



PROJECT SPECIFIC CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN (CEMP)

Sydney Port Botany Terminal 3 Project

Revision: 6.1
Dated: 5th December 2013

PROJECT No. 6328
(Controlled Copy)

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1. INTRODUCTION

Grindley's Construction Environmental Management Plan, (CEMP), is a project specific document that addresses site specific issues and requirements. This CEMP identifies environmental risks that may be encountered on the Sydney Port Botany Terminal 3 Project and control measures that are to be implemented in order to minimise and / or eliminate the environmental risks.

Laing O'Rourke Australia Construction, (LORAC) have prepared a Construction Environmental Management Plan for the Sydney Port Botany Terminal 3 Project - *Sydney Port Botany Terminal 3 Project Main Works Construction Environmental Management Plan*. This plan is designed to provide a link between Laing O'Rourke's corporate Environmental Management System, the Project's Environmental Management System and Grindley's Environmental system.

This CEMP has been specifically developed to:

- Comply with Ministers Conditions of Approval (MCoA)
- Ensure that the Project meets all contractual, legal and other environmental requirements including industry codes of practice
- Comply with the Sydney International Container Terminals (SICTL) Environmental Management documents and associated procedures
- Incorporate requirements of the Project Environmental Impact Statement (EIS) into the Environmental Management System for the Project.
- Comply with the relevant requirements of the Project Planning Approval
- Develop alignment with SICTL environmental objectives and targets for the Project and ensure their implementation
- Ensure that the needs and expectations of SICTL are addressed
- Provide Grindley personnel with systems, procedures and documentation necessary to undertake the construction of this Project with environmental requirements and to minimise the impact on the natural environment

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Environmental Policy**Environmental Policy**

Grindley Construction Pty Ltd is committed to continuous development and implementation of an integrated Quality, Safety and Environment management system to consistently deliver and improve the environmental impact on, safety on and quality of, projects delivered to our clients and stakeholders.

Environmental objectives require our understanding and meeting the requirements and expectations of our clients and the community as a whole.


The fundamental elements of the management system require:

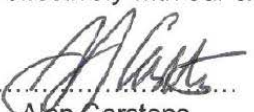
- Compliance with all applicable environmental laws, regulations, contractual and statutory obligations
- Building environmental management into all our processes and ensure that project participants get the most out of every activity
- Provision for a fully integrated management system that not only monitors and identifies key environmental risks that may arise in any process but also quickly and efficiently facilitates resolution thereby reducing pollution to the environment.
- Compliance with all requirements of ISO 14001:2004, WHS and Quality management guidelines.
- Building and securing an unblemished reputation for Environmental management within the marketplace


Grindley's strategy to deliver embodies:

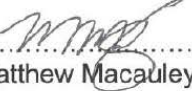
- Communicative leadership and strategic direction
- Company personnel with clear responsibilities and ownership of Environmental management
- Continuous reviews of the effectiveness of Environmental management and the opportunities for improvement and development
- Ensuring all resources and commitment at every level of the organisation to achieve our goal

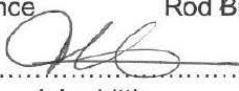
Grindley's undertaking for continuous improvement of environmental management systems, relies on the training, motivation and leadership within the company, to communicate effectively with our clients and deliver at or above their expectations.

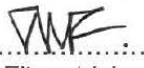

 Martin Patience


 Alan Carstens



 Rod Burger


 Matthew Macauley


 John Little


 John Fitzpatrick

Dated: 10th February 2012

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1.1 Project Management Plans

The Project Specific Environmental Management Plan is to be read in accordance with the Grindley Construction Environmental Management Manual, Site Management Plan and Site Safety Plan.

The overall format and content of these plans has been structured to fully meet the requirements of AS/NZS ISO 14001:2004 Environmental Management Systems.

1.2 Objectives

Individual targets are reviewed and set each year based on our significant impacts and are detailed in impact mitigation plans

Objective	Target
Effective Site Environmental Controls	<ul style="list-style-type: none"> - Achieve alignment with SICTL expectations in relation to best practice control measures - Fulfil environmental obligations
Increase amount of waste being recycled, reduce waste costs	- 85% of waste to be recycled
Environmental Performance	<ul style="list-style-type: none"> - Zero major environmental incidents and no breaches. - Zero infringement notices - All environmental spills to be reported to SICTL within 2 hrs of occurrence.
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
Effective implementation of the environmental system	- 90% or better internal audit results. Full compliance with Planning Approval requirements.
Community issues carefully handled	- Zero valid complaints all complaints reported to SICTL's Representative.

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1.3 Scope of Works

The subject development consists of the construction of the following new buildings;

- 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 Story Rail Depot Building

Refer to section 2.3 Construction Phases & 2.3.1 Construction Activities for description of construction activities.

All civil works including all rail and road infrastructure, the provision of the main water supply, stormwater and sewerage services to the Sydney Port Botany Terminal 3 project are to be carried out by SICTL contractor Laing O'Rourke Australia Construction.

1.4 Location

The Project is located within the City of Botany Bay, approx. 12 kilometres south of the Sydney CBD. The Project is adjacent to the existing Patricks Terminal at Port Botany.

Site Address: Gate B103, Penrhyn Road, Port Botany, New South Wales 2036 Australia.

The site can also be accessed by the newly constructed Estuary Bridge link to Foreshore Road.

Refer to the following pages for the location map and proposed site establishment plans.


Table 1.5.1 Street Addresses and lot and plan descriptors

Lot and Plan Number	Street Address
Lot 6 DP1053768	Gate B150-160, Penrhyn Estuary Bridge Port Botany New South Wales 2036 Australia
Lot 2 DP 1009870	
Lots 301 & 302 DP 712992. Part of Crown Reserve	
Lots 203 & 205 DP 712991	
Lot 401 DP 816961	

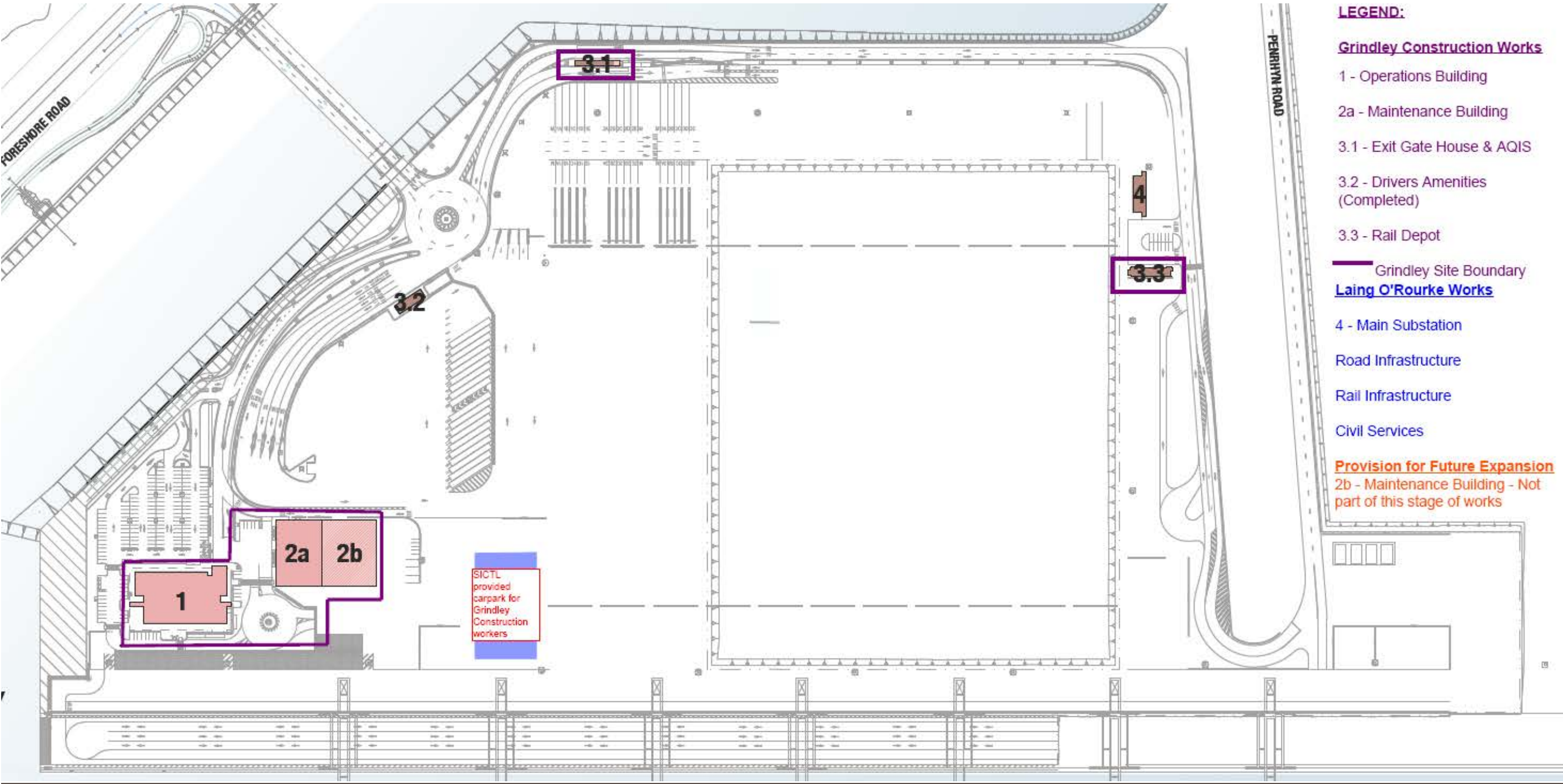
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Site Location Plan 1



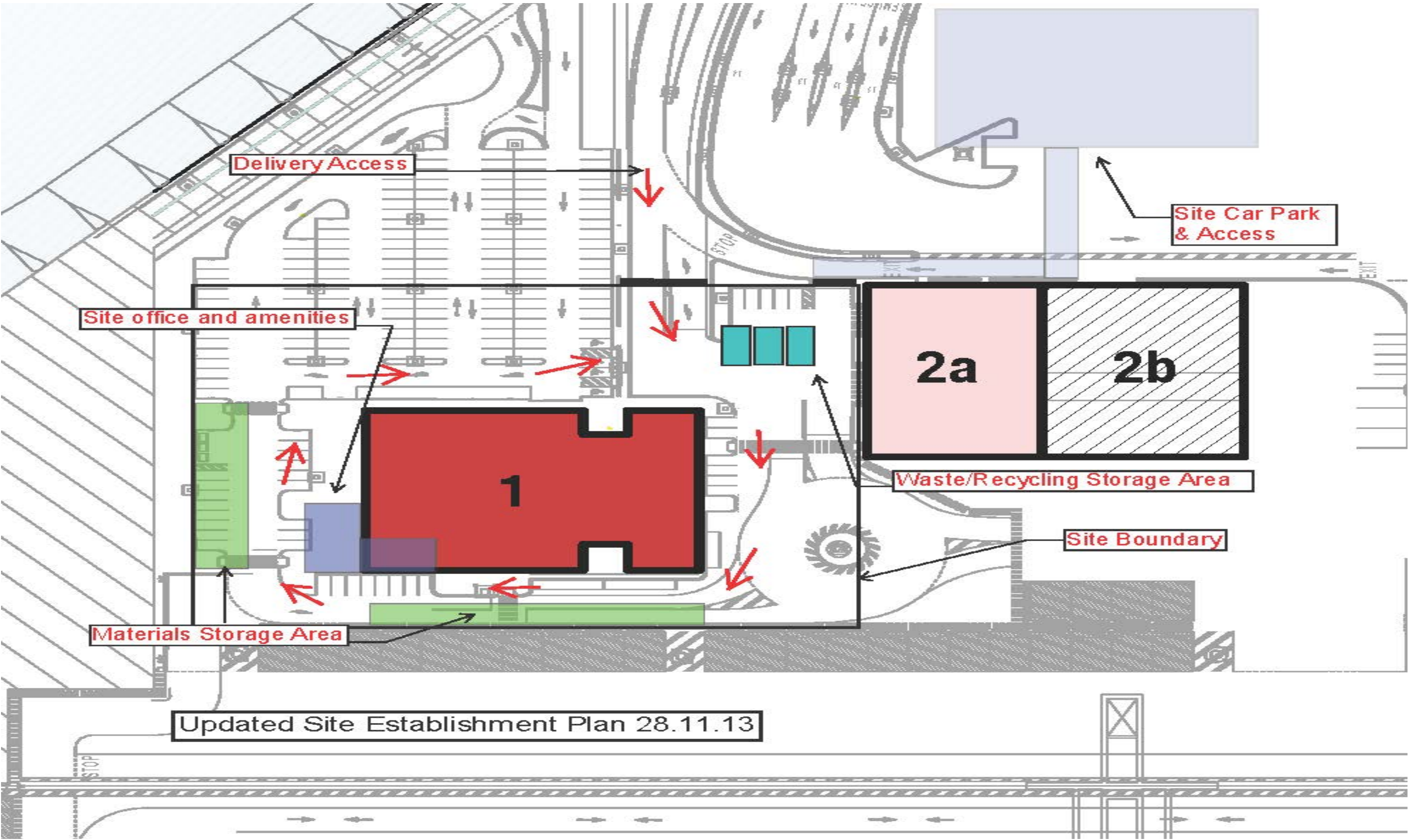
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Site Plan



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Site Establishment Plan



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1.5 Reference Documents

The following documents will be referenced for use in this Plan:

- Contract Specifications and Drawings
- Grindley Construction Environmental Management Manual
- Project DA and consultant reports
- Laing O'Rourke Construction Australia's Sydney Port Botany Terminal 3 Project Main Works Construction Environmental Management Plan, (CEMP).
- SICTL requirements including requirements listed in the Framework Construction Environmental Management Plan completed for the Project by Aurecon.

1.6 General Applicable Regulatory Requirements

The following are legislative requirements that are applicable to Grindley Construction's business.

- **Protection of the Environment Operations Act 1997**

This Act covers the scope of issuing licences regarding environmentally hazardous activities, issuing offence notices, establishing environmental protection policies, instituting proceedings, investigating breaches and auditing activities.

Relevance of the Act to this project – The Act provides for the issuing of environmental protection notices to control work and activities not covered by licences. Section 120 of the act relates to water pollution and Section 129 which specifies that offensive odours must not be caused external to the site.

- **Waste Avoidance and Resource Recovery Act 2001**

The objectives of the Waste Avoidance and Resource Recovery Act 2001 are to encourage the most efficient use of resources, to reduce environmental harm, and to provide for the continual reduction in waste generation in line with the principles of ecologically sustainable development (ESD). To meet the objectives of the Act, a resource management hierarchy has been established, comprising; avoiding unnecessary resource consumption; recovering resources (including reuse, reprocessing, recycling and energy recovery); and disposal (as a last resort)

Relevance of the Act to this project – to implement the strategies by adopting the hierarchy of avoidance; avoidance of unnecessary resource consumption; resource recovery (including reuse, reprocessing, recycling and energy recovery), disposal (as a last resort).

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- **Environmental Planning and Assessment Act 1979**

The objective of this Act is to encourage the proper management, development and conservation of natural and artificial resources, including agricultural land, natural areas, forests, minerals, water, cities, towns and villages for the purpose of promoting the social and economic welfare of the community and a better environment, and to promote ecologically sustainable development

Relevance of the Act to this project – High Relevance. The Port Botany Expansion is a “State significant development” under section 76A(7) of the EP&A Act due to their environmental planning significance for NSW. As such, the Minister for Infrastructure and Planning is the “consent authority”.

Port Botany Expansion is also an “integrated development” under section 91 of the EP&A Act. Integrated development is development that, in order for it to be carried out, requires development consent and one or more of certain approvals or permits from other government authorities.

Grindley Construction’s CEMP has been developed to achieve compliance with the provisions of Planning Approval.

- **Environment Protection and Biodiversity Conservation Act 1999**

This is the federal Act that protects the environment, particularly matters of National Environmental Significance (Protected matters). It streamlines national environmental assessment and approvals process, protects Australian biodiversity and integrates management of important natural and cultural places.

Relevance of the Act to this project – High Relevance. The Commonwealth Minister for the Environment and Heritage pursuant to section 75 of the EPBC Act has declared that the proposal is a Controlled Action. The controlling provisions were set out by Environment Australia (EA) as follows:

- under Part 3 Division 1:
 - sections 16 and 17B (Wetlands of international importance);
 - sections 20 and 20A (Listed migratory species); and
- under Part 3, Division 2:
 - sections 26 and 27A (Protection of the environment from actions involving Commonwealth land).

- **Environmental Hazardous Chemicals Act 1985**

The Act sets up the Hazardous Chemicals Advisory Committee. Its functions include advising the EPA in relation to the assessment and control of chemicals that are environmentally hazardous. The EPA may assess chemicals under the Act.

The EPA may declare substances to be chemical wastes for the purposes of the Act. Examples of substances that have been so declared include dioxin contaminated waste materials and PCB (polychlorinated biphenyl) wastes.

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Relevance of the Act to this project – Low Relevance It is not anticipated any environmentally hazardous chemicals or declared chemical waste will be used or stored on the site.

- **Heritage Act 1997**

This Act aims to protect land, buildings, movable objects and other locations and items that are deemed to have State Heritage Significance or Local Heritage Significance.

Relevance of the Act to this project – Medium Relevance. Section 139 prohibits disturbance of a relic unless an excavation permit is obtained from the Heritage Council. Section 148 requires that the discovery of a previously unknown relic be reported to the Heritage Council within a reasonable time of its discovery.

- **Soil Conservation Act 1938**

An Act to make provision for the conservation of soil resources and farm water resources and for the mitigation of erosion

Relevance of the Act to this project – High Relevance. The site is located within Botany Bay.

- **Contaminated Land Management Act 1997**

This Act enables the EPA to respond to contamination that is causing a significant risk of harm to human health or the environment, and sets out criteria for determining whether such a risk exists.

Relevance of the Act to this project – High Relevance if suspected or contaminated ground is found during construction activities.

1.7 Project Specific Applicable Regulatory Requirements

- Development Application DA-494-11-203-i

NSW Minister for Planning Conditions of Approval for the Port Botany Expansion Project for Development Application DA-494-11-2003-i, 13th October 2005, including all modifications up to MOD 12 – DA-494-11-2003-i MOD 12 approved 6 June 2012.

- Sydney Port Botany Expansion Environmental Impact Statement (EIS)

This EIS has been prepared by URS Australia Pty Ltd (URS) on behalf of Sydney Ports Corporation for the proposed Port Botany Expansion. The EIS has been prepared to assess the impacts of the construction and operation of all elements of the proposed expansion, and to identify appropriate safeguards to mitigate any such impacts.

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1.7.1 Schedule of Licences & Consents

The following table details the conditions required to be met throughout the course of the project. The table will be used to track the;

Legislation/ Guideline	Approval/ Licence	Conditions of Consent Number	Assessment Authority / Consultation	Responsibility	Action Required By Grindley	CEMP Reference	Status
Protection of the Environment Operations Act 1997	Environment Protection Licence		Office of Environment and Heritage	N/A	N/A	N/A	N/A
MCoA	Statutory Requirements	A1.3	Environmental Protection Agency	Waste Company	Ensure Waste Contractors EPL is current & compliant .	N/A	Compliant & Ongoing
MCoA	Construction Environmental Management Plan (CEMP)	B1.3	Director-General of DOP / Office of Environment and Heritage/DNR/ Council	Grindley	Develop CEMP and submit to relevant authorities.	Project Specific CEMP	Closed
MCoA	Dust Management Plan	B2.4	Director-General of DOP / Office of Environment and Heritage / RTA / DoP / Councils / Community Consultative Committee	Grindley	Develop documentation and submit to relevant authorities.	Section 4.4.1 Air Quality & Dust Management & Impact Mitigation Plan (IMP006) Appendix E	Closed
MCoA	Soil and Water Management Plan	B2.5	Director-General of DOP / Office of Environment and Heritage / RTA / DoP / DNR / Councils / Community Consultative Committee	Grindley	Develop documentation and submit to relevant authorities.	Section 5 – Sediment & Erosion Control	Closed
MCoA	Acid Sulphate Soils Management Plan	B2.6	NSW Maritime Authority only if ASS are encountered during works	Grindley	Develop appropriate documentation. In the event that ASS are encountered notify the NSW Maritime Authority immediately	Outside of CEMP scope	Closed
MCoA	Section 73 Compliance Certificate	B2.13	Sydney Water	Aurecon	N/A	N/A	N/A

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MCoA	Construction Traffic Management Plan	B2.14	Director-General / RTA / DoP / Councils / Office of Environment and Heritage	Grindley	Develop TMP and submit to relevant authorities.	Appendix J – Site Specific TMP	Closed
MCoA	Safety audit in accordance with RTA guidelines	B2.15	DoP	By Others	N/A	N/A	N/A
Legislation/ Guideline	Approval/ Licence	Conditions of Consent Number	Assessment Authority / Consultation	Responsibility	Action Required By Grindley	CEMP Reference	Status
MCoA	Seek approval for conducting construction activities audible at residential premises outside the hours specified.	B2.19A	Director-General	Grindley	Adhere to approved hours.	Appendix I – Site Specific Noise Management Plan – Section 1.6.	Closed
MCoA	Construction Noise Management Plan	B2.20	Director-General of DOP / Office of Environment and Heritage / DoP/ Councils	Grindley	Develop Noise Management Plan and implement on site	Appendix I Site Specific Noise Management Plan	Closed
MCoA	Night-Time Works Noise Management Protocol	B2.22A	Director-General / Office of Environment and Heritage / Community Consultative Committee	SICTL Contractor	N/A	N/A	N/A
MCoA	Operational Noise Assessment Report	B2.29	Rail Noise Working Group	SPC /SICTL	N/A	N/A	N/A
MCoA	Detailed Terminal Design to show that predicted water quality outcomes achieved in Penrhyn Estuary	B2.30	Director-General	Aurecon	N/A	N/A	N/A
MCoA	Penrhyn Estuary Habitat Enhancement Plan	B2.31		SPC	N/A	N/A	N/A
MCoA	Construction Waste Management Plan	B2.33	Botany Council / Office of Environment and Heritage	Grindley	Develop & implement WMP and obtain Waste Contractors EPL.	Appendix G – Project Specific Waste Management Plan	Closed
MCoA	Visual Amenity Management Plan	B2.37	Botany and Randwick Councils / SSROC / Community Consultative Committee	SPC	N/A	N/A	N/A

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MCoA	Additional protection measures (such as wave energy dissipation devices) that the Proponent will implement to address adverse impacts on seagrasses at Foreshore Beach	B2.40A	Director-General	SPC	N/A	N/A	N/A
Legislation/ Guideline	Approval/ Licence	Conditions of Consent Number	Assessment Authority / Consultation	Responsibility	Action Required By Grindley	CEMP Reference	Status
MCoA	Construction Safety Study in accordance with Hazardous Industry Planning Advisory Paper No. 7 - Construction Safety Study Guidelines (DoP, 1992).	B2.41	Director-General	Grindley	Construction Safety Study Report prepared & submitted to Director General	Outside CEMP scope – separate document	Closed
MCoA	Fire Safety Study in accordance with Hazardous Industry Planning Advisory Paper No. 2 - Fire Safety Study Guidelines (DoP, 1993).	B2.42	Director-General and the Commissioner of the NSW Fire Brigades	By Others	N/A	N/A	N/A
MCoA	Emergency Response and Incident Management Plan in consultation with DEC, DOP, Council and the Community Consultative Committee.	B2.43	Director-General / DoP / Council/ Community Consultative Committee	Grindley	Develop Site emergency response plan and submit to relevant authorities.	Section 4 - Site Emergency Response Plan	Closed
MCoA	The Applicant shall ensure that all construction equipment is below the obstacle limitation surface, unless otherwise permitted by an approval	B2.46	Director-General / Office of Environment and Heritage / DoP / Council/ Community Consultative Committee	SICTL	N/A	N/A	N/A

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MCoA	Construction may not commence until details regarding the steps and timeframes for resolution of aviation issues, including certification, has been endorsed by Air Services Australia and by the Minister for Planning.	B2.48	Air Services Australia and by the Minister for Planning	Grindley	Ensure construction equipment is under the OLS. Liaise with Air Services Australia and SACL	Outside CEMP scope	Closed
Legislation/ Guideline	Approval/ Licence	Conditions of Consent Number	Assessment Authority / Consultation	Responsibility	Action Required By Grindley	CEMP Reference	Status
MCoA	Community consultation and complaints management	B3.1	DoP / Office of Environment and Heritage	Grindley	Develop & implement Community consultation procedures. All relevant reports to be made available on SICTL website for community access.	Section 2.10 – Complaints handling & Appendix F- Complaints Register.	Closed
MCoA	Establishment of Community Consultative Committee	B3.2	Director General	SPC	N/A	N/A	N/A
MCoA	Attendance at Community Consultative Committee	B3.3	Community Consultative Committee / Director General	SPC & SITCL Grindley (as required)	Representative to attend meetings as required	Section 2.11 – Community Consultation	Ongoing
MCoA	Community Enhancement Program (CEP)	B3.4	Director General / Community Consultative Committee / Botany Bay City Council / Randwick City Council	SPC	N/A	N/A	N/A
MCoA	Annual Environmental Management Report	B4.2	Director-General	SPC SITCL SITCL Operator	N/A	N/A	N/A
MCoA	Nominate a suitably qualified and experienced Environmental Representative	B4.3	Director-General	SITCL	N/A	N/A	N/A

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MCoA	Establish an Environmental Training Program	B4.4	SPC	Grindley	Develop & implement appropriate training	Section 2.12 – Environmental training	Ongoing
MCoA	Undertake independent environmental audit	B4.5	Director-General	SPC	N/A	N/A	N/A
MCoA	Maintenance and Management Plan	B4.6	Director-General / DoP	SPC	N/A	N/A	N/A

Grindley

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2. PROJECT PLANNING

2.1 Systems and Procedures

The Project Manager, (refer to Section 3.1 for the Project Managers details), is responsible for the development and implementation of all management systems for the project including this project specific Construction Environmental Management Plan.

