CONSTRUCTION FRAMEWORK ENVIRONMENTAL MANAGEMENT PLAN

Stage 1C Remediation & Earthworks

EIS Appendix R

C	16/06/2015	Issued to support Project Application SSD 6956
B	22/04/2015	Issued to support Project Application SSD 6956
A	16/03/2015	Initial issue for tendering
Revision	*Date*	*Description of Change*

SEARS, Approvals and Modifications included in this CFEMP:

SSD 6956 (SEARS)	Stage 1C Remediation, Bulk Excavation, Earthworks and construction of a Perimeter Retention Wall System and Internal Stabilising Walls	N/A
Approval no.	*Project*	*Modifications*

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Acronyms and Glossary

ANZECC	Australian and New Zealand Environmental and Conservation Council
BDA	Barangaroo Delivery Authority (formerly part of SHFA)
CFEMP	Construction Framework Environmental Management Plan (this plan)
DA	Development Application
Director General	Director General of the NSW Department of Planning & Infrastructure, or nominee
DP&E	NSW Department of Planning & Environment (formerly DP&I)
DP&I	NSW Department of Planning & Infrastructure (now DP&E)
DPI	Department of Primary Industries (Office of Water)
EHS	Environment, Health and Safety
EIS	Environmental Impact Statement
EMS	Environmental Management System
EPA	Environment Protection Authority (previously part of OEH, DECCW)
EPA Declaration Area	Remediation Site Declaration 21122
EPL	Environmental Protection Licence (issued by EPA)
GMRs	LLB Global Minimum Requirements
HHERA	Human Health & Environmental Risk Assessment
LLMP	Lend Lease Millers Point
LLB	Lend Lease Building
MCOA	Minister's Conditions of Approval
MSDS	Material Safety Data Sheet
NATA	National Association of Testing Authorities
OEH	NSW Office of Environment and Heritage
PPR	Preferred Project Report
RAP	Remedial Action Plan
RtS	Response to Submissions
Secretary	Secretary of the NSW Department of Planning & Environment, or nominee
Sensitive Receivers	Occupants of residential or institutional land uses that may be impacted by dust, noise or vibration
SHFA	Sydney Harbour Foreshore Authority
SMT	Senior Management Team
Source	LLB guide to management systems, including the Environmental Management System
VMP	Voluntary Management Proposal
WAT	Work Area Team
SWMS	Safe Work Method Statement

1 INTRODUCTION

The Crown Sydney Hotel Resort involves the creation of a new hotel resort and residential precinct. The project is being developed and designed by Crown Sydney Property P/L. Lend Lease Building (LLB) is contracted to Crown Sydney Property P/L to undertake construction of the project.

Separately, Lend Lease Millers Point (LLMP) is contracted to the Barangaroo Delivery Authority (BDA) to undertake the Barangaroo South works at the southern end of the Barangaroo site. In addition, LLMP is contracted by the BDA to complete remediation of NSW EPA Remediation Site 21122 at Millers Point, which includes part of Barangaroo South, part of Barangaroo Central, and part of the adjoining Hickson Road.

1.1 CFEMP Purpose

This Construction Framework Environmental Management Plan (CFEMP) and associated sub-plans provide specific management measures to ensure that construction works have minimal environmental impact and risk, and where possible, enhanced environmental outcomes. The CFEMP and sub-plans:

- capture environmental issues and mitigation measures already identified and assessed through environmental assessments and conditions of approval relating to the project;
- incorporate these measures into a comprehensive framework to facilitate and ensure their appropriate management throughout the project;
- include management measures, procedures, monitoring, auditing and reporting and allocates responsibilities to manage environmental risks and opportunities;
- fulfils the requirement of the Secretary's Environmental Assessment Requirements (SEARs) (SSD 6956).

1.2 CFEMP Scope

This plan addresses environmental issues and risks associated with construction of the project, and impacts that are influenced by construction methodologies and staging. It covers all areas where physical works will occur, or areas that may be impacted by works, and is applicable over the full duration of the construction program.

This CFEMP and the environmental sub-plans will be staged according to each relevant stage of construction under various planning approvals from the Department of Planning and Environment (DP&E) Indicative staging of construction is shown in Table 2.

This plan forms part of Project Development Plans (PDPs) that are prepared for each work area. The PDPs sit under an overall *Project EHS Plan* and 'Source', which sets out specific LLB Environmental Management System (EMS) requirements for the project.

Sub-plans to address specific significant environmental issues associated with the project, and specific conditions of approval, are discussed further in section 5.5.

All LLB staff and sub-contractors are required to operate fully under the auspices of this plan and sub-plans.

1.3 CFEMP Objectives

The objectives of this plan are that:

- all environmental requirements contained in statutory approvals, licences, agreements, and other controls relevant to LLB are clearly defined, and mechanisms for implementation specified;
- processes for resourcing and implementing this plan are set to provide certainty of delivery;

- processes for auditing, monitoring and reporting on performance and effectiveness of the CFEMP are defined; and
- other objectives identified within environmental documents are met.

Environmental objectives and targets have been developed and are described in section 5.3 and Appendix 6. These are based on environmental aspects, impacts and risk as identified in the EHS Impacts and Hazards Risk Assessment.

1.4 Preparation of this CFEMP and Sub-Plans

This plan has been designed to address authority expectations and requirements, and adequately address risks and stakeholder concerns. Consultation with DP&E and the Environment Protection Authority (EPA) has been undertaken. Further consultation with other relevant authorities and stakeholders will be undertaken if needed for subsequent revisions of this plan and preparation of sub-plans.

Consultation with all stakeholders will continue as per requirements in each Minister's Conditions of Approval (MCOA). The requirements for consultation with these agencies and incorporation of their reasonable requirements are discussed in section 4.2.1.

All environmental management requirements specified as being the responsibility of LLB have been considered and addressed in preparing this plan, as have requirements of LLB's EMS (the Source), accredited to AS/NZS ISO14001.

This plan draws on the extensive knowledge of LLB acquired from successful environmental management of multiple and varied projects in a range of locations at Barangaroo.

1.5 Construction Stage EMP Structure

Construction environmental management plans are phased according to the planned construction stages. These stages are defined in section 2.2 of this plan.

Phasing of environmental plans allows preparation of plans according to the development of permanent and temporary works design, allows consultation over a longer timeframe, and reduces the number of plans for review and comment at any one time by stakeholders.

Figure 1 below shows the structure of the various environmental management plans.

1.6 Project Environmental Policy

The LLB Environmental Policy is included in Appendix 1. This policy has been formally approved by LLB and will be revised throughout the project if needed.

1.7 Project Statutory Approval and EIS

This project is based on designs described in Environmental Impact Statements (EISs) prepared by Crown Sydney Property P/L from 2014 to date. The NSW Minister for Planning granted concept approval for the Barangaroo redevelopment in February 2007, subject to a number of Minister's Conditions of Approval. This approval has been modified after eight applications from SHFA, BDA and LLMP from 2007 to date. A number of other approvals have been granted relating to Barangaroo South. These are outlined further in Section 3.1.

Conditions of Approval will be taken into account during further modifications to this plan and sub plans – Appendix 2A identifies where each condition has been addressed in this plan and sub-plans. Similarly, Appendix 2B identifies where commitments in the EISs and related documents have been addressed.

Where construction methods involve substantial changes to that described in the EIS, modification applications will be prepared for approval by DP&E. Modification approvals will be added to this CFEMP when approved.

1.8 Interface with other Project Plans and Procedures

This plan forms part of an integrated set of management plans developed for all key areas of the project. The set of management plans is described in detail in the Project Management Plan, and is illustrated in the management plan structure in Figure 2.

