plover	10No. At SC10 revetment	J. Ambler	Not near active works, no action required
13/02/2013	Bar Tailed Godwit	1No. at SC10 revetment	J. Ambler	Not near active works, no action required
25/02/2013	Little Tern	5No. Observed flying over SC10	E. Yasseen	Not on active work site, no action required

Sydney Port Botany Terminal 3

Monthly Environmental Monitoring Report

January 2013



Client:	SICTL
Client's Representative:	Mott McDonald
LORA Contract No.:	G52

Controlled Copy no.: 1

Revision History

Rev	Date	Description	Reviewed	INT/Date	Authorised
0	04/02/13	Issue	JA	04/02/13	JA

Contents:

1.0 Introduction 4

1.1 Construction Activities 4

2.0 Dust Monitoring and Air Quality 4

3.0 Noise Monitoring 4

3.1 Day time noise monitoring 4

3.2 Night time noise monitoring 5

4.0 Soil and Water Quality Monitoring 5

4.1 Water Monitoring 5

5.0 Shorebird Monitoring 5

6.0 Environmental Inspections and Audits 5

7.0 Appendices 6

Appendix 1 – Dust Deposition Results 7

Appendix 2 – Day-time Noise Monitoring Results 8

Appendix 3 – Water Monitoring Results 9

Appendix 4 – Terminal 3 Shorebird Observations 12

1.0 Introduction

This report provides results for environmental monitoring activities associated with the Terminal 3 expansion at Port Botany for the month of January 2013.

Monitoring has been undertaken for dust, noise, and water quality.

No official environmental complaints have been received this month in regards to the Terminal 3 expansion works.

1.1 Construction Activities

Construction activities undertaken for the month of January 2012 included the following:

- Earthworks and ground improvements
- Drainage activities and headwall an SQID installation
- Precast concrete fabrication for utilities and services work
- Commencing of concrete batch plant installation
- Continuous Flight Augur piling for the stacking crane rail beams.

2.0 Dust Monitoring and Air Quality

Three dust deposition gauges are installed in the areas surrounding the Port Botany Expansion. Dust deposition results for January 2013 have yet to be received from our laboratory. Dust deposition results for December 2012 are given in this report and are outlined in Appendix 1. A real-time dust monitor has been installed at the Botany Golf Club for reporting of PM_{10} particulate matter. No exceedances of project or EPA criteria have been observed during January 2013.

There has been no official dust complaints received this month. All results are within EPA and Project criteria.

3.0 Noise Monitoring

Monthly construction noise monitoring was undertaken during January 2013. Noise monitoring locations have been based on noise-sensitive receptors in the project Environmental Impact Statement and approved for the Port Botany Expansion construction activities.

Attended noise measurements were carried out for a period of 15 minutes at each location. During the monitoring event, observations were made on the weather as well as the surrounding noise sources and environment.

3.1 Day time noise monitoring

Noise measurements were undertaken on 21st January 2013. Work activities being undertaken on the Terminal 3 project included ground improvements and earthworks, headwall and drainage works, concrete precast works, CFA piling operations and material deliveries.

The Interim Construction Noise Guideline (2009, DECCW) sets out management levels for noise at residences and how they are to be applied. This guideline has been used in conjunction with the project Environmental Impact Statement to determine noise goals for the project. Recorded LAeq levels exceeded the noise goals for noise emissions from the Port Botany expansion Project at all locations except one, 3 Anniversary Road, Botany. However at each monitoring location, extraneous, non-project related noises were the dominant noise sources. These noise sources included road traffic, both local and main, and aircraft noise.

Construction activities at the Terminal 3 project site were inaudible in all cases.

It is noted that the intent of the Interim Construction Noise Guideline is to minimise noise impact from the construction works and is only applicable to the contribution of the noise from the Port Botany construction

site. At the attended monitoring events, as has been noted on other stages of the Port Botany expansion project, the measured noise levels were controlled and dominated by other extraneous noise sources as listed above.

Day-time noise monitoring results are shown in Appendix 2.

3.2 Night time noise monitoring

No night time monitoring was required to be undertaken for the Terminal 3 project site.

4.0 Soil and Water Quality Monitoring

Physical water parameters required to be monitored are pH, turbidity and visible oil and grease when dewatering activities are undertaken. Other contaminants may be tested for in areas of concern if the presence of contamination is observed.

4.1 Water Monitoring

Water monitoring has been undertaken during January for dewatering activities undertaken during the installation of drainage headwalls and Stormwater Quality Improvement Devices (SQIDs) and approaching drainage lines on the border of the Terminal 3 site. All dewatering results have been compliant with the discharge criteria set in the project Environmental Impact Statement. Dewatering results are summarised in Appendix 3.

5.0 Shorebird Monitoring

Shorebird observations from the Terminal 3 site during January 2013 are outlined in Appendix 4. A little tern chick was found on site with two adults and monitored in conjunction with the project Avian Ecologist. The chick is thought to have taken flight with the adults and started its northward migration.

6.0 Environmental Inspections and Audits

Weekly environmental inspections have been undertaken during January 2013 for the Terminal 3 project site. No significant environmental issues were observed or identified.

It is noted that a citrus based material previously trialled for stockpiles and unused, reclaimed areas of the Terminal 3 site has proved to be successful. This product forms a hardened crust on the top layer of the sand to prevent dusty conditions during high winds.

Completed inspection sheets may be available on request.

7.0 Appendices

Appendix 1 – Dust Deposition Results
Appendix 2 – Day-time Noise Monitoring Results
Appendix 3 – Water Monitoring Results
Appendix 4 – Terminal 3 Shorebird Observations

Appendix 1 – Dust Deposition Results

Dust Deposition Gauge Results - December 2012										
No.	Monitoring Location	Ash	Combustible matter	Total Soluble matter	Total Insoluble matter	Total Solids	Sample ID (File Reference)	EPA Guideline (Total Insoluble matter)	Comments (i.e. any exceedances of EPA objectives)	Work Activities / Observations During Monitoring Period
1	Upper Penrhyn Estuary	1.1	0.4	1.1	1.5	2.6	EN1300168-003	4	Within EPA guideline levels	Eathworks Drainge works Material deliveries Concrete precast fabrication CFA Piling
2	14 The Esplanade	0.4	0.1	0.8	0.5	1.3	EN1300168-001	4	Within EPA guideline levels	
3	74 Australia Ave	0.8	0.2	1.5	1	2.5	EN1300168-002	4	Within EPA guideline levels	

All Units in g/m².month

Appendix 2 – Day-time Noise Monitoring Results

Noise Monitoring Results - SPBT3 January 2013

Noise Sensitive Area	Monitoring Location	Date	Time (24hr) & Duration (mins)	Construction Activities	Standard or Out of Hours Works (Day/Evening/Night)	Weather Conditions	In Response to Complaint?	RBL (dBA) - from EIS	Noise Goal[1] (RBL+ 5dBA)	Recorded Noise Level LAeq (15 min) (dBA)	Recorded Noise Level LA1 (dBA)	Recorded Noise Level LA10 (dBA)	Recorded Noise Level L90 (dBA)	Noise Goal Difference (dBA)	Comments
Location 1 - Chelmsford Avenue	14 The Esplanande	21/01/2013	8:20	Ground improvement works Headwall and drainage works Concrete precast works Material deliveries CFA Piling Works	Standard Day	Fine	No	49	54	57	70	55	46	3	Noise from Foreshore Rd traffic, aircraft noise, local traffic, birds in park
Location 2 - Dent Street	34 Dent St	21/01/2013	9:05	Ground improvement works Headwall and drainage works Concrete precast works Material deliveries CFA Piling Works	Standard Day	Fine	No	47	52	61	65	63	58	9	Local traffic noise, aircraft noise
Location 3 - Jennings Street	42 Jenning St	21/01/2013	11:30	Ground improvement works Headwall and drainage works Concrete precast works Material deliveries CFA Piling Works	Standard Day	Fine	No	40	45	57	59	56	40	12	Local traffic noise, some aircraft noise
Location 4- North of Golf Course	3 Anniversary Rd	21/01/2013	10:00	Ground improvement works Headwall and drainage works Concrete precast works Material deliveries CFA Piling Works	Standard Day	Fine	No	57	62	61	68	58	55	-1	Local traffic noise, aircraft noise
Location 5- Australia Avenue	74 Australia Ave	21/01/2013	10:35	Ground improvement works Headwall and drainage works Concrete precast works Material deliveries CFA Piling Works	Standard Day	Fine	No	42	47	49	56	50	41	2	Local/distant traffic noise, aircraft noise
Location 6- Military Road	73 Wassell St	21/01/2013	12:30	Ground improvement works Headwall and drainage works Concrete precast works Material deliveries CFA Piling Works	Standard Day	Fine	No	46	51	56	64	59	45	5	Noise from Bunnerong Rd, Local traffic noise

Note 1: Noise goals are applicable to the noise contribution from the Terminal 3 Port Botany Expansion related construction activities only

Appendix 3 – Water Monitoring Results

Dewatering Discharge Monitoring						
Dewatering Location	Date	Meets Criteria	Discharge Location	Horiba Water Monitor		
				Oil and Grease (visual)	pH	Turbidity
SC3 - Outlet	5/1 AM	Yes	Adjacent Bay	None	7.64	0.7
SC3 - Outlet	5/1 PM	Yes	Adjacent Bay	None	7.83	1.7
SC3 - Outlet	7/1 AM	Yes	Adjacent Bay	None	7.98	0.9
SC3 - Outlet	7/1 PM	Yes	Adjacent Bay	None	8.03	0.4
SC3 - Outlet	8/1 AM	Yes	Adjacent Bay	None	7.59	1.9
SC3 - Outlet	8/1 PM	Yes	Adjacent Bay	None	7.42	1.1
SC3 - Outlet	9/1 AM	Yes	Adjacent Bay	None	8.12	0.6
SC3 - Outlet	9/1 PM	Yes	Adjacent Bay	None	7.87	0.6
SC3 - Outlet	10/1 AM	Yes	Adjacent Bay	None	7.54	0.3
SC3 - Outlet	10/1 PM	Yes	Adjacent Bay	None	7.56	1.2
SC3 - Outlet	11/1/AM	Yes	Adjacent Bay	None	7.89	1.1
SC3 - Outlet	11/1 PM	Yes	Adjacent Bay	None	8.12	1.8
SC3 - Outlet	14/1 AM	Yes	Adjacent Bay	None	8.02	0.4
SC3 - Outlet	14/1 PM	Yes	Adjacent Bay	None	7.35	1.6
SC3 - Outlet	15/1 AM	Yes	Adjacent Bay	None	7.52	2.1
SC3 - Outlet	15/1 PM	Yes	Adjacent Bay	None	7.17	1.6
SC3 - Outlet	16/1 AM	Yes	Adjacent Bay	None	7.58	0.2
SC3 - Outlet	16/1 PM	Yes	Adjacent Bay	None	7.29	0.0
SC3 - Outlet	17/1 AM	Yes	Adjacent Bay	None	7.83	0.9
SC3 - Outlet	17/1 PM	Yes	Adjacent Bay	None	7.26	1.0
SC3 - Outlet	18/1 AM	Yes	Adjacent Bay	None	7.45	1.1
SC3 - Outlet	18/1 PM	Yes	Adjacent Bay	None	7.76	1.1
SC3 - Outlet	21/1 AM	Yes	Adjacent Bay	None	7.81	0.7
SC3 - Outlet	21/1 PM	Yes	Adjacent	None	7.02	0.5