The CEMP will be continually monitored and updated throughout the projects lifecycle by the Project Manager. The Project Manager and his team will review the effectiveness of the system on a weekly basis, all project safety and environmental issues will be reviewed in order to keep the document updated and effective.

The Project Manager will review the management plan to accommodate any changes to the project conditions which may have an effect on the effectiveness of the CEMP. Any changes to the project by the client or by virtue of latent conditions, safety considerations or environmental considerations will be reviewed and actioned.


When a non-conformance or incident is detected, it shall be addressed according to the Grindley Management procedure. The corrective action and methodology of improvement to prevent the reoccurrence of a non-conformance/incident is also covered in the Grindley CEMP.

2.2 Strategy

The CEMP is to be implemented from site establishment through to demobilisation. The day to day on site management of the CEMP will be by the Grindley Site Team, lead by the Site Manager.

The Site team will be responsible for:

- Environmental protection apparatus being correctly installed and or maintained ready for use in case of emergency
- Site inductions, environmental & safety meetings
- Production, review and approval of work method statements and Waste Management plans
- Monitoring adherence to Waste Management plans as per Head Contract
- Monitoring inspection and testing methods and records
- Implementing Project Quality, Environmental and Safety plans
- Monthly reporting of progress

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2.3 Construction Phases

The following tables detail the construction phases and anticipated durations of each phase for each building:

BUILDING	PHASE	DURATION
OPERATIONS BUILDING	Site Establishment	2 Weeks
	Foundations & Ground works	8 Weeks
	Structure	18 Weeks
	Fit out & Finishes	20 Weeks
	External Works	6 Weeks
MAINTENANCE BUILDING	Site Establishment	2 Weeks
	Foundations & Ground works	3 Weeks
	Structure	19 Weeks
	Fit out & Finishes	12 Weeks
	External Works	3 Weeks
DRIVERS AMENITY BUILDING	Transportable Building Site Establishment	1 Week
	Transportable Building Foundations	1 Week
	Transportable Building Delivery & Installation	2 Weeks
GATEHOUSE / AQIS BUILDING	Transportable Building Site Establishment	1 Week
	Transportable Building Foundations	1 Week
	Transportable Building Delivery & Installation	2 Weeks
RAIL DEPOT BUILDING	Transportable Building Site Establishment	1 Week
	Transportable Building Foundations	1 Week
	Transportable Building Delivery & Installation	2 Weeks

2.3.1 Construction Activities

The following table is a detailed list of activities that will be carried out during each phase of construction of the project and which phases require environmental management monitoring and reporting (EMM&R):

CONSTRUCTION PHASE	ACTIVITIES	EMM&R
Site Establishment	<ul style="list-style-type: none"> ➤ Fences & hoardings to site compound. ➤ Temporary services and site amenities. ➤ Temporary access roads. 	Required throughout the duration of this phase.
Foundations & Ground works	<ul style="list-style-type: none"> ➤ Bored piers. ➤ Detailed excavation. ➤ Lift Pit; <ul style="list-style-type: none"> ○ Formwork. ○ Sand blinding & plastic membrane. ○ Steel reinforcement. 	Required throughout the duration of this phase.

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	o Place concrete	
CONSTRUCTION PHASE	ACTIVITIES	EMM&R
Foundations & Ground works continued...	<ul style="list-style-type: none"> ➤ In ground hydraulic services. ➤ In ground electrical services. ➤ In ground Fire Sprinkler services. ➤ Termite barriers. 	Required throughout the duration of this phase.
Structure	<ul style="list-style-type: none"> ➤ Footings; <ul style="list-style-type: none"> o Formwork edgeboards. o Sand blinding & plastic membrane. o Steel reinforcement. o Place concrete. ➤ Slab on ground; <ul style="list-style-type: none"> o Formwork edgeboards. o Sand blinding & plastic membrane. o Steel reinforcement. o Place concrete. ➤ Suspended Slabs <ul style="list-style-type: none"> o Formwork decks & columns. o Electrical conduits & penetrations. o Hydraulic pipework & penetrations. o Steel reinforcement. o Place concrete. ➤ Structural Steel framing. ➤ Roofing. ➤ External wall cladding. 	Required throughout the duration of this phase.
Fit Out & Finishes	<ul style="list-style-type: none"> ➤ Masonry Walls ➤ Steel Stud wall & ceiling framing ➤ Windows & glazed doors ➤ Electrical services ➤ Hydraulic services ➤ Mechanical services ➤ Fire sprinklers ➤ Plasterboard wall & ceiling linings ➤ Cement Rendering ➤ Carpentry & joinery fitout ➤ Tiling ➤ Painting ➤ Carpet ➤ Vinyl 	Required throughout the duration of this phase.
External Works	<ul style="list-style-type: none"> ➤ Concrete Footpaths <ul style="list-style-type: none"> o Formwork edgeboards. o Sand blinding & plastic membrane. o Steel reinforcement. o Place concrete. 	Required throughout the duration of this phase.
Transportable Building Site Establishment	<ul style="list-style-type: none"> ➤ Fences & hoardings to site compound. ➤ Confirm location of services installed by others. 	Required throughout the duration of this phase.

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CONSTRUCTION PHASE	ACTIVITIES	EMM&R
Transportable Building Foundations	<ul style="list-style-type: none"> ➤ Bored Piers ➤ Detailed excavation. ➤ Footings; <ul style="list-style-type: none"> ○ Fix Steel reinforcement. ○ Place concrete 	Required throughout the duration of this phase.
Transportable Building Delivery & Installation	<ul style="list-style-type: none"> ➤ Deliver to site on trucks ➤ Crane into position ➤ Connect Services to buildings. 	Required throughout the duration of this phase.

EMM&R will be carried out by Grindley Construction throughout all phases of construction up to the hand over of the commissioned building to SICTL. After the hand over of the buildings EMM&R is no longer the responsibility of Grindley Construction.

2.4 Project Designers and Consultants

Contact details for project designers and consultants are established and distributed by the superintendent on initiation of the project. Some of these are displayed on the wall of the site office, as well as filed in the appropriate folder.

PROJECT DISCIPLINES	CONSULTANT COMPANY & NAME
Council	City of Botany Bay
Client	Sydney International Container Terminals
Client Superintendent	Mott Macdonald
Project Architect	Woods Bagot
Quantity Surveyor	Rider Levett Bucknall
BCA Certifier	Philip Chun & Associates

2.5 Inspections

The importance that Grindley places on the environmental aspect of its business is shown by the constant inspection program it puts its sites through. Environmental inspections will occur at least once a week on every site.

3 monthly inspections will be conducted by the Environment Manager using form 404 (refer to Appendix B).

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Each week (at least) the site environmental officer will conduct basic site inspections using form 403 (refer to Appendix B). This inspection will also be done after intense or prolonged inclement weather (i.e. rain for a longer period than 2 Days or in excess of 20mm rain), during the course of the week.

The site manager will be provided with the outcomes and action items arising from the weekly environmental inspections. The site manager will then update the project team of any specific issues at the weekly tool box session and monitor the implementation of action items.

A list of possible adverse environmental impacts and the proposed control measures are identified in the Site Specific Aspects and Impacts Register, (Appendix D), and Impact Mitigation Plans, (Appendix E).

The MCoA approved Environmental Representative will be notified and invited to attend inspections. Records of inspections will be available to the Representative upon request.

2.6 Internal Audit Schedule

Internal audits will be conducted on all project activities as well as company nominated activities to provide a further review process for the effective management of this project and the management systems generally. The following project elements will be audited at the times indicated which is outlined in the audit schedule (form 506):

- Project Safety Plan – (at least once over the course of the project)
- Project Quality Plan – (month 2 and every 3rd month thereafter until end of project)
- Project Environmental Plan – (system audits every 3 months)

Reports of all audits conducted on the project shall be distributed to the following:

- Grindley Construction - Construction Director
- Grindley Construction - Project Manager
- Grindley Construction - Site Manager
- Grindley Construction Management Review Meeting

And upon requests to;

- MCoA Approved Environmental Representative and
- SICTL.

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2.7 External Audit Schedule

In accordance with MCoA B4.5, within one year of the commencement of construction and every year thereafter for the duration of construction a full independent environmental audit shall be undertaken by a suitably qualified person/team approved by the Director-General. Timing will be reviewed inline with the overall SICTL annual audit program.

Audits would be made publically available and would;

- Be carried out in accordance with ISO 14010 – Guidelines and General Principles for Environmental Auditing and ISO 14011 – Procedures for Environmental Auditing.
- Assess compliance with the requirements of consent, and other licences and approvals that apply
- Assess construction against predictions made and conclusions drawn in the DA, EIS, additional information and Commission of Inquiry
- Review the effectiveness of the environmental management of the development, including any environmental impact mitigation works

2.8 Annual Environmental Management Report

In accordance with MCoA B4.2, an Annual Environmental Management Report will be prepared every 12 months from commencement of construction, and every twelve months after.

Report will:

- Detail Compliance with conditions of consent;
- Contain a copy of the complaints register (for the proceeding 12 month period, exclusive of personal details) and details of how these complaints were addressed and resolved
- Include a comparison of the environmental monitoring required under development consent and other approvals, including interpretations and discussions by a suitably qualified person
- Contain a list of occasions in the preceding 12 month period when environmental performance goals have not been achieved, indicate the reason for failure to meet the goal and the action taken to prevent reoccurrence of that type of incident
- Be approved by the Director-General and
- Be made available for public inspection upon request

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2.9 Neighbour Notification & Community Consultation

Managing Neighbour and Community interfaces with the construction process is an important part of the process of environment interaction. The following processes will be undertaken by Grindley to inform neighbours and the surrounding community of the work as well as provide a contact point:

- Site Sign will be erected giving contact details of the site manager to be contacted for any concerns/queries regarding the construction works
- Letters will be issued to all immediate neighbours with Grindley contact details as well as an indicative start and duration of construction activities.
- Discussions with adjoining land owners/neighbours and the community who may be affected by the project.
- All monitoring, management and reporting documents required under the development consent shall be publicly available upon individual request

Community Consultative Committee has been created prior to Grindley's involvement in the project. Grindley are willing to assist / contribute as required to this working group where required.

Grindley will coordinate with SPC and the other contractors regarding notifications and community consultation.

2.10 Complaints Handling

Although every effort will be made to ensure that there will be no adverse impacts on neighbours and the surrounding community, Grindley have in place a procedure for recording and managing complaints.

When a member of the community lodges a complaint with council, Grindley, SPC or through the 1800 project information line, the Port Botany complaints escalation procedure will be followed. Grindley will operate within the overall SPC Consultation Manager program.

All complaints will be recorded in the Port Botany Terminal 3 Project Complaints Register.

The issue shall be dealt with as soon as possible after being reported. If it cannot be rectified or resolved immediately, then a solution will be implemented as soon as practicable.

As a minimum, temporary control measures will be put in place to prevent any adverse consequences until such time that the issue can be satisfactorily resolved.

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The responsible foreman/site manager is to assess the situation within their level of authority and either:

- a. initiate an immediate temporary control and manage the issue, or
- b. Escalate the issue to the Project Manager to resolve the issue.

Resolutions are to be documented in the Complaints Register and the community member is to be informed of actions taken.

Complaints register will be kept on site and will include records of all comments, inquiries and complaints received on the project. Refer to **Attachment F** for sample register

The issue and outcomes are also to be communicated to all relevant employees and subcontractors, using toolbox meetings and noticeboards.

2.11 Community Consultation

The Port Botany Project has an established Community Consultative Committee that has been created prior to Grindley's involvement in the project. Grindley are willing to assist / contribute as required to this working group where required.

2.12 Environmental Training

All workers will receive suitable environmental induction / training to ensure they are aware of their responsibilities and are competent to work in the Port Botany Site. Environmental requirements will be explained to all personnel during site induction and ongoing training via toll box talks meeting

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

- Environmental Policy
- Site environmental objectives and targets
- Contamination status of the site and processes related to contamination management
- Identification of relevant employment positions associated with the redevelopment that have an operational or management role related to environmental performance
- Understanding individual authorities and responsibilities
- Site environmental rules
- Potential consequences of departure from rules
- Emergency procedure and response (e.g. spill clean-up)
- Basic understanding of their legal obligations.

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3. MANAGEMENT RESPONSIBILITIES

3.1 Position Descriptions

Construction Director – Matthew Macauley, (Grindley Construction)

Responsibilities and Authorities

- Overall control of system compliance
- Review of system administrations

Environment Manager – Jeff Leys, (Grindley Construction)
(Reports to Construction Director & Company Secretary)

Responsibilities and Authorities

- Inform and instruct company personnel in the application of the Environmental Management System
- Ensure all aspects of the Environmental Management System are in place as required and any issues are resolved
- Be available for all personnel to come and confirm procedures or ask questions on any aspect of the Environment Management System
- Provide advice on compliance with standards, codes of practice, etc.
- Conduct internal audits of the Environmental Management System
- Ensure site environmental inspections are conducted weekly and monthly
- Disseminate environmental management information to personnel
- Identify and assess environmental aspects and impacts and determine action to alleviate or control
- Review and evaluate environmental incidents and ensure that incidents are reported and appropriate action taken

Project Manager – Ashley Curtis, (Grindley Construction)
(Reports to Construction Director)

Responsibilities and Authorities

- Control of system compliance
- Supervision of head office process control
- Oversee site process control
- Internal monthly reporting
- Sub-contract administration and payment

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- Review all incident/non-conformance records, accident & incident reports and audit reports
- Authorise subcontract tendering and subcontract procedures, and establish an administrative system to monitor the subcontracts and the payment of subcontractors in relation to their environmental responsibilities

Contracts Administrator – Clare Hitchenor, (Grindley Construction)
(Reports to Project Manager)

Responsibilities and Authorities

- Ensure that all dockets required by EPA guidelines for waste and spoil removal are present before invoices are processed
- Ensure that waste removal contractors provide monthly reports of waste removed from sites.

Site Manager – Paul Dunand, (Grindley Construction)
(Reports to Project Manager)

Responsibilities and Authorities

- Implement and ensure adherence to Project Plan and all associated sub-plans
- Implement all environmental plans and procedures as required
- Co-ordination of all on site activities including trade interface
- Organisation of all deliveries and managing materials handling
- Establish and maintain site environmental measures
- Review all Subcontractor Management Plans and waste management plans submitted and obtain approval from Project Manager before allowing work to commence on site
- Implementation of all inspection and testing requirements
- Liaison and co-ordination with testing and inspection authorities
- Preparation of check sheets and supervision of remedial works
- Liaise with Project Manager to co-ordinate the works and resources required

Site Environment Officer – Kenny Huynh, (Grindley Construction)
(Reports to Site Manager & Environmental Manager)

Responsibilities and Authorities

- Ensure compliance with environmental plans and regulations

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- Isolate and report any environmental spills/events to site manager and Environmental Manager
- Conduct weekly site inspections
- Conduct inspections after intense or prolonged inclement weather
- Ensure all environmental protection equipment is in place
- Advise the Site Manager / Foreman on areas of concern
- Quarantine unsafe work areas, materials, plant and equipment
- Identify and report potential environmental impacts and risks
- Assume the role of company Representative for the Environment on site

MCoA Approved Environmental Representative – Noel Storan (EP Risk Management)

Responsibilities and Authorities
(Reports to SICTL / SPC)

- Ensure that the CEMP is effectively established, implemented and maintained at the Project level
- Ensure compliance with all relevant statutes, regulations, rules, procedures, standards and policies
- Liaise with the Grindley's Environmental Representative and/or Project Manager on environmental issues, including the written notification of non-conformances (incidents, emergencies or deviations from the CEMP)
- Monitor the environmental induction programme and other relevant environmental awareness training and ensure personnel are aware of their environmental responsibilities under relevant legislation and the contract
- Report to the client on the performance of the system and improvement opportunities
- Ensure that environmental records and files are collected and maintained
- Compliance checking as required
- Ensure that non-conformances and environmental incidents are recorded and written

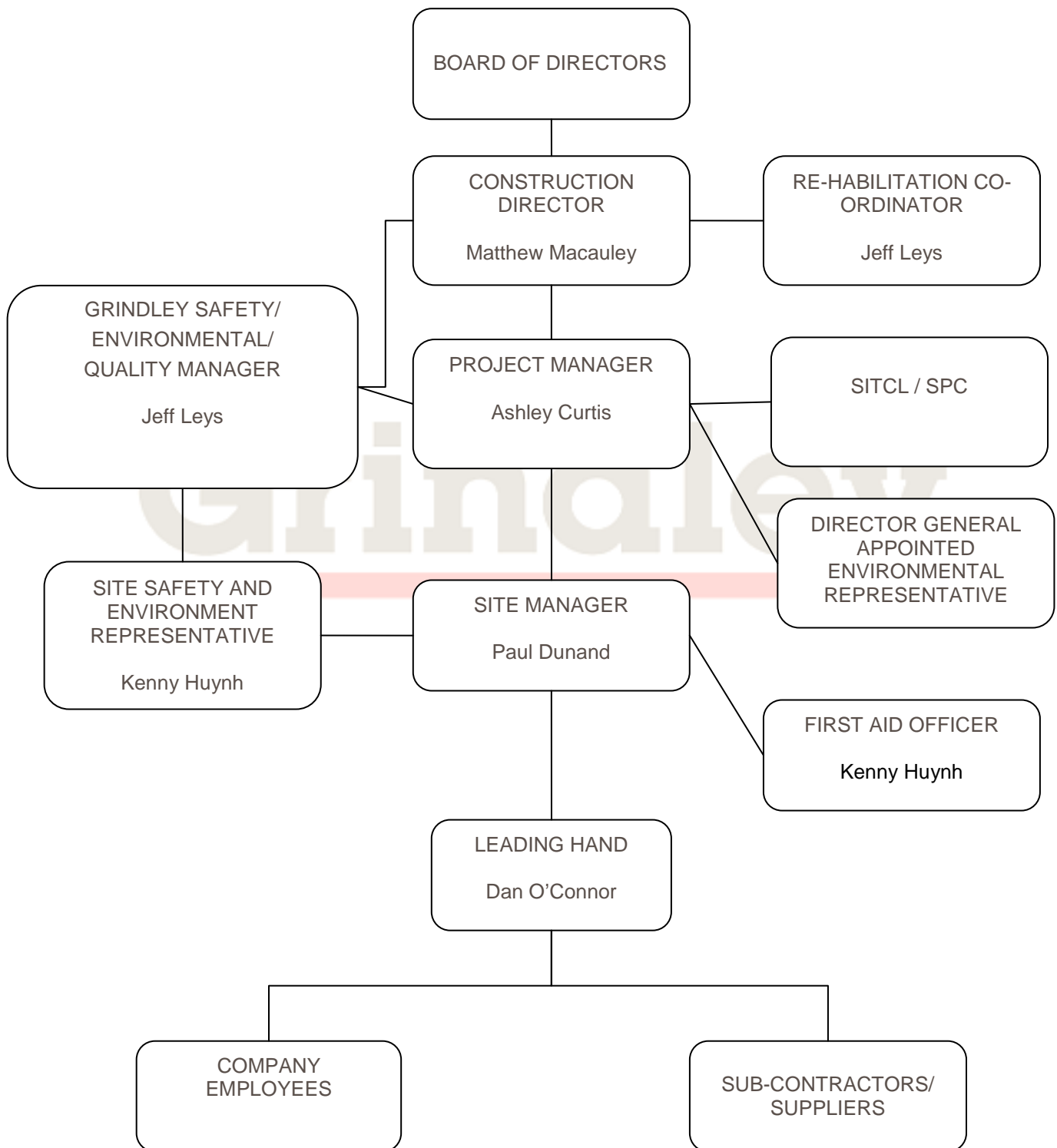
Subcontractors

Responsibilities

- Ensure compliance with environmental plans and regulations
- Ensure all required paperwork is presented on submission of progress claims

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3.2 Project Organisational Chart



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4. SITE EMERGENCY RESPONSE PLANS

4.1 Emergency Response Plan

In the event of any emergency the Site Manager must be contacted to ensure the appropriate action is taken.