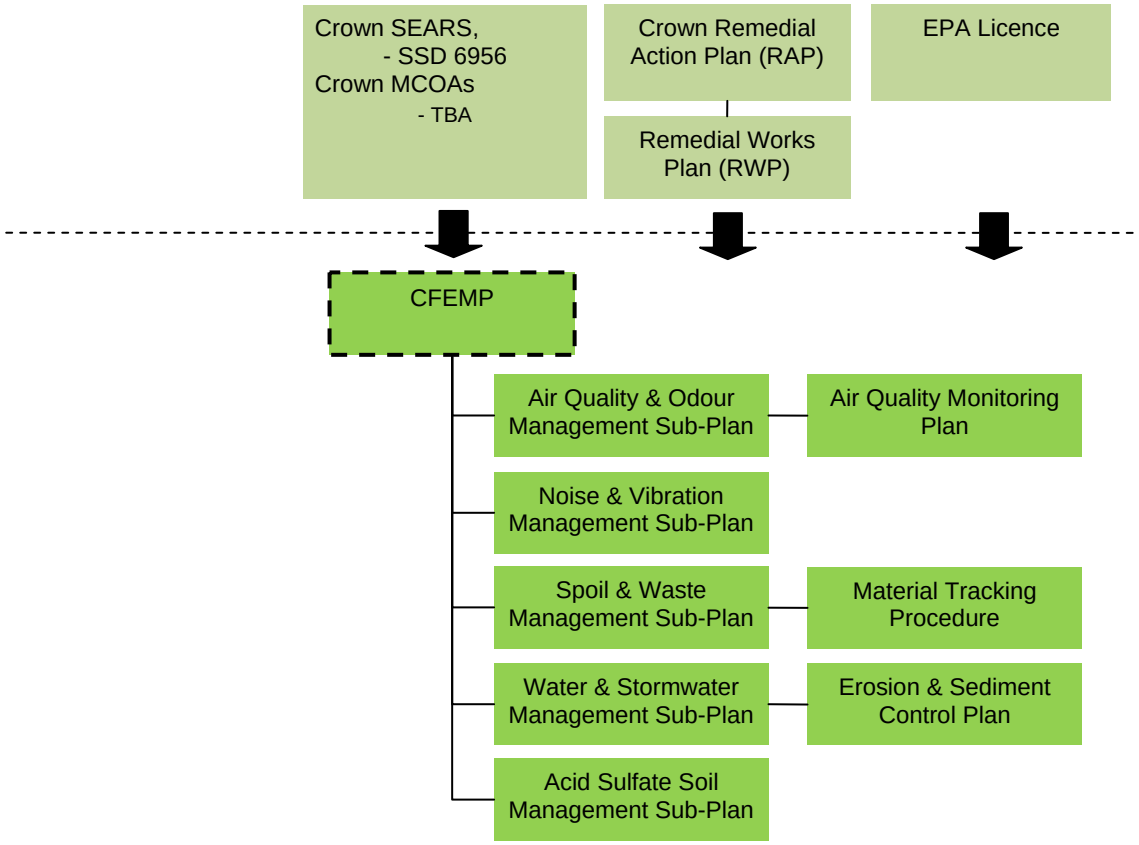


Figure 1: Environmental Management Plan Structure

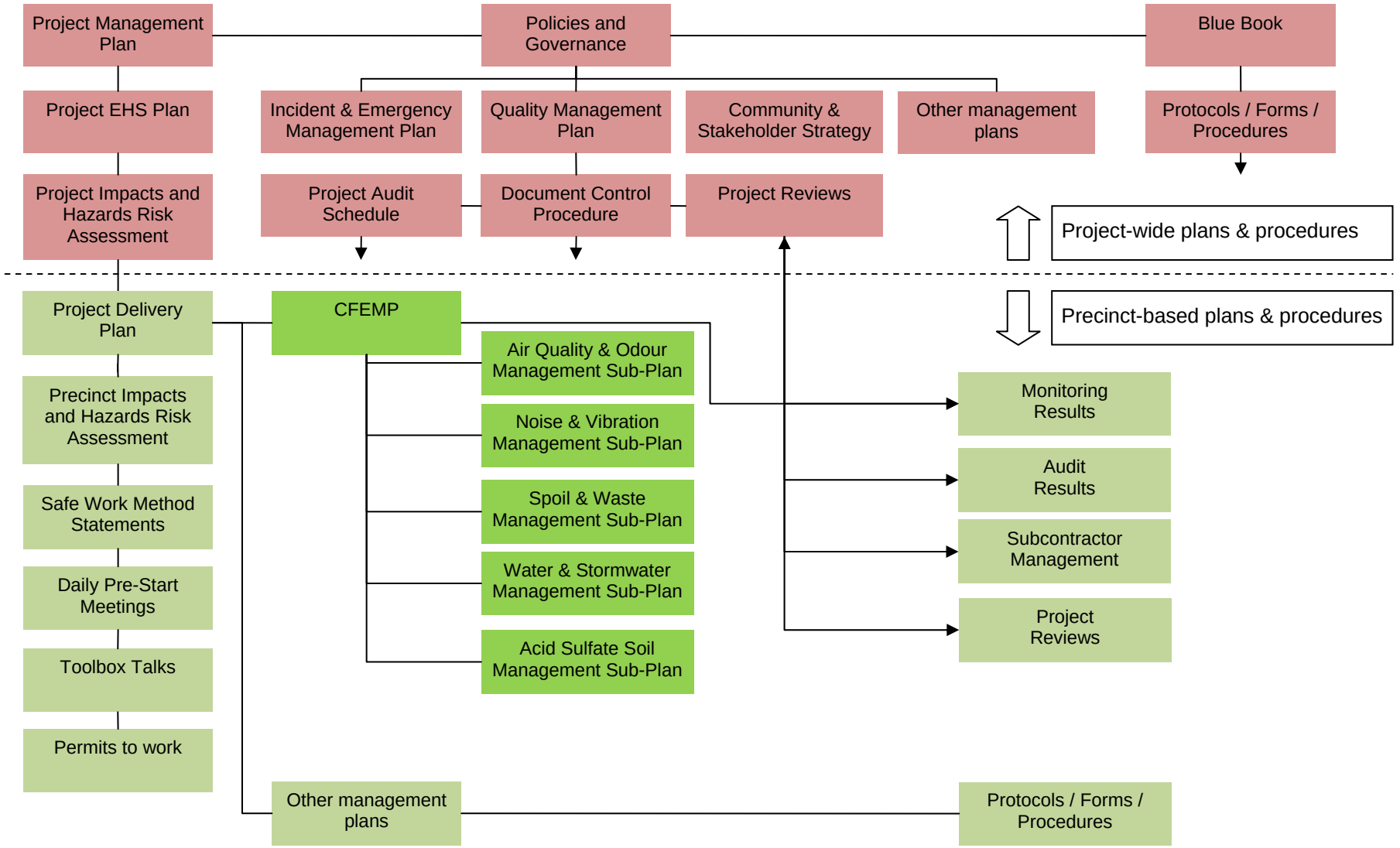


Figure 2: Outline Project Management Structure

2 PROJECT DESCRIPTION

2.1 Project Summary

Barangaroo is located on the north western edge of the Sydney Central Business District. The Barangaroo site is bounded by Sydney Harbour to the west and north, Millers Point and The Rocks to the east; and by a range of new commercial development to the south and east. The Barangaroo site has been divided into three distinct redevelopment areas:

- Barangaroo South.
- Barangaroo Central.
- Headland Park.

The Barangaroo South works are broken down into Stage 1A, Stage 1B and Stage 1C 'precincts', which are based on project approvals.

This CFEMP covers construction of building basements and the Crown Sydney Hotel Resort, collectively Stage 1C.

The CFEMP and other plans will be revised as needed to reflect the various phases of work as shown in Table 1. The Lend Lease Project Management Plan and Project EHS Plan cover all stages of the project.

Table 1: Construction stages covered by current revision

Stage	Approval	Phase	Construction Activities
Stage 1C	TBA	1	Remediation, Bulk Excavation, Earthworks and construction of a Perimeter Retention Wall System and Internal Stabilising Walls

The location of the construction works and EPA Declaration Area in relation to the remainder of the Barangaroo redevelopment area and the CBD is shown in Figure 3 below. The Crown Sydney Hotel Resort site is shaded green.

2.2 Schedule of Construction Activities

Table 2 below indicates the planned construction components, along with indicative commencement and completion dates for each component. Items in bold indicate the commencement and completion dates for each stage. Table 2 also indicates those stages of construction requiring on-going environmental management monitoring and reporting.

Table 2: Indicative Construction Schedule Summary

Stage	Work component	Planned start	Planned completion
1C-1	Site Establishment	22 September 2015	22 January 2016
1C-2	In Ground Structures	9 December 2015	20 March 2017
1C-3	Bulk Excavation (to RL: 0.00)	6 October 2016	8 May 2017
1C-4	Lateral Restraining Slabs (GF slab)	2 November 2016	20 April 2017

Figure 3: Stage 1C Remediation and Earthworks Site Location

2.3 Risk Assessment

A Project EHS Risk Assessment has been prepared as part of the Project EHS Plan. The methodology for the preparation of the risk assessment and its use in project delivery are discussed in section 5.4. The risk assessment is updated by construction staff as needed.

3 CFEMP INPUTS

3.1 Statutory Requirements

There are a number of statutory inputs to the project that are the responsibility of Crown Sydney Property P/L and LLMP to implement. These are described further below.

3.1.1 Planning Approvals

There are a range of project applications and approvals under the *Environmental Planning & Assessment Act 1979* relating to Barangaroo South. Applications have been submitted by BDA, LLMP and Crown Sydney Property P/L. A summary of project applications and approvals to date relating to Barangaroo South are outlined in Table 4 below.

Requirements from the relevant planning approvals are described further below.

Table 3: Barangaroo South Planning Approvals and Submissions

Project Application	Approval No.	Proponent	Approval Date
Concept Plan Barangaroo	06-0162	BDA	09/02/2007
• MOD 1	MP 06-0162 MOD 1	BDA	25/09/2007
• MOD 2 (Commercial Floorspace)	MP 06-0162 MOD 2	BDA	16/02/2009
• MOD 4 (Hotel, Additional GFA & Height)	MP06_0162 MOD 4	LLMP	16/12/2010
• MOD 6 (Block Boundaries & Built Form)	MP06_0162 MOD 6	LLMP	05/05/2013
• MOD 7 (Concrete Batch Plant)	MP06_0162 MOD 7	LLMP	11/04/2014
• MOD 8 (Hotel, Additional GFA & Height)	MP06_0162 MOD 8	LLMP	Submitted
Stage 1C Remediation, Bulk Excavation, Earthworks and construction of a Perimeter Retention Wall System and Internal Stabilising Walls Barangaroo South	SSD 6956	Crown Sydney	Submission
Crown Sydney Hotel Resort	TBA	Crown Sydney	Preparation

3.1.2 NSW Ministers Conditions of Approval

Minister's Conditions of Approval (MCOA) will be issued as part of the project approvals. These conditions will specify a number of measures for implementation during design, construction and operation phases. Construction certification is required from a certifying authority prior to construction commencement and subsequent stages of construction.

Appendix 2A tabulates construction stage environment-related MCOA requirements, and shows where each requirement is addressed in this plan and related documents. This includes measures from the following documents:

- TBA
- MCOA modification dated 11 April 2014 issued with an amendment under approval MP 06_0162 MOD 7 (Concrete Batch Plant) under section 75W of the EP&A Act.

3.1.3 EIS and related documents

The approved Concept Plan, EIS documents, RtS documents, and subsequent modification submissions specify a number of 'Measures' to be implemented during design and construction phases. Appendix 2B tabulates these commitments, where each is addressed in this plan and related environmental documents. This includes measures from the following documents:

- MCoA - TBA

- MP 06_0162 MOD 7 (Concrete Batch Plant) 11 April 2014

3.2 Other Commitments and Requirements

3.2.1 Remedial Action Plan

Crown Sydney Property has developed a remedial action plan for the Crown Sydney Hotel Resort site and adjacent area (AECOM, January 2015). This relates to 'Other Remediation Works North' (OWRN) area.

An independent, EPA-accredited Site Auditor has been appointed to undertake review of proposed remediation works, and prepare statutory audit statements prior to and following completion of remediation.

3.2.2 Other Remedial Action Plans

The BDA have developed remedial action plans for works at Barangaroo Central and Headland Park.

Similarly, LLMP have developed remedial action plans for works at Barangaroo South

3.2.3 NSW Government EMS Guidelines

The LLB EMS is accredited under the NSW Government's EMS Guidelines. Section 3.3 describes the project-based approach to the EMS for the project.

3.3 Environmental Management System

LLB has an ISO14001:2004 certified environmental management system, and the project will operate in compliance with this management system. LLB EMS policies and procedures are fully described in the 'Source'. The Source describes processes for LLB's integrated Environment, Health and Safety (EHS) management system.

LLB also operate under a set of Global Minimum Requirements (GMRs) in relation to EHS management, some of which relate to environmental management. These GMRs, and where they are addressed, are shown in Table 4 below. A number of 'Means and Methods' have been developed in relation to the GMR's. Where these relate to environmental management they are included within measures specified in each environmental sub-plan.

Table 4: Environmental GMRs

Plan	Physical Means & Methods									
	Stormwater, Sediment & Erosion Control	Air & Noise Emissions	Soils & Groundwater Contamination	Biodiversity & Natural Habitats	Heritage & Artefacts	Hazardous Materials	Materials Selection	Energy Consumption	Water Consumption	Waste Management
Acid Sulphate Soils Management Sub-Plan			✓							
Air Quality & Odour Management Sub-Plan		✓								
Noise & Vibration Management Sub-Plan		✓								
Spoil & Waste Management Sub-Plan			✓		✓	✓	✓	✓		✓
Water & Stormwater Management Sub-Plan	✓			✓					✓	

3.4 Legislation

A comprehensive register of environmental legislation and regulations relevant to the project is attached in Appendix 3. The register provides key requirements of relevant legislation and regulation, relevance to the project and mechanisms for compliance. The register will be reviewed and updated during each CFEMP revision by the EHS Manager (Environment).