			Bay			
SC3 - Outlet	22/1 AM	Yes	Adjacent Bay	None	7.12	1.3
SC3 - Outlet	22/1 PM	Yes	Adjacent Bay	None	7.31	0.6
SC3 - Outlet	23/1 AM	Yes	Adjacent Bay	None	7.91	1.3
SC3 - Outlet	23/1 PM	Yes	Adjacent Bay	None	7.53	0.4
SC3 - Outlet	24/1 AM	Yes	Adjacent Bay	None	7.79	1.9
SC3 - Outlet	24/1 PM	Yes	Adjacent Bay	None	7.86	0.3
SC3 - Outlet	25/1 AM	Yes	Adjacent Bay	None	7.43	1.2
SC3 - Outlet	25/1 PM	Yes	Adjacent Bay	None	7.45	0.8
SC3 - Outlet	28/1 AM	Yes	Adjacent Bay	None	8.21	0.7
SC3 - Outlet	28/1 PM	Yes	Adjacent Bay	None	7.48	1.6
SC3 - Outlet	29/1 AM	Yes	Adjacent Bay	None	7.28	1.3
SC3 - Outlet	29/1 PM	Yes	Adjacent Bay	None	7.65	2.0
SC3 - Outlet	30/1 AM	Yes	Adjacent Bay	None	7.49	0.8
SC3 - Outlet	30/1 PM	Yes	Adjacent Bay	None	7.31	0.2
SC3 - Outlet	31/1 AM	Yes	Adjacent Bay	None	7.83	0.3
SC3 - Outlet	31/1 PM	Yes	Adjacent Bay	None	7.75	1.3
Bay Reading	7/1 AM	N/A	N/A	None	7.89	0.4
Bay Reading	15/1 AM	N/A	N/A	None	7.37	1.0
Bay Reading	23/1 AM	N/A	N/A	None	7.99	0.8
Bay Reading	30/1 PM	N/A	N/A	None	7.64	1.5
SC10 - SQID	11/1 AM	Yes	Adjacent Bay	None	7.86	1.3
SC10 - SQID	11/1 PM	Yes	Adjacent Bay	None	8.23	1
SC10 - SQID	14/1 AM	Yes	Adjacent Bay	None	8.04	2.1
SC10 - SQID	14/1 PM	Yes	Adjacent Bay	None	7.96	0.6
SC10 - SQID	15/1 AM	Yes	Adjacent Bay	None	8.16	0.4
SC10 - SQID	15/1 PM	Yes	Adjacent Bay	None	8.12	1.5
SC10 - SQID	16/1 AM	Yes	Adjacent Bay	None	7.56	1.2
SC10 - SQID	16/1 PM	Yes	Adjacent Bay	None	7.75	0.6
SC10 - SQID	17/1 AM	Yes	Adjacent Bay	None	7.91	1.4

SC10 - SQID	17/1 PM	Yes	Adjacent Bay	None	7.27	0.2
SC10 - SQID	18/1 AM	Yes	Adjacent Bay	None	7.19	0.1
SC10 - SQID	18/1 PM	Yes	Adjacent Bay	None	7.86	0.2
SC10 - SQID	21/1 AM	Yes	Adjacent Bay	None	7.39	0.1
SC10 - SQID	21/1 PM	Yes	Adjacent Bay	None	8.11	0.7
SC10 - SQID	22/1 AM	Yes	Adjacent Bay	None	7.89	1.4
SC10 - SQID	22/1 PM	Yes	Adjacent Bay	None	8.00	0.9
SC10 - SQID	23/1 AM	Yes	Adjacent Bay	None	8.11	1.2
SC10 - SQID	23/1 PM	Yes	Adjacent Bay	None	7.54	1.8
SC10 - SQID	24/1 AM	Yes	Adjacent Bay	None	7.61	1.3
SC10 - SQID	24/1 PM	Yes	Adjacent Bay	None	7.89	0.6
SC10 - SQID	25/1 AM	Yes	Adjacent Bay	None	7.64	0.4
SC10 - SQID	25/1 PM	Yes	Adjacent Bay	None	7.05	0.8
SC10 - SQID	28/1 AM	Yes	Adjacent Bay	None	7.32	0.6
SC10 - SQID	28/1 PM	Yes	Adjacent Bay	None	7.63	1.8
SC10 - SQID	29/1 AM	Yes	Adjacent Bay	None	7.98	0.3
SC10 - SQID	29/1 PM	Yes	Adjacent Bay	None	7.41	1.3
SC10 - SQID	30/1 AM	Yes	Adjacent Bay	None	7.28	0
SC10 - SQID	30/1 PM	Yes	Adjacent Bay	None	7.12	0.4
SC10 - SQID	31/1 AM	Yes	Adjacent Bay	None	7.52	0.2
SC10 - SQID	31/1 PM	Yes	Adjacent Bay	None	7.67	0.5
Estuary Reading	14/1 PM	N/A	N/A	None	7.86	0.6
Estuary Reading	21/1 AM	N/A	N/A	None	7.69	1.2
Estuary Reading	30/1 PM	N/A	N/A	None	7.89	1.4

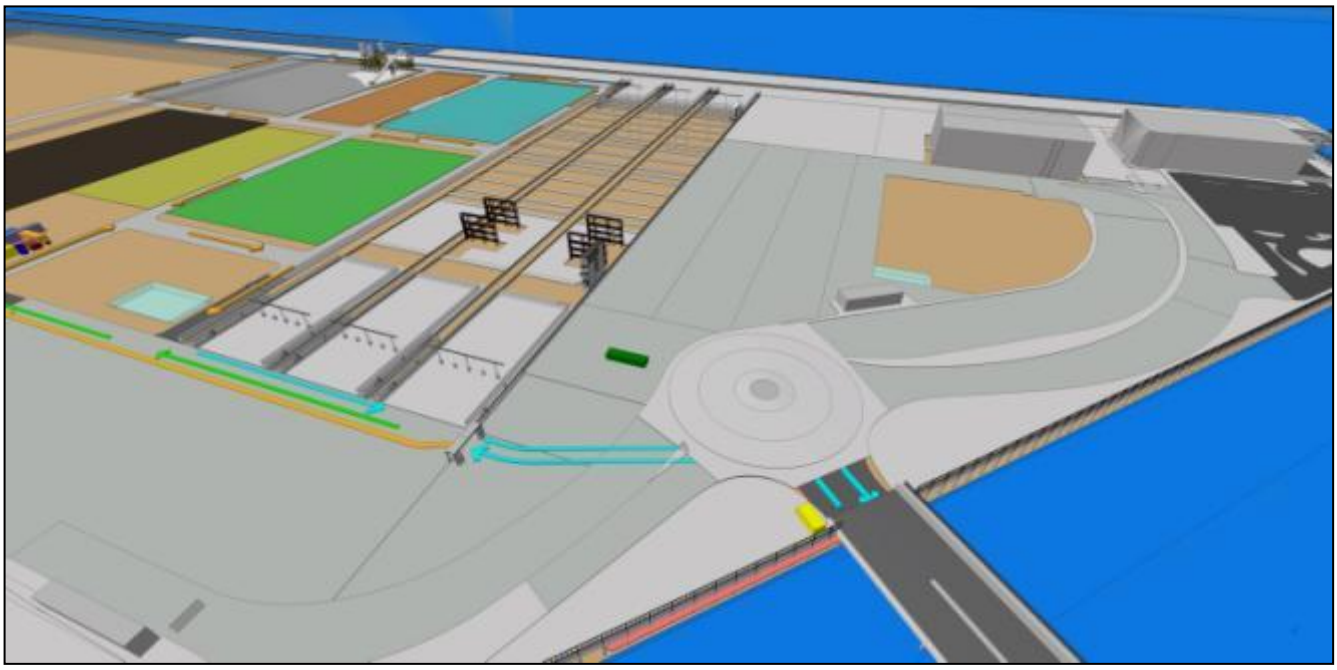
Appendix 4 – Terminal 3 Shorebird Observations

Shorebird Monitoring Database - SPBT3 worksite				
Date	**Bird Type**	**Location**	**Reported by**	**Action**
15/01/2012	Pacific Golden Plover	12No. At SC10 revetment	J Ambler	Birds not near active works, no action required.
16/01/2012	Little Tern	2No. Adults and one chick at crane rail beam in future phase area 3A	Lachlan Government Survey Team	Inspection by Environment Manager undertaken, site cordoned off with water barriers and flagging, site team made aware of finding. Avian ecologist was contacted and confirmed Little Tern. No works forecast in this area. Monitoring of birds to continue.
22/01/2012	Little Tern	2No. Adults and one chick at crane rail beam in future phase area 3A	Phil Straw - Avian Ecologist	Ecologist on site to check on Little Tern chick. Advised that it should be flying in about a week.
22/01/2012	Pacific Golden Plover	10No. At SC10 revetment	J Ambler	Birds not near active works, no action required.
22/01/2012	Bar Tailed Godwit	2No. at SC10 revetment	J Ambler	Birds not near active works, no action required.
30/01/2012	Little Tern	7No. Off SC2 seawall	J Ambler	Birds not near active works, no action required.

Sydney Port Botany Terminal 3

Monthly Environmental Monitoring Report

December 2012



Client:	SICTL
Client's Representative:	Mott McDonald
LORA Contract No.:	G52

Controlled Copy no.: 1

Revision History

Rev	Date	Description	Reviewed	INT/Date	Authorised
0	07/01/12	Issue	JA	07/01/12	JA

Management Reviews

Review Date	Reviewed By	Details	Initial	Date

Contents:

1.0 Introduction 4

1.1 Construction Activities 4

2.0 Dust Monitoring and Air Quality 4

3.0 Noise Monitoring 4

3.1 Day time noise monitoring 4

3.2 Night time noise monitoring 5

4.0 Soil and Water Quality Monitoring 5

4.1 Water Monitoring 5

5.0 Shorebird Monitoring 5

6.0 Environmental Inspections and Audits 5

7.0 Appendices 6

Appendix 1 – Dust Deposition Results 7

Appendix 2 – Day-time Noise Monitoring Results 8

Appendix 3 – Water Monitoring Results 9

Appendix 4 – Terminal 3 Shorebird Observations 11

1.0 Introduction

This report provides results for environmental monitoring activities associated with the Terminal 3 expansion at Port Botany for the month of December 2012.

Monitoring has been undertaken for dust, noise, and water quality.