POTENTIAL EMERGENCY	WHAT TO DO?	RELEVANT AUTHORITIES & PERSONS
Injury caused by: <ul style="list-style-type: none"> • Fire • Explosion • Machinery accidents • Minor injuries 	<ul style="list-style-type: none"> • For serious injuries call an ambulance. You should also have the contact details of the nearest doctor, Medical Centre and Hospital. • Immediately inform the site First Aid Officer. • Follow the procedures as detailed in the Site Safety plan. • For major injuries contact the Site Manager or Project Manager 	<ul style="list-style-type: none"> • Emergency Services • Nearest Doctor • Medical Centre • Site Manager • Project Manager
Fire <ul style="list-style-type: none"> • Fire at the diesel tank • Fire at any of the machineries • Fire caused by vandalism 	Evacuate all personnel to a safe area immediately. <ul style="list-style-type: none"> • Call the Fire Brigade (Emergency Services). • If the fire is likely to damage neighbouring property inform the adjacent residents. • Follow the procedures as detailed in the Site Safety plan. • For major fire emergencies, contact the Site Manager or Project Manager • Inform terminal security <i>(Note: Fire Extinguishers are located throughout the site as detailed on the Emergency Evacuation Map).</i>	<ul style="list-style-type: none"> • Emergency Services • Site Manager • Project Manager • Adjacent residents
Explosion (e.g. rupture in a gas line)	<ul style="list-style-type: none"> • Evacuate all personnel to a safe area immediately. • Call the Emergency Services immediately. • Contact the neighbouring residents. • If service related, call the relevant service provider (e.g. AGL) • Follow the procedures as detailed in the Site Safety Plan • Contact the Site Manager or Project Manager • Inform terminal security 	<ul style="list-style-type: none"> • Emergency Services • AGL • Site Manager • Project Manager • Adjacent residents
Spills Management & Contaminated Soils <p>Major Spills:</p> <ul style="list-style-type: none"> • Spill or release of diesel fuel or oil • Spill or release of other hazardous chemicals or Material 	<ul style="list-style-type: none"> • For major spills, (defined as a spill that is likely to have direct environmental consequences.) • Immediately call the Fire Brigade and notify superintendent. • Identify the source of the spill. • Refer to the Material Safety Data Sheet (MSDS) and evaluate the hazards of the material. 	<ul style="list-style-type: none"> • Emergency Services (fire brigade) • OEH • Superintendent/SICTL • SM & PM • EPA • ER

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<ul style="list-style-type: none"> • Minor Site Spills • Acid Sulphate Soils 	<ul style="list-style-type: none"> • If the material is dangerous, evacuate the site immediately and notify all neighbours. • If it is safe, halt the source of the spill immediately. • Contain the spill and control its flow. • Block storm water drains downstream of the spill. • EPA and local council must be notified about any spills that are likely to threaten the environment. • If the spill is likely to impact on the catchments, contact Office of Environment & Heritage (OEH) immediately. • Minor spills (defined as spills which can be contained and rectified correctly without the need of external services), shall be contained and rectified with the site spill kit and disposed of correctly. Superintendent to be notified via incident report. • Reported to the Site Manager. • Where Acid Sulphate Soils are discovered, the spoils shall not be removed from site and subsequent notification & testing will follow. 	<ul style="list-style-type: none"> • Site Manager • Superintendent/ER • Superintendent/ER • EPA • OEH
Heavy rainstorm and flood – beyond the capacity of the Sediment and erosion controls on-site. Or, failure of the sedimentation control measures.	<ul style="list-style-type: none"> • Contain/minimise the flow. • Contact Council immediately. • Notify LORAC for water discharging into stormwater system • Investigate reasons for failure and prepare an incident report including details of five-day rainfall figures. • Contact the Project Manager 	<ul style="list-style-type: none"> • Council • Site Manager • Project Manager
Discovery of items of conservation value (e.g. flora & fauna, heritage)	<ul style="list-style-type: none"> • Fence off the area as “no go” zone and contact the Site Manager or Project manager immediately for further action. 	<ul style="list-style-type: none"> • Site Manager • Project Manager
Discovery of contaminated material on-site (e.g. underground fuel storage tanks)	<ul style="list-style-type: none"> • Fence off the area as “no go” zone and contact the Site Manager or Project manager immediately for further action. 	<ul style="list-style-type: none"> • Site Manager • Project Manager
Rupture of Authority pipelines (water pipes, sewerage pipes)	<ul style="list-style-type: none"> • Contain/minimise the flow • Ensure all spilled materials are contained on site or if running off site are directed through sediment control measures • Block storm water drains downstream of the spill. • Contact relevant authority as soon as possible • EPA and local council must be notified about any spills that are likely to threaten the environment. • If the spill is likely to impact on the catchments, contact Office of Environment & Heritage (OEH) immediately. 	<ul style="list-style-type: none"> • Relevant Authority • Council Officer • Site Manager • Project Manager • OEH

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	<ul style="list-style-type: none"> • Contact the neighbouring residents. • Inform terminal security 	
Terminal security breach or public safety Issue	<ul style="list-style-type: none"> • Notify gatehouse security and SICTL immediately. • Where public safety issue exists, barricade to restrict egress and address issue immediately. 	<ul style="list-style-type: none"> • Grindley • SICTL
Emergencies & Critical Incident	<ul style="list-style-type: none"> • Follow procedures as per Grindley's site specific emergency/evacuation procedure, outlined in the induction presentation • Notify Superintendent 	<ul style="list-style-type: none"> • Grindley

4.2 Emergency Contacts

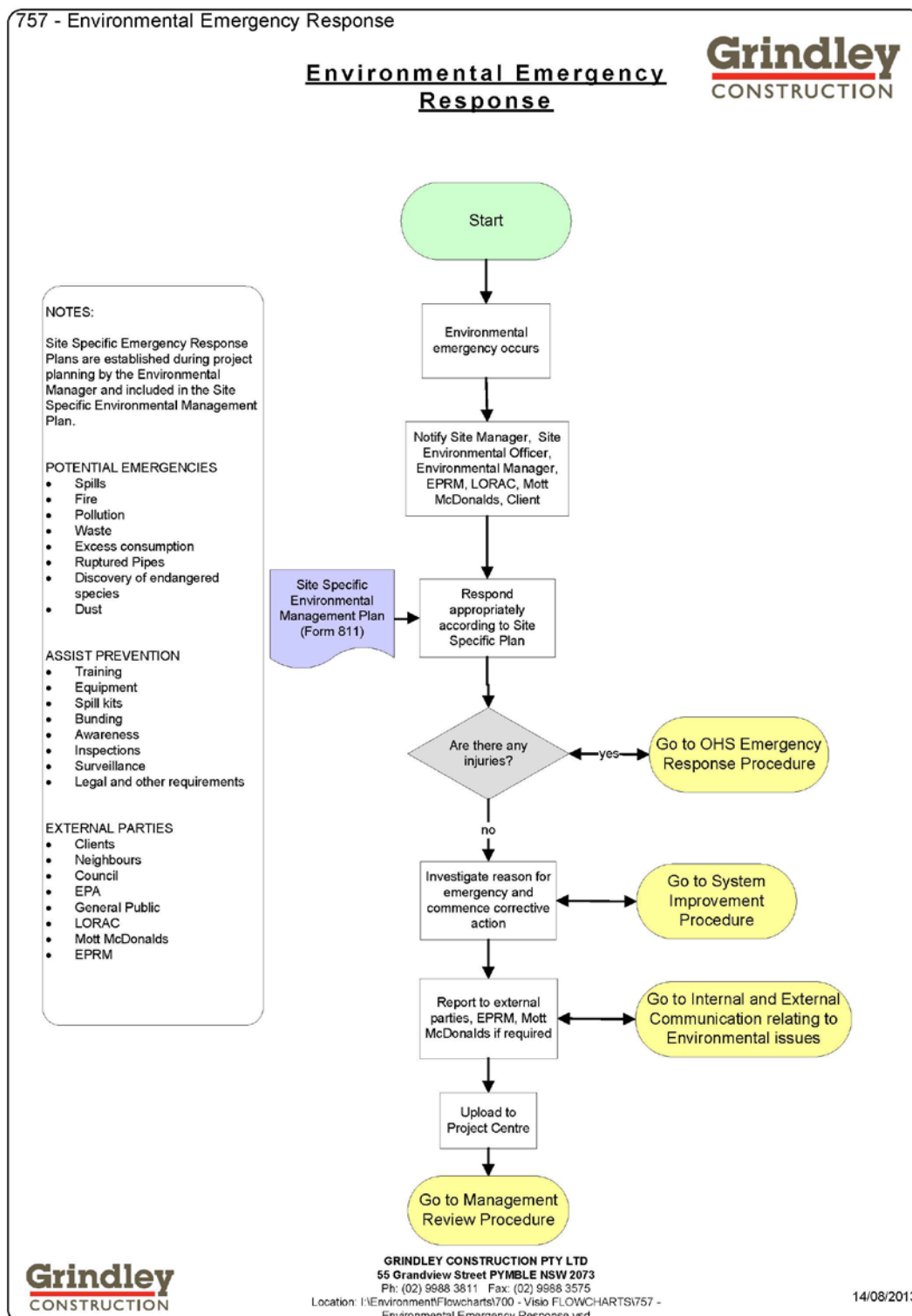
Name	Contact Details
Emergency services including Fire Brigade, Ambulance and Police	000
Nearest Medical Centre	Botany Medical Centre 9700 1115
Nearest Hospital	Prince of Wales 9382 2222
NSW EPA	Pollution Line 131 555
Local Council	City of Botany Bay Council 9366 3666
Site Manager	Paul Dunand 0408 204 181
Project Manager	Ashley Curtis 0419 204 803
Construction Director	Matthew Macauley 9988 3811
SPT3 Site Environmental Representative	Noel Storan 0419 252 680
Sydney Water	Emergency Line 13 20 90
Energy Australia	Emergency Line 13 13 88
Integral Energy	Emergency Line 131 003
AGL	Emergency Line 131 909
Waste Disposal	Emergency Line TBA

4.3 Incident and Non-conformance procedure

In the case of an environmental incident, flowchart (see below) must be followed and all aspects of the incident addressed and entered to the relevant logs for appropriate review. The Director-General shall be notified of any incident with actual or potential off site impacts on people or the biophysical environment within 12 hours of the Grindley becoming aware of the event. Full written details of the incident shall be provided to the Director-General within seven days of the date on which the event occurred. The Director-General may require additional measures to be implemented to address the cause or impact of any incident within such period of time as the Director-General may require.

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Environmental Emergency Response Flowchart



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4.4 Environmental Impact Issues

4.4.1 Air Quality and Dust Management

Generally it is Sydney Port Corporation's, (or its relevant subcontractor's), responsibility to undertake actions to avoid or manage likely off-site impacts that are directly associated with the works.

On site air quality and dust management is the responsibility of Grindley Construction's site manager. As per Impact Mitigation Plan 006 (IMP006) (refer to Appendix E) dust minimisation techniques are to be employed as needed during construction, including the use of water carts as necessary. Air quality is to be managed through the proper maintenance of all machinery on site as per plant maintenance declaration form (form 129) (refer to Grindley Construction Safety Management Plan). In line with section 129 of the PEO Act 1997, odour reporting is encouraged and outlined in the site induction process.

4.4.2 Spill Management and contaminated Soils (ASS)

Spills and contaminated soils are to be treated as per the emergency response plan 4.1 - 'Spill Management and Contaminated Soils'. Any contamination encountered is to be contained on site, assessed and dealt with as per authority instruction and relevant legislation.

4.4.3 Cultural Heritage

Any items of cultural heritage discovered on site will be actioned as per section 4.1 above 'Emergency Response Plan – Discovery of items of conservation value'.


If an Aboriginal object is discovered during construction of the development, works should cease in the subject area and the DEC notified immediately.

4.4.4 Flora and Fauna

Flora and Fauna on the site will be managed through the recommendations of the Flora and Fauna conditions detailed in the DA approval and any subsequent conditions will be complied with as detailed.

Grindley sites are outside the Penrhyn Estuary. We note no construction activities are permitted within the Permanent Exclusion Zone. Grindley will comply with LORAC Shorebird Management Plan.

Grindley will contact the OEH and advise of any shorebirds nesting or preparing to nest on the construction site.

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4.4.5 Noise

Noise impacts from construction are an ongoing concern for all construction projects. Construction noise management will be in accordance with the Development Application and will be the responsibility of the Site Manager to enforce. Refer to Construction Noise Management Plan, Appendix I.

4.4.6 Traffic

Traffic management will be as per the developed traffic management plan (refer to Appendix J) will be the responsibility of the Site Manager to enforce.

4.4.7 Waste Management

Waste Management will be conducted in accordance with Impact Mitigation Plan 004 (IMP004) (refer to Appendix E). A waste management plan will be developed in conjunction with the selected waste contractor for the project and will be audited at random intervals throughout the course of the project. Refer to Construction Waste Management Plans, Appendix G.

4.4.8 Heritage Management

The remains of the Government Pier will be within the exclusion zone established by LORAC. No workers will have access to this area.

4.4.9 Aviation Management

Aviation management is in integral part to the site management due to the close proximity of the site to Sydney airport. The site Manager will ensure that all construction equipment is below the obstacle limitation surface (OLS), 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 (SACL).

In reference to MCoA B2.46. All required applications will be submitted to SACL to obtain permission to operate a crane onsite. No craneage will proceed onsite until this approval is granted. We note LORAC have been provided a height limit of 35m AHD for all construction works. Anything over this will be sent to Air Services Australia for further assessment.

In reference to MCoA B2.44. Establishment of lateral separation distances are outside Grindley scope of works. Grindley will comply with SACL requirements for lateral separation once supplied.

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Pursuant to Regulation 94 of the Civil Aviation Regulations 1988, Construction lighting is to be kept to a minimum and installed facing down as to have minimal effect on the Airport and its operations.

5. SEDIMENT AND EROSION CONTROL

This section identifies sediment control systems to be implemented on the project. The sediment control systems are designed to minimise erosion on-site and retain sediment eroded by water and wind.

Sediment and erosion control will be as per the sediment and erosion control plan. These plans have been prepared in accordance with Landcom's guide on Managing Urban Stormwater (the "Blue Book")

The erosion and sediment control devices described will be installed during site preparation works along with the site fences and sheds. These devices will be in place throughout all construction phases, especially excavation.

The below controls will be implemented within the Grindley site boundaries to control erosion, sediment and pollution within the Grindley Site. Overall Soil and Water Management of the Port Redevelopment is by Laing O'Rourke.

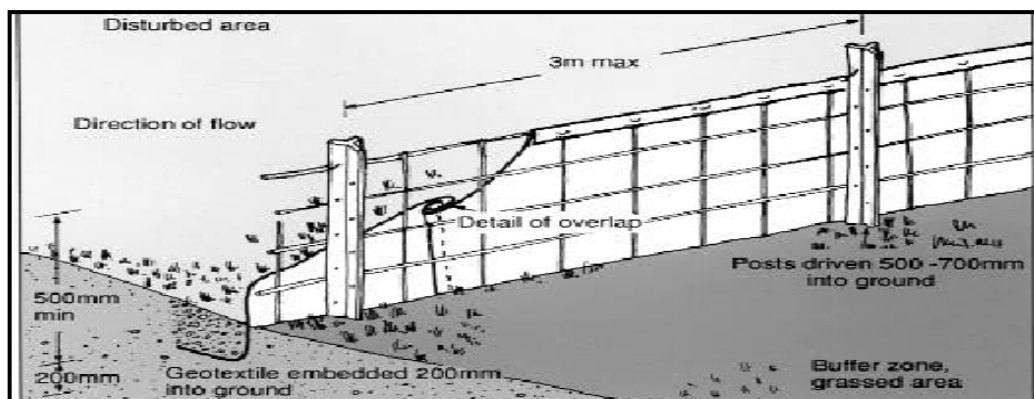
5.1 Sediment and Erosion Control Devices

Unnecessary disturbance of the site shall not occur and all cuts are to be stabilised as soon as possible after the completion of site earthworks. Extra care will be taken to prevent sediment run off into all neighbouring lots and stormwater. Any collected silt will be disposed of in accordance with all other relevant codes and standards.

5.1.1 Silt Fences

Silt fences are to be installed to site boundaries as required. Geotextile fabric will be fixed to the temporary construction fencing where 'downhill' boundaries exist. The fabric will be turned down under the existing ground line and secured at regular intervals not exceeding 3m in accordance with the following diagram.

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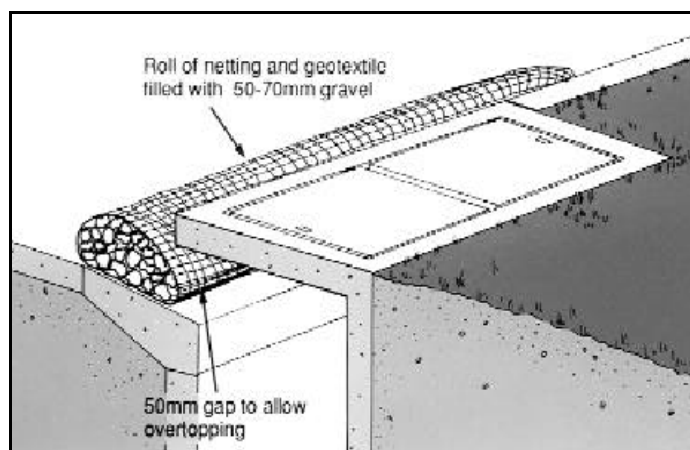


5.1.2 Vehicle Access

Vehicular access will be controlled to prevent sediment being tracked. This will be done by maintaining an all weather access/driveway composed of an approved course aggregate surface. Also if the need arises a shaker grid will be installed to the main access by Grindley Construction during the construction works. Any sediment that is tracked onto the surrounding roads will be cleaned off in a timely manner.

5.1.3 Stormwater Inlets

All stormwater inlets are to be covered with geotextile fabric in a roll or other format to ensure that no sediment enters into the stormwater system. This will be the responsibility of the Site Manager to enforce. The rolls will not only be placed directly at the inlets as shown below, they will also be placed at regular intervals in the gutters 'upstream' from the inlets creating multiple barriers.



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5.1.4 Stockpiles

If appropriate topsoil is to be stockpiled on site then the following measures will be put in place. If stockpiling is required, stockpiles shall be stored at least 2 meters clear of drainage lines, natural watercourse and established trees.

Stockpiles will have temporary silt fences in place around the stockpiles to create an enclosure and if necessary they will be covered with shade cloth or tarpaulin to retain the materials on the stock pile. The location of stock piles will be determined on site.

5.1.5 Waste Enclosures

Dedicated building waste enclosures will be set up around the site to enclose building waste where required. No waste enclosures will be set up outside of the site boundary.

5.1.6 Dust Control

Where relevant, shade cloth to the boundary fences will be maintained throughout all stages of construction to assist in dust control.

If the need arises due to excessive dust being created, the site will be watered down by a water truck where possible, and/or sprinklers and hoses.

Also all stockpiled soils will be covered during periods of high wind to reduce the dust created from on site storage.

5.1.7 Monitoring

In order to maintain the various erosion and sediment control devices, regular inspections, repairs and cleaning will be carried out on the silt fences to the boundaries, stockpiles, waste enclosures, and to the stockpile covers.

Inspections of the site erosion and sediment control devices will be carried out by the site foreman in accordance with section 2.5 of this report as well as using the checklist as detailed in Appendix B. All records will be recorded and kept on onsite.

5.2 Stormwater Management

5.2.1 Surface Water

Due to the flat profile of the site and the sandy composition of the soil, it is anticipated that there will be minimal surface water runoff from the site. It is expected that the sediment control measures detailed in Section 5.1 will be sufficient to maintain the required water quality levels.

If the site is found to have significant surface water runoff and it becomes difficult maintain water quality, a sediment basin will be installed to control water being discharged from the site.

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A sediment basin will be installed if the turbidity measurements outside of silt fence are <25ntu, (or as described in the EIS), or if the pH levels are outside 6.5-8.5, or if there is visible oil and grease in the water runoff.

Any surface water collected in a sediment basin will be left to settle and where practicable, the water from the basin will be reused on site for construction water and dust suppression. However If it is determined that predicted or continuing rain will cause the sediment basin to overflow, pumping out of water may begin as required.

5.2.2 Pumping of stormwater

If a sediment basin is required and stormwater is required to be pumped out of the site, the pump intake is to be located no more than one meter below the surface of the collected water so as to reduce the amount of settled silt being pumped out for further treatment. The final 200mm of water is to be left in the collection pond to evaporate to further reduce the amount of silt being pumped.

This setup for the pump is to apply to both treatment procedures described below, regardless of the treatment option chosen.

In accordance with section 120 of the PEO Act 1997, Grindley takes the pollution of waters seriously & therefore the importance of avoidance shall be outlined in the site induction presentation, including correct storage/handling and disposal of all liquids.

Note: During rain; water should NOT be pumped unless the pond is at risk of overflowing.

5.2.3 Stormwater Treatment

There are two treatment options for stormwater collected on site, flocculation and or filtration, for each option the following procedures in their entirety are to be followed.

5.2.3.1 Filtration

When using filtration, the water collected in the sediment basin must be treated using the following procedure. No water is to be released from site until the entire process has been completed and test results confirm water quality:

1. Once the rain has stopped allow the containment pond to settle undisturbed for at least one day, all collected water is then to be pumped into the filtration system.
2. During an extreme weather event where the containment ponds are likely to overflow pumping through the filtration system may begin as required without allowing the water to settle, samples must be taken as normal.
3. The pump inlet is to be suspended in the water no more than one meter from the surface to reduce sediment intake

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4. All water must pass through a maximum 50 micron filter bag within the filtration system.
5. Initial samples are to be taken and tested
6. If the sample results are below the allowable limit then continuous pumping may commence
7. Testing is to occur at the required intervals over the time period of the water being pumped out.
8. Water is to be pumped at a medium flow rate onto a gravel area with silt barrier flowing away from the site so as to reduce the risk of erosion.

5.2.3.2 Flocculation

When using flocculation, the following process for water collected in the containment pond will be followed before the water is allowed to be pumped.

1. The stormwater collection basin will be treated with gypsum at the end of the rain event as per the Blue book Appendix E4.1 and left to settle for 3 days.
2. After three days pumping can begin.
3. Each pump hose from the containment ponds will be fitted with a filter sock of geotextile fabric so as to filter the water as it leaves the hose.
4. Each hose is to discharge into a 3m diameter silt trap consisting of a 100mm base of 10mm blue metal surrounded with silt fence so as to be completely enclosed, the trap must have a fall away from the basin and towards the site boundary fence.
5. Once the water has been allowed to pass through the silt trap a sample is to be taken and tested.
6. Once the water has been tested and found to be below the required limits it is to be allowed to travel unobstructed through a fenced off area with a gravel base to the site boundary and through the boundary silt barrier.
7. Each element of the treatment procedure is to be checked and evaluated for its effectiveness and condition before pumping can begin.

5.2.4 Stormwater Testing

Where required the testing of the water quality is to be conducted In-situ using a water quality meter. Laboratory testing, where required, will be carried out by a third party organisation using only ISO 9001 Quality certified testing laboratories.

5.2.5 Testing Quality

In accordance with the Blue Book the acceptable levels of total suspended solids for stormwater water leaving the site will be less than 50mg/L (or as described in the EIS).

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Monitoring and initial testing is to be done through the use of a Low Level Suspended Solids Meter. This is to be used as a guide and any reading above 48mg/L (48ppm) is to be taken as over the allowable limit and pumping is to cease until lab testing can verify an acceptable level of total suspended solids.

5.2.6 Testing frequency

Testing is to occur during the initial pump out to determine that the correct allowance of total suspended solids is being achieved. If the correct levels are not achieved then pumping is to cease and a review of treatment procedures is to occur.

Continual monitoring will be conducted during each period pumping is occurring. Testing will be undertaken taken prior to any water leaving site, and then, at minimum, on a weekly basis.

5.2.7 Testing results

All results are to be available on site and in Grindley head office through the use of the Grindley Construction computer network. Results from the testing organisation will be reviewed for compliance by the Environmental Manager and then forwarded to all relevant Grindley personnel for distribution to project stakeholders.

Results taken will be registered in the Sydney Port Botany Terminal 3 Stormwater Discharge Log. These will be reviewed during each environmental audit and inspection.

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6. APPENDIX A – Flowcharts

Grindley

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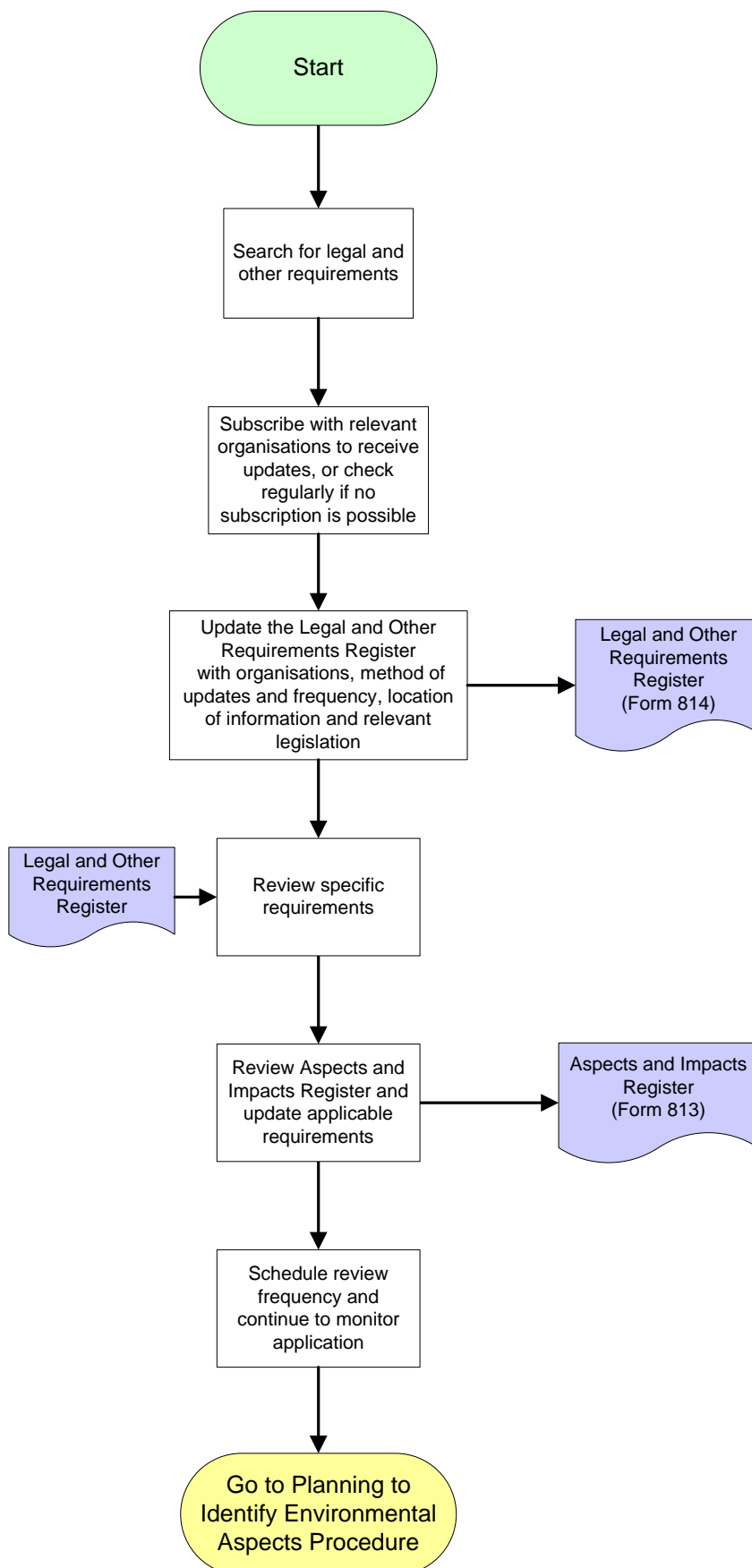
Determine Legal and Other Requirements

NOTES:

- Legislation.nsw.gov.au
- epa.nsw.gov.au
- Industry groups
- Journals
- Literature
- Seminars
- Workshops
- Contracts
- Development Approvals
- Statement of Environmental Effects
- Council and government codes
- Australian Standards
- Local Neighbourhood groups
- NGOs
- Botany Council
- Randwick Council
- EPA
- SSROC
- RMS
- OEH
- CCC
- DPI
- NSWOW
- SPC

Requirements are to be reviewed:

- On receipt of updates
- Prior to inclusion in plans or tender applications
- On commencement of new project
- Following communication from EPA or Council



Site Environmental Awareness and Inductions

NOTES:

Site based staff and subcontractors must be inducted on environmental issues on starting with Grindley Constructions.