3.5 Approvals, Permits, Licences

A number of approvals, permits and licences are required for the project. These are described in Table 5 below. Once licences and approvals shown in Table 5 are approved for the project, the *Environmental Licence, Approval and Permit Register* in Appendix 4 will be used.

The EHS Manager (Environment) is responsible for maintenance of this register, renewal and surrendering of licences and permits where relevant. Status of approvals, permits and licences, and compliance with each, will be monitored on a monthly basis and results included in monthly reports.

Table 5: Approvals, Licences, Permits

Approval/Licence/Permit	Relevant Authority	Details	Responsibility / Details
Protection of the Environment Operations Act	Environment Protection Authority (EPA)	Environmental Protection Licence	BDA is the current licence holder.
Environmental Planning & Assessment Act	NSW Department of Planning & Environment (DP&E)	Additional approvals required for any altered or additional environmental impacts if any alternate designs are incorporated during design development, or construction methods are varied.	Crown Sydney Property P/L
Water Act 1912	DPI, Office of Water	For basement dewatering.	LLB

3.6 Environmental Due Diligence

Environmental due diligence is the systematic identification of the environmental risks and liabilities associated with an organisation's sites and operations.

The principles of environmental due diligence have been applied throughout the preparation of this plan and related environmental documents. Due diligence principles are included in the development of all other environmental management procedures or changes to plans.

3.7 Standards

Relevant policies, guidelines, Australian Standards that relate to the project are specified in the 'References' section of relevant sub-plans.

4 ENVIRONMENTAL MANAGEMENT DELIVERY

4.1 Environmental Management Components

This plan is the key management tool and lead environmental management document in relation to the environmental performance during the design and construction phases. In addition to this plan, there are a number of other documents and sub-plans that provide more specific environmental management detail. Figure 4 outlines the key environmental management inputs, documents and processes.

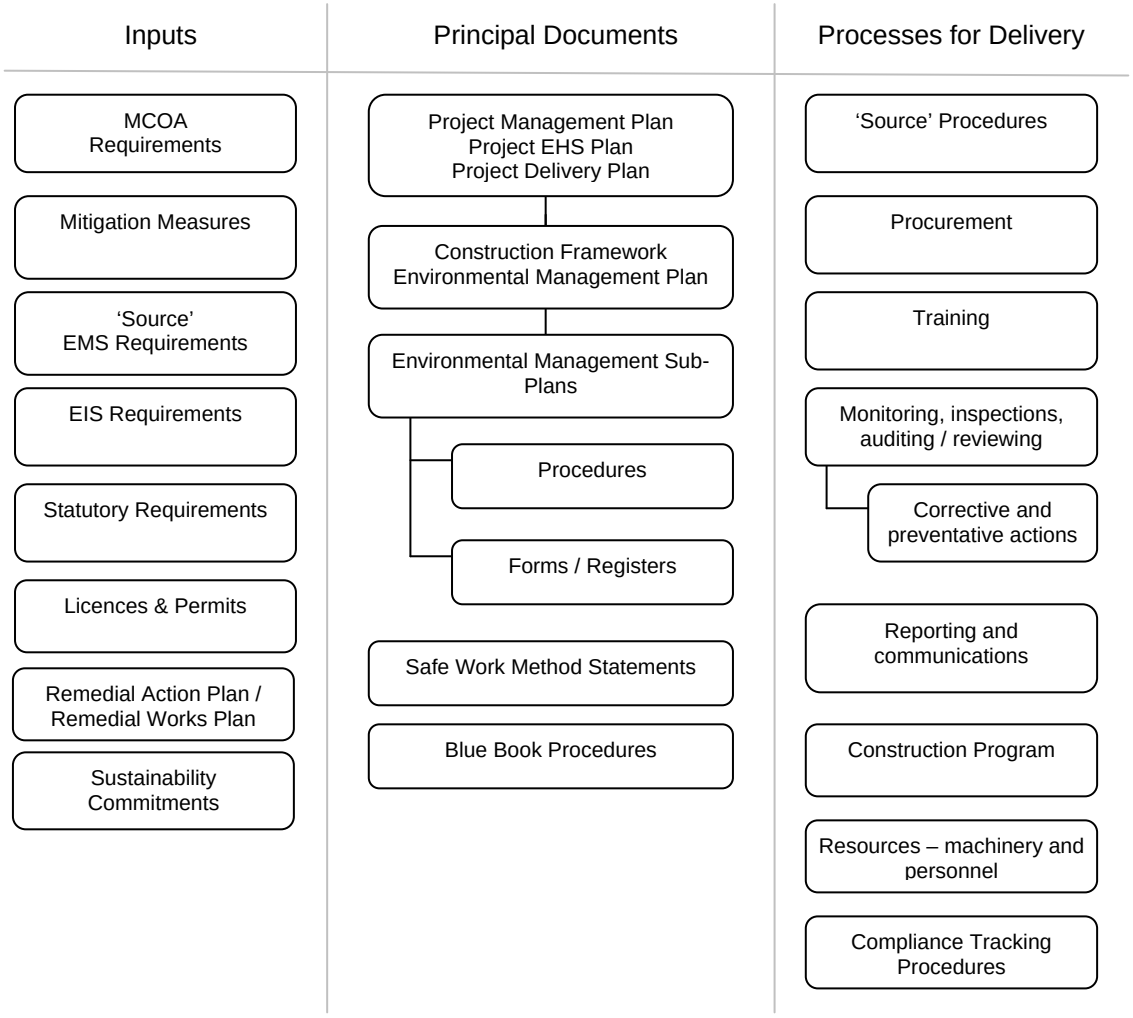


Figure 4: Environmental Management Components

Construction activities and associated impacts occur progressively and change over time as different works are carried out and different locations impacted. Due to the staged construction approach, environmental protection measures are progressively implemented. This plan identifies upfront the desired environmental outcomes and the systems and processes in place to achieve these outcomes. Sub-plans and method statements provide direction on implementation of measures to mitigate impacts. This plan therefore provides the strategic framework for managing environmental impacts associated with construction.

4.2 Consultation and Approval Requirements

4.2.1 CFEMP Consultation

This plan, and environmental sub-plans, have been designed to address authority expectations and requirements, and adequately address risks and stakeholder concerns.

The MCOAs for each project approval require consultation with specific authorities and stakeholders in the preparation of this plan and selected sub-plans. Table 6 indicates approval (A) and consultation (C) required by MCOAs for each environmental management plan. These stakeholders have been and will continue to be consulted during the finalisation/revision of this plan and related plans.

Table 6: Consultation required for the CFEMP and Environmental Sub-Plans

Plan	Primarily required by	Lend Lease	DP&E	EPA	Council
Project EHS Plan	LLB EMS	**A**			
CFEMP	TBA	**A**	**A**	C	
Acid Sulphate Soils Management Sub-Plan	TBA	**A**			
Air Quality and Odour Management Sub-Plan	TBA	**A**		C	
Noise & Vibration Management Sub-Plan	TBA	**A**		C	
Spoil & Waste Management Sub-Plan	TBA	**A**		C	
Water & Stormwater Management Sub-Plan	TBA	**A**		C	

4.2.2 CFEMP Submission

Revisions of this CFEMP will be submitted to DP&E and EPA for comment as needed. Revisions of relevant sub-plans will also be submitted to DP&E and EPA as per section 4.2.1. The CFEMP and sub-plans will be updated to account for any comments.

When revisions of the CFEMP are approved by DP&E, the approved CFEMP, and sub-plans, will be issued to the certifying authority for construction certification where required, in a staged manner. Documentation as to how stakeholder comments have been addressed following consultation will be available. Relevant construction works will not commence until LLB has:

- received approval for the CFEMP and related documents from DP&E, if it is required;
- received a relevant Construction Certificate issued by the certifying authority.

The CFEMP and relevant sub-plans will be revised:

- in response to future project approvals or modifications,
- in response to major changes in site conditions or work methods, and
- in support of planning approvals or licence variations as necessary.

A copy of any revised CFEMP will be provided to DP&E either for information or approval.

4.3 Organisational Structure

EHS management during construction is the responsibility of each and every member of the Crown Sydney project team.

Management and supervisory personnel in the Senior Management Team (SMT) lead environmental management by example, through provision of suitable resources to implement and monitor environmental measures, identify and correct any non-conforming conditions or behaviours, and actively promote environmental awareness and individual environmental responsibility.

Underneath the SMT, Work Area Teams (WATs) work on individual precincts within Barangaroo South. This breakdown of structure is shown in Figure 6.

Support will be provided to the SMT and WAT by 'Project Support' and 'Construction Support' groups. Project Support will include environmental, EHS and community management, while Construction Support will provide on-ground site assistance to the WATs.

Personnel have clearly defined objectives as well as roles and responsibilities that are specified in the LLB Source.

4.3.1 Organisational Structure

The Crown Sydney project organisation structure is outlined in the Lend Lease Project Management Plan, and is summarised in Figure 5 below.

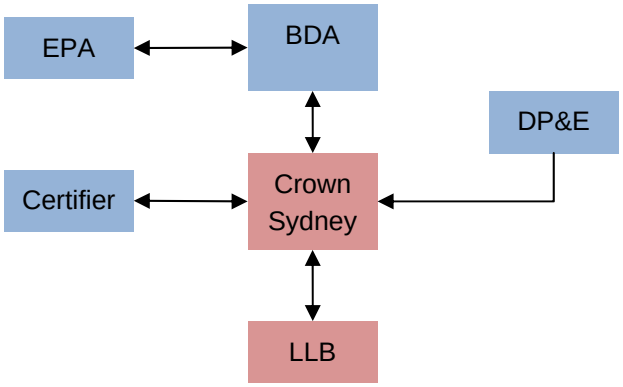


Figure 5: Crown Sydney Hotel Resort Organisational Structure

The project environmental management structure incorporates the following site personnel:

- EHS Manager (Environment) responsible for overall management of the CFEMP and environmental sub-plans;
- EHS Co-ordinator to assist in implementing and monitoring measures in the Project EHS Plan.

Additional support, if required, is available to the project.

The basic environmental management organisational structure within LLB is outlined in Figure 6. Project and Construction Managers will be based on a 'precinct' type Work Area Team (WAT) structure, under an overall Senior Management Team (SMT).