No environmental complaints have been received this month in regards to the Terminal 3 expansion works. Results have been received in regards to a vibration complaint received from a residential address during November 2012. Vibration monitoring was undertaken at the residence with results indicating that the Terminal 3 construction works were not the source of any perceivable vibration or noise.

1.1 Construction Activities

Construction activities undertaken for the month of December 2012 included the following:

- Earthworks and ground improvements
- Drainage activities and headwall installation
- Precast concrete fabrication for utilities and services work
- Commencing of concrete batch plant installation .

2.0 Dust Monitoring and Air Quality

Three dust deposition gauges are installed in the areas surrounding the Port Botany Expansion. Dust deposition results for December 2012 have yet to be received from our laboratory. Dust deposition results for November are given in this report and are outlined in Appendix 1. All results are within EPA criteria.

There has been no dust complaints received this month.

A real-time dust monitor is being installed at Botany Golf Club in conjunction with Botany Council for reporting of PM_{10} particulate matter. Results will be included in the January 2013 environmental monitoring report.

3.0 Noise Monitoring

Monthly construction noise monitoring was undertaken during December 2012. Noise monitoring locations have been based on noise-sensitive receptors in the project Environmental Impact Statement and approved for the Port Botany Expansion construction activities.

Attended noise measurements were carried out for a period of 15 minutes at each location. During the monitoring event, observations were made on the weather as well as the surrounding noise sources and environment.

3.1 Day time noise monitoring

Noise measurements were undertaken on 18th December 2012. Work activities being undertaken on the Terminal 3 project included ground improvement and earthworks, headwall and drainage works, concrete precast works and material deliveries.

The Interim Construction Noise Guideline (2009, DECCW) sets out management levels for noise at residences and how they are to be applied. This guideline has been used in conjunction with the project Environmental Impact Statement to determine noise goals for the project. Recorded LAeq levels exceeded the noise goals for noise emissions from the Port Botany expansion Project at all locations except one, 3 Anniversary Road, Botany. However at each monitoring location, extraneous, non-project related noises were the dominant noise sources. These noise sources included road traffic, both local and main, and aircraft noise.

Construction activities at the Terminal 3 project site were inaudible in all cases.

It is noted that the intent of the Interim Construction Noise Guideline is to minimise noise impact from the construction works and is only applicable to the contribution of the noise from the Port Botany construction site. At the attended monitoring events, as has been noted on other stages of the Port Botany expansion project, the measured noise levels were controlled and dominated by other extraneous noise sources as listed above.

Day-time noise monitoring results are shown in Appendix 2.

3.2 Night time noise monitoring

No night time monitoring was required to be undertaken for the Terminal 3 project site.

4.0 Soil and Water Quality Monitoring

Physical water parameters required to be monitored are pH, turbidity and visible oil and grease when dewatering activities are undertaken. Other contaminants may be tested for in areas of concern if the presence of contamination is observed.

4.1 Water Monitoring

Water monitoring has been undertaken during December for dewatering activities undertaken during the installation of drainage headwalls and Stormwater Quality Improvement Devices (SQIDs) and approaching drainage lines on the border of the Terminal 3 site. All dewatering results have been compliant with the discharge criteria set in the project Environmental Impact Statement. Dewatering results are summarised in Appendix 3.

5.0 Shorebird Monitoring

Shorebird observations from the Terminal 3 site during December 2012 are outlined in Appendix 4. Pacific Golden Plovers and Pied Oyster Catchers have been noted on the site.

6.0 Environmental Inspections and Audits

Weekly environmental inspections have been undertaken during December for the Terminal 3 project site. No significant environmental issues were observed or identified.

It is noted that a citrus based material has been trialled for stockpiles and unused, reclaimed areas of the Terminal 3 site. This product forms a hardened crust on the top layer of the sand to prevent dusty conditions during high winds.

Completed inspection sheets may be available on request.

7.0 Appendices

Appendix 1 – Dust Deposition Results
Appendix 2 – Day-time Noise Monitoring Results
Appendix 3 – Water Monitoring Results
Appendix 4 – Terminal 3 Shorebird Observations

Appendix 1 – Dust Deposition Results

Dust Deposition Gauge Results - December 2012										
No.	Monitoring Location	Ash	Combustible matter	Total Soluble matter	Total Insoluble matter	Total Solids	Sample ID (File Reference)	EPA Guideline (Total Insoluble matter)	Comments (i.e. any exceedances of EPA objectives)	Work Activities / Observations During Monitoring Period
1	Upper Penrhyn Estuary	1.9	0.6	1.4	2.5	3.9	EN1204679-003	4	Within EPA guideline levels	Ground improvements Headwall installation Drainge works Material deliveries Concrete precast fabrication
2	14 The Esplanade	0.5	0.2	0.2	0.7	0.9	EN1204679-001	4	Within EPA guideline levels	
3	74 Australia Ave	1.3	0.3	0.8	1.6	2.4	EN1204679-002	4	Within EPA guideline levels	

All Units in g/m².month

Appendix 2 – Day-time Noise Monitoring Results

Noise Monitoring Results - SPBT3 December 2012

Noise Sensitive Area	Monitoring Location	Date	Time (24hr) & Duration (mins)	Construction Activities	Standard or Out of Hours Works (Day/Evening/Night)	Weather Conditions	In Response to Complaint?	RBL (dBA) - from EIS	Noise Goal[1] (RBL+ 5dBA)	Recorded Noise Level LAeq (15 min) (dBA)	Recorded Noise Level LA1 (dBA)	Recorded Noise Level LA10 (dBA)	Recorded Noise Level L90 (dBA)	Noise Goal Difference (dBA)	Comments
Location 1 - Chelmsford Avenue	14 The Esplanande	18/12/2012	8:35	Ground improvement works Headwall and drainage works Concrete precast works Material deliveries	Standard Day	Fine	No	49	54	59	75	59	48	5	Noise from Foreshore Rd traffic, some aircraft noise, local traffic, dog barking during monitoring
Location 2 - Dent Street	34 Dent St	18/12/2012	9:20	Ground improvement works Headwall and drainage works Concrete precast works Material deliveries	Standard Day	Fine	No	47	52	60	65	61	57	8	Local traffic noise, aircraft noise
Location 3 - Jennings Street	42 Jenning St	18/12/2012	11:45	Ground improvement works Headwall and drainage works Concrete precast works Material deliveries	Standard Day	Fine	No	40	45	56	63	58	42	11	Local traffic noise, some aircraft noise
Location 4- North of Golf Course	3 Anniversary Rd	18/12/2012	10:05	Ground improvement works Headwall and drainage works Concrete precast works Material deliveries	Standard Day	Fine	No	57	62	54	62	55	50	-8	Local traffic noise, aircraft noise
Location 5- Australia Avenue	74 Australia Ave	18/12/2012	10:50	Ground improvement works Headwall and drainage works Concrete precast works Material deliveries	Standard Day	Fine	No	42	47	50	56	51	42	3	Local/distant traffic noise, aircraft noise
Location 6- Military Road	73 Wassell St	18/12/2012	12:35	Ground improvement works Headwall and drainage works Concrete precast works Material deliveries	Standard Day	Fine	No	46	51	59	66	62	46	8	Noise from Bunnerong Rd

Note 1: Noise goals are applicable to the noise contribution from the Terminal 3 Port Botany Expansion related construction activities only

Appendix 3 – Water Monitoring Results

Dewatering Discharge Monitoring						
Dewatering Location	Date	Meets Criteria	Discharge Location	Horiba Water Monitor		
				Oil and Grease (visual)	pH	Turbidity
SC2a - SQIDs	3/12 AM	Yes	Adjacent Bay	None	7.86	0.0
SC2a - SQIDs	3/12 PM	Yes	Adjacent Bay	None	7.96	1.2
SC2a - SQIDs	4/12 AM	Yes	Adjacent Bay	None	8.23	0.4
SC2a - SQIDs	4/12 PM	Yes	Adjacent Bay	None	8.35	0.6
SC2a - SQIDs	5/12 AM	Yes	Adjacent Bay	None	7.34	1.6
SC2a - SQIDs	5/12 PM	Yes	Adjacent Bay	None	7.78	0.5
SC2a - SQIDs	6/12 AM	Yes	Adjacent Bay	None	8.09	0.6
SC2a - SQIDs	6/12 PM	Yes	Adjacent Bay	None	7.45	1.7
SC2a - SQIDs	7/12 AM	Yes	Adjacent Bay	None	7.61	2.2
SC2a - SQIDs	7/12 PM	Yes	Adjacent Bay	None	7.12	0.6
SC2a - SQIDs	10/12 AM	Yes	Adjacent Bay	None	7.74	0.5
SC2a - SQIDs	10/12 PM	Yes	Adjacent Bay	None	7.12	0.0
SC2a - SQIDs	11/12 AM	Yes	Adjacent Bay	None	7.32	1.2
SC2a - SQIDs	11/12 PM	Yes	Adjacent Bay	None	7.34	1.9
SC2a - SQIDs	12/12 AM	Yes	Adjacent Bay	None	7.85	2.0
SC2a - SQIDs	12/12 PM	Yes	Adjacent Bay	None	7.98	2.1
SC2a - SQIDs	13/12 AM	Yes	Adjacent Bay	None	8.24	1.8
SC2a - SQIDs	13/12 PM	Yes	Adjacent Bay	None	7.76	0.3
SC2a - SQIDs	14/12 AM	Yes	Adjacent Bay	None	7.86	0.2
SC2a - SQIDs	14/12 PM	Yes	Adjacent Bay	None	7.95	1.6
SC2a - SQIDs	17/12 AM	Yes	Adjacent Bay	None	8.12	0.9
SC2a - SQIDs	17/12 PM	Yes	Adjacent Bay	None	7.32	1.2
SC2a - SQIDs	18/12 AM	Yes	Adjacent Bay	None	7.69	0.4
SC2a - SQIDs	18/12 PM	Yes	Adjacent Bay	None	7.53	1.7
Bay Reading	6/12 PM	N/A	N/A	None	7.86	0.4
Bay Reading	14/12 PM	N/A	N/A	None	8.00	1.3
SC3 - Outlet	7/12 AM	Yes	Adjacent Bay	None	7.54	0.1
SC3 - Outlet	7/12 PM	Yes	Adjacent Bay	None	7.42	1.7
SC3 - Outlet	10/12 AM	Yes	Adjacent Bay	None	8.34	2.1
SC3 - Outlet	10/12 PM	Yes	Adjacent Bay	None	8.22	2.2
SC3 - Outlet	11/12 AM	Yes	Adjacent Bay	None	7.68	1.8
SC3 - Outlet	11/12 PM	Yes	Adjacent Bay	None	7.65	1.5
SC3 - Outlet	12/12 AM	Yes	Adjacent Bay	None	7.23	0.2
Bay Reading	7/12 PM	N/A	N/A	None	7.89	1.6
Bay Reading	14/12 PM	N/A	N/A	None	7.94	0.4
SC5a - SQIDs	3/12 AM	Yes	Adjacent Bay	None	7.12	1.8
SC5a - SQIDs	3/12 PM	Yes	Adjacent Bay	None	7.43	0.9
SC5a - SQIDs	4/12 AM	Yes	Adjacent Bay	None	7.65	1.1