Environmental Awareness sessions are held in coordination with Site Inductions and Toolbox meetings on site to educate subcontractors on Grindley's environmental policies and procedures and site specific environmental issues.

Issues discussed:

- Aspects and Impacts Register
- External and Internal Communication procedure
- Legal and other requirements Procedure
- Induction Checklist
- Impact Mitigation Plans

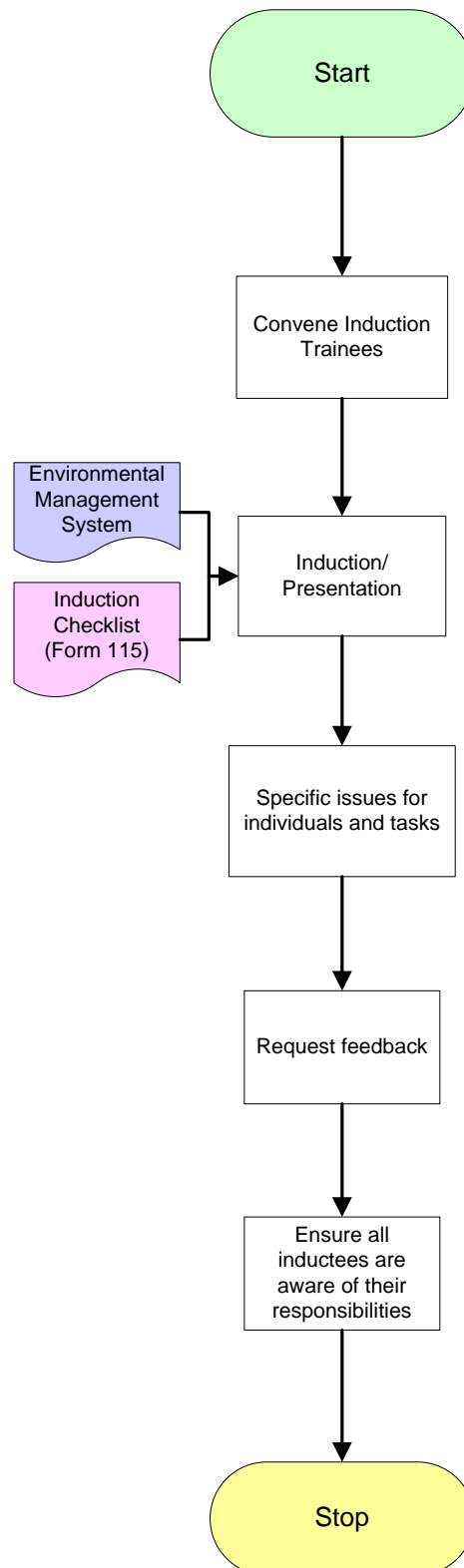
INDUCTION

- Environmental Policy
- Significant Aspects
- Roles and Responsibilities
- Consequences
- Legal and other requirements
- Location of documentation, registers, risk assessments and management plans
- Site Specific Environment Plan

Ongoing updates to staff on status of EMS will be via Email to office staff and Noticeboard or toolbox meetings to site staff

COMMUNICATION STRATEGIES

- Emails
- Reports
- Noticeboard
- Toolbox Meetings
- Training



Internal and External Communication relating to Environmental issues

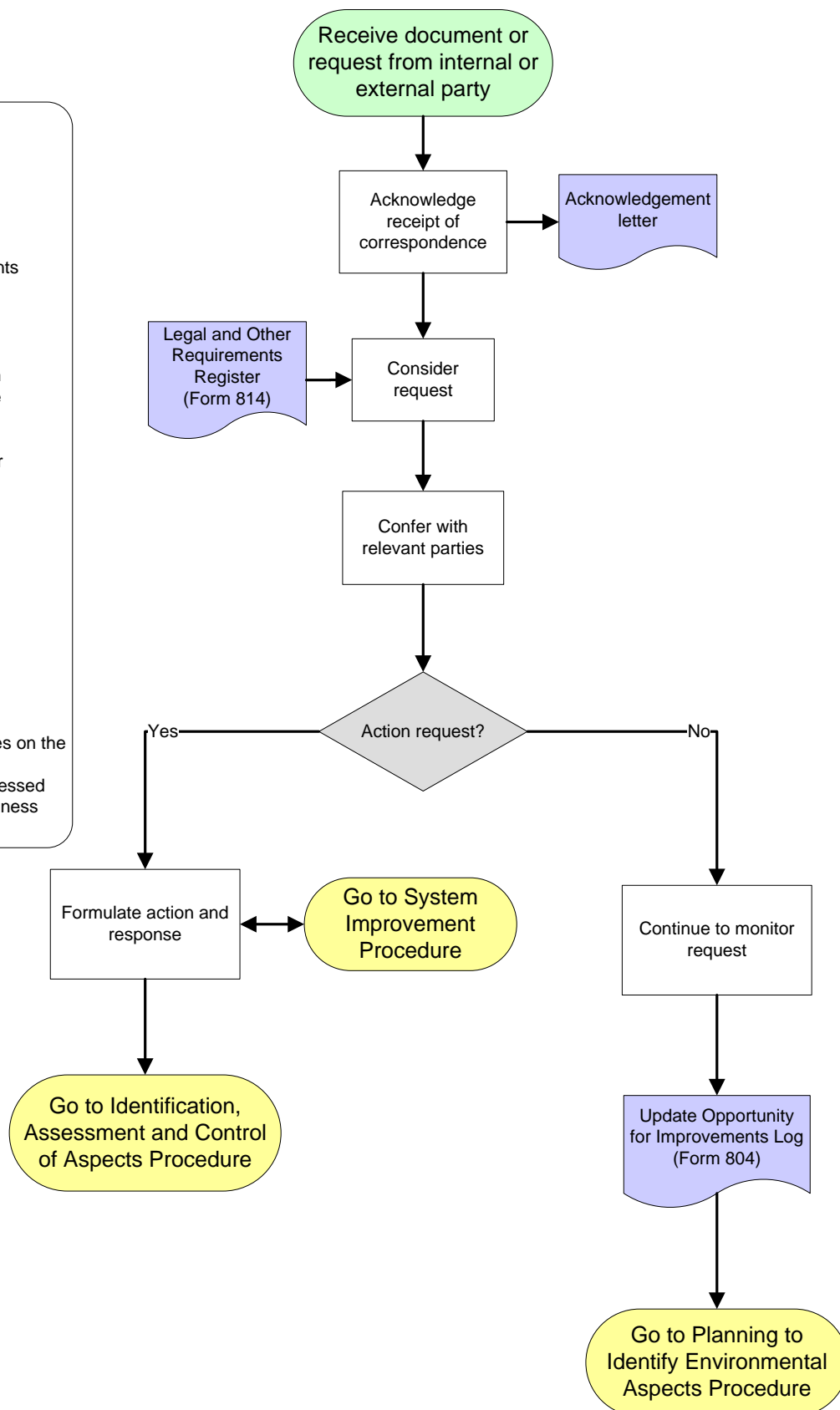
NOTES:

- Interested Parties
- Complaints
- Licence Reports
- NGO's
- Government Departments
- Neighbours
- General Public
- Fines

The person(s) conferred with depends on the nature of the request, and may include

- Management
- Environmental Manager
- Consultants
- Government Bodies
- LORAC
- EPRM
- Mot McDonalds
- Client
- Industry Groups
- Legal representative
- General Staff
- Site Staff
- Subcontractors

Internal reporting and updates on the status of the Environmental Management system is addressed via the Environmental Awareness and Inductions Procedure



Environmental Emergency Response

NOTES:

Site Specific Emergency Response Plans are established during project planning by the Environmental Manager and included in the Site Specific Environmental Management Plan.

POTENTIAL EMERGENCIES

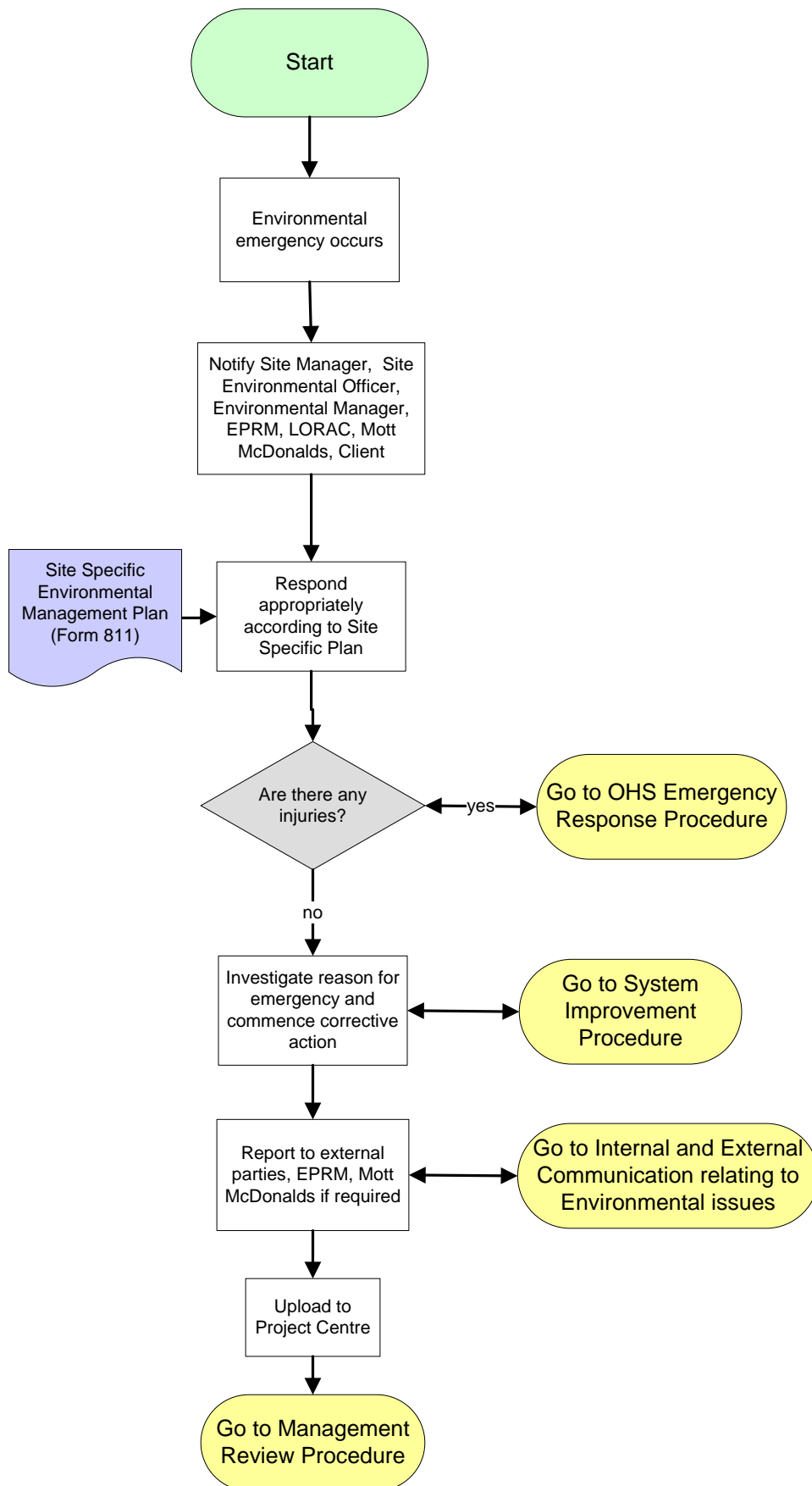
- Spills
- Fire
- Pollution
- Waste
- Excess consumption
- Ruptured Pipes
- Discovery of endangered species
- Dust

ASSIST PREVENTION

- Training
- Equipment
- Spill kits
- Bunding
- Awareness
- Inspections
- Surveillance
- Legal and other requirements

EXTERNAL PARTIES

- Clients
- Neighbours
- Council
- EPA
- General Public
- LORAC
- Mott McDonalds
- EPRM



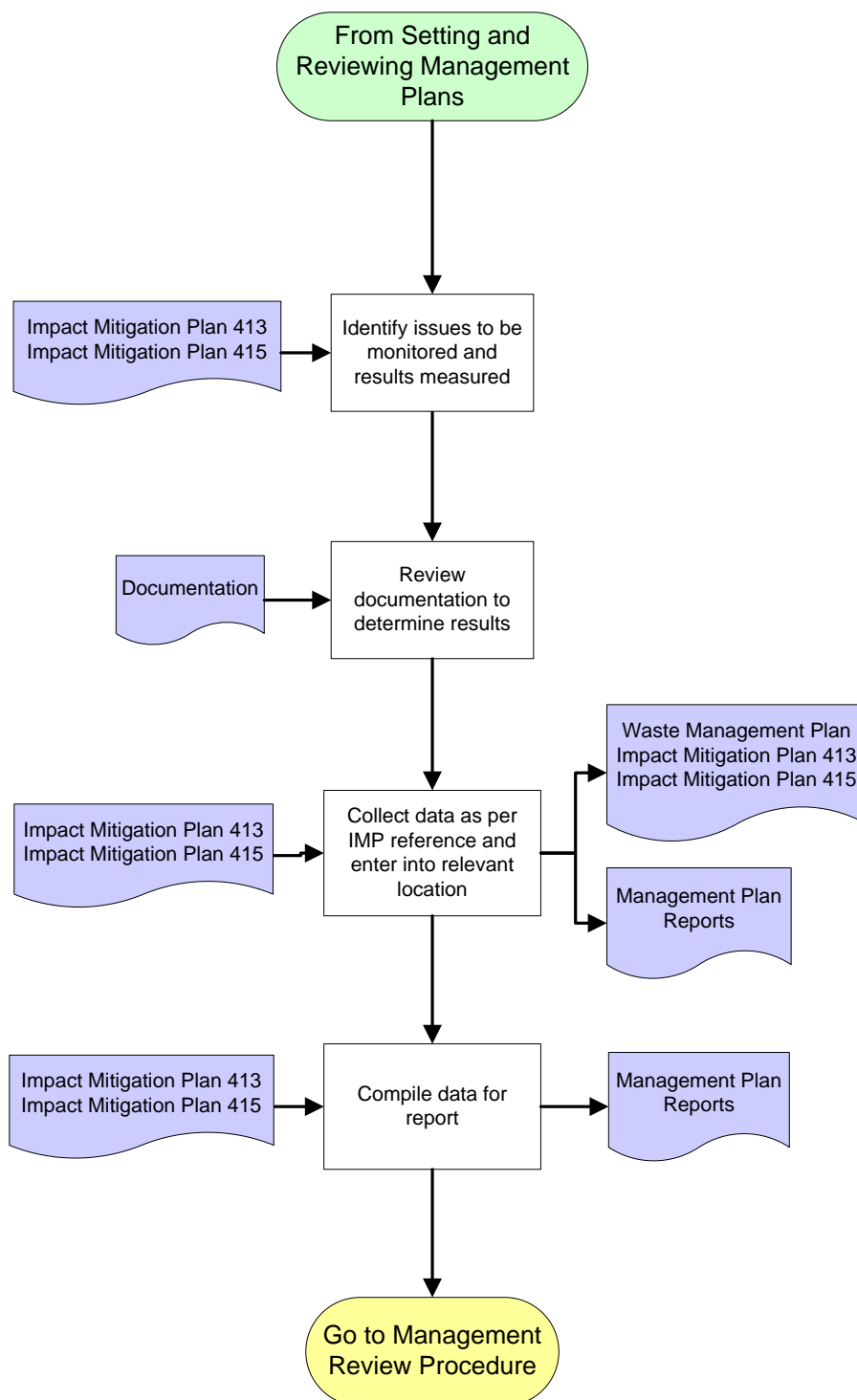
Monitoring and Measurement

NOTES:

- Inspections
- Data collection
- Reports
- Equipment
- Locations
- Results

Documentation may include

- Invoices
- Incident reports
- Sales figures
- Waste Reports
- OFI logs
- Complaints
- Inspection Reports



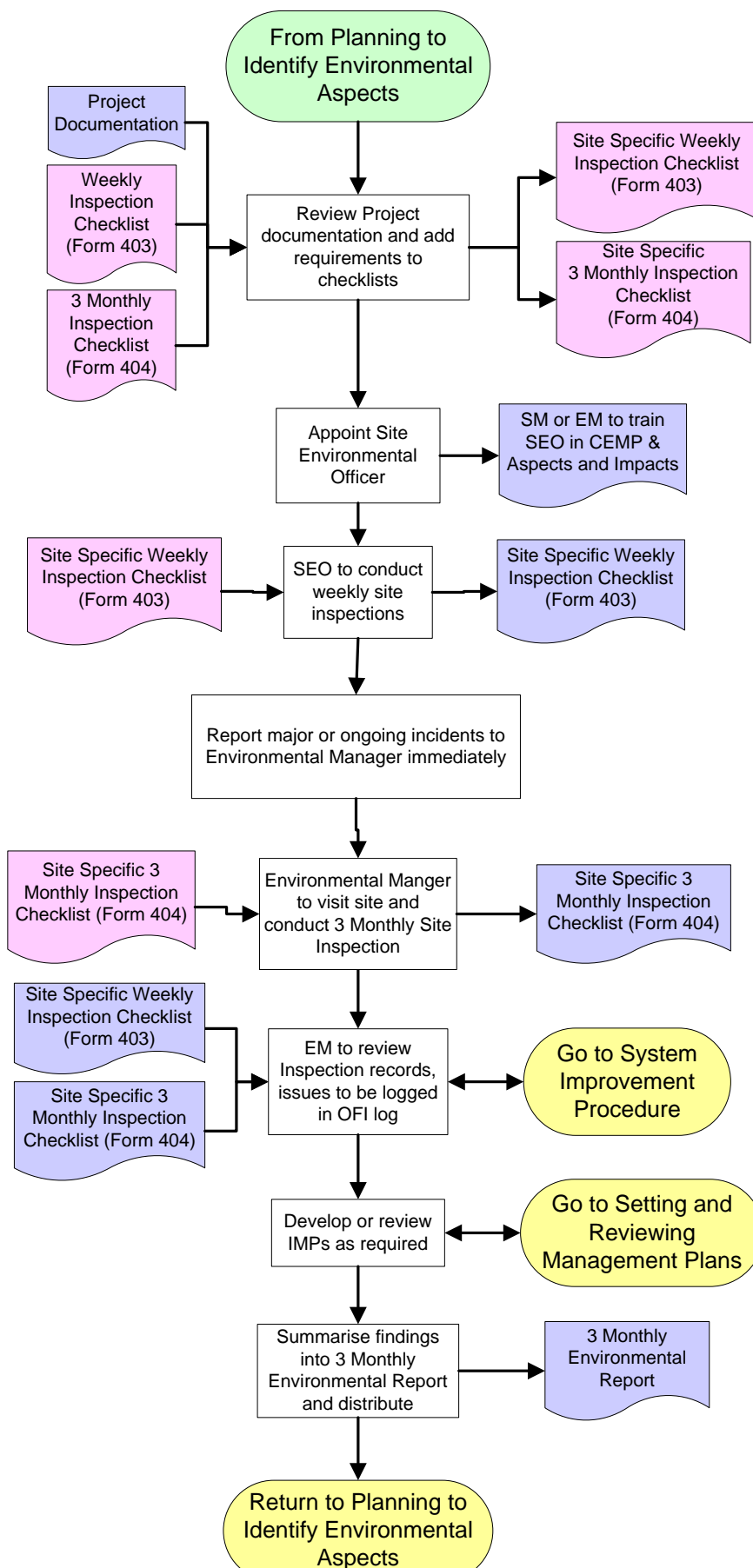
Environmental Site Inspections Procedure

NOTES:

- Site Environmental Officer must have received training on aspect and impact identification, and the Site Specific CEMP for Port Botany T3

3 Monthly report shall be distributed to:

- Site Manager
- Site Environmental Officer
- Project Manager
- Construction Manager



7. APPENDIX B - Site Inspection Checklists

Grindley

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7. APPENDIX B- Environmental Site Inspection Checklists

FORM 403

Environmental Officer Weekly Checklist

Project:		Date:		
Recent Weather: (over the past week)				
Person Inspecting:		Site Representative:		No Of Site Workers:
ITEM	ACTION REQUIRED OR OBSERVATIONS	ACTION BY	SIGNATURE	DATE

ITEM	Checked ✓ OK or X NO or NA	Location/Comment
Environmental policy displayed?		
Is there a sediment fence and/or basin installed?		
Is there any damage to the sediment fence?		
Is there any evidence of runoff from site?		
Are stockpiles covered?		
Are nearby roads free from dirt/mud?		
Is the driveway free of dirt?		
Is there excessive noise coming from site during the week?		
Is the site clean and tidy?		
Are there enough bins?		
Are any bins overflowing?		
Have there been any complaints of untidy site?		
Is there any waste not kept in bins?		
Is waste checked before leaving site?		
Do general bins contain asbestos		
Do general bins contain hazardous chemicals		
Is there evidence of hazardous materials leaking? (diesel, petrol chemicals etc)		
Is there safe pedestrian access past the site		
Is there evidence of significant dust on nearby property		
Are subcontractor storage areas tidy and hazmat storage compliant?		

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7. APPENDIX B- Environmental Site Inspection Checklists

FORM 403

3 Monthly Environmental Checklist

Project:		Date:		
Recent Weather:				
Person Inspecting:		Site Representative:		No Of Site Workers:
ITEM	ACTION REQUIRED OR OBSERVATIONS	ACTION BY	SIGNATURE	DATE


✓ = Acceptable X = Not Acceptable N/A = Not Applicable				
1. Documentation	✓	X	N/A	Comments
Environmental policy displayed				
Environmental Emergency Plan displayed				
Environmental Emergency contact details available				
Site Specific Environmental Plan				
DA				
Waste Management Plan for Site?				
Flora and Fauna Report?				
Vegetation Management Plan				
Arborist's Report				
Sediment and Erosion Control Plan?				
Traffic Management Plan?				
2. Erosion and Sediment Control	✓	X	N/A	Comments
Is the site setup following the Erosion and Sediment Control Plan?				
Is the ESCP in good condition?				
Is the ESCP effective?				
Are the adjoining properties free of runoff from site?				
Are there regular inspections of control structures?				