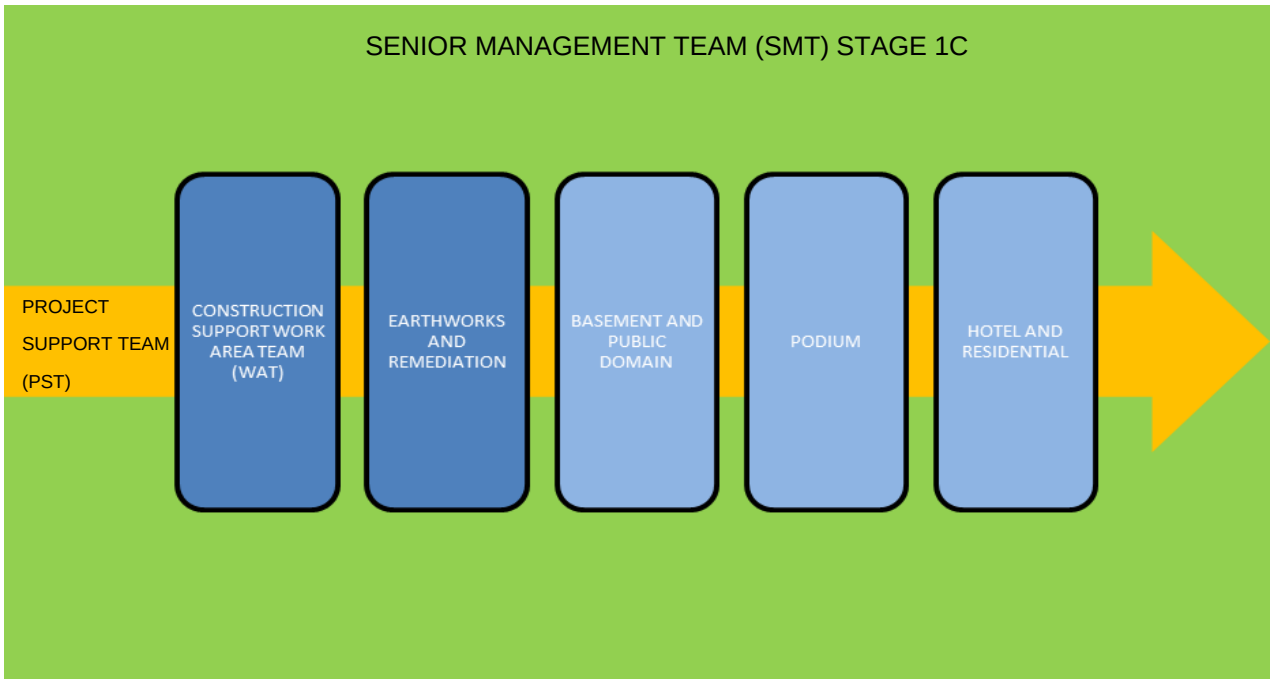


Figure 6: LLB Environmental Management Structure

Each WAT is made up of a Construction Manager, Site Manager, Project Engineers, Site Engineers, Foremen and Leading Hands.

EHS, community and environmental support is grouped within the Project Support Team. Specialist external assistance will be provided through this team as needed.

4.4 Roles and Responsibilities

The following roles and responsibilities relate to role descriptions in Source procedure 10.01.03, and section 6 of the Project EHS Plan.

4.4.1 EHS Manager (Environment)

The EHS Manager (Environment) is full-time for the duration of the project to oversee environmental management of the project and be the main point of contact for all environmental issues. Responsibilities of the EHS Manager (Environment) include:

- establishing and updating this plan, sub-plans, procedures and method statements, and ensuring that they are in accordance with environmental requirements;
- being the primary contact point for the certifying authority, BDA, EPA and other external agencies in relation to environmental performance of construction phase;
- accountability for all management plans and monitoring programs required by the MCOA in relation to construction;
- considering and advising on matters specified in licences and approvals relating to environmental performance and impacts of construction;
- having authority and independence to require reasonable steps be taken to avoid or minimise unintended or adverse environmental impacts, and direct relevant actions to stop immediately should an adverse impact be likely to occur.
- integrating any relevant environmental requirements into detailed design;
- ensuring provision of adequate resources to achieve environmental objectives;

- discussing environmental issues with key stakeholders, and assisting the Community Relations Manager to resolve environment-related complaints and inquiries;
- identifying environmental issues as they arise, and proposing solutions;
- ensuring environmental risks and issues, and obligations and commitments, are identified and effectively communicated to project staff;
- participating in the environmental induction and training program;
- undertaking at least weekly inspections of all works.
- maintaining an environmental audit program and undertaking audits in accordance with it;
- producing and submitting environmental reports.

4.4.2 EHS Co-ordinator

The EHS Co-ordinator undertakes EHS duties. Responsibilities of the EHS Co-ordinator include:

- Undertaking daily assessments to assess compliance with relevant standards and LLB GMR's / Means and Methods.
- Support Construction Managers and Foremen in driving EHS performance on the project by identifying trends and compliance issues, and implementing initiatives designed to drive performance and prevent reoccurrence.
- Provide support and guidance to the construction team in adhering to the GMRs, Means and Methods and the EMS System.
- Assist in the monthly construction site inspections, including the close out of actions and communications resulting from the inspections.
- Assist the Construction Managers and WATs in investigating all incidents, ensuring that all root causes are identified. Ensure that the summary of these are reviewed immediately with the EHS Manager responsible for the project or Regional EHS Manager as requested or required. Ensure that the timelines are followed in the Incident Management Flowchart.
- Ensure reporting on incidents meets required timeframes.
- Assist the Construction Managers in ensuring implementation of the skills competency framework and safety passport including planning the facilitation of training and assessments for the project team.
- Regularly review, with the Construction Managers / Foremen for the project, the EHS plan.
- Assist the Construction Managers during quarterly audits on the EHS system and ensure non-conformances are closed out in a timely manner with a robust and relevant close out.
- Conduct regular reviews of work activities against SWMS and assist the Foreman and Construction Managers in identifying any shortfalls or changes required.
- Assist the Foremen in ensuring the safety committee is active and responsible.
- Review all registers regularly to ensure all items are captured including plant, hazardous material, etc.
- Ensure the project follows the EHS plan, and EHS procedures identified in the Source.
- Monitor the implementation of environmental and sustainability requirements for the project.
- Assist the EHS Manager (Environment) or EHS Regional Manager with managing notifiable incidents.
- Assist the EHS Manager (Environment) or EHS Regional Manager in the identification of environmental considerations and the implementation of resulting actions.

4.4.3 Other Environmental Resources

All members of the Lend Lease project team have environmental responsibilities. In general, staff are required to:

- undertake all activities in accordance with the Source, agreed plans of management, procedures, and work methods;
- report any activity that has resulted, or has potential to result, in an environmental incident;
- ensure that they attend environmental induction and task-specific training provided.

4.4.3.1 Project Managers

Project Managers have the following environmental accountabilities:

- Ensure the correct application of LLB Safety Management System and GMRs across the project and ensure any significant risks or major non compliances are addressed.
- Apply / assist an effective consultant selection and evaluation procedure.
- Lead the Senior Safety Leadership Team in conjunction with the Construction Managers and ensure this forum adequately addresses issues raised. Raise and discuss safety and environment at forums, preconstruction, project and conversion reviews.
- Ensure the cost plan and pricing takes into account all necessary commitment and resourcing to ensure that the Global Minimum Requirements (GMRs) and Means & Methods are adhered to through successfully managing the Risk and Opportunity at Design (ROAD) process.
- Where applicable, ensure that ROAD sessions are carried out at an early stage of the design process, are detailed and design out risk where possible. Manage risk items that are unable to be designed out throughout the project on a periodic basis.
- Ensure any residual risk from the ROAD is included in the project broad risk assessment.

4.4.3.2 Construction Managers

Construction Managers have the following environmental responsibilities:

- reviewing and endorsing environmental controls contained in the EHS Plan, this plan and sub-plans;
- ensuring all Project and Site Engineers are familiar with environmental plans and associated documents, and responsibilities within them;
- implementing, reviewing and ensuring compliance with environmental plans;
- allocating resources to implement the EHS Plan, this plan, sub-plans and method statements;
- ensuring that all personnel receive appropriate induction training specified in section 5.8, including details of the environmental and community requirements;
- participating and providing guidance in management review of this plan (specified in section 6.5) and associated documents;
- ensuring that complaints are promptly investigated to ensure effective resolution.

4.4.3.3 Design Managers

Design Managers have the following environmental responsibilities:

- ensuring detailed design progressively addresses all relevant requirements;
- ensuring the works are designed to fulfil the requirements and objectives of this plan;

4.4.3.4 Project Engineers

Project Engineers are responsible to the Construction Manager for the environmental performance of the site(s) or construction activities for which they are in charge, including:

- ensuring that environmental requirements are incorporated into construction documents;
- ensuring that instructions are issued and adequate information provided to employees which relate to environmental risks on site;
- ensuring that works are carried out in accordance with this plan, sub-plans and method statements, including the implementation of all environmental controls;
- identifying resource requirements for implementation of this plan and related documents;
- ensuring that complaints relating to their sites or activities are investigated and resolved;
- maintaining all necessary records and reports;
- reporting any activity that has resulted, or has the potential to result, in an environmental incident to the Construction Manager or EHS Manager (Environment);
- communicating with all personnel and subcontractors regarding compliance with this plan and site specific environmental issues;
- undertaking site inspections and toolbox talks.

4.4.3.5 Foremen

Foremen are responsible to Project Engineers, and have the following environmental responsibilities:

- undertaking any environmental duties as defined by Project or Site Engineers;
- co-ordinating implementation and maintenance of environmental protection measures;
- attending to any spills, environmental incidents or other incidents that may occur on site;
- reporting any activity that has resulted, or has the potential to result, in an environmental incident immediately to the site superintendent;
- where necessary, ensuring environmental monitoring or inspections are undertaken and any environmental records are filled in as defined by method statements and work instructions.

4.5 Specialist and Other Environmental Resources

Specialist consultants and subcontractors are engaged for environmental support roles, such as:

- Acid sulphate soil specialist if required, for review of management and monitoring techniques;
- Archaeologists for the non-indigenous archaeological investigation program, and to provide advice if heritage items are uncovered during excavations;
- Archaeologist for indigenous sub-surface testing, liaison with the Metropolitan Local Aboriginal Land Council, and to provide advice if heritage items are uncovered during excavations;
- Air quality specialists for preparation of an air quality monitoring program, establishment and maintenance of specialist monitoring equipment, and ongoing advice throughout construction;
- Contamination specialist for validation of the site according to the requirements of the RAP;
- Specialist sub-contractors to undertake excavation and/or on-site treatment works for gasworks waste associated with the Declaration Area;
- Noise specialist for noise modelling, establishment and maintenance of monitoring equipment, and ongoing advice throughout construction;
- Water quality specialist for preparation of a water quality monitoring program, establishment and maintenance of monitoring equipment, and ongoing advice throughout construction;
- NATA-certified laboratories for water quality and dust analysis;
- Database and other software as required during the course of the project;

- Environmental monitoring hardware; and
- Other resources as required during the course of the project.

