



BUILDING R1 – STAGE 1A

SSD 6513

BARANGAROO SOUTH

**ENVIRONMENTAL, CONSTRUCTION, AND SITE
MANAGEMENT PLAN**

AUGUST 2014

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Abbreviations

LL:	Lend Lease (Millers Point)
LLB:	Lend Lease Building
BDA:	Barangaroo Delivery Authority
DP&E:	Department of Planning & Environment
ECSMP:	Environmental, Construction and Site Management Plan
EH&S:	Environment, Health and Safety
EIS:	Environmental Impact Statement
EMS:	Environmental Management System
EPA:	NSW Environment Protection Authority
GFA:	Gross Floor Area
MSDS:	Materials Safety Data Sheet
PA1:	Project Approval 1: MP10_0023 Bulk Excavation & Basement Car Park
PM:	Project Manager
RAP:	Remedial Action Plan
RWP:	Remedial Work Plan
SM:	Site Manager
SWMS:	Safe Work Method Statement
WMP:	Waste Management Plan

1 Executive Summary

This Environmental, Construction and Site Management Plan (ECSMP) has been developed by Lend Lease Building for Lend Lease Millers Point (hereafter referred to as Lend Lease) to provide a framework to address environmental issues associated with the Building R1, part of Stage 1A works at Barangaroo South, Millers Point, NSW.

As part of the works associated with Stage 1A, Lend Lease proposes construction of Building R1. The R1 site is positioned in the south-west corner of the Barangaroo Concept Plan and forms part of the residential and commercial strip along the western edge of Barangaroo South.

The R1 building would be within the Stage 1A area adjacent to Lime Street, and would be within the Stage 1A basement area. It would make use of parking facilities and services allocated in the underground basement.

The R1 building would provide approximately 600m² of retail space that would house a single world class food and beverage operator, together with external terraces.

As part of the works associated with the Building R1 project, Lend Lease would undertake the following activities within the Barangaroo South site:

- Foundation works;
- Construction of low-rise building superstructure;
- Cladding and façade works;
- Building services;
- Building finishes.

Works are proposed to be generally undertaken between the hours of 7.00am and 7.00pm Monday-Friday and between 7.00am and 5.00pm on Saturdays. Occasional night works, and works on Sundays or public holidays, would be required where dictated by authority requirements (such as road closures) or for worker or public safety.

Construction activities would be locally enclosed by hoarding or temporary fencing staged according to the works. Site vehicle access would be via temporary access points, as per the Traffic Management Plan. A materials handling team member would ensure efficient management of deliveries and removals and hence minimise disruption to traffic around the site. A tower crane and hoist, which form part of the previously approved buildings, would be used for materials handling.

Existing lunch, change and ablution facilities within Barangaroo South would be provided for the use of all site personnel.

All site personnel, including subcontractors and visitors, would be inducted under Lend Lease's Environment, Health and Safety Management System. Records of all induction, ongoing training and reporting would be maintained.

Site specific environmental management protocols would be established to ensure environmental responsibilities are implemented and documented.

A primary contact(s) to deal with environmental emergencies would be nominated and their 24 hour/day 7 days/week contact details prominently displayed on site.

Management and monitoring of noise and vibration generated from construction activity would be addressed according to the recommendations of the Wilkinson Murray, *Barangaroo South; R1 Building - Construction*

Building R1 ECSMP

Barangaroo South

and *Operational Noise Report*, and measures in the existing *Noise & Vibration Management Sub-Plan* in use at the site.

Dust suppression, as well as erosion and sediment control measures, would be installed prior to excavation works and service installations, and would be maintained for the duration of construction.

Management of construction generated solid and liquid waste would be addressed in accordance with the existing *Spoil & Waste Management Sub-Plan* in use at the site.

The *Amended Remedial Action Plan, Barangaroo - ORWS Area*, dated 7 July 2011 prepared by AECOM would be implemented for remediation of contaminated soil and groundwater as part of the PA1 Basement works.

Surface and ground water quality, including Darling Harbour water quality, would continue to be monitored with existing monitoring in place as part of PA1 Basement works. In addition, supplementary erosion and sediment controls would be implemented to manage surface runoff during construction, as per the existing *Water and Stormwater Management Sub-Plan* in use at the site.

Vehicular and pedestrian traffic management and controls would be implemented and monitored to minimise disruptions to site activities and surrounding road network. The site haulage route and foreshore promenade would continue to be managed as reported in PA1 Basement works.