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7. APPENDIX B- Environmental Site Inspection Checklists

FORM 403

Are stockpiles covered				
Are nearby roads free from dirt/mud				
Are muddy vehicles cleaned before going onto roads				
Is the driveway constructed of crushed rock				
Is a shaker grid in place?				
Is the shaker grid free of dirt?				
3. Heritage				
Are any heritage areas protected				
Is there a procedure for discovery of artefacts				
4. Noise				
Are only acceptable levels of noise being created				
No complaints/fines regarding noise recorded or received				
Has plant been maintained to minimise noise				
No noise produced outside council approved hours of operation				
Is site aware of council approved hours of operation				
Is site aware of maximum noise levels				
Are particularly noisy activities scheduled for middle of day				
5. Waste Management				
Is site tidy and safe including subcontractor compounds?				
Are there enough bins in appropriate places				
Are reusable items kept aside				
Are any bins free of overflow onto surrounding ground				
Are recycling bins available				
Is waste correctly disposed of				
No complaints of an untidy site				
Has a waste management plan been set up for all types of waste				
Is waste being disposed of as per plan				
Are bins free of any material leaching out				
Is the site free of any waste not kept in bins				
Is waste checked before leaving site				
Does waste go to approved facility				
Does contaminated waste go to approved facility				
Is a waste minimisation program in place				
Are general bins free of asbestos				

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7. APPENDIX B- Environmental Site Inspection Checklists

FORM 403

Are general bins free of hazardous chemicals				
6. Hazardous Materials				
Are hazardous materials stored appropriately				
Are hazardous materials free of leaking from storage area				
Is there bunding around hazardous materials storage area or a spill kit available				
Is there a plan for correctly disposing of identified hazardous materials onsite (i.e. asbestos)				
7. Flora and Fauna				
Are trees to be protected identified and protected from damage				
8. Traffic Management				
Is there a traffic management plan in place				
Is construction allowing traffic to flow freely and without hazards?				
Is there safe pedestrian access past the site				
Is there a qualified traffic controller on site?				
9. Air Quality				
Are nearby properties free from significant dust?				
Is there a plan in place to control dust?				
Is exhaust smoke from plant acceptable?				
Are water carts used to reduce dust on site?				
10. Contaminated Soils				
Is contaminated soil correctly disposed of?				

8. APPENDIX C - Environmental Management Plans

(Nil Attached)

The logo for Grindley, featuring the word "Grindley" in a large, bold, sans-serif font. A thick red horizontal bar is positioned below the letters "indley".

	GRINDLEY CONSTRUCTION PTY LTD 55 Grandview Street Pymble NSW 2073 Ph 02 9988 3811 Fax 02 9988 3575	Version 05	Date 05/08/2011
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9. APPENDIX D - Site Specific Aspects and Impacts

Grindley

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Grindley Location	I:\Projects\Current Projects\6328 - Port Botany Terminal 3\Environment\CEMP\Grindley CEMP Sub-Plans & Documents\Documents\Updated Document for November 2013\811 - 6328 Project Specific Environmental Management Plan Rev 6.1.doc	Page 56 of 126	



Port Botany Terminal 3 Grindley Environmental Aspects and Impacts Register

Ref Number	Site	Activity	Environmental Aspect	Environmental Impact	Measurement	Legal or other requirements	Likelihood	Consequence	Significance Rating	Impact Mitigation Plan	General Controls
1	Office	Lighting the Office	Energy Use	Greenhouse gas emissions	KwH	no	Very likely	Moderate	High	IMP-001	Turn off when not in use over night and on weekends
2	Office	Use of office equipment	Energy Use	Greenhouse gas emissions	KwH	no	Very likely	Moderate	High	IMP-001	Turn off when not in use over night and on weekends
3	Office	Used Toner	Solid waste	Landfill	kg	Waste Avoidance and Resource Recovery Act 2001	Likely	Moderate	Medium		Recycle used cartridges
4	Office	Use of materials	Solid waste	Landfill	kg	Waste Avoidance and Resource Recovery Act 2001	Very likely	Moderate	High	IMP-002	Recycle all appropriate materials
5	Office	Used Toner	Spillage of hazardous chemicals	Ground Contamination	kg	Contaminated Land Management Act 1997	Unlikely	Major	Medium		Store cartridges correctly
6	Office	Cleaning	Disposal of Hazardous chemicals	Water Contamination	L	Environment Protection and Biodiversity Conservation Act 1999	Likely	Moderate	Medium		Prevent chemical entering stormwater system
7	Office	Air Conditioning	Energy Use	Greenhouse gas emissions	KwH	no	Very likely	Moderate	High	IMP-001	Turn off when not in use over night and on weekends
8	Office	Poor maintenance on air conditioners	Dust generation	Deterioration of air quality	ppm	WHS Act 2011	Likely	Moderate	Medium		Ensure Maintenance at regular intervals
9	Site	Site Establishment	Flooding 1 in 100 year & 1 in 10 year	Ground Contamination, Botany Bay contamination		Environment Protection and Biodiversity Conservation Act 1999	Unlikely	Minor	Low		Sedimentary Controls to be implemented as per Site Specific Environmental Management Plan, coordinate water discharge with LORAC
10	Site	Site Establishment	Flooding 1 in 100 year & 1 in 10 year	Habitat destruction		Environment Protection and Biodiversity Conservation Act 1999	Unlikely	Minor	Low		Sedimentary Controls to be implemented as per Site Specific Environmental Management Plan, coordinate water discharge with LORAC
10	Site	Site Establishment	High winds	Deterioration of air quality	ppm	Protection of the Environment Operations Act 1997	Likely	Moderate	Medium		recycled water for dust suppression, limit vehicle movements in high wind & dusty situations
11	Site	Fence setup	Compact soil	Habitat destruction		Environment Protection and Biodiversity Conservation Act 1999	Unlikely	Minor	Low		
11	Site	Fence setup	damage to vegetation	Habitat destruction		Native Vegetation Act 2003	Unlikely	Minor	Low		
12	Site	Fence setup	Dust generation	Deterioration of air quality	ppm	Protection of the Environment Operations Act 1997	Likely	Moderate	Medium		Use recycled water for dust suppression
13	Site	Shed placement	damage to vegetation	Habitat destruction	m ²	Native Vegetation Act 2003	Unlikely	Minor	Low		
14	Site	Shed placement	Compact soil	Habitat destruction	m ²	Environment Protection and Biodiversity Conservation Act 1999	Unlikely	Minor	Low		
15	Site	Driveway establishment	Dust generation	Deterioration of air quality	ppm	Protection of the Environment Operations Act 1997	Likely	Moderate	Medium		recycled water for dust suppression, limit vehicle movements in dusty situations
16	Site	Earthworks	Use of Plant	Deterioration of air quality	ppm	Protection of the Environment Operations Act 1997	Likely	Moderate	Medium		recycled water for dust suppression, limit vehicle movements in dusty situations

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17	Site	Earthworks	Use of Plant	Greenhouse gas emissions	ppm	no	Likely	Moderate	Medium		Regular maintenance of plant to ensure they are operating efficiently	
18	Site	Earthworks	Dust generation	Deterioration of air quality	ppm	Protection of the Environment Operations Act 1997	Very likely	Moderate	High	IMP-006	recycled water for dust suppression, limit vehicle movements in dusty situations	
19	Site	Earthworks	Removal of vegetation	Habitat destruction		Native Vegetation Act 2003, Environmental Planning and Assessment Act 1979, Site specific Development consent	Unlikely	Minor	Low			
20	Site	Earthworks	Noise generation	Disruption of amenity	dB	Protection of the Environment Operations Act 1997	Likely	Moderate	Medium		Refer to Noise Management Plan	
21	Site	Earthworks	Oil leaks	Ground Contamination	L	Contaminated Land Management Act 1997	Unlikely	Major	Medium		Regular maintenance of plant to prevent & repair leaks	
22	Site	Earthworks	Vibration	Damage to buildings	Hz	Protection of the Environment Operations Act 1997	Unlikely	Major	Medium		Monitor vibrations. Change construction methods where necessary	
23	Site	Earthworks	Vibration	Community relations impact	Complaints	Protection of the Environment Operations Act 1997	Unlikely	Moderate	Medium		Monitor vibrations. Change construction methods where necessary	
24	Site	Earthworks	Disruption of soil	Erosion		Protection of the Environment Operations Act 1997	Likely	Moderate	Medium		Sedimentary Controls to be implemented as per Site Specific Environmental Management Plan	
25	Site	Earthworks	Disruption of soil, run off	Water Contamination		Protection of the Environment Operations Act 1997	Likely	Major	High	IMP-006	Sedimentary Controls to be implemented as per Site Specific Environmental Management Plan, coordinate water discharge with LORAC. Water to be treated & tested before discharge. Discharge log to be kept	
26	Site	Watercart to control dust	Water consumption	Depletion of natural resources	L	Water Management Act 2000	Likely	Moderate	Medium		Use recycled water for dust suppression	
27	Site	Refuelling	Fuel Spillage	Ground Contamination		Contaminated Land Management Act 1997	Unlikely	Major	Medium		Spills to be treated in accordance with the Site Specific Environmental Management Plan	
28	Site	Vehicle movement	consumption of diesel fuel	Depletion of natural resources	L	no	Very likely	Moderate	High	IMP-003	Regular maintenance of vehicles to ensure they are operating efficiently	
29	Site	Vehicle movement	consumption of diesel fuel	Greenhouse gas emissions	ppm	no	Very likely	Moderate	High	IMP-003	Regular maintenance of vehicles to ensure they are operating efficiently	
30	Site	Vehicle movement	Compact soil	Habitat destruction		Environment Protection and Biodiversity Conservation Act 1999	Unlikely	Minor	Low			
31	Site	Vehicle movement	damage to vegetation	Habitat destruction		Native Vegetation Act 2003	Unlikely	Minor	Low			
32	Site	Vehicle movement	Noise generation	Disruption of amenity	dB	Protection of the Environment Operations Act 1997	Likely	Minor	Medium		Refer to Noise Management Plan	
33	Site	Vehicle movement	Oil leaks	Ground Contamination		Contaminated Land Management Act 1997	Unlikely	Moderate	Medium		Spills to be treated in accordance with the Site Specific Environmental Management Plan	
34	Site	Formwork	Noise generation	Disruption of amenity	dB	Protection of the Environment Operations Act 1997	Likely	Minor	Medium		Refer to Noise Management Plan	
35	Site	Formwork	Sawdust generation	Deterioration of air quality	ppm	Protection of the Environment Operations Act 1997	Likely	Moderate	Medium		Use equipment with catchers	
36	Site	Formwork	waste timber	Landfill	m ³	Waste Avoidance and Resource Recovery Act 2001, Section 143 Protection of the Environment Operations Act 1997	Very likely	Moderate	High	IMP-004	Recycle all appropriate materials	

37	Site	Reinforcement	Waste Steel	Landfill	t	Waste Avoidance and Resource Recovery Act 2001, Section 143 Protection of the Environment Operations Act 1997	Very likely	Moderate	High	IMP-004	Recycle all appropriate materials	
38	Site	Reinforcement	Solid waste	Landfill	m ³	Waste Avoidance and Resource Recovery Act 2001, Section 143 Protection of the Environment Operations Act 1997	Very likely	Moderate	High	IMP-004	Recycle all appropriate materials	
39	Site	Concrete	Noise generation	Disruption of amenity	dB	Protection of the Environment Operations Act 1997	Likely	Minor	Medium		Refer to Noise Management Plan	
40	Site	Concrete	Vibration	Disruption of amenity, damage to nearby buildings		Protection of the Environment Operations Act 1997	Unlikely	Minor	Low			
41	Site	Concrete	Solid waste	Landfill	m ³	Waste Avoidance and Resource Recovery Act 2001, Section 143 Protection of the Environment Operations Act 1997	Very likely	Moderate	High	IMP-004	Recycle all appropriate materials	
42	Site	Concrete	Water consumption	Depletion of natural resources	ltr	Water Management Act 2000	Likely	Moderate	Medium		Use recycled water	
43	Site	Concrete	Spillage of hazardous chemicals	Ground Contamination		Contaminated Land Management Act 1997	Unlikely	Minor	Low		Spills to be treatd in accordance with the Site Specific Environmental Management Plan	
44	Site	Masonry	Noise generation	Disruption of amenity	dB	Protection of the Environment Operations Act 1997	Likely	Minor	Medium		Refer to Noise Management Plan	
45	Site	Masonry	Spillage of hazardous chemicals	Ground Contamination		Contaminated Land Management Act 1997	Unlikely	Moderate	Medium		Spills to be treatd in accordance with the Site Specific Environmental Management Plan	
46	Site	Masonry	Solid waste	Landfill	m ³	Waste Avoidance and Resource Recovery Act 2001, Section 143 Protection of the Environment Operations Act 1997	Very likely	Moderate	High	IMP-004	Recycle all appropriate materials	
47	Site	Masonry	Water consumption	Depletion of natural resources	ltr	Water Management Act 2000	Likely	Minor	Medium		Use recycled water	
48	Site	Waterproofing	Spillage of hazardous chemicals	Ground Contamination		Contaminated Land Management Act 1997	Unlikely	Major	Medium		Spills to be treatd in accordance with the Site Specific Environmental Management Plan	
49	Site	Waterproofing	Water consumption	Depletion of natural resources	ltr	Water Management Act 2000	Likely	Minor	Medium		Use recycled water	
50	Site	Structural Steel	Spillage of hazardous chemicals	Ground Contamination	ltr	Contaminated Land Management Act 1997	Highly unlikely	Moderate	Low		Spills to be treatd in accordance with the Site Specific Environmental Management Plan	
51	Site	Structural Steel	Fumes from oxy use	Deterioration of air quality		Protection of the Environment Operations Act 1997	Unlikely	Major	Medium		Minimise number of workers in the area where works are being carried out	
52	Site	Roofing	Solid waste	Landfill	m ³	Waste Avoidance and Resource Recovery Act 2001, Section 143 Protection of the Environment Operations Act 1997	Very likely	Moderate	High	IMP-004	Recycle all appropriate materials	
53	Site	Roofing	Fumes from sealants	Deterioration of air quality		Protection of the Environment Operations Act 1997	Likely	Minor	Medium		Minimise number of workers in the area where works are being carried out	
54	Site	Hydraulics	Solid waste	Landfill	m ³	Waste Avoidance and Resource Recovery Act 2001, Section 143 Protection of the Environment Operations Act 1997	Very likely	Moderate	High	IMP-004	Recycle all appropriate materials	
55	Site	Hydraulics	Spillage of hazardous chemicals	Ground Contamination	ltr	Contaminated Land Management Act 1997	Unlikely	Moderate	Medium		Spills to be treatd in accordance with the Site Specific Environmental Management Plan	

56	Site	Hydraulics	Dust generation	Deterioration of air quality	ppm	Protection of the Environment Operations Act 1997	Unlikely	Minor	Low			
57	Site	Hydraulics	Fumes from oxy use	Deterioration of air quality		Protection of the Environment Operations Act 1997	Unlikely	Moderate	Medium		Minimise number of workers in the area where works are being carried out	
58	Site	Electrical	Solid waste	Landfill	m ³	Waste Avoidance and Resource Recovery Act 2001, Section 143 Protection of the Environment Operations Act 1997	Very likely	Moderate	High	IMP-004	Recycle all appropriate materials	
59	Site	Electrical	Spillage of hazardous chemicals	Ground Contamination	ltr	Contaminated Land Management Act 1997	Unlikely	Major	Medium		Spills to be treated in accordance with the Site Specific Environmental Management Plan	
60	Site	Mechanical	Solid waste	Landfill	m ³	Waste Avoidance and Resource Recovery Act 2001, Section 143 Protection of the Environment Operations Act 1997	Very likely	Moderate	High	IMP-004	Recycle all appropriate materials	
61	Site	Mechanical	Fumes from sealants	Deterioration of air quality		Protection of the Environment Operations Act 1997	Unlikely	Major	Medium		Minimise number of workers in the area where works are being carried out	
62	Site	Mechanical	Fumes from oxy use	Deterioration of air quality		Protection of the Environment Operations Act 1997	Unlikely	Major	Medium		Minimise number of workers in the area where works are being carried out	
63	Site	Lift	Solid waste	Landfill	m ³	Waste Avoidance and Resource Recovery Act 2001, Section 143 Protection of the Environment Operations Act 1997	Very likely	Moderate	High	IMP-004	Recycle all appropriate materials	
64	Site	Rendering	Solid waste	Landfill	m ³	Waste Avoidance and Resource Recovery Act 2001, Section 143 Protection of the Environment Operations Act 1997	Very likely	Moderate	High	IMP-004	Recycle all appropriate materials	
65	Site	Rendering	Noise generation	Disruption of amenity	dB	Protection of the Environment Operations Act 1997	Likely	Moderate	Medium		Refer to Noise Management Plan	
66	Site	Rendering	Water consumption	Depletion of natural resources	ltr	Water Management Act 2000	Likely	Minor	Medium		Use recycled water	
67	Site	Rendering	Spillage of hazardous chemicals	Ground Contamination	ltr	Contaminated Land Management Act 1997	Unlikely	Major	Medium		Spills to be treated in accordance with the Site Specific Environmental Management Plan	
68	Site	Gyprocking	Solid waste	Landfill	m ³	Waste Avoidance and Resource Recovery Act 2001, Section 143 Protection of the Environment Operations Act 1997	Very likely	Moderate	High	IMP-004	Recycle all appropriate materials	
69	Site	Gyprocking	Dust generation	Deterioration of air quality		Protection of the Environment Operations Act 1997	Likely	Moderate	Medium		Minimise number of workers in the area where works are being carried out	
70	Site	Gyprocking	Noise generation	Disruption of amenity	dB	Protection of the Environment Operations Act 1997	Likely	Minor	Medium		Refer to Noise Management Plan	
71	Site	Gyprocking	Spillage of hazardous chemicals	Ground Contamination	ltr	Contaminated Land Management Act 1997	Unlikely	Major	Medium		Spills to be treated in accordance with the Site Specific Environmental Management Plan	
72	Site	Tiling	Solid waste	Landfill	m ³	Waste Avoidance and Resource Recovery Act 2001, Section 143 Protection of the Environment Operations Act 1997	Very likely	Moderate	High	IMP-004	Recycle all appropriate materials	
73	Site	Tiling	Dust generation	Deterioration of air quality		Protection of the Environment Operations Act 1997	Unlikely	Moderate	Medium		Minimise number of workers in the area where works are being carried out	

74	Site	Tiling	Noise generation	Disruption of amenity	dB	Protection of the Environment Operations Act 1997	Likely	Minor	Medium		Refer to Noise Management Plan	
75	Site	Tiling	Spillage of hazardous chemicals	Ground Contamination	ltr	Contaminated Land Management Act 1997	Highly unlikely	Major	Medium		Spills to be treated in accordance with the Site Specific Environmental Management Plan	
76	Site	Carpeting	Solid waste	Landfill	m ³	Waste Avoidance and Resource Recovery Act 2001, Section 143 Protection of the Environment Operations Act 1997	Very likely	Moderate	High	IMP-004	Recycle all appropriate materials	
77	Site	Carpeting	Spillage of hazardous chemicals	Ground Contamination	ltr	Contaminated Land Management Act 1997	Unlikely	Major	Medium		Spills to be treated in accordance with the Site Specific Environmental Management Plan	
78	Site	Vinyl laying	Solid waste	Landfill	m ³	Waste Avoidance and Resource Recovery Act 2001	Very likely	Moderate	High	IMP-004	Recycle all appropriate materials	
79	Site	Vinyl laying	Spillage of hazardous chemicals	Ground Contamination	ltr	Contaminated Land Management Act 1997	Unlikely	Major	Medium		Spills to be treated in accordance with the Site Specific Environmental Management Plan	
80	Site	Painting	Solid waste ie paint tins, Paint solids	Landfill	m ³	Waste Avoidance and Resource Recovery Act 2001, Section 143 Protection of the Environment Operations Act 1997	Very likely	Moderate	High	IMP-004	Recycle all appropriate materials. Paint tins to be dried out before disposal	
81	Site	Painting	Spillage of hazardous chemicals ie solvents	Ground Contamination	ltr	Contaminated Land Management Act 1997	Unlikely	Major	Medium		Spills to be treated in accordance with the Site Specific Environmental Management Plan	
82	Site	Painting	Management and disposal procedure of washwater	Pollution of Waters	ltr	Protection of the Environment Operations Act 1997	Likely	Moderate	Medium		Painters are to washout in designated flocculation vessel. Do not discharge wash water unless water testing meets guidelines of CEMP ie 5.2.1 and 5.2.5	
83	Site	Painting	Fumes from paints (epoxy)	Deterioration of air quality		Protection of the Environment Operations Act 1997	Likely	Moderate	Medium		Minimise number of workers in the area where works are being carried out	
84	Site	Fire services	Solid waste	Landfill	m ³	Waste Avoidance and Resource Recovery Act 2001, Section 143 Protection of the Environment Operations Act 1997	Very likely	Moderate	High	IMP-004	Recycle all appropriate materials	
85	Site	Fire services	Fumes from oxy use	Deterioration of air quality		Protection of the Environment Operations Act 1997	Unlikely	Moderate	Medium		Minimise number of workers in the area where works are being carried out	
86	Site	Fire services	Noise generation	Disruption of amenity	dB	Protection of the Environment Operations Act 1997	Likely	Minor	Medium		Refer to Noise Management Plan	
87	Site	Landscaping	Solid waste	Landfill	m ³	Waste Avoidance and Resource Recovery Act 2001, Section 143 Protection of the Environment Operations Act 1997	Very likely	Moderate	High	IMP-004	Recycle all appropriate materials	
88	Site	Landscaping	Dust generation	Deterioration of air quality		Protection of the Environment Operations Act 1997	Likely	Minor	Medium		Minimise number of workers in the area where works are being carried out	
89	Site	Landscaping	Noise generation	Disruption of amenity	dB	Protection of the Environment Operations Act 1997	Likely	Minor	Medium		Refer to Noise Management Plan	
90	Site	Landscaping	Noise generation	Disruption of amenity	dB	Protection of the Environment Operations Act 1997	Likely	Minor	Medium		Refer to Noise Management Plan	

10. APPENDIX E - Impact Mitigation Plans

Grindley

	GRINDLEY CONSTRUCTION PTY LTD 55 Grandview Street Pymble NSW 2073 Ph 02 9988 3811 Fax 02 9988 3575	Version 05	Date 05/08/2011
Grindley Location	I:\Projects\Current Projects\6328 - Port Botany Terminal 3\Environment\CEMP\Grindley CEMP Sub-Plans & Documents\Documents\Updated Document for November 2013\811 - 6328 Project Specific Environmental Management Plan Rev 6.1.doc	Page 62 of 126	

**IMPACT MITIGATION PLAN**

Released Date: August 2013

Document No: IMP002 Form 413

Issue No.: 3

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Project:	Sydney Port Botany Container Terminal 3
Project Objective:	Increase amount of waste being recycled, reduce waste costs
Environmental Aspect:	Use of paper, cans, general accumulation of both general and recyclable waste
Environmental Impact:	Landfill, depletion of natural resources
Legal and Other Requirements	Waste Avoidance and Resource Recovery Act 2001
Aspect and Impacts Affected	3, 4, 38, 41, 46, 52, 54, 58, 60, 63, 64, 68, 72, 76, 78, 80, 83, 86
Current Performance:	3m ³ general waste per week, 1 sulo bin of secure paper waste recycled over life of project. Current Performance: July 2013 – 99.58% total waste recycled
Target Performance Level:	80% of total waste to be recycled

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**IMPACT MITIGATION PLAN**

Released Date: August 2013


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ACTIONS REQUIRED

Action no.	Task	To be completed date or intervals	Action taken	Completed?	Person Responsible
1	Audit waste onsite, quantities and types	6 monthly	Audit of waste undertaken as part of 3 month environment inspection. 150 cubic metres taken off site with 99.58% recycled between May & July 13.	Complete	JL
2	Research recycling options and costs with current waste contractor/ cleaner	6 monthly	Current contractor Bingo was found to be over charging, providing bins that were undersize & not providing monthly waste reports. Bingo contract cancelled and Dats Waste engaged as waste removal contractor.	Complete	JL
3					
4					