Personnel, plant and equipment are also specified in the 'resources' section of sub-plans.

4.6 Sub-contractors and Suppliers

All sub-contractors are engaged and managed in accordance with relevant procedures defined in Section 8 of the Project EHS Plan.

Sub-contractors are required to carry out their work in accordance with contract instructions and in an environmentally sound manner. All sub-contractors will have an EHS plan and risk assessment for their scope of work in place. These documents require approval from LLB prior to commencement on site.

All sub-contractor personnel are required to attend a project induction, which includes an environmental component, and task-specific training (if required) before they commence any work on any site.

4.7 Authorities and Stakeholders

4.7.1 Regulatory Authorities

Regulatory authorities that have a direct interest in environmental issues relating to the project's licences, permits and approvals are described in Table 7 below. LLB and Crown Sydney will maintain open communications with regulatory authorities identified, and meet their reasonable requirements.

Table 7: Authority Consultation

Agency
DP&E
EPA
Certifier
Roads & Maritime Services
BDA
City of Sydney Council

4.7.2 Other External Stakeholders

Stakeholders and community groups with an interest in environmental issues relating to the project are listed in the *Community and Stakeholder Engagement Strategy*.

4.7.3 Ongoing Consultation

LLB and Crown Sydney will meet with BDA, authorities and stakeholders throughout construction.

5 ENVIRONMENTAL ISSUES AND CONTROLS

5.1 Overview

As required by the MCOAs, this plan is the overarching plan for environmental management during construction. Under this plan, sub-plans will be developed where an environmental issue requires complex and detailed environmental management, or to address specific significant environmental issues associated with the project as required by approvals, the EIS, or construction issues.

A number of environmental management sub-plans and method statements support the CFEMP. Construction-related safe work method statements (SWMS) are the means by which specific requirements are addressed at an operational level.

5.2 Environmental Aspects and Impacts

Environmental activities and their corresponding aspects and impacts have been developed according to Source procedures and are in the EHS Impacts and Hazards Risk Assessment.

Refer to the Project EHS Plan for further information.

5.3 Construction Environmental Objectives and Targets

5.3.1 Objectives and Targets

Environmental objectives and targets are set out in Appendix 6, and have been developed based on:

- requirements in statutory approvals;
- legislative requirements identified in Appendix 3;
- Section 3 of the Project EHS Plan; and
- significant environmental aspects and impacts.

Project objectives and targets are consistent with the Project Environmental Policy in Appendix 1. Objectives and targets may be amended as a result of new or revised operations, activities, and/or regulations.

Sub-plans include sections describing goals and intended outcomes for each topic area.

5.3.2 Compliance Management

Compliance during construction is managed through a system of monitoring, inspection, auditing and reporting, as set out in section 14 of the Project EHS Plan, and this CFEMP. Compliance with approvals, licence and permit, and Source requirements are managed using:

- Non-conformance reports;
- Environmental site inspection reports;
- MCOA and EPL compliance tracking schedules; and
- EHS audit reports.

The EHS Manager (Environment) is responsible for managing compliance tracking schedules, which are based on registers in Appendix 2. Schedules are reviewed and updated as required for reporting.

Similarly, compliance with licences and permits is undertaken with compliance tracking schedules, to be prepared after licences and permits are issued.

5.4 Environmental Risk Assessment and Control Identification

5.4.1 Environmental Risk Assessment

EHS risk assessments of construction activities have been prepared using the EHS Impacts and Hazards Risk Assessment Guideline, and forms part of the overall SMT EHS Impacts and Hazards Risk Assessment, and precinct-based WAT EHS Impacts and Hazards Risk Assessment. The risk assessments form part of the Project EHS Plan.

The objectives of the EHS Impacts and Hazards Risk Assessment are to:

- identify activities, aspects, events or outcomes that have the potential to adversely affect the local environment;
- qualitatively evaluate and categorise each risk item;
- assess whether risk issues can be managed by environmental protection measures.

Relevant risks and measures identified during the risk assessment have been included in each of the sub-plans. The EHS Impacts and Hazards Risk Assessments identify environmental aspects, impacts and their associated risk or significance, and measures to reduce risk.

The EHS Impacts and Hazards Risk Assessments will be reviewed according to Source procedures. Risk assessment is undertaken for all major activities and new works and activities. The EHS Manager (Environment) and EHS Co-ordinator are responsible for facilitating risk assessment in consultation with construction teams and specific subcontractors.

5.4.2 Safe Work Method Statements

SWMSs are used to assess safety and environmental risks associated with a specific activity and provide measures to reduce risk and ensure ongoing environmental compliance. These statements are aimed specifically for use by foremen and construction workers.

SWMSs are reviewed by each member of the work team before they commence work. This review provides an opportunity for the work team to contribute to environmental controls and to ensure that the work team is trained in environmental methods. Changes to the SWMSs are documented and communicated to workers prior to commencing the changed methods.

5.5 Environmental Management Sub-Plans

Sub-plans take into account environmental measures identified in, or required by, the various MCOA.

The purpose of sub-plans is to guide construction in a concise manner, by specifying measures to manage environmental impact. These measures are developed from analysis of aspects and impacts in the EHS Impacts and Hazards Risk Assessment, the EIS and other statutory requirements as specified in section 3. Details of environmental monitoring are defined in sub-plans, to quantify any impact and measure compliance with environmental obligations.

Sub-plans required for the Crown Sydney Hotel Resort are listed in Figure 1 and Table 6. In addition to these sub-plans, a number of MCOA and EIS requirements are included in other plans:

- Incident & Emergency Management Plan.
- Public Pollution Incident Response Management Plan.
- Community and Stakeholder Engagement Strategy.
- Traffic Management Plan.

Sub-plans are in a tabular format to provide a concise and comprehensible document for construction personnel. Wherever possible, duplication has been minimised and details such as aspects and impacts used to develop measures have been retained in appendices to the CFEMP or separate documents.

Each sub-plan addresses management of their respective issues with the following minimum content:

- goals and intended outcomes;
- legal & environmental obligations, guidelines and licence, permit and notification requirements;
- relevant environmental control measures, procedures and systems;
- responsibilities for implementation of measures;
- resources (materials/labour) needed to implement and maintain environmental control measures for all parties involved;
- monitoring procedures and requirements; and
- complaints handling and situation management.

5.6 Procurement Processes

All procurement for the project will be conducted in accordance with relevant Source purchasing procedures. The key purchasing requirements are:

- procurement and contract documentation include environmental management requirements as applicable to the product or service. Where relevant, product or service guarantees are obtained.
- products, suppliers and sub-contractors are evaluated as to their capability to meet specified environmental requirements for the project.

5.7 Communication

While community and stakeholder issues are addressed primarily in the *Community and Stakeholder Engagement Strategy*, the following summarises the approach adopted by the project.

5.7.1 Internal Communication

Internal communication within the project team is described in Source procedures, and in Sections 11 and 12 of the Project EHS Plan.

5.7.2 Pro-active Community, Authority and Stakeholder Management

A number of community members, interest or action groups, stakeholders and the general public have been identified as key interested parties in relation to the construction phase of this project. Communication objectives and methods for consulting with these groups are described in the *Barangaroo South Community and Stakeholder Engagement Strategy*.

This strategy will serve as a central tool to guide the consultation and engagement that will be undertaken during the construction phase of the project. This strategy provides an overview of communications tools to be utilised, principles governing engagement, objectives driving the consultation and the key audiences being targeted. The strategy will remain ‘active’ throughout the life of the project, capturing the changes to programme and will be updated as required to provide an accurate overview of the consultation activities being carried out.

Key aspects of the plan relating to stakeholder management are:

- Using public displays, signs, newsletters, meetings, briefings and fact sheets at the commencement of new stages of construction;
- Meetings with authorities such as Sydney Ports Corporation, BDA, Roads and Maritime Services and EPA;

- Meetings with specialist, action and interest groups;
- Letterbox drop notifications delivered to adjacent neighbourhoods.

5.7.3 Enquiries and Complaint Response

Reactive strategies for dealing with community issues are addressed in the Complaint Management Procedure. This procedure details the process for receipt, management, addressing and actioning the various forms of communication from stakeholders of the project. A chart showing how complaints are managed is shown in Figure 7, and timing of responses to complaints is shown in Table 9.

As described in this procedure, all community enquiries will be registered in the Customer Relationship Management consultation database. Information captured in the database includes:

- Name, address, contact telephone numbers (including mobiles);
- Time & date of contact;
- Type of contact (telephone, email or mail);
- Nature of the contact;
- Nature of the issue;
- Nature of response, and comments as appropriate;
- Status of the contact (whether it has been resolved).

Enquiries, comments, compliments and complaints will be received through any one of the communication channels available, which include:

- The 24 hour 1300 Enquiry Line number and project email address that are widely advertised through communications such as the newsletter, site signage, notifications and advertising.
- The Barangaroo South website which includes a portal for community members to register their details and have a member of the project team contact them.

Any community member or stakeholder can approach workers on site (or at the gate house) who have been trained on the protocol to provide a project “Community Relations Card” which contains the details of the 1300 number and email address.