SC5a - SQIDs	4/12 PM	Yes	Adjacent Bay	None	7.63	0.5
SC5a - SQIDs	5/12 AM	Yes	Adjacent Bay	None	7.34	0.5
SC5a - SQIDs	5/12 PM	Yes	Adjacent Bay	None	7.29	2.2
Estuary	4/12 PM	N/A	N/A	None	7.85	0.3
SC10 - Headwalls	10/12 PM	Yes	Adjacent Bay	None	8.05	3.4
SC10 - Headwalls	11/12 AM	Yes	Adjacent Bay	None	7.98	2.8
SC10 - Headwalls	11/12 PM	Yes	Adjacent Bay	None	8.12	3.1
SC10 - Headwalls	12/12 AM	Yes	Adjacent Bay	None	7.87	2.6
Estuary	10/12 PM	N/A	N/A	None	7.98	1.3

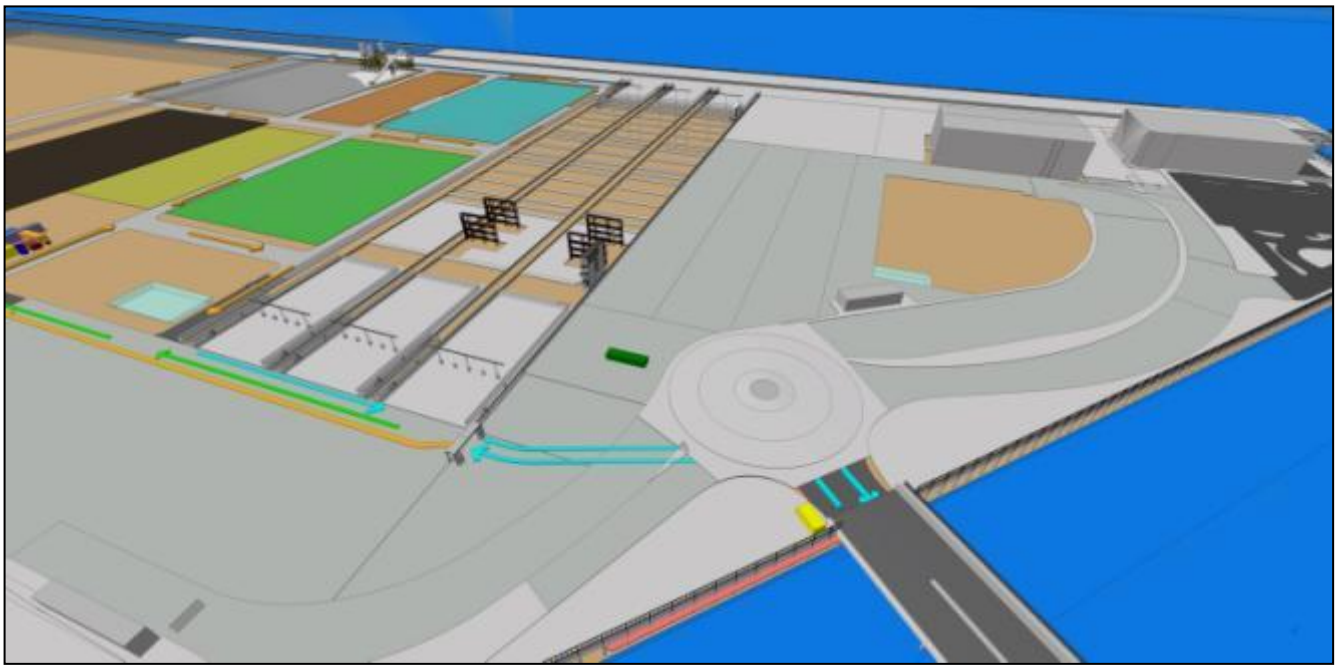
Appendix 4 – Terminal 3 Shorebird Observations

Shorebird Monitoring Database - SPBT3 worksite				
Date	**Bird Type**	**Location**	**Reported by**	**Action**
14/12/2012	Pacific Golden Plover	4 No. At SC10	J Ambler	Birds dispersed from site on approach, area to be monitored
15/12/2012	Pied Oyster Catcher	2 No. At future phase area 3A	C Spinetti	Inspection by Environment Manager undertaken, no birds observed. No works forecast in this area during this breeding season so no further action taken

Sydney Port Botany Terminal 3

Monthly Environmental Monitoring Report

November 2012



Client:	SICTL
Client's Representative:	Mott McDonald
LORA Contract No.:	G52

Controlled Copy no.: 1

Revision History

Rev	Date	Description	Reviewed	INT/Date	Authorised
0		Issue	JA	5/12/12	JA

Management Reviews

Review Date	Reviewed By	Details	Initial	Date

Contents:

1.0 Introduction 4

1.1 Construction Activities 4

2.0 Dust Monitoring and Air Quality 4

3.0 Noise Monitoring 4

3.1 Day time noise monitoring 4

3.2 Night time noise monitoring 5

4.0 Soil and Water Quality Monitoring 5

4.1 Water Monitoring 5

4.2 Soil Monitoring 5

5.0 Shorebird Monitoring 5

6.0 Environmental Inspections and Audits 5

7.0 Appendices 6

Appendix 1 – Day-time Noise Monitoring Results 7

Appendix 2 – Water Monitoring Results 8

Appendix 3 – Terminal 3 Shorebird Observations 12

1.0 Introduction

This report provides results for environmental monitoring activities associated with the Terminal 3 expansion at Port Botany for the month of November 2012.

Monitoring is undertaken for dust, noise, soil and water quality (where required).

One environmental complaint has been received this month in regards to the Terminal 3 expansion works. A complaint regarding vibration was received from a residential address. Vibration monitoring has been organised with the resident and undertaken. Results will be given in next month's environmental report once investigations are complete.

1.1 Construction Activities

Construction activities undertaken for the month of October 2012 included the following:

- Final set up of site sheds, offices and temporary haul roads
- Earthworks and ground improvements
- Drainage activities and headwall installation
- Concrete precast sections have been made on site for future services and utilities works.

2.0 Dust Monitoring and Air Quality

Three dust deposition gauges are installed in the areas surrounding the Port Botany Expansion. Dust deposition results have yet to be received from our laboratory. Dust deposition results for November will be given in the following environmental report. There has been no dust complaints received this month.

A real-time dust monitor is set to be installed at Botany Golf Club for reporting of PM_{10} particulate matter. Results will be given in future environmental monitoring reports.

3.0 Noise Monitoring

Monthly construction noise monitoring was undertaken during November 2012. Noise monitoring locations have been based on noise-sensitive receptors in the project Environmental Impact Statement and approved for the Port Botany Expansion construction activities.

Attended noise measurements were carried out for a period of 15 minutes at each location. During the monitoring event, observations were made on the weather as well as the surrounding noise sources and environment.

3.1 Day time noise monitoring

Noise measurements were undertaken on 30th November 2012. Work activities being undertaken on the Terminal 3 project included ground improvement works, drainage and headwalls and material deliveries.

The Interim Construction Noise Guideline (2009, DECCW) sets out management levels for noise at residences and how they are to be applied. This guideline has been used in conjunction with the project Environmental Impact Statement to determine noise goals for the project. Recorded LAeq levels exceeded the noise goals for noise emissions from the Port Botany expansion Project at all locations except one, 3 Anniversary Road, Botany. However at each monitoring location, extraneous, non-project related noises were the dominant noise sources. These noise sources included road traffic, both local and main, and aircraft noise.

Construction activities at the Terminal 3 project site were inaudible in all cases.

It is noted that the intent of the Interim Construction Noise Guideline is to minimise noise impact from the construction works and is only applicable to the contribution of the noise from the Port Botany construction site. At the attended monitoring events, as has been noted on other stages of the Port Botany expansion project, the measured noise levels were controlled and dominated by other extraneous noise sources as listed above.

Day-time noise monitoring results are shown in Appendix 1.

3.2 Night time noise monitoring

No night time monitoring was required to be undertaken for the Terminal 3 project site.

4.0 Soil and Water Quality Monitoring

Physical water parameters required to be monitored are pH, turbidity and visible oil and grease when dewatering activities are undertaken. Other contaminants may be tested for in areas of concern if the presence of contamination is observed.

4.1 Water Monitoring

Water monitoring has been undertaken during November for dewatering activities undertaken during the installation of drainage headwalls and Stormwater Quality Improvement Devices (SQIDs) and approaching drainage lines on the border of the Terminal 3 site. All dewatering results have been compliant with the discharge criteria set in the project Environmental Impact Statement. Dewatering results are summarised in Appendix 2.

4.2 Soil Monitoring

No soil sampling was required during November. Soil sampling may be required for future works if materials are to be taken off site or if potential acid sulphate soils (PASS) are encountered during excavations. No acid sulphate soils were identified this month.

5.0 Shorebird Monitoring

Shorebird observations from the Terminal 3 site during November 2012 are outlined in Appendix 3. Little Terns have been noted flying over the site with neighbouring land tenants and the project avian ecologist has being notified.

6.0 Environmental Inspections and Audits

Weekly environmental inspections have been undertaken during November for the Terminal 3 project site. No significant environmental issues were observed or identified.

It is noted that fresh applications of *Dust Bloc* emulsion have been undertaken for unused, reclaimed areas of the Terminal 3 site. This emulsion product forms a heavy crust on the top layer of the sand to prevent dusty conditions during high winds.

Completed inspection sheets may be available on request.