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**IMPACT MITIGATION PLAN**

Released Date: August 2013

Document No: IMP004 Form 415

Issue No.: 2

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Project:	Sydney Port Botany Container Terminal 3
Project Objective:	Increase amount of waste being recycled, reduce waste costs
Environmental Aspect:	Solid waste
Environmental Impact:	Landfill, depletion of natural resources
Legal and Other Requirements	Waste Avoidance and Resource Recovery Act 2001
Aspect and Impacts Affected	4, 35, 36, 37, 40, 45, 51, 53, 57, 59, 62, 63, 67, 71, 75, 77, 79, 82, 85
Current Performance:	Refer to Landfill Monitoring spreadsheet
Target Performance Level:	85%-90% solid waste recycled across all projects

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**IMPACT MITIGATION PLAN**

Released Date: August 2013

Document No: IMP004 Form 415

Issue No.: 2

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ACTIONS REQUIRED

Action no.	Task	To be completed date or intervals	Action taken	Completed?	Person Responsible
1	Environmental inspection checklist	Weekly	Completed by site environment officer	Ongoing	SM, EO
2	Sorting of waste	Ongoing	Trades made aware of waste recycle bins during site induction	Ongoing	Contractor s/Grindley
3	Re-using materials i.e. Timber, soil, etc	Ongoing	Left over materials to be reused onsite where possible	Ongoing	Contractor s/Grindley
4	Recycling materials i.e. steel, copper, bricks	Ongoing	Dedicated waste recycle bins to be used onsite	Ongoing	Contractor s/Grindley
5	Using bin contractors with waste separation	Ongoing	Current bin contractor has waste separation facility		CA
6	Monthly waste recycle reports from bin contractor	Monthly	Bin contractor to supply monthly waste reports		CA

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**IMPACT MITIGATION PLAN**

Released Date: April 2012

Document No: IMP006 Form 416

Issue No.: 1

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Project:	Sydney Port Botany Terminal 3 Project
Project Objective:	Reduce the amount of dust being produced from site during certain conditions
Environmental Aspect:	Dust generation
Environmental Impact:	Deterioration of air quality
Legal and Other Requirements	Protection of the Environment Operations Act 1997
Aspect and Impacts Affected	8, 11, 14, 17, 55, 86
Current Performance:	
Target Performance Level:	0 complaints/notices regarding dust from site

 Location:	GRINDLEY CONSTRUCTION PTY LTD 55 Grandview Street Pymble NSW 2073 Ph 02 9988 3811 Fax 02 9988 3575	Version 02	Date 26/04/2012
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**IMPACT MITIGATION PLAN**

Released Date: April 2012

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SITUATION IN WHICH THIS PLAN MAY COME INTO PLAY

Once consistent dust is being produced through wind gusts, vehicle movement (cars, trucks and plant) excavation/earthwork activities, cutting, crushing (jackhammering) and grinding concrete the following actions must be looked at to find the best course of action to take to reduce the impact to the environment

ACTIONS REQUIRED

Action no.	Task	When is this task required	Person Responsible
1	Use watercart/hose to wet down the whole site/stockpiles etc and reduce dust being created	When wind is creating dust	Site Manager
2	Use watercart/hose to wet down roads within the site to ensure dust surfaces are sealed	When vehicle movement is creating dust	Site Manager
3	Use hose to wet down area where earthworks are taking place	When earthworks/loading trucks is occurring	Site Manager/Foreman
4	Use hose to wet down any concrete being cut or crushed	When excessive dust is being created through this activity	Site Manager/Foreman
5	Where visible levels of dust are high, on site activities are to be reviewed, with additional control measures and/or varied site operations to be implemented as soon as practicable.	Monitoring of dust to be undertaken daily.	Site Manager/Foreman



Location:

GRINDLEY CONSTRUCTION PTY LTD55 Grandview Street Pymble NSW 2073
Ph 02 9988 3811 Fax 02 9988 3575

Version 02

Date

26/04/2012

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3\Environment\CEMP\Grindley CEMP Sub-Plans &
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006 Impact Mitigation plan - Dust Minimisation.doc

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6	Ensure all trafficable area and vehicle manoeuvring areas in or on the premises are maintained in a condition that will minimise the generation or emission of wind blown on traffic generated dust	Daily visual inspection and action as required	Site Manager/Foreman
7	Cover all loads entering or leaving the site that have dust generating potential	All vehicles entering or leaving the site (except during loading and unloading)	Site Manager/Foreman

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11. APPENDIX F – Complaints Register

Grindley

	GRINDLEY CONSTRUCTION PTY LTD 55 Grandview Street Pymble NSW 2073 Ph 02 9988 3811 Fax 02 9988 3575	Version 05	Date 05/08/2011
Grindley Location	I:\Projects\Current Projects\6328 - Port Botany Terminal 3\Environment\CEMP\Grindley CEMP Sub-Plans & Documents\Documents\Updated Document for November 2013\811 - 6328 Project Specific Environmental Management Plan Rev 6.1.doc	Page 70 of 126	

SPBT3 COMPLAINTS REGISTER

#	DATE	TIME	NAME OF INDIVIDUAL	COMPLAINT	COMPLAINT RECEIVED BY	ACTION TAKEN	SIGNED OFF
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							

GRINDLEY CONSTRUCTION PTY LTD

55 Grandview Street PYMBLE NSW 2073 Ph: (02) 9988 3811 Fax: (02) 9988 3575



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12. APPENDIX G – Waste Management Plan

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CONSTRUCTION WASTE MANAGEMENT PLAN (CWMP)

SYDNEY PORT BOTANY TERMINAL 3 PROJECT

Revision 04
Dated: 28th November 2013

PROJECT No. 6328


(Controlled Copy)

**Grindley Construction Pty Ltd
55 Grandview Street
PYMBLE NSW 2073**

**Phone: (02) 9988 3811
Fax: (02) 9988 3575**

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1. INTRODUCTION

1.1 Environmental Policy



Environmental Policy

Grindley Construction Pty Ltd is committed to continuous development and implementation of an integrated Quality, Safety and Environment management system to consistently deliver and improve the environmental impact on, safety on and quality of, projects delivered to our clients and stakeholders.

Environmental objectives require our understanding and meeting the requirements and expectations of our clients and the community as a whole.

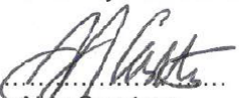
The fundamental elements of the management system require:


- Compliance with all applicable environmental laws, regulations, contractual and statutory obligations
- Building environmental management into all our processes and ensure that project participants get the most out of every activity
- Provision for a fully integrated management system that not only monitors and identifies key environmental risks that may arise in any process but also quickly and efficiently facilitates resolution thereby reducing pollution to the environment.
- Compliance with all requirements of ISO 14001:2004, WHS and Quality management guidelines.
- Building and securing an unblemished reputation for Environmental management within the marketplace


Grindley's strategy to deliver embodies:


- Communicative leadership and strategic direction
- Company personnel with clear responsibilities and ownership of Environmental management
- Continuous reviews of the effectiveness of Environmental management and the opportunities for improvement and development
- Ensuring all resources and commitment at every level of the organisation to achieve our goal

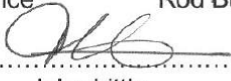
Grindley's undertaking for continuous improvement of environmental management systems, relies on the training, motivation and leadership within the company, to communicate effectively with our clients and deliver at or above their expectations.

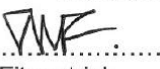

Alan Carstens


Martin Patience


Rod Burger


Matthew Macauley


John Little


John Fitzpatrick

Dated: 10th February 2012

TEL (02) 9900 5011 Fax: (02) 9900 5070

Location	I:\Projects\Current Projects\6328 - Port Botany Terminal 3\Environment\CEMP\Grindley CEMP Sub-Plans & Documents\Documents\Updated Document for December 2013\6328 - Appendix G- Waste Management Plan Rev 04.docx	Page 3 of 10
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1.2 Project Management Plans

The Construction Waste Management Plan is to be read in conjunction with the Project Specific Environmental Management Plan, Grindley Construction Environmental Management Manual, and Site Safety Plan.

The overall format and content of these plans has been structured to fully meet the requirements of AS/NZS ISO 14001:2004 Environmental Management Systems

This Construction Waste Management Plan has been developed in accordance with the *Protection of the Environment Operations Act 1997*

1.3 Objectives


The objective of this construction waste management is to implement a set of strategies and controls to be used during construction phase to effectively manage waste produced and avoid any environmental impact or incident.

The Construction Waste Management Plan will identify the type and quantities of waste that would be generated on the project. This plan outlines strategies and controls to be implemented during the construction phase of the project that will enable the waste products to be handled, stored, re-used, recycled, and if necessary, appropriately treated.

1.4 General Applicable Regulatory Requirements

The following are legislative requirements that are applicable to Grindley Construction's business:

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

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- DEC'S Environmental Guidelines: Assessment, Classification and Management of Liquid and Non-Liquid Wastes


1.5 Project Specific Applicable Regulatory Requirements

NSW Minister for Planning Conditions of Approval for the Port Botany Expansion Project for Development Application DA-494-11-2003-i, 13th October 2005, (MCoA B2.33)

1.6 Waste Management Targets

The following performance criteria have been established for the Project, with regard to waste:

- Waste products reused on site where possible
- Separation for recycling of 100% of recyclable materials such as steel, aluminium, paper and plastics from the site office areas
- Capture and recycling of 75% scrap steel from demolition and construction activities
- All residual waste products are sent to appropriately licensed destinations for either recycling, reuse, treatment or disposal
- No contamination incident occurring as a result of waste storage, transport or disposal
- No rejection of loads by the receiving facility for non-compliant wastes
- Regulated wastes stored, transported, tracked and disposed of as per regulated waste legislation
- No construction waste/litter to enter into stormwater system and or Botany Bay

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2. Waste Management

2.1 Waste Sources

The below table identifies the waste products that will be generated on the project and how they are to be managed.

Waste Source	Classification	Estimated Quantity	Typical Makeup
Lunch Sheds and Office areas	General Solid Putrescible	1m ³ / week	Food Scraps, waste wrappers, waste paper towels
Site Office and packaging	General solid	9m ³ / week	Glass, paper, plastic cardboard
Onsite Constructions works	General Solid	26m ³ / week	Concrete fragments, timber off cuts, packaging, steel off cuts, defective building materials such as bricks and blocks, used formwork

2.2 Storage / Handling


The below table describes how waste will be stored and handle don the project.

All waste and material generated on 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. Waste will only be disposed of to a facility that that may lawfully accept the waste.

The only hazardous and/or industrial and/or Group A waste to be generated and/or stored on premises:

- Waste oil/water, hydrocarbons/water mixtures or emulsions; and
- Grease trap waste

Any hazardous liquids and their containers must be disposed of in accordance with the relevant legislative requirements for that product.


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Waste Source	Storage	Handling
Lunch Sheds and Office areas	240ltr Skip Bins in various location around the site compound. Bins will be separate for recycling and general waste. These will be picked up weekly.	Disposal into bins hand, picked up weekly by appointed waste contractor
Site Office and packaging	50Ltr bins will be use in the site offices, these will be emptied daily into the 240lts bins for weekly pickup.	Disposal into bins hand, picked up weekly by appointed waste contractor
Onsite Constructions works	10m3 skip bins to be placed within site compound, locations will adjust as works evolve	Disposal by hand or machine (Manitou or forklift), bins changed over as required
Vehicle maintenance	Hazardous waste will be stored in a dedicated waste container within the site compound.	Disposal by appropriate licensed waste contractor.
Hazardous Materials	Stored in bunded enclosure	Disposed of in general waste if dryable ie waterprooffe/paint otherwise disposed of by appropriate specialist waste contractor


2.3 Recycling / Reusing Waste

The following strategies will be implemented to enable reuse and recycling of waster products

- Office, lunch sheds and amenities waste will be separate into recycled able and non recycle waste.
- Subcontractors will be encourage to reuse materials such as formwork where possible
- Waste management contractor to provide monthly recycling reports for all waste removed from site
- Waste management contractor to guarantee achieving 75% recyclable targets.

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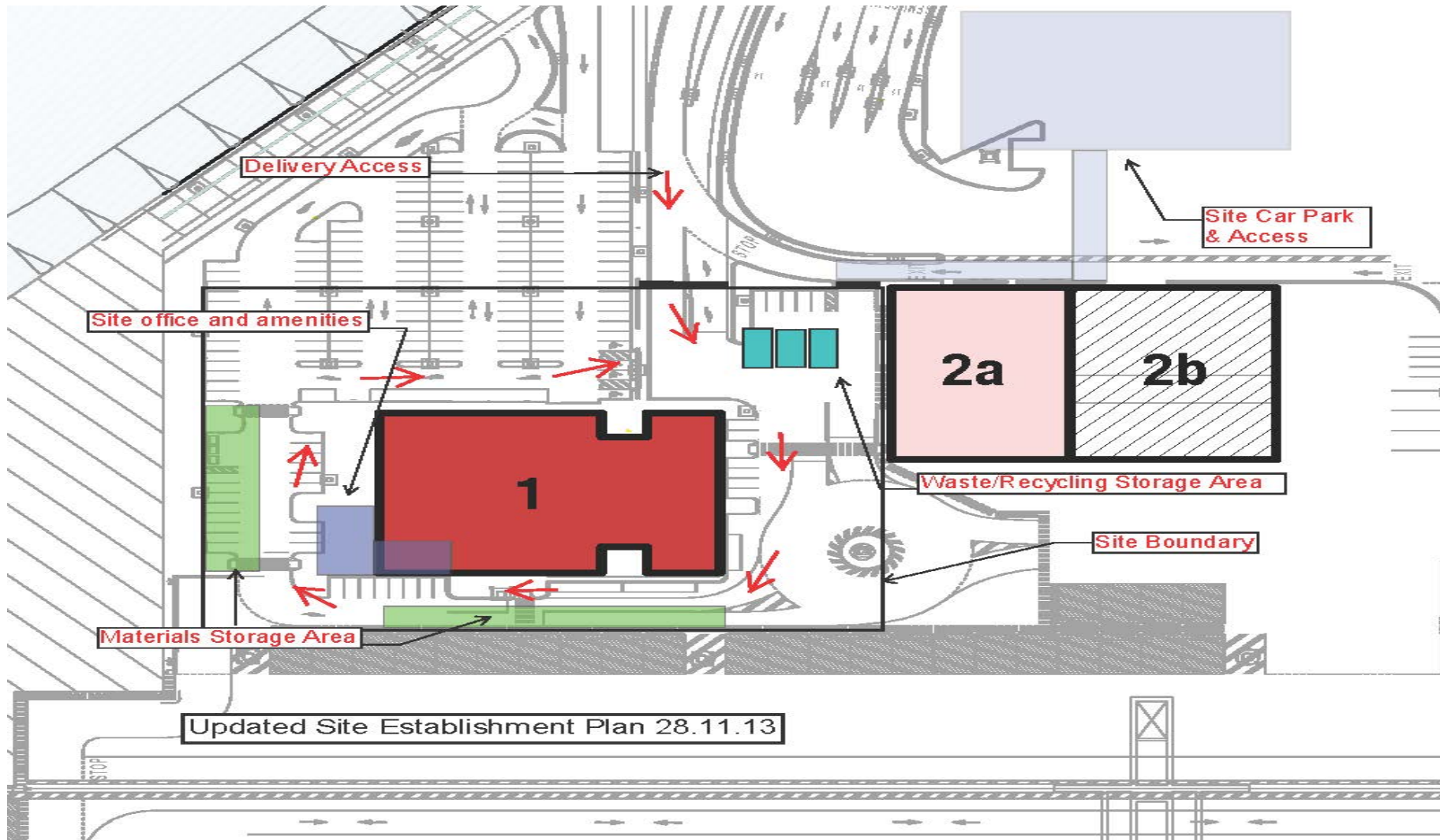
- Employees and contractor will be encourage through inductions to minimise domestic waste production on site and to reuse/recycle where possible.

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2.4 Waste Storage/ Recycling Locations

Bins are stored in locations marked on the below plan. The location may be required to vary during phasing of construction works.

Figure 2.4.1 Waste Storage Location



2.5 *Monitoring*

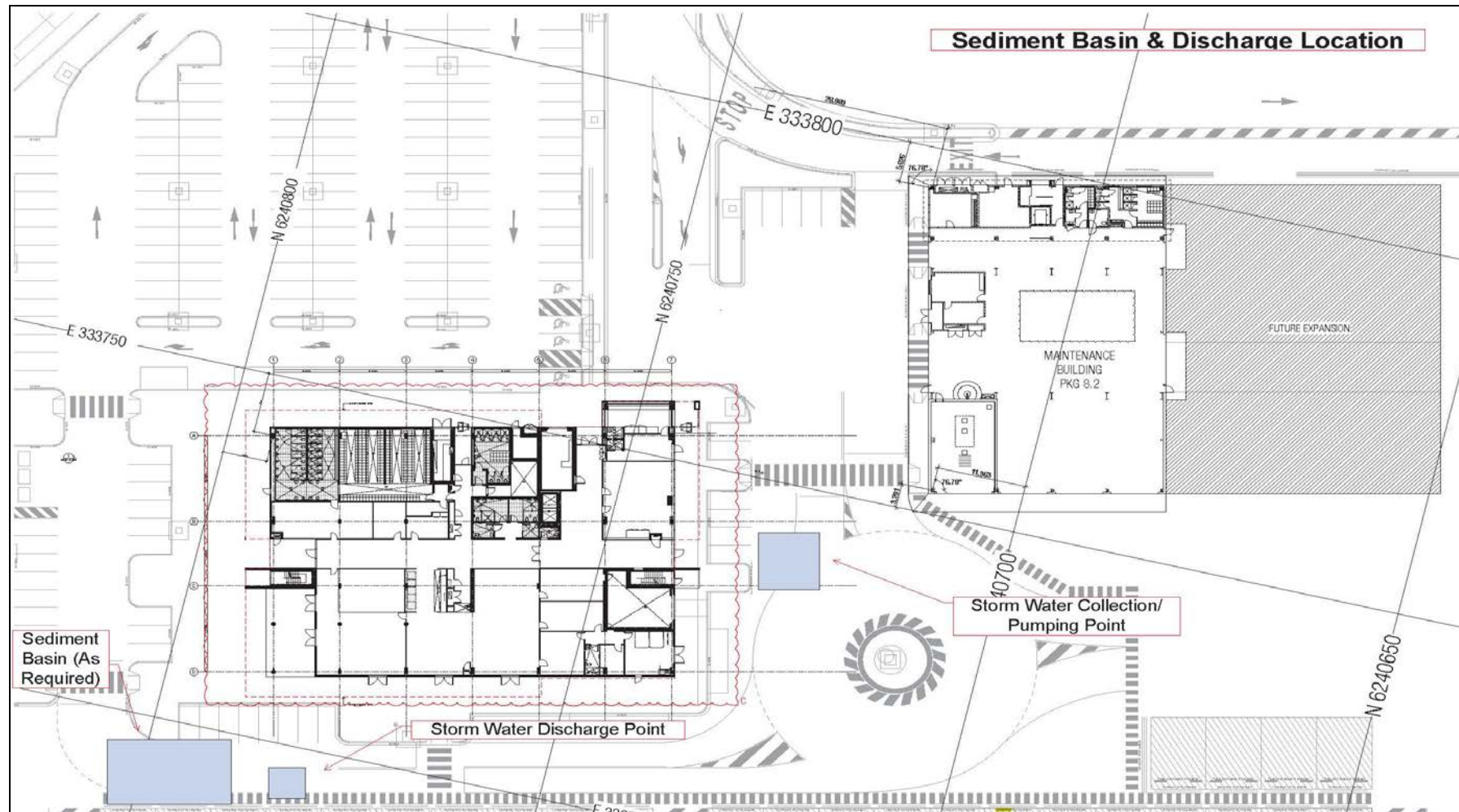
3 Monthly inspections will be conducted by the Environment Manager using form 404 (refer to Appendix B of the Project Specific Environmental Plan Section 7).

Each week (at least) the site environmental officer will conduct basic site inspections using form 403 (refer to Appendix B of the Project Specific Environmental).

The site manager will be provided with the outcomes and action items arising from the weekly environmental inspections. The site manager will then update the project team of any specific issues at the weekly tool box session and monitor the implementation of action items.

Refer to Grindley Environmental Management Manual, (refer to Appendix K of the Project Specific Environmental Plan). Section 4.5.3 “Nonconformity, corrective action and preventive action” for non conformance procedure.

13. APPENDIX H – Erosion & Sediment Control Plan



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14. APPENDIX I – Noise Management Plan

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CONSTRUCTION NOISE MANAGEMENT PLAN (CNMP)

SYDNEY PORT BOTANY TERMINAL 3 PROJECT

**Revision: 03
Dated: 20th August 2013**

PROJECT No. 6328


(Controlled Copy)

**Grindley Construction Pty Ltd
55 Grandview Street
PYMBLE NSW 2073**

**Phone: (02) 9988 3811
Fax: (02) 9988 3575**

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1. INTRODUCTION

1.1 Environmental Policy



Environmental Policy

Grindley Construction Pty Ltd is committed to continuous development and implementation of an integrated Quality, Safety and Environment management system to consistently deliver and improve the environmental impact on, safety on and quality of, projects delivered to our clients and stakeholders.

Environmental objectives require our understanding and meeting the requirements and expectations of our clients and the community as a whole.


The fundamental elements of the management system require:

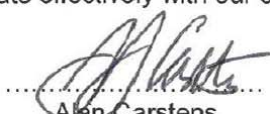
- Compliance with all applicable environmental laws, regulations, contractual and statutory obligations
- Building environmental management into all our processes and ensure that project participants get the most out of every activity
- Provision for a fully integrated management system that not only monitors and identifies key environmental risks that may arise in any process but also quickly and efficiently facilitates resolution thereby reducing pollution to the environment.
- Compliance with all requirements of ISO 14001:2004, WHS and Quality management guidelines.
- Building and securing an unblemished reputation for Environmental management within the marketplace

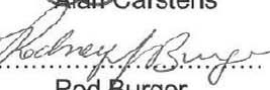
Grindley's strategy to deliver embodies:

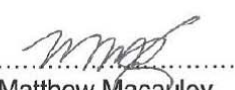
- Communicative leadership and strategic direction
- Company personnel with clear responsibilities and ownership of Environmental management
- Continuous reviews of the effectiveness of Environmental management and the opportunities for improvement and development
- Ensuring all resources and commitment at every level of the organisation to achieve our goal


Grindley's undertaking for continuous improvement of environmental management systems, relies on the training, motivation and leadership within the company, to communicate effectively with our clients and deliver at or above their expectations.

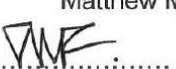

Martin Patience


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John Fitzpatrick

Dated: 10th February 2012

	GRINDLEY CONSTRUCTION PTY LTD 55 Grandview Street PYMBLE NSW 2073 Ph: (02) 9988 3811 Fax: (02) 9988 3575	Version 03	Date 20/08/2013
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1.2 Project Management Plans

The Construction Noise Management Plan is to be read in conjunction with the Project Specific Environmental Management Plan, Grindley Construction Environmental Management Manual, and Site Safety Plan.

The overall format and content of these plans has been structured to fully meet the requirements of AS/NZS ISO 14001:2004 Environmental Management Systems

This Construction Noise Management Plan has been developed in accordance with the *Interim Construction Noise Guideline (2009, DECC)*

1.3 Objectives


The objective of this Construction Noise and Management Plan is to outline the predicted effects associated with noise caused by the construction activities undertaken by Grindley Construction on the Sydney Port Botany Terminal 3 Project.

This plan outlines strategies and controls to be implemented during the construction phase of the project to effectively manage and prevent any negative impact on the surrounding community.