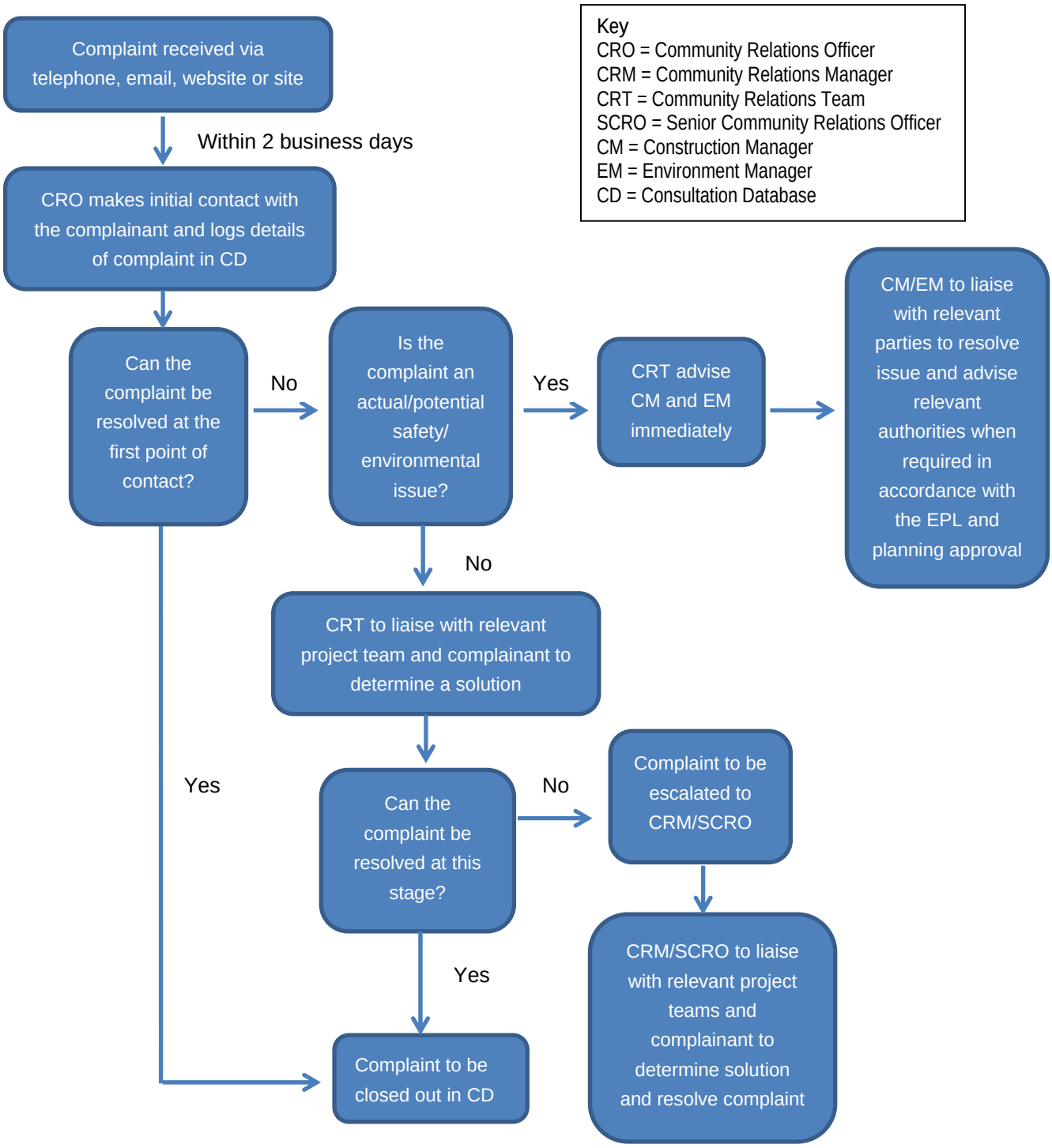
Between the hours of 8.30am and 5:00pm each day the 1300 Enquiry Line will be answered directly by Community Relations staff. Outside of these hours, a professional Contact Centre has been engaged as the initial point of contact for this Enquiry Line.

A detailed after hours response process is in place which involves a member of the Community Relations team being contacted by the Contact Centre if the matter is a construction related enquiry or complaint (as opposed to being expressions of interest from suppliers or enquiries about residential or commercial leasing). The community member will then be called back within a maximum of two hours to in order to address their issue or concern.

Mechanisms for complaint escalation are described in the Complaint Management Procedure.

Reports on all contacts and complaints can be generated through the Customer Relationship Management database on demand.

Figure 7: Complaints Management Procedure



Notes
Status of complaint to be updated in Consultation Database on an ongoing basis
Complaint to be close out within five days whenever practical (excluding compensation claims, etc.)

Table 8: Target Complaint Response Times

Communication method	Nature of enquiry and when received	Response time and nature of response
Phone calls or personal contact	Day time hours	An initial response will be provided within two business hours
	General – outside of construction hours	A professional Contact Centre is the initial point of contact and will escalate the matter to a Community Relations team member if the matter relates to a construction related complaint or enquiry.
Written communication – email, fax or letter	Any communication from a stakeholder.	Will be provided with a written response as soon as possible but within five business days unless otherwise discussed with stakeholder.

5.8 Project Induction and Training

Training will be undertaken as per Section 10 of the Project EHS Plan. An example Environmental Training Program is presented in Appendix 7.

5.8.1 Project Induction

The project induction outlines key environmental issues. As per Section 10 of the Project EHS Plan, all personnel working on the project, including sub-contractors, are required to complete the induction prior to starting work, and will be provided with identification to show they have been inducted. The environmental induction will be periodically reviewed for adequacy.

The project induction includes the following environmental aspects:

- key issues relating to the project and existing environment;
- relevant environmental requirements and relevant conditions of planning approvals and environmental licences;
- environmental policy and EMS;
- site specific issues, such as:
  - remedial action plan,
  - water treatment plant,
  - waste management and minimisation,
  - washing, refuelling and maintenance of vehicles, plant and equipment,
  - efficient use of plant, equipment and materials,
  - minimising potential environmental impacts including noise, air and water quality,
- site-specific erosion and sedimentation controls, and use of spill kits to contain spills;
- environmental emergency plans, and incident reporting procedures for environmental harm/incidents.

5.8.2 Task-Specific Training

Task-specific training is required before staff and sub-contractors can commence high risk activities. The EHS Manager (Environment) determines activities and personnel required to have specific instruction, when this training will take place, how it will be delivered and if there is a need to retrain personnel. This includes the following, if required:

- advanced training for staff monitoring and handling acid sulphate soils, by a specialist;
- training on working with contaminated soils and groundwater;
- training on noise minimisation for staff working out of hours;
- any other subjects listed in sub-plans.

The EHS Co-ordinator maintains a register of environmental training carried out including dates, names of people trained, and trainer details.

5.8.3 Toolbox Talks

Where deemed necessary, toolbox meetings and builders briefs are used to highlight specific environmental and community issues relevant to site personnel. A signoff sheet is completed by all personnel in attendance at toolbox meetings to acknowledge understanding of the information provided.

5.9 Incident Planning and Management

An incident is an uncontrolled event or violation with serious or potentially serious negative consequences to people, property, reputation or the environment. Under Section 148 of the *Protection of the Environment Operations Act 1997* (POEO Act), Lend Lease has a duty to immediately report pollution incidents causing or threatening *material harm* to the environment. Material harm is defined in Section 147 of the POEO Act as:

> 'involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or it results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding $10,000, and this loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment'.

Response to all incidents will be undertaken in accordance with the *Incident Management Chart* and *Incident & Emergency Management Plan, Public Pollution Incident Response Management Plan* and related procedures. Further information is provided in these documents, as well as in Section 13 of the Project EHS Plan.

Key personnel to contact in the event of environmental incidents are contained in the Public Pollution Incident Response Management Plan. The incident reporting procedures and contact hierarchy in the Incident Management Chart will be distributed all project personnel through a number of avenues.

6 MONITORING, INSPECTION & AUDITING ENVIRONMENTAL PERFORMANCE

6.1 Environmental Performance Monitoring

Project environmental performance is measured via regular environmental performance reviews. These are based on the measurable outcomes identified in each sub-plan. The reviews are used to assess progress in meeting environmental objectives and targets. The reviews are undertaken:

- at each key stage of the works,
- in response to new or revised project approvals,
- in response to major changes in site conditions or work methods.

6.2 Physical Environment Monitoring

The EHS Manager (Environment) is responsible for implementing the environmental monitoring program outlined in Appendix 8. The monitoring program is amended and updated to reflect the sub-plans and to any changes to monitoring.

Monitoring locations are defined in relevant sub-plans, and are agreed with EPA prior to monitoring commencing.

6.2.1 Background Environmental Monitoring

Background noise and air monitoring was undertaken by LLMP during the Barangaroo South environmental assessment phase. Background water quality monitoring was undertaken by LLB over a six week period in October and November 2010.

6.2.2 Monitoring Equipment & Testing Procedures

Turbidity Monitoring

Monitoring stations using multi-probe sensors will be used to continuously monitor turbidity at fixed locations throughout the construction period. The monitoring stations are stand-alone systems on buoys, or fixed to wharves, powered by solar panels. Turbidity monitoring locations are shown in the *Water & Stormwater Management Sub-Plan*.

A correlation will be established between turbidity and total suspended solids (TSS) at a NATA-accredited laboratory. The correlation will be reviewed as needed throughout construction.

Readings from turbidity sensors are logged. Data is downloaded from the data logger to a computer, and combined with other parameters (current, depth, tide) to present the required information in the most suitable format for monthly reporting.

Sensors will be regularly maintained to prevent bio-fouling of probes, and repaired and calibrated whenever necessary to ensure a high degree of reliability of the system throughout the construction period. In the event that the equipment is damaged, lost or must be retrieved for maintenance or repair, comparable equipment will be installed at the same location as a temporary replacement.

Turbidity monitoring is described further in the *Water & Stormwater Management Sub-Plan*.

Water Quality Monitoring

Manual collection of samples and laboratory monitoring of treated water from the water treatment plant is required for parameters and frequencies specified in the EPA licence. Water quality monitoring is described in the *Water & Stormwater Management Sub-Plan*.

Monitoring will be undertaken as per Source requirements for any stormwater discharged via stormwater drains, rather than the water treatment plant.

Environmental Noise Monitoring

Noise monitoring locations have been selected to be consistent with Environmental Assessments, and to be representative of sensitive receivers. Noise monitoring locations are shown in the *Noise & Vibration Management Sub-Plan*. This Sub-Plan will be updated to incorporate monitoring as part of the Crown Sydney works.

Background noise monitoring has been undertaken at the locations to accurately determine the Rating Background Level (RBL). Construction noise goals and limits have then been determined based on requirements in EPA's Interim Construction Noise Guidelines (DECCW, 2009).

Continuous unattended noise monitoring will occur at fixed monitoring locations using a web-based monitoring system. Noise data and noise samples will be available in real-time, and data will be downloaded as needed for reporting purposes. Attended monitoring will be used to supplement this when required.

A calibrated sound level meter will also be available for attended noise measurements at other locations, or for certain situations.

Noise monitoring, and procedures for response to audible construction noise above criteria, is described in the *Noise & Vibration Management Sub-Plan*.

Air Quality Monitoring

Air quality monitoring will be undertaken for total dust, PM10, VOCs, metallic compounds, PAHs, and odour using instruments and equipment specified in the *Air Quality Monitoring Plan*. These will be placed at monitoring locations surrounding the construction site, as shown in the *Air Quality Monitoring Plan*. PM10 dust levels will be monitored continuously. The *Air Quality & Odour Management Sub-Plan* will be updated to incorporate monitoring for the Crown Sydney works

This equipment will be operated by an air quality specialist, and overseen by the EHS Manager (Environment). Analysis of dust will be undertaken at a laboratory and reported back to the EHS Manager (Environment) for assessment, reporting and any action required.