7.0 Appendices

Appendix 1 – Day-time Noise Monitoring Results
Appendix 2 – Water Monitoring Results
Appendix 3 – Terminal 3 Shorebird Observations

Appendix 1 – Day-time Noise Monitoring Results

Noise Monitoring Results - SPBT3 November 2012

Noise Sensitive Area	Monitoring Location	Date	Time (24hr) & Duration (mins)	Construction Activities	Standard or Out of Hours Works (Day/Evening/Night)	Weather Conditions	In Response to Complaint?	RBL (dBA) - from EIS	Noise Goal[1] (RBL+ 5dBA)	Recorded Noise Level LAeq (15 min) (dBA)	Recorded Noise Level LA1 (dBA)	Recorded Noise Level LA10 (dBA)	Recorded Noise Level L90 (dBA)	Noise Goal Difference (dBA)	Comments
Location 1 - Chelmsford Avenue	14 The Esplanande	30/11/2012	8:15	Ground improvement works Headwall and drainage works Material deliveries	Standard Day	Fine	No	49	54	63	78	61	50	9	Noise from Foreshore Rd traffic, aircraft noise, local traffic
Location 2 - Dent Street	34 Dent St	30/11/2012	8:55	Ground improvement works Headwall and drainage works Material deliveries	Standard Day	Fine	No	47	52	58	67	60	55	6	Local traffic noise, aircraft noise
Location 3 - Jennings Street	42 Jenning St	30/11/2012	11:15	Ground improvement works Headwall and drainage works Material deliveries	Standard Day	Fine	No	40	45	58	67	59	39	13	Local traffic noise, some aircraft noise
Location 4- North of Golf Course	3 Anniversary Rd	30/11/2012	9:45	Ground improvement works Headwall and drainage works Material deliveries	Standard Day	Fine	No	57	62	56	64	57	55	-6	Local traffic noise, aircraft noise
Location 5- Australia Avenue	74 Australia Ave	30/11/2012	10:30	Ground improvement works Headwall and drainage works Material deliveries	Standard Day	Fine	No	42	47	51	62	53	43	4	Local/distant traffic noise, aircraft noise
Location 6- Military Road	73 Wassell St	30/11/2012	12:15	Ground improvement works Headwall and drainage works Material deliveries	Standard Day	Fine	No	46	51	62	70	64	48	11	Noise from Bunnerong Rd

Note 1: Noise goals are applicable to the noise contribution from the Terminal 3 Port Botany Expansion related construction activities only

Appendix 2 – Water Monitoring Results

Dewatering Discharge Monitoring						
Dewatering Location	Date	Meets Criteria	Discharge Location	Horiba Water Monitor		
				Oil and Grease (visual)	pH	Turbidity
SC2 - SQIDs	01/11/12 AM	Yes	Adjacent Bay	None	7.56	0.2
SC2 - SQIDs	01/11/12 PM	Yes	Adjacent Bay	None	7.89	0.0
SC2 - SQIDs	02/11/12 AM	Yes	Adjacent Bay	None	7.32	0.0
SC2 - SQIDs	02/11/12 PM	Yes	Adjacent Bay	None	7.56	0.8
SC2 - SQIDs	05/11/12 AM	Yes	Adjacent Bay	None	7.46	2.1
SC2 - SQIDs	05/11/12 PM	Yes	Adjacent Bay	None	7.12	2.5
SC2 - SQIDs	06/11/12 AM	Yes	Adjacent Bay	None	8.25	1.6
SC2 - SQIDs	06/11/12 PM	Yes	Adjacent Bay	None	8.12	0.5
SC2 - SQIDs	07/11/12 AM	Yes	Adjacent Bay	None	7.90	0.3
SC2 - SQIDs	07/11/12 PM	Yes	Adjacent Bay	None	7.86	0.0
SC2 - SQIDs	08/11/12 AM	Yes	Adjacent Bay	None	8.47	0.8
SC2 - SQIDs	08/11/12 PM	Yes	Adjacent Bay	None	8.24	0.5
SC2 - SQIDs	09/11/12 AM	Yes	Adjacent Bay	None	8.21	0.2
SC2 - SQIDs	09/11/12 PM	Yes	Adjacent Bay	None	7.43	1.6
SC2 - SQIDs	12/11/2012 AM	Yes	Adjacent Bay	None	7.42	1.1
SC2 - SQIDs	12/11/2012 PM	Yes	Adjacent Bay	None	7.09	0.3
SC2 - SQIDs	13/11/2012 AM	Yes	Adjacent Bay	None	7.89	0.0
SC2 - SQIDs	13/11/2012 PM	Yes	Adjacent Bay	None	8.13	0.0
SC2 - SQIDs	14/11/2012 AM	Yes	Adjacent Bay	None	8.02	0.0
SC2 - SQIDs	14/11/2012 PM	Yes	Adjacent Bay	None	7.98	0.3
SC2 - SQIDs	15/11/2012 AM	Yes	Adjacent Bay	None	8.00	0.8
SC2 - SQIDs	15/11/2012 PM	Yes	Adjacent Bay	None	8.03	1.5
SC2 - SQIDs	16/11/2012 AM	Yes	Adjacent Bay	None	7.06	1.6
SC2 - SQIDs	16/11/2012 PM	Yes	Adjacent Bay	None	7.32	0.2
SC2 - SQIDs	19/11/2012 AM	Yes	Adjacent Bay	None	7.13	0.9
SC2 - SQIDs	19/11/2012 PM	Yes	Adjacent Bay	None	7.90	0.3
SC2 - SQIDs	20/11/2012 AM	Yes	Adjacent Bay	None	7.32	0.2
SC2 - SQIDs	20/11/2012 PM	Yes	Adjacent Bay	None	7.65	0.0
SC2 - SQIDs	21/11/2012 AM	Yes	Adjacent Bay	None	7.35	0.6
SC2 - SQIDs	21/11/2012 PM	Yes	Adjacent Bay	None	7.17	0.9
SC2 - SQIDs	22/11/2012 AM	Yes	Adjacent Bay	None	7.90	1.3
SC2 - SQIDs	22/11/2012 PM	Yes	Adjacent Bay	None	8.12	1.6
SC2 - SQIDs	23/11/2012 AM	Yes	Adjacent Bay	None	8.37	1.8
SC2 - SQIDs	23/11/2012 PM	Yes	Adjacent Bay	None	8.18	1.7
SC2 - SQIDs	26/11/2012 AM	Yes	Adjacent Bay	None	7.99	1.9
SC2 - SQIDs	26/11/2012 PM	Yes	Adjacent Bay	None	7.87	0.0
SC2 - SQIDs	27/11/2012 AM	Yes	Adjacent Bay	None	7.06	0.0
SC2 - SQIDs	27/11/2012 PM	Yes	Adjacent Bay	None	7.90	0.1
SC2 - SQIDs	28/11/2012 AM	Yes	Adjacent Bay	None	7.39	0.2
SC2 - SQIDs	28/11/2012 PM	Yes	Adjacent Bay	None	7.09	0.0

SC3 - Headwall	08/11/12 PM	Yes	Adjacent Bay	None	8.10	0.0
SC3 - Headwall	09/11/12 AM	Yes	Adjacent Bay	None	7.98	1.4
SC3 - Headwall	09/11/12 PM	Yes	Adjacent Bay	None	7.56	0.3
SC3 - Headwall	12/11/2012 AM	Yes	Adjacent Bay	None	7.32	0.4
SC3 - Headwall	12/11/2012 PM	Yes	Adjacent Bay	None	7.19	0.5
SC3 - Headwall	13/11/2012 AM	Yes	Adjacent Bay	None	7.34	0.7
SC3 - Headwall	13/11/2012 PM	Yes	Adjacent Bay	None	7.29	0.3
SC3 - Headwall	14/11/2012 AM	Yes	Adjacent Bay	None	7.15	0.1
SC3 - Headwall	14/11/2012 PM	Yes	Adjacent Bay	None	7.10	0.9
SC3 - Headwall	15/11/2012 AM	Yes	Adjacent Bay	None	7.87	0.3
SC3 - Headwall	15/11/2012 PM	Yes	Adjacent Bay	None	7.45	1.6
SC3 - Headwall	16/11/2012 AM	Yes	Adjacent Bay	None	7.32	1.4
SC3 - Headwall	16/11/2012 PM	Yes	Adjacent Bay	None	7.91	0.8
SC3 - Headwall	19/11/2012 AM	Yes	Adjacent Bay	None	7.56	1.1
SC3 - Headwall	19/11/2012 PM	Yes	Adjacent Bay	None	8.46	0.5
SC3 - Headwall	20/11/2012 AM	Yes	Adjacent Bay	None	8.16	0.0
SC3 - Headwall	20/11/2012 PM	Yes	Adjacent Bay	None	8.11	0.0
SC3 - Headwall	21/11/2012 AM	Yes	Adjacent Bay	None	7.99	0.5
SC3 - Headwall	21/11/2012 PM	Yes	Adjacent Bay	None	7.37	0.4
SC3 - Headwall	22/11/2012 AM	Yes	Adjacent Bay	None	7.16	1.3
SC3 - Headwall	22/11/2012 PM	Yes	Adjacent Bay	None	7.11	1.8
SC3 - Headwall	23/11/2012 AM	Yes	Adjacent Bay	None	7.91	2.1
SC3 - Headwall	23/11/2012 PM	Yes	Adjacent Bay	None	8.07	1.6
SC3 - Headwall	26/11/2012 AM	Yes	Adjacent Bay	None	8.37	1.9
SC3 - Headwall	26/11/2012 PM	Yes	Adjacent Bay	None	8.22	2.2
Bay Reading	01/11/12 AM	N/A	N/A	None	7.89	0.8
Bay Reading	07/11/12 PM	N/A	N/A	None	7.68	1.2
Bay Reading	08/11/12 PM	N/A	N/A	None	8.22	0
Bay Reading	14/11/12 PM	N/A	N/A	None	7.87	0.3
Bay Reading	22/11/12 PM	N/A	N/A	None	8.03	1.1
Bay Reading	27/11/12 AM	N/A	N/A	None	7.45	0.1
SC6 - SQIDs	05/11/12 AM	Yes	Adjacent Bay	None	7.40	0.8
SC6 - SQIDs	05/11/12 PM	Yes	Adjacent Bay	None	7.62	1.2
SC6 - SQIDs	06/11/12 AM	Yes	Adjacent Bay	None	7.51	1.4
SC6 - SQIDs	06/11/12 PM	Yes	Adjacent Bay	None	7.56	0.0
SC6 - SQIDs	07/11/12 AM	Yes	Adjacent Bay	None	7.57	0.3
SC6 - SQIDs	07/11/12 PM	Yes	Adjacent Bay	None	7.12	0.0
SC6 - SQIDs	08/11/12 AM	Yes	Adjacent Bay	None	7.86	1.3
SC6 - SQIDs	08/11/12 PM	Yes	Adjacent Bay	None	7.92	0.8
SC2a - SQIDs	09/11/12 AM	Yes	Adjacent Bay	None	8.32	0.0
SC2a - SQIDs	09/11/12 PM	Yes	Adjacent Bay	None	8.34	0.0
SC2a - SQIDs	12/11/2012 AM	Yes	Adjacent Bay	None	7.98	0.0
SC2a - SQIDs	12/11/2012 PM	Yes	Adjacent Bay	None	7.21	0.2
SC2a - SQIDs	13/11/2012 AM	Yes	Adjacent Bay	None	7.38	0.1
SC2a - SQIDs	13/11/2012 PM	Yes	Adjacent Bay	None	7.36	0.5
SC2a - SQIDs	14/11/2012 AM	Yes	Adjacent Bay	None	7.01	0.7