The existing *Stakeholder Engagement Strategy and Action Plan* would continue to be implemented to maintain a good neighbour policy with surrounding businesses, residents and special interest groups during construction.

2 Project Understanding

This plan supports the State Significant Development Application (SSDA) 6513 submitted to the Minister for Planning and Infrastructure pursuant to Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). This plan addresses relevant Secretary's Environmental Assessment Requirements (SEARs) for the project. These SEARs are discussed in the Environmental Impact Statement (EIS) that has been prepared to support the application.

The Building R1 SSDA 6513 seeks approval for construction of all elements of the building within 'Stage 1A' of the Barangaroo South Site.

2.1 Background

The 22 hectare Barangaroo site has been divided into three distinct redevelopment areas (from north to south) – the Headland Park, Barangaroo Central and Barangaroo South. Lend Lease was successfully appointed as the preferred proponent to develop Barangaroo South on 20 December 2009.

The following planning approvals (including modifications) are currently in place for Barangaroo South:

- Concept Plan (MP06_0162 – approved 9 February 2007);
- Bulk Excavation & Basement Car Park (MP10_0023 – approved 2 November 2010);
- Commercial Building C4 (MP10_0025 – approved 3 March 2011);
- Commercial Building C5 (MP10_0227 – approved 24 April 2012);
- Commercial Building C3 (MP11_0044 – approved 24 April 2012);
- R8 R9 Residential Buildings (MP11_0002 – approved 28 June 2013);
- Temporary Concrete Batching Plant (SSD 5967 – approved 11 April 2014).

2.2 Project Description

The Building R1 SSDA 6513 site area is located within Barangaroo South as shown in Appendix A. The SSDA site extends over land generally known and identified in the approved Concept Plan as Block X.

The R1 building would be designed and constructed based on the following criteria;

- Be iconic and instantaneously recognisable stand-alone building to house a single world class food and beverage operator over three levels.
- Has spill out formal external licenced area (North West facing required).
- Use styles and materials different to that of the surrounding structures.
- Provides a gateway statement for Barangaroo South and activate public domain in Transport Place.
- Integrated design that considers and collaborates with the masterplan vision for Transport Place.
- Ground floor to accommodate basement supply vents and fire escape.
- 604sqm of GFA.

These works include typical low rise building construction activities as described in Section 3.2.

2.3 ECSMP Context

This ECSMP links the approval process and the Environment Health and Safety (EH&S) Management System to be implemented for construction. This ECSMP generally describes environmental management protocols that would be implemented through the EH&S Management System. It is a conceptual management tool that assists in informing suitable high standards of environmental protection during construction and would provide guidance for environmental controls to be implemented before and during construction.

It should be noted that the existing *Construction Framework Environment Management Plan* (CFEMP), and associated environmental sub-plans, are used to implement the requirements of planning approvals, licences and permits throughout construction. The sub-plans include the following:

- Air Quality & Odour Management Sub-Plan;
- Noise & Vibration Management Sub-Plan;
- Spoil & Waste Management Sub-Plan;
- Water & Stormwater Management Sub-Plan;
- Acid Sulfate Soil Management Sub-Plan.

The CFEMP and sub-plans are updated on a regular basis, have been reviewed by the EPA, and approved by the Secretary (previously Director General) of the Department of Planning & Environment. The CFEMP and associated sub-plans would be updated to include any additional requirements from this planning application.

2.4 Lend Lease Environment Health and Safety Management System

2.4.1 Background information

LLB's construction management would be implemented through the EH&S Management System. The EH&S Management System is based on ISO14000 and has been accredited under the NSW Government Environmental Management Systems Guidelines. It translates the LLB Environment, Health and Safety Policy into processes so that environmental responsibilities and performance can be monitored, reported and improved. Processes to ensure continual improvement in environmental performance are part of the EH&S Management System and are referred to as EH&S throughout this document.

The LLB EH&S Management System was developed to focus on a project specific EH&S Plan, covering the majority of construction activity risks to be identified and managed. Both environmental and safety issues are included in the EH&S Plan, prepared specifically for each project based on a template. Mandatory company procedures (i.e. risk assessment, reporting, auditing, and emergency / incident management etc), standard forms and minimum company standards are all included in the template. While there are common management procedures and forms used for environmental and safety assessment, a specific CFEMP and associated environmental management sub-plans are prepared for project specific conditions.

2.4.2 EH&S Standards

Company EH&S Standards and requirements apply to all personnel on the project. Project specific rules are to be developed in accordance with Company EH&S Standards. Project specific requirements would be explained in tender packages and clarified in site inductions.