1.4 General Applicable Regulatory Requirements

The following are legislative requirements that are applicable to Grindley Construction's business:

- Protection of the Environment Operations Act 1997
- Protection of the Environment Operations (Noise Control) Regulation 2008 (NSW)
- Interim Construction Noise Guideline (2009, DECCW)
- NSW Industrial Noise Policy (DEC 2000)
- Australian Standard AS2436-1981 *Guide to Noise Control on Construction, Maintenance and Demolition Sites.*

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1.5 Project Specific Applicable Regulatory Requirements


NSW Minister for Planning Conditions of Approval for the Port Botany Expansion Project for Development Application DA-494-11-2003-i, 13th October 2005, (MCoA B2.20 & B.2.24)

1.6 Project Specific Restrictions

Construction activities that generate audible noise are restricted to the following hours;

- a) 7.00am – 6.00pm Monday to Friday.
- b) 8.00am - 1.00pm on Saturday.
- c) At no time on Sundays or public holidays.

Any works that generate audible noise and are required to be carried out outside of these hours must first be approved by the Director General of the DOP. Application will be made on a case by case basis and will demonstrate the need for activities to be conducted during varied hours and identify how local acoustic amenity will be protected, as well as details of how the EPA's requirements with respect to the variation of hours has been addressed.

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2. CONSTRUCTION NOISE

2.1 Definition

'Offensive noise' is defined in the dictionary of the POEO Act as noise:

- a) that, by reason of its level, nature, character or quality, or the time at which it is made, or any other circumstances:
 - i. is harmful to (or is likely to be harmful to) a person who is outside the premises from which it is emitted, or
 - ii. interferes unreasonably with (or is likely to interfere unreasonably with) the comfort or repose of a person who is outside the premises from which it is emitted, or
- b) that is of a level, nature, character or quality prescribed by the regulations or that is made at a time, or in other circumstances, prescribed by the regulations.

'Intrusive Noise' is defined in the dictionary of the POEO Act as noise that is noticeably louder than the background noise and considered likely to disturb or interfere with those who can hear it.


2.2 Existing Environment

The Port Botany area is currently subject to noise emissions from existing port operations, road traffic (particularly Foreshore Road), rail traffic from the Botany Freight Rail Line, Sydney Airport and other industrial activities.

Noise from existing terminals at Port Botany are a result of activities such as transporting and loading containers onto trucks, trains and ships.

The Ambient noise levels of the surrounding areas have been tested and outlined in the project EIS.

The Rating Background Levels and Ambient Levels for each of the time periods (Day/Evening/Night) as given by the EIS are detailed in the table below.


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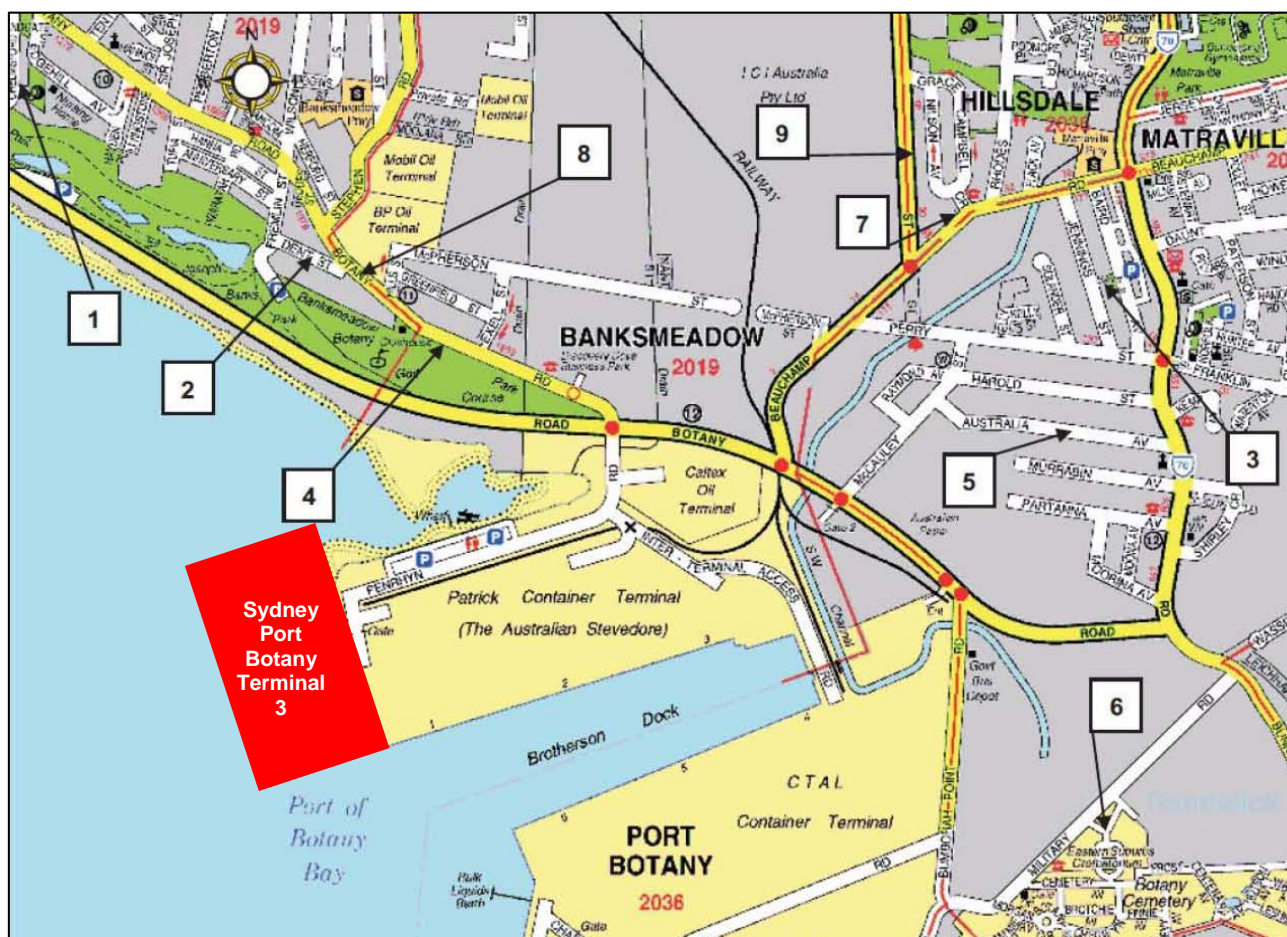
Location	Rating Background LA90 Levels (DBA)		
	Day * (7:00 am – 6:00 pm)	Evening (6:00 pm – 10:00 pm)	Night (10:00 pm – 7:00 am)
Location 1 - Chelmsford Avenue	49	45	36
Location 2 - Dent Street	47	43	36
Location 3 - Jennings Street	40	39	40
Location 4- North of Golf Course	57	50	43
Location 5- Australia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

The measured ambient LAeq noise levels are provided below.

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

The following map details the reference locations for the tables above.

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2.3 Construction Noise Goals

The Construction Noise Guideline of the NSW EPA's Environmental Noise Control Manual (ENCM) (EPA 1994) states that, "For construction periods of greater than 26 weeks the LA10 level measured over a period of not less than 15 minutes when the construction site is in operation shall not exceed the background level by more than 5dBA."

The ENCM recommends that construction operations occur:

- "Monday to Friday 7.00 am to 6.00 pm
- Saturday, 7.00 am to 1.00 pm if inaudible at residential premises, otherwise: 8.00 am to 1.00 pm; and
- No construction work to take place on Sundays or public holidays."

Criteria for the SPBT3 project are shown below.

	GRINDLEY CONSTRUCTION PTY LTD 55 Grandview Street PYMBLE NSW 2073 Ph: (02) 9988 3811 Fax: (02) 9988 3575	Version 03	Date 20/08/2013
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Location	LA10 Construction Noise Criteria (DBA)		
	Daytime (7:00 am – 6:00 pm)	Evening (6:00 pm – 10:00 pm)	Night time (10:00 pm – 7:00 am)
Location 1 - Chelmsford Avenue	54	50	41
Location 2 - Dent Street	52	48	41
Location 3 - Jennings Street	45	44	45
Location 4- North of Golf Course	62	55	48
Location 5- Australia Avenue	47	45	47
Location 6- Military Road	51	51	50

2.4 Construction Noise Sources

Construction noise will be generated by various sources throughout the course of the project. The following table lists the construction activities and associated noise sources that are relevant to this project. These activities and the associated noise have the potential to disturb residents and neighbouring businesses throughout the project:

ACTIVITY / TASK	NOISE SOURCE
Temporary services	Diesel Excavator
Temporary access roads	Diesel Trucks Diesel Excavator Diesel Roller
Bored piers	Drilling Rig Diesel Trucks
Detailed excavation	Diesel Excavator Diesel Trucks
Formwork	Electric Saws Hammering Nail Guns
Concrete placement	Concrete Pump Diesel Trucks
In ground services	Diesel Excavator
Masonry Walls	Brick Saws Concrete Mixer
Generally – Delivery of materials	Increased movements of delivery trucks and utilities

The following table lists typical construction plant and equipment sound power levels relevant to the project.

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Plant Item	Sound Power Level (DBA)
Backhoe	107
Excavator	107
Dump Truck	109
Compactor	112
Bulldozer	119
Bored Piling Rig	111

Construction works will be monitored as detailed in section 2.5 below. All reasonable and feasible mitigation measures will be implemented to ensure that the noise goal of background levels stated from the EIS plus 5 dBA as outlined above to be attained.

2.5 Assessment of Noise Impacts

A noise monitoring program is to be carried out for the duration of the works. Noise monitoring is to be conducted by the Environmental Representative or approved consultant for the SBPT3 project.

The noise monitoring measurements are to be made at the locations outlined in section 2.2 of this plan.


Noise including LAMAX (15 minute), LA90 (15 minute), and LAeq (15 minute) are to be measured, and the measurements are to be taken over 15 minute periods.

Noise monitoring is to be undertaken at the nominated locations during the initial commencement of each of the specific construction activities identified above. This will serve to check and validate compliance with the project noise goals.


Ongoing noise monitoring will be conducted throughout the project on a monthly basis. It shall be conducted during normal work hours and at such a time to be representative of generating work activities (i.e. when maximum impacts are likely to occur).

2.6 Control Measures

The following control measures will be implemented to minimise noise throughout the duration of the project:

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1. Noisy works to be carried out within the hours detailed in section 1.6.
2. At the commencement of each new construction activity, review construction methods, vehicles, plant and equipment and where practical and select the least noisy.
3. Minimising noisy activities by adopting alternative construction measures.
4. Use least noisy construction methods, vehicles, plant and equipment.
5. Use rotary piling techniques for all piles, (instead of impact piling).
6. High efficiency mufflers to be fitted to all diesel plant and equipment, including piling rigs, to minimise the generation of noise.
7. All plant will be maintained in accordance with the manufacturer's requirements.
8. Orientate noisy plant and equipment so as to minimise noise impacts on noise sensitive receivers and wildlife in Penrhyn Estuary
9. Avoiding where practical the use of noisy plant simultaneously close together or adjacent to sensitive receptors including positioning items of noisy plant and equipment as far apart as is practicable from each other.
10. Plan the site so loading and unloading activities are as far away as practical from noise sensitive receivers.
11. Carrying out above ground loading and unloading activities as far away as in practicable from noise sensitive receivers and wildlife Penrhyn Estuary.
12. Plan the site to minimize the need for truck reversing movements, and to ensure all vehicles and plant enter and exit the site in a forward direction where practical
13. Take all practical steps to avoid, or limit reversing movements within the site, including designing the site compound to reduce amount of reversing required.
14. No blasting to occur on the premises
15. Ensuring all vehicles and self propelled plans and equipment enter and leave the premises in a forward direction unless unforeseen accidents or other unforeseeable circumstances arise that may require reversing movements
16. Advise subcontractors and suppliers that the queuing of construction vehicles outside premises and idling outside the site prior to the morning start time detailed in section 1.6 will not be allowed.
17. Plant and equipment is to be maintained in accordance with the manufacturer's requirements.
18. Regular checks are to be undertaken to ensure all equipment and plant are in good working order and are being operated correctly
19. On-site generators and auxiliary power sources to be positioned away from existing buildings.
20. Achievable given the subsurface conditions. Reference will be made to the existing geotechnical site assessment report for advice on suitable protection distances from heritage structures for the use of moderate to heavy impact machinery.
21. Local residents will be notified by Letter Drop of construction activities likely to affect their noise amenity

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2.7 Complaints Handling

The goal for the project is to have zero noise complaints. In order to achieve this goal the potential noise impacts of each construction task and activity are to be assessed and control measure are to be implemented as outlined above to minimise noise impacts on receivers.

Neighbourhood notifications and community consultations are to be carried out as detailed in Section 2.7 of the *Project Specific Environmental Management Plan*. In addition nearby residents and businesses that will be adversely affected by tasks deemed to generate offensive or intrusive levels of noise, will be informed by way of letter box drop prior to the task being carried out.


If a noise complaint is received it will be handled in accordance with Section 2.8 of the *Project Specific Environmental Management Plan*.

2.8 Training

On their first day working on the project, all Grindley site personnel and subcontractor employees will undergo project specific induction training which will include the following;

1. All relevant project specific and standard noise and vibration mitigation measures.
2. Relevant licence and approval conditions.
3. Permissible hours of work.
4. Site opening and closing times (including for deliveries).
5. Any limitations on high noise generating activities.
6. Location of nearest sensitive receivers.
7. Designated loading/unloading areas and procedures.

Toolbox training on noise management requirements and mitigation measures will be conducted by the site Manager during the project prior to the commencement of construction activities that generate offensive noise.

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15. APPENDIX J – Traffic Management Plan

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SITE SPECIFIC TRAFFIC MANAGEMENT PLAN

SYDNEY PORT BOTANY TERMINAL 3

PROJECT No. 6328

(Controlled Copy)

Grindley Construction Pty Ltd

55 Grandview Street

PYMBLE NSW 2073

Phone: (02) 9988 3811

Fax: (02) 9988 3575

Approved by:(Signature)

Project Manager:

Date:

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GENERAL SITE MANAGEMENT


Site Layout

The Grindley Construction site is located within the Sydney Port Botany Terminal 3 (SPBT3). The SPBT3 is located on Penrhyn Rd off Foreshore Rd in Port Botany, approx. 12km south of Sydney’s Central Business district and situated between the existing Port and the Parallel runway at Sydney Airport.

Sydney International Container Terminals (SICTL) has undertaken the development of the site to create a new shipping terminal. The development includes reclamation works and construction of a new wharf approx. 1300m long and covers an area of approximately 46 hectares.



Figure 1 - Site Location

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Site Description

As part of the development works SICTL have engaged separate contractors to carry out task on the Terminal such as civil, ICT and main substation contractors.

Grindley Construction (GC) will be carrying out the construction of the terminal buildings comprising the Operations Building (Building 1), Maintenance Building (Building 2), Gate House and AQIS (Building 3.1), Driver Amenities (Building 3.2) and Rail Depot (Building 3.3). The locations of these buildings on the terminal are detailed on the Site Establishment Plan in Figure 2.

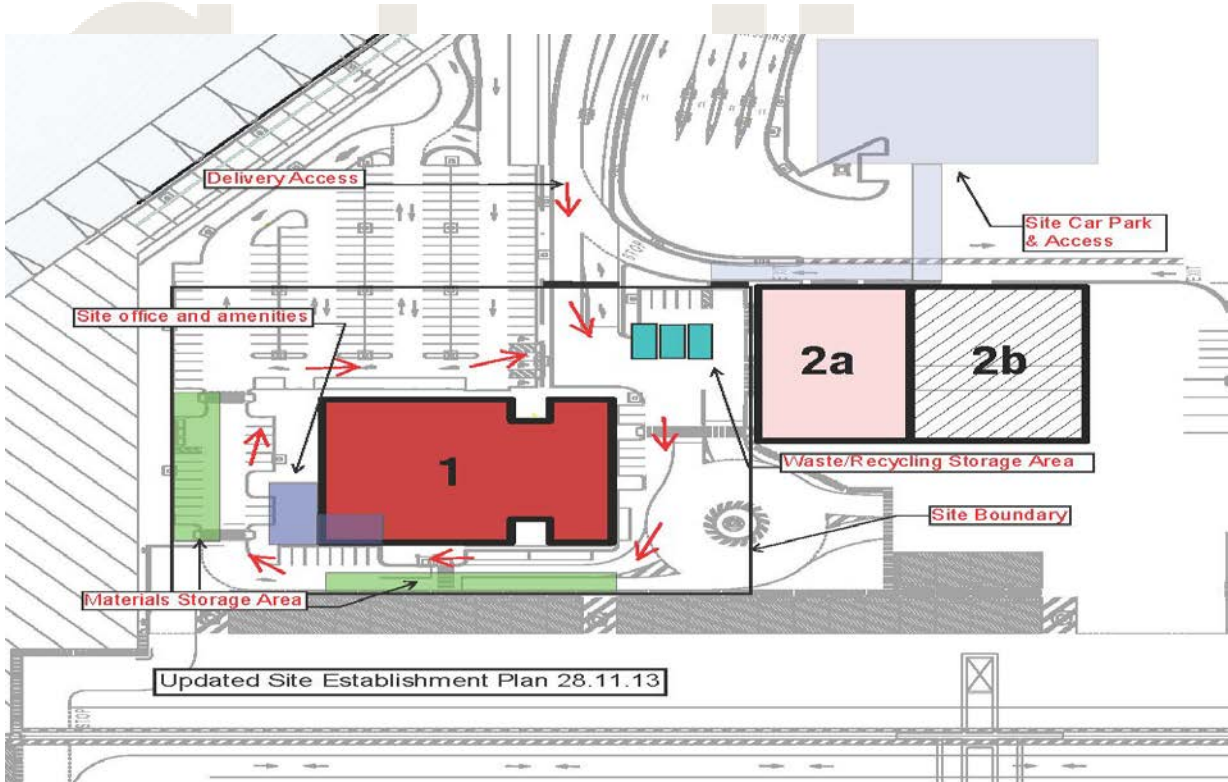



Figure 2 – Site Establishment Plan

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Site Description (Continued)

The two main buildings are the:

Operations Building - consisting of a 3 levels with Approx. 5,000m of floor area to be used for staff amenities, IT and office facilities for SICTL and


Maintenance Building - which is approx. 1,300m² of floor are for the use of maintenance for SICTL plant and equipment.

The works will involve the following:

- Site Establishment
- Earthworks and Piling
- In ground services
- Concrete slabs and structure
- Structural steel framing
- Metal Roofing
- Glazed and Aluminium Facade Works
- Finishing Trades

SICTL has appointed the civil works contract to Laing O'Rourke (LORAC) to carry out the civil and infrastructure component of the works to the site. These works will be carried out concurrently with the construction works carried out by GC.

LORAC will be the principal contractor on the whole of the SPBT3 site and will provide, maintain and be responsible an access road to the GC construction areas. Grindley will be the principle contractor within there site boundaries.

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Construction Programme

The buildings will be handed over in separable stages.

The overall construction duration is expected to take approximately 11 months.

Work Hours

The Ministers Condition of Approval Document B2.19 details for construction activities with the project that would generate an audible at any residential premises be carried out during the following hours:

- a) 7.00am to 6.00pm Mondays to Fridays inclusive
- b) 8.00am to 1.00pm on Saturdays and
- c) At no time on Sundays or public holidays

The above condition will be followed.

Should the need arise for works outside of these hours the relevant approvals and consents will be obtained.

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Hoardings & Protection

Site Boundaries

Prior to the commencement of any construction works a new type 'A' hoarding consisting of chain link fence will be erected around the perimeter of GC work areas to each of the building. Entry gates will be placed at nominated places. Type "A' hoarding to remain in place until completion of the project.

Locations of perimeter fencing detailed on the Proposed Site Establishment Plan **Figure 2.**

Materials Handling

Cranage

All cranage for the project will be conducted with the use of mobile cranes. Cranes will be used for materials handling throughout the site area and unloading of deliveries on-site. The Location of cranes on-site will vary during each stage of the project. All cranage will be carried out within the Grindley site. No cranage is planned to be carried outside the site.


All applicable permits and approvals will be obtained.

Standing Trucks and Vehicle Types

Unloading of all materials and equipment will be carried out within the site. No unloading is planned to be carried outside the site.

Various types and sizes of vehicles and machinery will also be on site throughout different phases of the project. These include, but are not limited to:

- Cars, Utilities and small delivery trucks and vans
- Semi trailer, low loader and tipper trucks
- Mobile Cranes, telescopic handlers, boom lifts and scissor lifts
- Concrete pump and Concrete agitator trucks
- Excavators, backhoes, bobcats and rollers

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TRAFFIC MANAGEMENT

Documents

The Grindley Construction Site Specific Traffic Management Plan has been prepared to address the requirements listed in Ministers Condition of Approval Document Condition B2.14. The plan must include:

- Identification and preferred haulage routes
- Access routes, signage and access arrangements on-site
- Measures to limit the impact on Foreshore Rd and Botany Rd
- Need for restrictions on delivery hours and / or routes
- Development of traffic management measures during construction works to ensure traffic disruptions are minimised

In addition to this the Traffic Management Plan Document Ref. SA67-TMP001 Rev.V0.02 prepared by LORAC has been used as guide for the traffic management to the site.

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Pedestrian and Traffic Control

Vehicles entering and leaving the site will adhere to this traffic route for the duration of the project.

Primary Access Route for Heavy Vehicles:


The primary access road for will be as follows;

- From Southern Cross Drive, M5 East or General Holmes Drive
- Turn onto Foreshore Rd
- Turn Right onto Penrhyn Estuary Bridge
- Building works Access Rd to GC site.

Primary Egress Routes for Heavy vehicles:

The primary egress for each stage will be as follows;

- Turn right From GC Site
- Follow building works access road to Penrhyn Estuary Bridge
- Left into Foreshore Rd
- Southern Cross Drive, M5 East of General Holmes Drive

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Heavy Vehicle Access Routes

All heavy vehicles will enter the SPCT3 site using the access Rd over Penrhyn Estuary Bridge from Foreshore Rd from using either Southern Cross Drive, M5 East or General Homes Drive detailed in Figure 3



Figure 3 – Construction Vehicle Routes

The intersection of the SPCT3 site access and foreshore Rd will be controlled by traffic signals once the works commence.

LORAC will be placing access signage to assist with vehicle entry and exiting the site. Signs at the SPCT3 construction access are in Figure 4.


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Figure 4 – LORAC Access Intersection and Signs (Figure 6 of *LORAC SPBT3 Construction Traffic Management Plan – V03*)

Upon entering the SPCT3 access to the GC will be via the building works access road provided by LORAC.

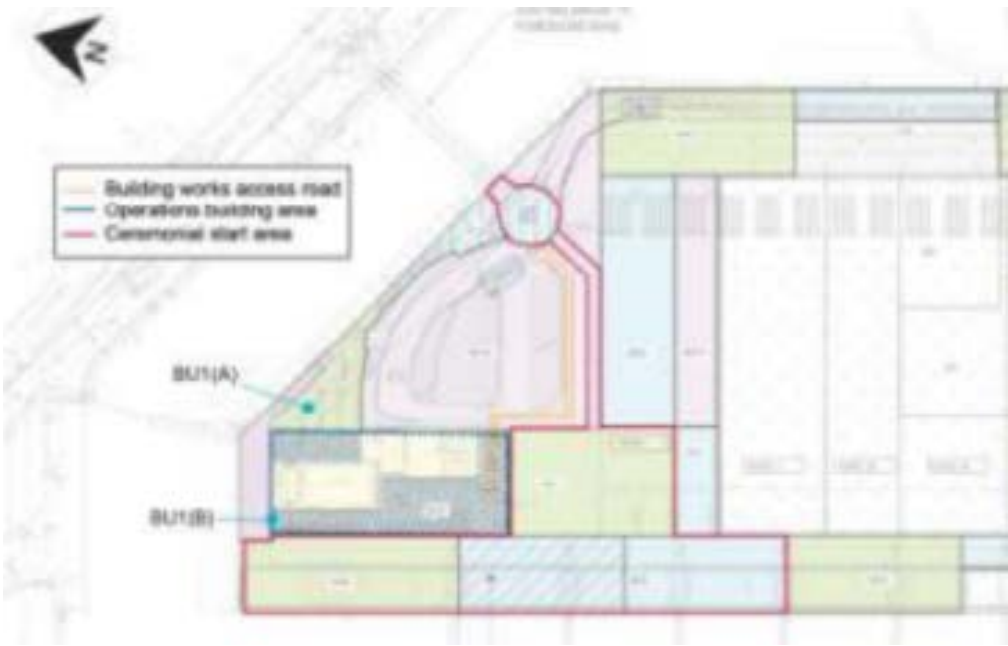


Figure 5 –Access Rd. (Figure 3 of *LORAC SPBT3 Construction Traffic Management Plan – V03*)

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Vehicle Access & Parking

Construction Vehicle Access:

Vehicle access will predominately be as described for Heavy Vehicle access and egress.