SC2a - SQIDs	14/11/2012 PM	Yes	Adjacent Bay	None	7.11	0.3
SC2a - SQIDs	15/11/2012 AM	Yes	Adjacent Bay	None	7.32	0.3
SC2a - SQIDs	15/11/2012 PM	Yes	Adjacent Bay	None	7.91	0.0
SC2a - SQIDs	16/11/2012 AM	Yes	Adjacent Bay	None	7.28	0.0
SC2a - SQIDs	16/11/2012 PM	Yes	Adjacent Bay	None	7.43	0.1
SC2a - SQIDs	19/11/2012 AM	Yes	Adjacent Bay	None	8.2	0.0
SC2a - SQIDs	19/11/2012 PM	Yes	Adjacent Bay	None	8.21	0.5
SC2a - SQIDs	20/11/2012 AM	Yes	Adjacent Bay	None	7.45	0.3
SC2a - SQIDs	20/11/2012 PM	Yes	Adjacent Bay	None	8.02	0.6
SC2a - SQIDs	21/11/2012 AM	Yes	Adjacent Bay	None	8.21	1.6
SC2a - SQIDs	21/11/2012 PM	Yes	Adjacent Bay	None	8.01	1.3
SC2a - SQIDs	22/11/2012 AM	Yes	Adjacent Bay	None	7.67	0.3
SC2a - SQIDs	22/11/2012 PM	Yes	Adjacent Bay	None	7.37	0.9
SC2a - SQIDs	23/11/2012 AM	Yes	Adjacent Bay	None	7.91	1.7
SC2a - SQIDs	23/11/2012 PM	Yes	Adjacent Bay	None	7.32	1.4
SC2a - SQIDs	26/11/2012 AM	Yes	Adjacent Bay	None	7.22	1.9
SC2a - SQIDs	26/11/2012 PM	Yes	Adjacent Bay	None	7.09	2.1
SC2a - SQIDs	27/11/2012 AM	Yes	Adjacent Bay	None	8.32	1.6
SC2a - SQIDs	27/11/2012 PM	Yes	Adjacent Bay	None	7.89	2.7
SC2a - SQIDs	28/11/2012 AM	Yes	Adjacent Bay	None	7.12	2.9
SC2a - SQIDs	28/11/2012 PM	Yes	Adjacent Bay	None	7.89	0.7
SC2a - SQIDs	29/11/2012 AM	Yes	Adjacent Bay	None	7.24	0.0
SC2a - SQIDs	29/11/2012 PM	Yes	Adjacent Bay	None	7.98	0.3
SC2a - SQIDs	30/11/2012 AM	Yes	Adjacent Bay	None	8.23	0.6
SC2a - SQIDs	30/11/2012 PM	Yes	Adjacent Bay	None	8.31	1.2
Bay Reading	05/11/12 AM	N/A	N/A	None	7.98	0.9
Bay Reading	07/11/12 AM	N/A	N/A	None	7.43	0.6
Bay Reading	14/11/12 PM	N/A	N/A	None	7.42	1.7
Bay Reading	22/11/12 PM	N/A	N/A	None	7.81	2.1
Bay Reading	27/11/12 AM	N/A	N/A	None	7.16	1.9
SC5 - SQIDs	27/11/2012 AM	Yes	Adjacent Bay	None	8.09	3.6
SC5 - SQIDs	27/11/2012 PM	Yes	Adjacent Bay	None	7.69	2.2
SC5 - SQIDs	28/11/2012 AM	Yes	Adjacent Bay	None	7.92	2.6
SC5 - SQIDs	28/11/2012 PM	Yes	Adjacent Bay	None	8.32	1.8
Estuary Reading	27/11/12 AM	N/A	N/A	None	7.82	1.2
SC10 - Headwalls	08/11/12 AM	Yes	Adjacent Bay	None	7.34	0.9
SC10 - Headwalls	08/11/12 PM	Yes	Adjacent Bay	None	7.36	0.7
SC5a - SQIDs	27/11/2012 AM	Yes	Adjacent Bay	None	8.06	2.4
SC5a - SQIDs	27/11/2012 PM	Yes	Adjacent Bay	None	8.12	3.1
SC5a - SQIDs	28/11/2012 AM	Yes	Adjacent Bay	None	7.98	1.8
SC5a - SQIDs	28/11/2012 PM	Yes	Adjacent Bay	None	7.12	3.2

SC5a - SQIDs	29/11/2012 AM	Yes	Adjacent Bay	None	7.45	4.1
SC5a - SQIDs	29/11/2012 PM	Yes	Adjacent Bay	None	7.48	0.4
SC5a - SQIDs	30/11/2012 AM	Yes	Adjacent Bay	None	7.63	2.8
SC5a - SQIDs	30/11/2012 PM	Yes	Adjacent Bay	None	7.29	3.2

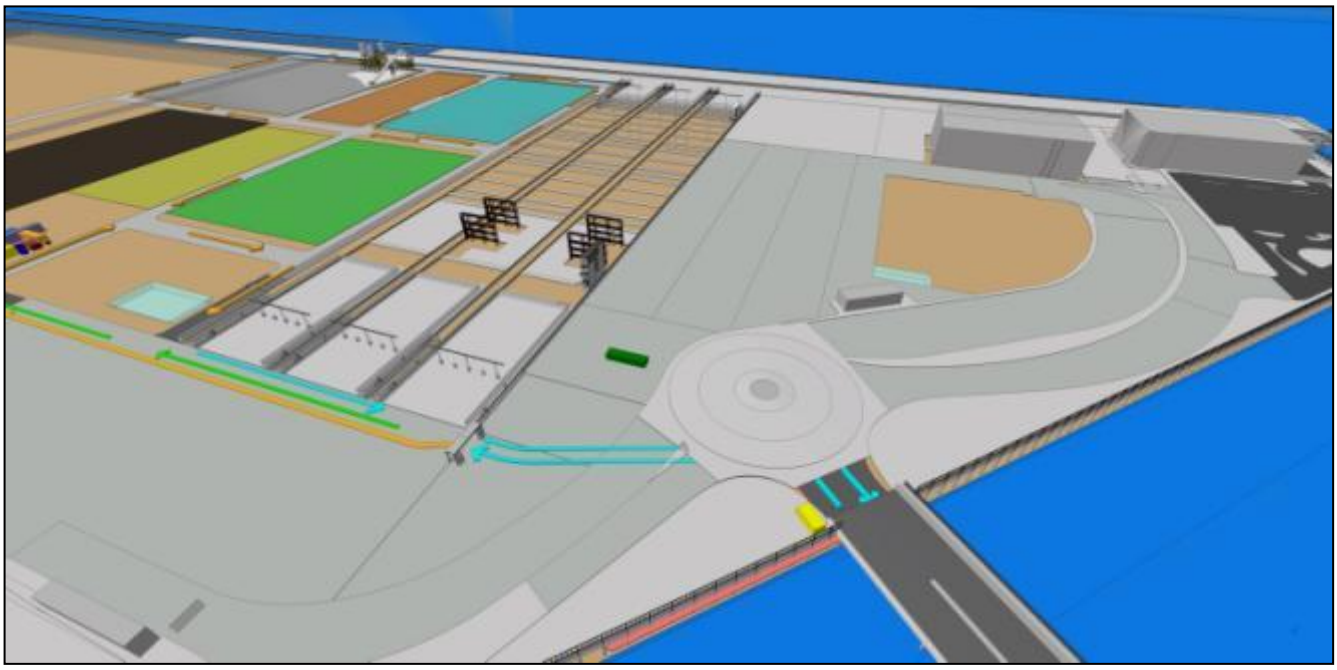
Appendix 3 – Terminal 3 Shorebird Observations

Shorebird Monitoring Database - SPBT3 worksite				
Date	**Bird Type**	**Location**	**Reported by**	**Action**
5/11/2012	Little Tern	Flying above stockpile located in SC8	W Sinclear	Bird deterrents installed immediately - reflective tape / mock owls. Works on stockpile undertaken to deter terns from landing and roosting (as directed by Avian Ecologist Phil Straw).
9/11/2012	Bar Tailed Godwit	SC10 revetment	J Ambler	The bird flew away from site when approached. Avian ecologist Phil Straw notified via email.
19/11/2012	Little Tern	8 No. flying above SC13, around knuckle corner	J Ambler	Inspection of SC13 to deter birds from site and ensure no terns roosting on site. Dust Bloc application continued through SC13 to increase dust control and deter terns from landing/roosting on site.
20/11/2012	Little Tern	2 No. Flying over BU4	J Ambler	Inspection of area to deter birds from site and ensure no terns roosting on site. Dust Bloc application continued through SC13 to increase dust control and deter terns from landing/roosting on site.
21/11/2012	Little Tern	4 No. Flying over Patricks Knuckle site	J Ambler	Further bird deterrents installed in SC13 - reflective tape, mock owls. Air horn used to scare birds from landing on LOR site.
23/11/2012	Pacific Golden Plover	6 No. At tug berth area	J Ambler	Continiue to work in northern section of site (stockpile relocation, trimming, compaction) to deter birds from coming into the site.
	Little Tern	2 No. Landed on Patricks Knuckle site	J Ambler	Contact and inform Patricks personnel.
28/11/2012	Pied Oyster Catcher	In Penrhyn Estuary sandflats, 40m from silt curtain	J Ambler	No action required

Sydney Port Botany Terminal 3

Monthly Environmental Report

October 2012



Client:	SICTL
Client's Representative:	Mott McDonald
LORA Contract No.:	G52

Controlled Copy no.: 1

Revision History

Rev	Date	Description	Reviewed	INT/Date	Authorised
0	8/11/12	Issue	JA	8/11/12	JA

Management Reviews

Review Date	Reviewed By	Details	Initial	Date

Contents:

1.0 Introduction 4

1.1 Construction Activities 4

2.0 Dust Monitoring and Air Quality 4

3.0 Noise Monitoring 4

3.1 Day time noise monitoring 4

3.2 Night time noise monitoring 5

4.0 Soil and Water Quality Monitoring 5

4.1 Water Monitoring 5

4.2 Soil Monitoring 5

5.0 Environmental Inspections and Audits 5

6.0 Appendices 6

Appendix 1 – Dust Monitoring Locations and Results 7

1. Dust Deposition Gauge Locations 7

2. Dust Deposition Results 8

Appendix 2 – Day-time Noise Monitoring Results 9

Appendix 3 – Water Monitoring Results 10

1.0 Introduction

This report provides results for environmental monitoring activities associated with the Terminal 3 expansion at Port Botany for the month of October 2012.

Monitoring is undertaken for dust, noise, soil and water quality (where required).

There have been no environmental complaints received this month in regards to the Terminal 3 expansion works.

1.1 Construction Activities

Construction activities undertaken for the month of October 2012 included the following:

- Site establishment including delivery and setting up site sheds, offices and facilities and creating temporary access roads on the site
- Earthworks and ground improvements
- Installation of environmental controls such as turbidity curtains within Penrhyn Estuary
- Drainage activities and headwall installation

2.0 Dust Monitoring and Air Quality

Samples have been collected at three dust deposition gauges in the areas surrounding the Port Botany Expansion. Dust deposition results were within EPA and project guideline levels at all locations.

There have been no complaints received this month in response to dust.

Dust monitoring locations and results are provided in Appendix 1. A real-time dust monitor will be installed at Botany Golf Club (Location 4) for future reporting, to replace the previous high volume air sampler that was decommissioned by Sydney Ports as permitted by NSW Department of Planning and Infrastructure.