Odour monitoring will also be undertaken in accordance with the *Air Quality Monitoring Plan.* Weather data will be collected from an on-site weather station.

Air quality monitoring is further described in the *Air Quality & Odour Management Sub-Plan*.

Acid Sulphate Soil Monitoring

Field screening of fill from locations identified as potentially containing acid sulphate soil will be undertaken using pH tests. Where field screening indicates possible acid sulphate soils, samples will be taken for laboratory testing at a NATA accredited laboratory. Depending on acid generation and buffering capacity results, spoil may classed as potential or actual acid sulphate soils. Where acid sulphate soils are found, they will be treated and managed appropriately to ensure no impact upon the local environment.

Acid sulphate soil monitoring is further described in the *Acid Sulphate Soil Management Sub-Plan*.

Contamination Monitoring

LLMP and BDA/SHFA have previously undertaken situ soil and groundwater testing in the construction area to assist in preparation of Remedial Action Plans (RAPs) and Human Health and Environmental Risk Assessments (HHERAs).

In addition to in-situ soil and groundwater testing already undertaken, contaminant testing of soils will be undertaken as part of site validation, or spoil reuse/disposal off-site. Validation sampling and testing is further described in the Crown Hotel Development RAP (January 2015).

6.2.3 Monitoring Reporting Procedure

Monitoring reports required in Appendix 8 will be prepared within one week of monitoring results being available, and are retained by the EHS Manager (Environment) for the duration of the project construction, and kept for five years after project completion. Monitoring reports indicate:

- date and time of monitoring;
- location of monitoring;
- equipment used and method of monitoring;
- results obtained;
- comparison of results with criteria in relevant sub-plan(s).

Environmental monitoring reports required for the EPL will be submitted to the BDA as the licence holder, for the BDA to submit to the EPA.

6.3 Environmental Inspections

The EHS Manager (Environment) is responsible for ensuring effective environmental inspections are carried out as specified in Appendix 8. Site inspections and weekly environmental inspections are documented in ProjectWeb.

6.4 Environmental Audits

Environmental audits will be conducted and reported in accordance with Section 11 of the Project EHS Plan and the Source.

6.4.1 Internal Audits

Internal audits are carried out by LLB internal auditors. These include project EHS management systems audits, taking place quarterly. Project EHS Plan reviews are also undertaken six-weekly.

Audits are planned based on the project phase and the associated environmental risk. Timing of audits are documented in the internal audit schedule. Results of internal audits are distributed to the relevant Project Manager, Construction Manager, EHS Co-ordinator and EHS Manager (Environment).

6.4.2 External Audits

External audits may be undertaken by 3rd party auditors such as government authorities or accreditation agencies. Audits would be likely to cover compliance with project approvals, the environment protection licence, and / or ISO 14001:2004.

The results of external audits will be distributed to the relevant Project Manager, the Construction Manager and the EHS Manager (Environment).

6.4.3 Auditor Competency

Auditors must demonstrate compliance with the qualification criteria in AS/NZS ISO 19011:2002 Guidelines for quality and/or environmental management systems auditing.

6.4.4 Sub-Contractor Audits

Sub-contractor EHS Audits will take place six weeks from commencement on site, and then six monthly. Audits can include the entire subcontract scope of works, or some elements of it. The EHS Manager (Environment) may initiate audits at a greater frequency if performance is not in keeping with project objectives. Subcontractor audits will be undertaken by the EHS Manager (Environment) or other qualified staff.

6.5 Management Review

As per the Project EHS Plan, the project will be reviewed six-weekly. Project reviews assess the status/progress of the project and the plans, controls and tools being utilised to effectively progress the project, including:

- Site walk and project overview.
- EHS & sustainability.
- Client issues.
- Stakeholder engagement.
- Design & authorities issues.
- Programme & procurement.
- Workplace management plan.
- Administration & financials.
- Post-construction / finalisation including lessons learnt.
- Review minutes.

The Construction Manager is responsible for scheduling Project Reviews and the coordination and distribution of agendas, reports and minutes.

The following people are typically required to attend project reviews:

- Operations Manager, Project Manager, Construction Manager, Commercial Manager.
- General Foreman, Senior Project Engineer, Site Engineer, Project Engineer where required.
- Key support staff including EHS Manager (Environment), Finance Manager, as required.
- Other site staff as a training opportunity.

6.6 Non-Conformance, Corrective and Preventive Action

All corrective and preventative actions are undertaken in accordance with the Project EHS Plan and the Project Management Plan. Non-conformances and their rectification are recorded and communicated via ProjectWeb, which is LLB's online document management system and collaborative communication tool.

6.7 Documentation and Record Control

6.7.1 Documentation

Revisions to this plan, sub-plans and related documents are made as required, in accordance with planning approvals and changes in the project. The EHS Manager (Environment) reviews any outstanding issues and comments provided by authorities, or that have arisen during construction, and addresses these either:

- prior to commencement of any related activities or work; or
- at the next review of the plan, as outlined in the Project Management Plan.

6.7.2 Record Control

The EHS Manager (Environment) is responsible for maintaining legible environmental records to demonstrate compliance with Source requirements and the CFEMP, including:

- monitoring and inspection reports;
- internal and external audit reports;
- reports of pollution incidents, environmental non-conformances and responses;
- reports of environmental complaints and follow-up action;

- site inspections;
- records of monitoring of subcontractors.

Records are filed electronically on ProjectWeb or the project's shared drive. Environmental records are held for at least five years after construction completion, and are accessible on request to authorised EPA officers.

7 REPORTING

Reporting will be undertaken as per Section 11 of the Project EHS Plan.

The EHS Manager (Environment) is responsible for managing the environmental reporting program and arranging specialist consultants to prepare reports, as required.

The environmental reporting program is attached in Appendix 9.

This includes LLB 'EnableOn' and 'Insight' environment databases which provide the platform for sustainability and environment reporting. 'EnableOn' is also used for certain types of incident reporting, as described in the Incident Management Chart.

Appendix 1

Policy Statement

Environment, Health & Safety Policy

Building, Australia

Lend Lease's Building business is part of the Lend Lease Corporation, a world leading integrated property and infrastructure group. Our national delivery capability and sector focused approach enables innovative and industry leading project management, design and construction services driven by detailed sector knowledge and experience.

We are committed to a vision of Incident & Injury Free workplaces wherever we have a presence. Our vision is supported by an uncompromising culture which holds the safety of people and the protection of the environment as first in all our business reviews and decisions.

To achieve our vision we are committed to:

- Measurable objectives and targets to ensure continued improvement aimed at eliminating work related incidents or impacts from our activities, products and services.
- Complying with applicable statutory obligations and other requirements of codes of practice, standards and guidelines.
- Defining roles, responsibilities and accountability to achieve clarity and predictability.
- Promoting sustainable building techniques and practices that meet the needs of the communities in which we work and at the same time recognise the legacy of our activities and our accountability for what we take, what we create and what we leave behind.

Key strategies to achieve our vision include:

- Integrating risk management principles in all core planning and delivery activities, including the prevention of pollution.
- Regular review of objectives and targets to promote improved performance outcomes.
- Strategic planning and regular review of systems, processes and policies to achieve continual improvement.
- Working with government and industry to promote leading practices and innovation.
- Reducing reliance on individual behaviours through planning and design delivery solutions.
- Ensuring incidents are investigated and the effectiveness of corrective actions reviewed to prevent recurrence.
- Facilitating timely and effective injury management and rehabilitation for injured workers.
- Implementing timely and environmental remediation strategy.
- Regular consultation with our workforce and key stakeholders to improve environment, health and safety outcomes.
- Communication of environment, health and safety information, including this policy, alerts and lessons learnt to all employees, workers and interested parties.
- The implementation of learning and development initiatives to develop skills and competencies.
- Regular review of resources to ensure the effective management of environment, health and safety.
- Recognising, rewarding and sharing excellence in environment, health and safety.

I commit all of our project management, design and construction services across Australia to this policy and the achievement of our Incident & Injury Free vision.

Murray Coleman
Managing Director - Australia

Current as at September 2013

Lend Lease

Appendix 2

Details to be Included Following Receipt of Development Approval

Appendix 3

Appendix 3 – Environmental Legislation Register

Legislation	Key Requirements	Relevance to the Project	Mechanism for Evaluating Compliance
Contaminated Land Management Act 1997	The main objective of this Act is to establish a process for investigating and remediating land areas where contamination presents a significant risk of harm to human health or some other aspect of the environment. Under this act EPA has the power to: • Declare an investigation site and order and investigation • Declare a remediation site and order remediation to take place • Agree to a voluntary proposal to investigate or remediate a site	Some soils are contaminated as a result of historical activities. Where contaminated material is found, storage, remediation and disposal procedures are to comply with the *Contaminated Land Management Act 1997*.	Measures for testing, handling and reusing/disposing of contaminated spoil are in the Remediation Action Plan. Testing is used to ensure compliance.
Contaminated Land Management Regulation 2008	This Regulation prescribes a number of matters for the purposes of the *Contaminated Land Management Act 1997*, including: • the form to be used when reporting contamination; and • the amount which the EPA may recover for its costs incurred in relation to investigation and remediation orders.	No relevance.	-
Environmentally Hazardous Chemicals Act 1985	The purpose of this Act is to control chemicals that are environmentally hazardous. EPA may make chemical control orders (CCOs) with respect to assessed chemicals or declared chemical wastes. The CCOs may regulate the manufacture, processing, conveying, buying, selling or disposal of chemical or declared waste. A CCO may prohibit activities in relation to declared chemical wastes, except under the authority of a licence issued by EPA.	Certain chemicals used or generated may be subject to handling and disposal requirements in this Act.	Measures for handling, identification, disposal of hazardous wastes are in the Spoil & Waste Management Sub-Plan.
Environmentally Hazardous Chemicals Regulation 2008	This Regulation: • sets various fees in relation to assessments of technology and prescribed activities by the EPA and in relation to licences to carry on prescribed activities; • specifies the matters to be included in applications for assessment of prescribed activities, in EPA notices about assessments of chemicals, and applications for licences and transfers of licences; • prescribes the information to be included in registers under the Act.	No relevance.	-
Environmental Planning and Assessment Act 1979 (EP&A Act)	The main objective of the EP&A Act is to ensure that proper management and development of land is undertaken incorporating the ecologically sustainable development principles. To achieve this the EP&A Act: • Ensures that development consent is obtained prior to construction; • Ensures compliance with planning consents and conditions associated with the consent; • Ensures environmental assessment is undertaken prior to development consent; • Has provision for penalties to be issued should development conditions be breached.	Lend Lease has satisfied the requirements of the Act to date and has obtained approval for the project.	Conditions to the development approval (Minister's Conditions of Approval) are tracked via CFEMP Appendix 2A.