The use of Botany Rd via Foreshore Rd by smaller vehicles will be limited as the primary egress is using the higher order roadways.

No construction traffic to use Botany Road unless local supplier delivering from that area.


All access gates will be sign posted and all vehicles are to enter and leave the site in a forward direction where ever possible.

Vehicle Parking:

Construction workers vehicles are to be parked rear to fence in the concrete compound adjacent to the site entry. At no time will vehicles be parked on nearby roads or in a manner that obstructs traffic flow or driveway access of surrounding residents.

Throughout all phases of construction workers will be encouraged to car pool and utilise public transport.

Site personnel will continually monitor parking and ensure the disturbance to surrounding residents is minimal.

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Traffic Impacts

The following are details of the anticipated traffic volumes for Grindley Construction's works only. For details of Laing O'Rourke's traffic anticipated traffic volumes please refer to Laing O'Rourke's Traffic Management Plan.

During the initial site establishment and early works period there will be 10 to 20 trucks per day.

As construction progresses peak activity would occur during concrete pours. During larger pours some 60 - 70 concrete trucks would be required. For smaller pours some 20 - 30 concrete trucks per day. At other times when concrete is not being placed, deliveries of construction materials to the site would be lower at some 10 – 20 trucks per day.

It is anticipated during the construction period site workers will increase from initially 10 – 20 employees on the site, to generally between 20-60 employees.

Adequate car parking will be made available on the site.

Pedestrian Management

A pedestrian footpath is located on Foreshore rd. The pedestrian crossing is controlled by traffic signals.

There is no planned construction activity which will impact on the access or movement of pedestrians.

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Access:

Unauthorised entry to work site is prohibited, and signage will be in place to inform pedestrians of access restrictions and requirements. Directional signage will also be in place to direct all personnel and visitors to the security personnel hut.

Training

All site personnel will be inducted into the construction traffic management plan.


All visitors must be in the company of an inducted person at all times whilst on site.

Prior to construction GC will prepare a Port Traffic Handbook to distribute to drivers of construction related vehicles providing information on accepted routes, constraints to traffic and preferred hours of use and amenities on such routes.

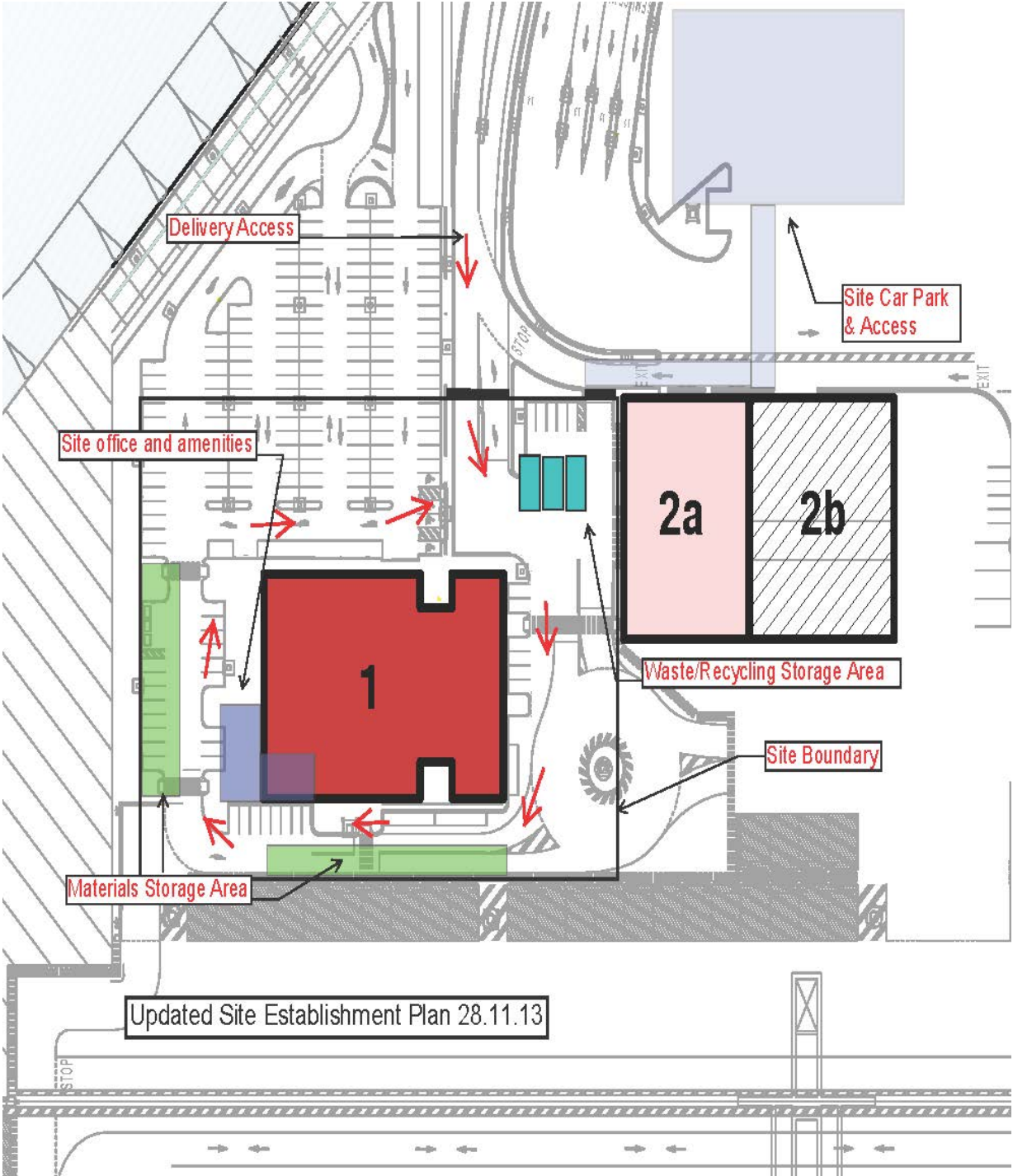
Monitoring & Development of TMP


The project manager will report as required on the implementation of the Traffic Management Plan. The plan will be periodically updated to include:

- Access Points
- Recommendations on consultation with SICTL and LORAC
- Location of parking areas
- Variations of traffic management plans
- Identifications of any safety or operational incidents and actions taken to address the conditions that caused the incidents.
- Monitoring complaints and corrective actions
- Details of signage on Internal & external roadways

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APPENDIX A – SITE ESTABLISHMENT PLAN



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APPENDIX B – PORT TRAFFIC HANDBOOK



SYDNEY PORT BOTANY TERMINAL 3 PROJECT Port Traffic Handbook

Delivery and Construction Drivers for the Sydney Port Botany Terminal 3 must follow the procedures below:

- HEAVY VEHICLE access must use the M5, General Holmes Drive or Southern Cross Drive to access Foreshore Road.
- Access to the site is via the Access Rd over Penryhn Estuary Bridge
- All vehicles are to proceed and follow signage to Grindley Construction site compound area
- Drivers are to obey all road rules both on public roads and within the construction compound

Access Hours

- a) 7.00am to 6.00pm Mondays to Fridays inclusive
- b) 8.00am to 1.00pm on Saturdays and
- c) At no time on Sundays or public holidays

No work or deliveries to take place outside these hours unless approved by Grindley Construction, Engineers (Mott Macdonald) or relevant Authorities

Site Contact

Site Manager – Paul Dunand (Mobile: 0408 204 181)

Site Amenities

Amenities are available on the construction site during working hours

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APPENDIX B – PORT TRAFFIC HANDBOOK



SYDNEY PORT BOTANY TERMINAL 3 PROJECT Port Traffic Handbook

Delivery and Construction Drivers for the Sydney Port Botany Terminal 3 must follow the procedures below:

- HEAVY VEHICLE access must use the M5, General Holmes Drive or Southern Cross Drive to access Foreshore Road.
- Access to the site is via the Access Rd over Penryhn Estuary Bridge
- All vehicles are to proceed and follow directional signage to Grindley Construction site compound area
- Drivers are to obey all road rules both on public roads and within the construction compound
- Maximum site speed limit is 20kph
- Seat belt **MUST** be worn whilst driving on site roads

Access Hours

- a) 7.00am to 6.00pm Mondays to Fridays inclusive
- b) 8.00am to 1.00pm on Saturdays and
- c) At no time on Sundays or public holidays

No work or deliveries to take place outside these hours unless approved by Grindley Construction, Engineers (Mott Macdonald) or relevant Authorities

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Environmental Management Manual

55 Grandview Street ,PYMBLE NSW 2073
Ph: 02 9988 3811 Fax: 02 9988 3575

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1. Scope

This Manual has been developed by the Directors of Grindley Construction Pty Ltd to standardise environmental work practises in its scope of works in construction and development, and to ensure that all sections of this manual and the Environmental Management System are complied with on all sites.

This Manual and its associated *Environmental Flowcharts, Management Flowcharts, Registers, Site Specific Plans, Roles and Responsibilities and Standard Forms* as well as the *Grindley Quality Management System* and the *Grindley OHS Management System*, are regularly reviewed by the Directors of Grindley Construction Pty Ltd (Grindley) for continued compliance and relevance to the business operations as well as to the Australian Standard for Environmental Management System requirements, AS/NZ 14001:2004.

This manual will be used as a reference tool to guide all staff through their day-to-day duties at Grindley in a safe and efficient manner.

2. Company Background

Grindley Construction is a Sydney-based construction company established in 1988.

Grindley has an enviable reputation for construction in business sectors ranging from commercial and industrial to health and education, with a special focus on health and aged care.

3. Environmental Manual Administration and Control

This Manual and its associated *Environmental Flowcharts, Management Flowcharts, Registers, Site Specific Plans, Roles and Responsibilities and Standard Forms* are regularly reviewed by the Directors of Grindley for continued compliance and relevance to the Grindley Construction business operation as well as AS/NZ 14001:2004. This *Manual* will be used as a reference tool to guide all staff through their day-to-day duties in a safe and efficient manner.

Each staff member will have access to the relevant parts of this *Manual* and associated *documents* and *procedures* and *forms* either electronically via the Grindley intranet, or provided with up to date controlled copies on sites without Grindley intranet access.

The location of all documents and records associated with the Grindley Management System are documented in the *Master Document Register* (form 801), which also serves as an archive and records register.

Revisions are scheduled and noted in the *Master Document Register* (form 801). Minor changes are proposed and changed by the Quality and Environmental Manager and are approved by the Company Secretary, with major changes approved by the Directors of Grindley Construction. Changes to documentation shall be noted in the 'Comments' section of the *Master Document Register* if required. Superseded copies of the manual and other quality documents listed in the *Master Document Register*, shall be placed in the 'Archive' electronic folder for reference at a later date.

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References in this manual to accompanying documents are in *italics*.

4. Environmental Management System

4.1. General requirements

Grindley Construction management have determined and documented the procedures deemed necessary to help prevent and mitigate significant environmental impacts caused by Grindley Construction or its contractors. These processes are documented in the form of both *site specific plans* and *flowcharts* to guide the worker and management through the sequential steps required to follow through on Grindley's commitment to prevention of pollution.

These processes shall be regularly reviewed for effectiveness, legal compliance and continual improvement during management review meetings, site inspections, internal audits and scheduled document revision dates. Any incidents, issues or improvements highlighted shall be recorded in the *Opportunities for Improvements log (OFI log)* and corrective action or preventive action taken. For major system problems or environmental incidents, a *Nonconformance form* (form 311) shall be completed in addition to being added to the *OFI Log*.

4.2. Environmental Policy

Grindley Construction has an authorised *Environmental Policy* that is displayed in the Head Office foyer and distributed to all employees during induction. An authorised copy is also displayed on the noticeboard of each site office, as specified in *Notice Board Materials (form 140)*. This policy is regularly reviewed for ongoing suitability to our business, working sites and changing legislation. The policy provides a guiding summary of Grindley's environmental objectives and commitments.

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Environmental Policy

Grindley Construction Pty Ltd is committed to continuous development and implementation of an integrated Quality, Safety and Environment management system to consistently deliver and improve the environmental impact on, safety and quality of, projects delivered to our clients and stakeholders.

Environmental objectives require our understanding and meeting the requirements and expectations of our clients and the community as a whole.


The fundamental elements of the management system require:

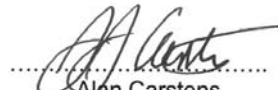
- Compliance with all applicable environmental laws, regulations, contractual and statutory obligations
- Building environmental management into all our processes and ensure that project participants get the most out of every activity
- Provision for a fully integrated management system that not only monitors and identifies key environmental risks that may arise in any process but also quickly and efficiently facilitates resolution thereby reducing pollution to the environment.
- Compliance with all requirements of ISO 14001:2004, OH&S and Quality management guidelines.
- Building and securing an unblemished reputation for Environmental management within the marketplace

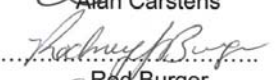
Grindley's strategy to deliver embodies:

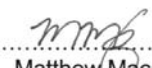
- Communicative leadership and strategic direction
- Company personnel with clear responsibilities and ownership of Environmental management
- Continuous reviews of the effectiveness of Environmental management and the opportunities for improvement and development
- Ensuring all resources and commitment at every level of the organisation to achieve our goal

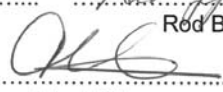
Grindley's undertaking for continuous improvement of environmental management systems, relies on the training, motivation and leadership within the company, to communicate effectively with our clients and deliver at or above their expectations.



.....
Martin Patience


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Alan Carstens


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Rod Burger


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Matthew Macauley


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John Little


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John Fitzpatrick

Dated: 11TH February 2013

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4.3. Planning

4.3.1. Environmental Aspects

The procedure for planning to identify environmental aspects is outlined in the documented procedure, 751 - *Planning to Identify Environmental Aspects*. This procedure has been implemented so that management, staff and subcontractors are made aware of significant environmental aspects that may be encountered when undertaking their work for, or on behalf of, Grindley Constructions.

The results of this planning is documented in the *Aspects and Impacts Register* (form 813), and readily available to all necessary persons and used when following the 756 - *Identification Assessment and Control of Aspects procedure*.

4.3.2. Legal and Other Requirements

The flowchart, 752 – *Determine Legal and Other Requirements*, outlines the process Grindley takes in determining our legal and other requirements. Relevant organisations to which we subscribe as well as government departments are listed in our *Legal and other requirements Register* (form 814). This register keeps a list of interested parties and obligations and details how we keep up to date with our requirements to these parties.

We review our requirements regularly to ensure that our documentation is current, including acts, regulations, standards, codes of practice and any other applicable requirements that we are committed to adhere to, including Development Consent conditions.

4.3.3. Objectives, Targets and Programs

We set our environmental objectives and targets according to the significant risks that result from our risk assessments, legal requirements, and individual site conditions or surroundings. We ensure our objectives are consistent with our *Environmental Policy*. Our overarching objectives and targets are reviewed biannually at our Management Review Meetings or more often if significant business or industry changes arise. We also set individual objectives on each project as set out in *Site Specific Environmental plans*. Our Management Review meetings provide an opportunity for management to set objectives and targets, as well as analysing our results against planned targets.

The objectives and targets we have set for identified issues are detailed in individual *Environmental Management Plans*, these plans also outline the controls that have or plan to be allocated to reduce actual and potential impacts. The procedure, 753 - *Setting and Reviewing Management Plans* is to be followed.

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4.4. Implementation and Operation

4.4.1. Resources, Roles, Responsibility and Authority

All staff working for Grindley are made aware of their environmental responsibilities; this includes management, employees and subcontractors. An organisation chart has been established to show authority levels and reporting structures across all aspects of the business relating to environmental issues.

Specific and general roles and responsibilities relating to environmental aspects and impacts are outlined in individual job descriptions, and it is noted that environmental awareness and protection is included as a responsibility of all staff. Specific environmental responsibilities are noted in the Management Representative's job description relative to environmental activities.

Management of Grindley recognises the seriousness and need for environmental management and has made a commitment to provide appropriate resources. The need for resources could result from staff or client request, internal and external audits and management review. These resources may include equipment, skills and human resources. Resource needs and allocation are discussed at during management review and toolbox meetings.

4.4.2. Competence, Training and Awareness

An induction session is conducted for each new staff member detailing the responsibilities of the employee to the environment while working for or on behalf of Grindley, whether it be in the office or on site, as well as general environmental guidelines. This ensures all staff have a general awareness of their environmental impacts. The procedure, 754 - Environmental Awareness and Inductions, is to be followed when new employees start or significant changes have occurred.

To ensure that staff are competent in their tasks, position responsibilities, required abilities/skills, and specific activities the position requires, are outlined in *Roles and Responsibilities* (form 806) and referred to during recruitment of individuals. If new skills or refresher courses are required after employment then the Manager, Director or Office Manager, depending on the employee and training required, shall research and organise appropriate training to ensure appropriate abilities and skill levels are reached and maintained. The organisation of these training courses follows the process outlined in flowchart 706 – *Training and Development*. These competence levels shall be monitored in the workplace after the training as well as during yearly appraisals. This is also an opportunity for staff to communicate with management on any training requests they have to improve individual, and therefore company performance in relations to environmental management.

Mandatory training requirements, including inductions, are outlined, recorded and updated in the *Staff Matrix* (form 508). These shall include OH&S and environmental responsibilities as well as specific job requirements.

4.4.3. Communication

Grindley management recognise that communication, both internal and external, is important in ensuring all information relating to environmental management is passed on to relevant persons. The procedure, 755 - *Internal and External Communication Relating to Environmental Issues*, has been established to set a guiding structure for

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dealing with environmental requests or concerns. Grindley has decided not to communicate their significant environmental aspects to external parties at this point in time.

Grindley has staff and subcontractors both within the office, on the road as well as on sites, and as such needs to use different methods to effectively communicate with all workers. Staff in the office are made aware of environmental issues via avenues including email, signs, informal meetings, and staff meetings. Staff and subcontractors onsite and on the road and onsite are communicated with via mobile phone, email, toolbox meetings and visits from Project Management, the Safety Manager and the Quality and Environmental Manager.

4.4.4. Documentation

Grindley's documented Environmental Management System consists of its *Environmental Policy*, *Aspects and Impacts Register*, *Individual Environmental Management Plans* and this *Environmental Management Manual*. It also consists of procedures, forms, documents and records, both internal and external, which are listed in the *Master Document Register*. These documents shall be audited using the process listed in flowcharts 707 & 708 – *System Audits*, and evaluated for effectiveness and implementation. The documentation shall also be subject to review in management review meetings, of which the process is listed in flowchart 705 – *Management System Review*.

4.4.5. Control of Documents

Documents needed for the effective management of the Environmental Management System shall be listed in the *Master Document Register*. The process outlining the control of our internally generated, received and project orientated documents is listed in flowcharts 701 & 702 – *Issue and Receive Documents*.

4.4.6. Operational Control

Grindley has established and implemented the procedure, 756 - *Identification Assessment and Control of Aspects*, to identify, assess and control its environmental aspects. This procedure is to be followed when starting any new projects that are not already listed in the *Aspects and Impacts Register* (form 813), as well as following any changes to the office or site environments. These results are then documented and distributed to all necessary personnel, including those at the sites or office including subcontractors, as well as top management for review.

Using the *Risk Assessment Matrix* in the *Aspects and Impacts Register*, aspects are assessed for significance, which results in appropriate controls being allocated, the results of this assessment can be found in the *Aspects and Impacts Register* (form 813). Significant aspects (high or extreme) result in the establishment of an *Impact Mitigation Plan*, which lists steps to be followed, and the controls and resources allocated to minimise environmental impacts and meet the Grindley target specified.

Controls are also specified by consultants and local council requirements and included in the *Development Consent*.

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4.4.7. Emergency Preparedness and Response

Grindley has documented general environmental emergency response procedures that shall be followed in the case of an environmental incident. This is detailed in the 757 - Environmental Emergency Response procedure. Any additional site specific response plans shall be detailed in the Site Specific Environmental Plan.

This response procedure is to be followed in response to all environmental incidents. This procedure is to be reviewed for application and relevance to each new job that Grindley staff or subcontractors work at, and amended accordingly by the Environmental Manager.

Each Grindley site shall have appropriate emergency response equipment including a spill kit appropriate for activities being conducted onsite and bunding for chemicals held onsite.

4.5. Checking

4.5.1. Monitoring and Measurement

Grindley has documented procedures to monitor and measure its environmental results in the 758 - Monitoring and Measurement flowchart. This procedure outlines the activities to which measurements need to be obtained, the intervals that monitoring shall take place, how to handle and interpret data. The Monitoring and Measurement procedure is in place to identify the extent to which the objectives and targets are being reached. This procedure is also used to measure our compliance against set legislation, including the Protection of the Environment Operations Act 1991 and the DA conditions for each project.

4.5.2. Evaluation of Compliance

Evaluation of compliance to legal and other requirements is determined by following the 759 - Legal Compliance Monitoring Procedure. Our Interested Parties Register lists our legal and other requirements as well as our required level of compliance to meet the requirements. The Quality and Environmental Manager reviews this biannually to ensure ongoing compliance. Where there is uncertainty surrounding legal compliance, advice shall be sought from legal representatives.

4.5.3. Nonconformity, Corrective Action and Preventive Action

When an environmental incident, emergency or nonconforming processes has been identified, the procedure outlined in flowcharts 709 and 710 – *Non-conformance* is to be followed. The non-conformance shall be entered into the *OFI log* so as to prevent future non-conformances of that nature. If the non-conformance is considered major, then a *Major Non-conformance form* (form 311) shall be completed as well as a *Site Instruction* if necessary.

The *flowcharts 711 and 712 - System Improvement*, directs staff to implement corrective action on identified problems to prevent reoccurrence, as well as identify possible non-conformances before they occur.

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4.5.4. Control of Records

Records that are produced as part of the Environmental Management System shall be listed in the *Master Document Register*. Records shall be stored and archived to ensure integrity of the system. The process outlining the control of records is listed in flowcharts 703 & 704 – *Control of Records*.

4.5.5. Internal Audit

The procedure for the conduct of internal audits is outlined in procedures 707 and 708 – *System Audits*. Internal audits of the Environmental Management System shall be carried out in accordance with the *Internal Audit schedule* (form 506). The audits are carried out at regular intervals to determine that the documented environmental management procedures are practical, understood and followed, and the training of personnel is adequate and conforms to the requirements of the standard. The audits shall be carried out by personnel independent of those having direct responsibility for the activity being audited. The form, *Internal Audit Report Template* (form 505), shall be used for internal audits to display audit findings and record Opportunities for Improvement and Non-conformances.

The results of the audits shall be discussed in Management Review Meetings and deficiencies shall be entered into the *OFI log* and actioned appropriately.

4.6. Management Review

The Environmental Management System shall be reviewed at management review meetings, which shall be held at appropriate intervals to ensure the system is effective, meeting the needs of customers, staff and the Standard. Management reviews shall be held in conjunction with Quality and OHS Management Review Meetings, but more often if the system requires it, reflecting changing factors. Minutes shall be recorded on the *Minutes of Meetings template* (form 504) and stored according to the *Master Document Register*. Management review meetings are an opportunity for staff and management to report on the effectiveness of the system and offer any suggestions or comment to ensure continual improvement of the system, but as a minimum the meetings will cover the following inputs and outputs.

Inputs:

- Results of internal audits and evaluations of compliance with legal requirements and with other requirements to which the organisation subscribes
- Communications from external interested parties, including complaints
- The environmental performance of the organisation
- The extent to which objectives and targets have been met
- Status of corrective and preventive actions
- Follow up actions from previous management reviews
- Changing circumstances, including developments in legal and other requirements related to its environmental aspects
- Recommendations for improvement

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Outputs include decisions and actions related to possible changes to:

- The environmental policy
- Objectives
- Targets

Other elements of the environmental management system consistent with the commitment to continual improvement.



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