3.0 Noise Monitoring

Monthly construction noise monitoring was undertaken during October 2012. Noise monitoring locations have been based on noise-sensitive receptors in the project Environmental Impact Statement and approved for the Port Botany Expansion construction activities.

Attended noise measurements were carried out for a period of 15 minutes at each location. During the monitoring event, observations were made on the weather as well as the surrounding noise sources and environment.

3.1 Day time noise monitoring

Noise measurements were undertaken on 18th October 2012. Work activities being undertaken on the Terminal 3 project included Installation of environmental controls, ground improvement, drainage and headwalls and material deliveries.

The Interim Construction Noise Guideline (2009, DECCW) sets out management levels for noise at residences and how they are to be applied. This guideline has been used in conjunction with the project Environmental Impact Statement to determine noise goals for the project. Recorded LAeq levels exceeded the noise goals for noise emissions from the Port Botany expansion Project at all locations except one, 3 Anniversary Road, Botany. However at each monitoring location, extraneous, non-project related noises were the dominant noise sources. These noise sources included road traffic, both local and main, and aircraft noise.

Construction activities at the Terminal 3 project site were inaudible in all cases.

It is noted that the intent of the Interim Construction Noise Guideline is to minimise noise impact from the construction works and is only applicable to the contribution of the noise from the Port Botany construction site. At the attended monitoring events, as has been noted on other stages of the Port Botany expansion

project, the measured noise levels were controlled and dominated by other extraneous noise sources as listed above.

Day-time noise monitoring results are shown in Appendix 1.

3.2 Night time noise monitoring

No night time monitoring was required to be undertaken for the Terminal 3 project site.

4.0 Soil and Water Quality Monitoring

Physical water parameters required to be monitored are pH, turbidity and visible oil and grease when dewatering activities are undertaken. Other contaminants may be tested for in areas of concern if the presence of contamination is observed.

4.1 Water Monitoring

Water monitoring has been undertaken during October for dewatering activities undertaken during the installation of drainage headwalls and Stormwater Quality Improvement Devices (SQIDs) and approaching drainage lines on the border of the Terminal 3 site. All dewatering results have been compliant with the discharge criteria set in the project Environmental Impact Statement. Dewatering results are summarised in Appendix 2.

4.2 Soil Monitoring

No soil sampling was required during October. Soil sampling may be required for future works if materials are to be taken off site or if potential acid sulphate soils (PASS) are encountered during excavations. No acid sulphate soils were identified this month.

5.0 Environmental Inspections and Audits

Weekly environmental inspections were undertaken during October for the Terminal 3 project site. No significant environmental issues were observed or identified. Minor issues with equipment hydraulic lines have been identified and managed on site. High winds have been encountered, it has been identified that further dust mitigation will be required. Immediate actions to include further compaction of stockpiles, incorporation of stockpiled material within the greater site and further application of the bitumen emulsion, *Dustbloc*, to minimise air borne dust from the Terminal 3 construction site.

Completed inspection sheets may be available on request.

6.0 Appendices

Appendix 1 – Dust Monitoring Locations and Results
Appendix 2 – Day-time Noise Monitoring Results
Appendix 3 – Water Monitoring Results

Appendix 1 – Dust Monitoring Locations and Results

1. Dust Deposition Gauge Locations

2. Dust Deposition Results

No.	Monitoring Location	Ash	Combustible matter	Total Soluble matter	Total Insoluble matter	Total Solids	Sample ID (File Reference)	Comments (i.e. any exceedances of EPA objectives)	Work Activities / Observations During Monitoring Period
1	Upper Penryhn Estuary	1.4	0.5	1	1.9	2.9	EN1204148-003	Within EPA guideline levels	Ground improvements Headwall installation Material deliveries
2	14 The Esplanade	0.3	<0.1	0.7	0.3	1	EN1204148-001	Within EPA guideline levels	
3	74 Australia Ave	1.1	0.2	1.4	1.3	2.7	EN1204148-002	Within EPA guideline levels	
4	Botany Golf Course	N/A - monitoring location removed with HVAS previously. Monitoring location to be installed.							

All Units in g/m².month

Appendix 2 – Day-time Noise Monitoring Results

Noise Sensitive Area	Monitoring Location	Date	Time (24hr)	Construction Activities	Standard or Out of Hours Works (Day/Evening/Night)	Weather Conditions	In Response to Complaint?	RBL (dBA) - from EIS	Noise Goal[1] (RBL+ 5dBA)	Recorded Noise Level LAeq (15 min) (dBA)	Recorded Noise Level LA1 (dBA)	Recorded Noise Level LA10 (dBA)	Recorded Noise Level L90 (dBA)	Noise Goal Difference (dBA)	Comments / observations
Location 1 - Chelmsford Avenue	14 The Esplanande	18/10/2012	915	Installation of enviro controls Ground Improvement Headwalls Material deliveries	Standard Day	Fine Overcast Light wind	No	49	54	61	76	60	48	7	Noise from Foreshore Rd traffic, aircraft noise, local traffic, NE winds
Location 2 - Dent Street	34 Dent St	18/10/2012	945	Installation of enviro controls Ground Improvement Headwalls Material deliveries	Standard Day	Fine Overcast Light wind	No	47	52	57	64	59	53	5	Local traffic noise, aircraft noise, NE winds
Location 3 - Jennings Street	42 Jenning St	18/10/2012	1230	Installation of enviro controls Ground Improvement Headwalls Material deliveries	Standard Day	Fine Overcast Light wind	No	40	45	60	71	62	42	15	Local traffic noise, some aircraft noise, NNE winds
Location 4- North of Golf Course	3 Anniversary Rd	18/10/2012	1020	Installation of enviro controls Ground Improvement Headwalls Material deliveries	Standard Day	Fine Overcast Light wind	No	57	62	53	62	54	51	-9	Local traffic noise, aircraft noise, trees russling in wind, NE winds
Location 5- Australia Avenue	74 Australia Ave	18/10/2012	1150	Installation of enviro controls Ground Improvement Headwalls Material deliveries	Standard Day	Fine Overcast Light wind	No	42	47	53	59	54	41	6	Local/distant traffic noise, some aircraft noise, NE winds
Location 6- Military Road	73 Wassell St	18/10/2012	1315	Installation of enviro controls Ground Improvement Headwalls Material deliveries	Standard Day	Fine Overcast Light wind	No	46	51	66	72	68	50	15	Noise from Bunnerong Rd, NNE winds

Note 1: Noise goals are applicable to the noise contribution from the Terminal 3 Port Botany Expansion related construction activities only

Appendix 3 – Water Monitoring Results

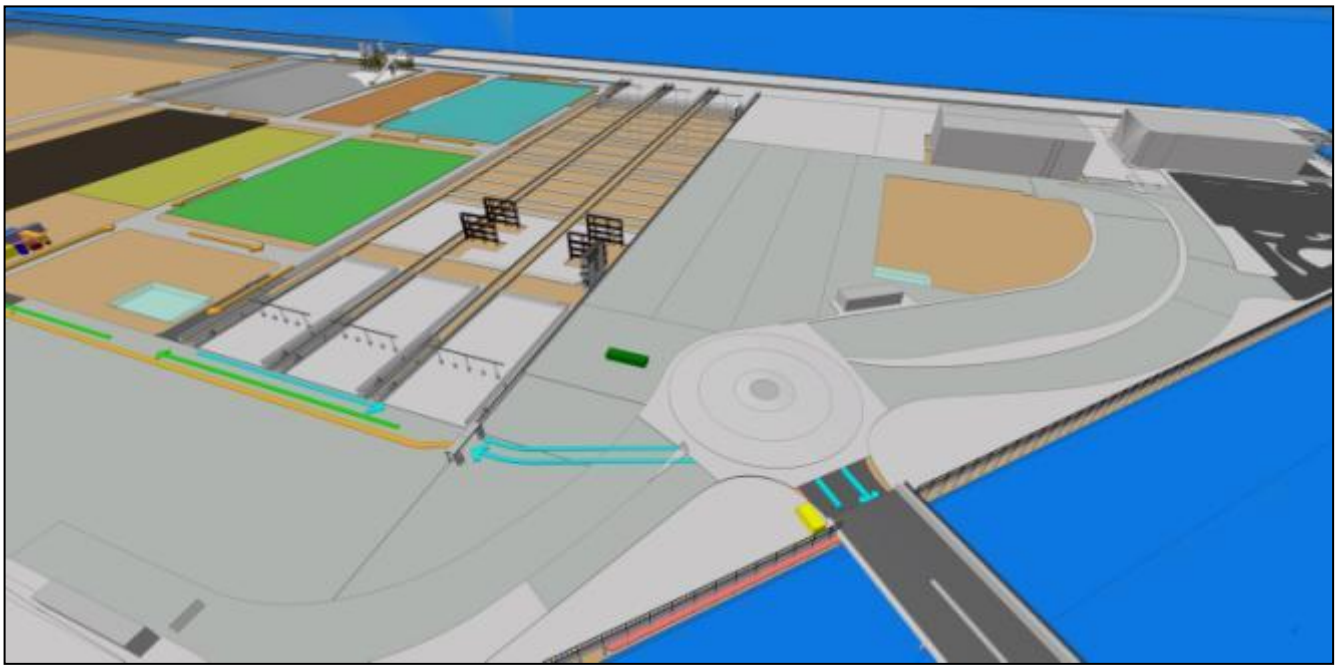
Dewatering Location	Date	Meets Criteria	Discharge Location	Horiba Water Monitor		
				Oil and Grease (visual)	pH	Turbidity
SC5 - Headwalls	01/10 am	Yes	Penrhyn Estuary	None	6.98	2.1
SC5 - Headwalls	01/10 pm	Yes	Penrhyn Estuary	None	7.23	2.3
SC5 - Headwalls	02/10 am	Yes	Penrhyn Estuary	None	7.09	2.2
SC5 - Headwalls	02/10 pm	Yes	Penrhyn Estuary	None	7.21	2.1
SC5 - Headwalls	03/10 am	Yes	Penrhyn Estuary	None	7.34	1.8
SC5 - Headwalls	03/10 pm	Yes	Penrhyn Estuary	None	8.24	1.6
SC5 - Headwalls	04/10 am	Yes	Penrhyn Estuary	None	8.23	2.7
SC5 - Headwalls	04/10 pm	Yes	Penrhyn Estuary	None	7.11	3.5
SC5 - Headwalls	05/10 am	Yes	Penrhyn Estuary	None	7.65	3.2
SC5 - Headwalls	05/10 pm	Yes	Penrhyn Estuary	None	7.34	2.9
Estuary Reading	01/10 am	N/A	N/A	None	8.01	2.1
Estuary Reading	04/10 pm	N/A	N/A	None	7.36	3.4
SC12 - Headwalls	08/10 am	Yes	Penrhyn Estuary	None	7.23	2.3
SC12 - Headwalls	08/10 pm	Yes	Penrhyn Estuary	None	7.89	1.4
SC12 - Headwalls	09/10 am	Yes	Penrhyn Estuary	None	8.34	2.5
SC12 - Headwalls	09/10 pm	Yes	Penrhyn Estuary	None	8.23	2.6
SC12 - Headwalls	12/10 am	Yes	Penrhyn Estuary	None	7.67	2.3
SC12 - Headwalls	12/10 pm	Yes	Penrhyn Estuary	None	7.56	3.1
Estuary Reading	08/10 am	N/A	N/A	None	7.64	1.9
Estuary Reading	13/10 am	N/A	N/A	None	7.43	0.8