Legislation	Key Requirements	Relevance to the Project	Mechanism for Evaluating Compliance
Environmental Planning and Assessment Regulation2000	The regulation provides included practical guidance on items such as preparation of Local Environmental Plans (LEPs), development contributions, BASIX Certificates, certification and relevant fees associated with applications.	Stages of construction require certification prior to commencement.	Conditions to the development approval (Minister's Conditions of Approval) are tracked via CFEMP Appendix 2A.
Heritage Act 1977	Items listed on the State Heritage Register are subject to the provisions of the *Heritage Act 1977*, which protects items of State heritage significance. Items 50 years or older are also considered heritage items and need to be managed as such. The Act prohibits the demolition, damage or development of or around any heritage item without approval from the Office of Environment and Heritage (OEH).	A program of non-indigenous archaeology is scheduled at the commencement of construction.	Monitoring contained within the Spoil & Waste Management Sub-Plan.
National Parks and Wildlife Act 1974	Under this Act, NPWS is responsible for the care, control and management of all national parks, historic sites, nature reserves, reserves, Aboriginal areas and state game reserves. The Act governs various activities including: • Protection of flora and fauna, and Aboriginal heritage; • Licences and approvals to modify or destroy flora, fauna or Aboriginal heritage; • Penalties for breaches of the Act.	Relates to any Aboriginal heritage or relics. No Aboriginal heritage is anticipated in the project area due to previous reclamation. A program of Aboriginal archaeology is scheduled at the commencement of construction.	Aboriginal heritage measures are in the Spoil & Waste Management Sub-Plan.
Native Vegetation Act 2003	This Act regulates the clearing of native vegetation on all land in NSW except for National Parks, State Forests and reserves and urban areas. Native vegetation is any species of vegetation that existed in NSW before European settlement. Penalties exist for breaches of the Act.	Sydney City LGA is an excluded urban area for the purposes of the Act.	N/A
Protection of the Environment Operations Act 1997 (POEO Act)	The POEO Act is the key piece of environment protection legislation, and is administered by the EPA. The objective of the Act is to protect, restore and enhance the quality of the environment in NSW with a need to maintain ecologically sustainable development. To achieve this the following are employed: • Integrated environment protection licencing; • Regulation of scheduled and non-scheduled activities; • Environmental protection offences and penalties; • Environmental protection notices; • Establishment of a general duty to notify of environmental harm; • Powers for authorised officers to investigate actual or potential pollution events. Schedule 1 of the POEO Act lists activities that are subject to environmental licencing. In addition to the main objective, the POEO Act assists in achieving the objectives of the *Waste Avoidance and Resource Recovery Act 2001*.	Construction works involve activities that are required to be licenced. Environmental protection offences and penalties, and a duty to notify of environmental harm, apply to all personnel working on the project. Definitions of air, water and noise pollution offences.	Specific requirements for compliance are in the CFEMP and sub-plans. Training on POEO Act offences and penalties, and duty to notify, are included in induction processes.

Legislation	Key Requirements	Relevance to the Project	Mechanism for Evaluating Compliance
POEO (General) Regulation 2009	The Regulation: • sets out how to calculate fees for environment protection licences, environment protection notices and noise control notices, and makes provision for adjustment or refunds of those fees; • makes provisions for load reduction agreements (load reduction agreements allow for fee rebates in return for measures taken to reduce pollution in the future); • sets out matters to be included by the EPA for the grant or refusal of a licence application; • makes it an offence to provide false or misleading information in relation to a licence application; • requires licencees to retain records used to calculate licence fees; • prescribes certain matter when placed into water to be water pollution, and the methodology for testing matter in waters; • exempts certain water pollution from the water pollution offence under the *Protection of the Environment Operations Act 1997*; • prescribes certain forms to be used with respect to warrants relating to noise abatement directions; • declares certain bodies to be the appropriate regulatory authority in relation to certain activities for the purposes of the *Protection of the Environment Operations Act 1997*;	Construction activities require an environmental protection licence.	Specific requirements for compliance are in the CFEMP and sub-plans.
POEO (Noise Control) Regulation 2008	This Regulation covers the following issues: • the sounding of sirens and similar devices and the use of sound systems on vessels, • the emission of noise from the engines or exhausts of motor vehicles and vessels, • the maintenance of noise control equipment on motor vehicles and vessels, • the issue of defective vehicle notices and defective vessel notices, • the times during which it is not permissible to use certain articles if they emit noise that can be heard in any residential premises, • the inspection and testing procedures for the purpose of determining noise emission levels of certain motor vehicles, motor vehicle accessories, vessels, articles or equipment.	Noise emissions from machinery and shipping vessels.	Measures for reducing noise are in the Noise & Vibration Management Sub-Plan.
POEO (Waste) Regulation 2014	Parts 4 to 7, and Schedule 1 of this Regulation set out the types of waste to which waste tracking requirements apply. This includes asbestos waste. Part 10 of this Regulation applies to classification of waste containing immobilised contaminants.	Certain types of waste generated may be subject to tracking and immobilisation requirements.	Measures for tracking hazardous wastes are in the Spoil & Waste Management Sub-Plan.
POEO (Clean Air) Regulation 2010	This Regulation covers the following issues: • emissions from activities and plant, • the control of volatile organic liquids, • the offences under this Regulation that may be dealt with by way of a penalty notice.	Air emissions from machinery and plant.	Changes made by this regulation have been included in the Air Quality & Odour Management Sub-Plan.

Legislation	Key Requirements	Relevance to the Project	Mechanism for Evaluating Compliance
Waste Avoidance and Resource Recovery Act 2001	This Act promotes waste avoidance and resource recovery by: • Encouraging efficient use of resources in accord with ecologically sustainable principles; • Promoting the "Avoid, reuse, recycle, dispose" hierarchy; • Ensuring industry has a responsibility for reducing and dealing with waste; • Providing penalties for breaches of this Act.	Waste is generated during construction. The principles of the Act are applied to all aspects of construction to reduce impacts from waste.	Measures for minimising, handling, recycling and disposal of wastes are in the Spoil & Waste Management Sub-Plan.
Water Act 1912	An Act consolidating water rights, water and drainage and artesian wells. Provisions include a licence requirement to sink or alter an artesian bore, not to waste water taken from dams, lakes, artesian wells and bores, and not to unlawfully interfere with sub-surface water or obstruct its flow.	Dewatering Bore Licence from NSW Office of Water required for dewatering activities.	Licence conditions included in Water & Stormwater Management Sub-Plan.
Water Management Act 2000 and *Water Management (General) Regulation 2011*	The *Water Management Act 2000* is the main piece of water legislation in NSW and governs: • Extraction of water from waterways and bores • The construction of water storage and supply structures • Development or building within the proximity of waterways • Licencing to regulate usage of water resources • Works involving the removal of obstructions from the improvement of rivers and foreshores and the prevention of erosion of lands by tidal and non-tidal waters Permits are required to excavate protected land, remove material from protected land or do anything to detrimentally affect the flow of waters.	Approvals under this Act are not required due to the original project approval under Part 3A of the EP&A Act.	N/A

Appendix 4

Appendix 4: Environmental Licence, Approval and Permit Register

Note: Details of approvals, licences and permits will be added as they are obtained. This register is maintained by the EHS Manager (Environment).

Licence/Permit/Approval	Ref. No.	Issuing Authority	Holder	Start Date	Expiry Date	Document Reference
Environmental Protection Licence	13336	EPA	BDA			
Dewatering Bore Licence		DPI (Office of Water)	LLPMC			
Construction Commencement Notice for Major Works (for permanent stormwater works)		Sydney Water	LLPMC			

Appendix 5

Appendix Not Used

Appendix 6

Appendix 6 – Project Environmental Objectives and Targets

Area	Objective	Targets	Implementation and Planning Mechanism
Compliance with Environmental Approvals	Project constructed as per planning, environmental and other approvals	• 100% compliance with statutory approvals.	Six-monthly compliance reports Review compliance audit reports and monthly reports
Legal Compliance	Comply with all legal requirements	• No regulatory infringements (PINs, prosecutions). • No formal regulatory warnings (pre-cursors to PIN or prosecution).	Review records of regulator correspondence
Best practice environmental management	Achieve best practice environmental management through effective implementation of sub-plans	• Achieve >90% in all measurable outcomes identified in environmental sub-plans.	Environmental Performance Reviews
Resource conservation and waste minimisation	Minimise resource consumption and waste generation	• Achieve targets set in the Spoil & Waste Management Sub-Plan.	Environmental Performance Reviews
Environmental complaints	Minimise and adequately address environmental complaints in a timely and pro-active manner	• Respond to all environmental complaints as per CFEMP. • Address and close out environmental complaints within the designated timeframe.	Review of 'Consultation Manager' database
Incidents and non-conformance	Minimise, pro-actively identify and appropriately manage all client environmental non-conformities	• Environmental incidents reported and logged as per the Incident Management Chart or non-conformance system. • Incidents and non-conformances requiring investigation or action are appropriately investigated, and corrective actions assigned.	Review of ProjectWeb non-conformance register
Audit and Inspection	Ensure compliance to project environmental requirements by undertaking required inspections and audits effectively and in a timely manner.	• Non-conformances identified in audits are logged into the Project non-conformance system. • Inspections undertaken weekly at all zones. • Scheduled audits are completed as per the audit/inspection schedule.	Review of audit schedule Review of non-conformance register / monthly reports
Environmental awareness, training and competence	All staff and contractors are aware, trained and competent in relation to their roles on the projects	• Project inductions and specific environmental training delivered by competent staff or trainer/s. • All staff and contractors have undertaken project induction prior to commencement of work. • Staff requiring specific environmental training have completed the required training.	Review of training records Outcome of audits and monthly report

Appendix 7

Appendix 7 – Example Environmental Training Program

Personnel / training	Construction Management	Administration Staff	Environmental Staff	Community Relations Manager	Foremen	Leading Hands	Labourers	Sub-contractors	Specialists	Design Staff	Visitors
Short Induction											✓
Project Induction	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Hazardous Materials Induction	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Erosion and Sediment Control	✓		✓		✓						
Acid Sulfate Soil	✓		✓								
Spill Kit Use	✓		✓		✓						
Emergency Response	✓		✓		✓						
Complaint Handling	✓		✓	✓							
Waste Management	✓		✓		✓						

Appendix 8

Details to be Included Following Receipt of Development Approval

Appendix 9

Details to be Included Following Receipt of Development Approval