SC10 - Headwalls	24/10 am	Yes	Flushing Channel	None	7.65	1.2
SC10 - Headwalls	24/10 pm	Yes	Flushing Channel	None	7.34	1.1
SC10 - Headwalls	25/10 am	Yes	Flushing Channel	None	7.89	2.5
SC10 - Headwalls	25/10 pm	Yes	Flushing Channel	None	8.50	2.3
SC10 - Headwalls	26/10 am	Yes	Flushing Channel	None	7.23	1.4
SC10 - Headwalls	26/10 pm	Yes	Flushing Channel	None	7.43	0.9
Chanel Reading	24/10 PM	N/A	N/A	None	8.34	1.3
SC2 - SQIDs	26/10 Am	Yes	Adjacent Bay	None	8.34	0.6
SC2 - SQIDs	26/10 pm	Yes	Adjacent Bay	None	7.32	0.2
SC2 - SQIDs	29/10 am	Yes	Adjacent Bay	None	7.23	0.0
SC2 - SQIDs	29/10 pm	Yes	Adjacent Bay	None	8.45	0.1
SC2 - SQIDs	30/10 am	Yes	Adjacent Bay	None	8.48	1.7
SC2 - SQIDs	30/10 pm	Yes	Adjacent Bay	None	7.21	0.0
SC2 - SQIDs	31/10 am	Yes	Adjacent Bay	None	7.89	0.0
SC2 - SQIDs	31/10 pm	Yes	Adjacent Bay	None	7.05	0.7
Bay Reading	26/10 pm	N/A	N/A	None	7.52	0.8
Bay Reading	31/10 pm	N/A	N/A	None	7.83	1.6

Sydney Port Botany Terminal 3

Monthly Environmental Report

September 2012



Client:	SICTL
Client's Representative:	Mott McDonald
LORA Contract No.:	G52

Controlled Copy no.: 1

Revision History

Rev	Date	Description	Reviewed	INT/Date	Authorised
0	5/11/12	Issue	JA	5/11/12	JA

Management Reviews

Review Date	Reviewed By	Details	Initial	Date

Contents:

1.0 Introduction 4

1.1 Construction Activities 4

2.0 Dust Monitoring and Air Quality 4

3.0 Noise Monitoring 4

3.1 Day time noise monitoring 4

3.2 Night time noise monitoring 5

4.0 Soil and Water Quality Monitoring 5

4.1 Water Monitoring 5

4.2 Soil Monitoring 5

5.0 Penrhyn Estuary 5

6.0 Environmental Inspections and Audits 5

7.0 Appendices 6

Appendix 1 – Day-time Noise Monitoring Results 7

Appendix 2 – Water Monitoring Results 8

1.0 Introduction

This report provides results for environmental monitoring activities associated with the Terminal 3 expansion at Port Botany for the month of September 2012.

Monitoring is undertaken for dust, noise, soil and water quality (where required).

There have been no environmental complaints received this month in regards to the Terminal 3 expansion works.

1.1 Construction Activities

Construction activities undertaken for the month of September 2012 included the following:

- Site establishment including delivery and setting up site sheds, offices and facilities and creating temporary access roads on the site
- Installation of environmental controls such as wind erosion fencing and sediment fencing
- Eastern drainage depression installation within Penrhyn Estuary

2.0 Dust Monitoring and Air Quality

Dust deposition monitoring during September has been undertaken by Baulderstone as part of the Grade Separation works and can be found on the Sydney Ports website - http://www.sydneyports.com.au/__data/assets/pdf_file/0020/18380/ENVIRONMENTAL_MONITORING_REPORT_SEPT_2012.PDF.

Laing O'Rourke will manage and report the dust monitoring results from October 2012.

3.0 Noise Monitoring

Monthly construction noise monitoring was undertaken during September 2012. Noise monitoring locations have been based on noise-sensitive receptors in the project Environmental Impact Statement and approved for the Port Botany Expansion construction activities.

Attended noise measurements were carried out for a period of 15 minutes at each location. During the monitoring event, observations were made on the weather as well as the surrounding noise sources and environment.

3.1 Day time noise monitoring

Noise measurements were undertaken on 17th September 2012. Work activities being undertaken on the Terminal 3 project included installation of environmental controls, eastern drainage depression works and material deliveries.

The Interim Construction Noise Guideline (2009, DECCW) sets out management levels for noise at residences and how they are to be applied. This guideline has been used in conjunction with the project Environmental Impact Statement to determine noise goals for the project. Recorded LAeq levels exceeded the noise goals for noise emissions from the Port Botany expansion Project at all locations except one, 3 Anniversary Road, Botany. However at each monitoring location, extraneous, non-project related noises were the dominant noise sources. These noise sources included road traffic and aircraft noise.

Construction activities at the Terminal 3 project site were inaudible in all cases.

It is noted that the intent of the Interim Construction Noise Guideline is to minimise noise impact from the construction works and is only applicable to the contribution of the noise from the Port Botany construction site. At the attended monitoring events, as has been noted on other stages of the Port Botany expansion project, the measured noise levels were controlled and dominated by other extraneous noise sources as listed above.

Day-time noise monitoring results are shown in Appendix 1.

3.2 Night time noise monitoring

No night time monitoring was required to be undertaken for the Terminal 3 project site.

4.0 Soil and Water Quality Monitoring

Physical water parameters required to be monitored are pH, turbidity and visible oil and grease when dewatering activities are undertaken. Other contaminants may be tested for in areas of concern if the presence of contamination is observed.

4.1 Water Monitoring

Water monitoring has been undertaken during September for dewatering activities undertaken during the installation of drainage headwalls and approaching drainage lines on the border of the Terminal 3 site. All dewatering results have been compliant with the discharge criteria set in the project Environmental Impact Statement. Dewatering results are summarised in Appendix 2.

4.2 Soil Monitoring

No soil sampling was required during September. Soil sampling may be required for future works if materials are to be taken off site or if potential acid sulphate soils (PASS) are encountered during excavations. No acid sulphate soils were identified this month.

5.0 Penrhyn Estuary

In order to install the eastern drainage depression, as part of the operational terminal stormwater system to minimise erosion of the estuary, removal and relocation of an area of Saltmarsh established as part of previous enhancement works for the Penrhyn Estuary was required.

The enhancement works had taken place within the design footprint for a rock lined drainage corridor required for the operational Terminal 3 stormwater outlets. Laing O'Rourke engaged specialist Saltmarsh and wetlands ecologists to assist in developing the methodology and required controls for the removal and replanting of the Saltmarsh elsewhere in the Estuary.

The project team successfully replanted 100% of approximately 7000 square meters of removed Saltmarsh to other areas within the estuary and the drainage depression has been completed.

No migratory shorebirds were encountered during the works.

6.0 Environmental Inspections and Audits

Weekly environmental inspections were undertaken during September for the Terminal 3 project site. No significant environmental issues were observed or identified. Completed inspection sheets may be available on request.

7.0 Appendices

Appendix 1 – Day-time Noise Monitoring Results
Appendix 2 – Water Monitoring Results

Appendix 1 – Day-time Noise Monitoring Results

Noise Monitoring Results - SPBT3 September 2012

Noise Sensitive Area	Monitoring Location	Date	Time (24hr)	Construction Activities	Standard or Out of Hours Works (Day/Evening/Night)	Weather Conditions	In Response to Complaint?	RBL (dBA) - from EIS	Noise Goal[1] (RBL+ 5dBA)	Recorded Noise Level LAeq (15 min) (dBA)	Recorded Noise Level LA1 (dBA)	Recorded Noise Level LA10 (dBA)	Recorded Noise Level L90 (dBA)	Noise Goal Difference (dBA)	Comments / observations
Location 1 - Chelmsford Avenue	14 The Esplanande	17/09/2011	1000	Installation of enviro controls Eastern drainage depression Material deliveries	Standard Day	Overcast Moderate wind	No	49	54	60	73	59	47	6	Noise from Foreshore Rd traffic, aircraft noise, local traffic, S winds
Location 2 - Dent Street	34 Dent St	17/09/2011	1030	Installation of enviro controls Eastern drainage depression Material deliveries	Standard Day	Overcast Moderate wind	No	47	52	55	62	57	52	3	Local traffic noise, aircraft noise, S winds
Location 3 - Jennings Street	42 Jenning St	17/09/2011	1230	Installation of enviro controls Eastern drainage depression Material deliveries	Standard Day	Overcast Moderate wind	No	40	45	62	74	63	45	17	Local traffic noise, some aircraft noise, S/SE winds
Location 4- North of Golf Course	3 Anniversary Rd	17/09/2011	1115	Installation of enviro controls Eastern drainage depression Material deliveries	Standard Day	Overcast Moderate wind	No	57	62	55	63	55	54	-7	Local traffic noise, aircraft noise, trees russling in wind, S/SE winds
Location 5- Australia Avenue	74 Australia Ave	17/09/2011	1150	Installation of enviro controls Eastern drainage depression Material deliveries	Standard Day	Overcast Moderate wind	No	42	47	53	63	54	42	6	Local/distant traffic noise, some aircraft noise, S winds
Location 6- Military Road	73 Wassell St	17/09/2011	1320	Installation of enviro controls Eastern drainage depression Material deliveries	Standard Day	Overcast Moderate wind	No	46	51	65	74	68	52	14	Noise from Bunnerong Rd

Note 1: Noise goals are applicable to the noise contribution from the Terminal 3 Port Botany Expansion related construction activities only

Appendix 2 – Water Monitoring Results

Dewatering Discharge Monitoring						
Dewatering Location	**Date**	**Meets Criteria**	**Discharge Location**	**Horiba Water Monitor**		
				Oil and Greese (visual)	**pH**	**Turbidity**
SC5 - Headwalls	26/09/12 am	Yes	Penrhyn Estuary	None	7.89	4.2
SC5 - Headwalls	2609/12 pm	Yes	Penrhyn Estuary	None	7.54	2.2
SC5 - Headwalls	2709/12 am	Yes	Penrhyn Estuary	None	8.01	4.6
SC5 - Headwalls	2709/12 pm	Yes	Penrhyn Estuary	None	8.35	3.3
SC5 - Headwalls	2809/12 am	Yes	Penrhyn Estuary	None	7.78	1.0
SC5 - Headwalls	2809/12 pm	Yes	Penrhyn Estuary	None	7.16	2.5
Estuary Reading	2609/12 am	N/A	N/A	None	7.86	3.4
Estuary Reading	2709/12 am	N/A	N/A	None	7.63	3.4