The EH&S Plan would address and provides detail on measures outlined in this ECSMP. The EH&S Plan would coordinate and consolidate appropriate protection and / or mitigation measures and controls before, during and after construction. The following items would generally be considered as part of the EH&S Plan:

- community consultation;
- general hazards and risk mitigation;
- noise and vibration management;
- air quality and odour control;
- contaminated soil and water management;
- stormwater and erosion management;
- waste management; and
- hazardous goods and chemical management.

2.4.3 Roles and Responsibilities

Project Roles and Responsibilities for EH&S are detailed in the existing EH&S Plan. Key staff and service provider responsibilities for the delivery of the Environment, Health and Safety Policy are detailed in the existing EH&S Plan. More specific roles and responsibilities are outlined in **Table 4-1**.

3 Site Management

3.1 Site Establishment

3.1.1 Introduction

The site of Building R1 and a general arrangement site plan, is included in **Appendix A**.

3.1.2 Contact Details

Contact details for the senior site representative would be displayed on site.

3.1.3 Parking

No on-site parking is proposed to be made available for general tradespersons or site personnel.

3.1.4 Security and Hoarding Management

The site would be enclosed by Class A hoardings for the construction phase as follows:

Hickson Road: Class A painted hoarding along the Hickson Road Work zone extending north from the Shelley Street intersection. Vehicle gates would be located up the northern end for access to and from site, typically to coincide with existing crossovers associated with the former Port use. This area would be secured by gateman and stop/go personnel to control pedestrian and vehicle traffic.

Shelley Street: Shelley Street would be protected by a 3m high 'A Class' hoarding until its redevelopment into the Margaret Street extension.

Western Frontage (along the Promenade): Class A hoarding would be erected along the Western Frontage with an agreed allowance for a public thoroughfare through to King Street wharf. Staging of foreshore works and alignment would be subject to further discussion and agreement with the BDA.

When necessary and in line with the BDA's agreement, the foreshore promenade would be closed to the public in order to facilitate construction activities such as promenade works. A Class A hoarding and appropriate buffer zone would be provided to protect pedestrians from the works.

Northern Frontage: The Northern Frontage would be protected by a Class A hoarding of minimum 2.4m height.

To ensure controlled access is maintained on the project, a security swipe card system would be implemented for the Barangaroo South site. All construction workers and visitors would be issued with a swipe card at their induction. This would allow Lend Lease to monitor all onsite personnel at any given time.

A visitor's register would be maintained on site at all times with all visitors to sign the register before accessing site with a site inducted person.

3.1.5 Safety Information

All employees and subcontractors on site must first complete the site induction in accordance with the Lend Lease EH&S management system. In addition, all subcontractors must induct their employees into their specific safe work procedures and submit evidence of appropriate management mechanisms to Lend Lease.

Lend Lease would periodically conduct its own internal safety audits. The audit team would typically consist of the EHS Manager, Site EH&S Safety Coordinator; and Subcontractor Representative.

An EH&S information board would be erected within the Barangaroo South site, and a copy of the Lend Lease EH&S policy would prominently be displayed on the board.

3.1.6 First Aid Facilities

Lend Lease would ensure First Aid Facilities are provided in accordance with WorkCover requirements. Subcontractors are to provide First Aiders for their individual company works. A nominated first aider would be on site whenever work is being carried out. This would be either a Lend Lease or Subcontractor representative.

3.1.7 Approved plans to be on-site

In accordance with the likely conditions of consent, Lend Lease would maintain a copy of the approved and certified plans, specifications and documents incorporating conditions of approval and certification on site at all times.

3.1.8 Dilapidation Survey

A dilapidation survey would be undertaken for adjacent structures, domains and services infrastructure.

3.1.9 Site Notice

In accordance with the likely conditions of consent, Lend Lease would display, at boundaries of the site, the project's certifier and relevant emergency contact name and contact Number.

3.1.10 Neighbours

Lend Lease has developed a Stakeholder Engagement Strategy and Action Plan (**Appendix B**) as part of ongoing engagement with the local community and key stakeholders regarding Barangaroo South. The main objective of this plan is to provide a process that engages the community and key stakeholders in the delivery of Barangaroo South. The objectives are to:

- Ensure all stakeholders and affected community members are well informed about the Barangaroo South development and are given an opportunity to provide input into the project;
- Minimise impacts to affected residents and stakeholders; and
- Create opportunities for stakeholders to access transparent information on the project and provide forums for feedback and enquires.

Lend Lease has a commitment to an inclusive and pro-active community and stakeholder engagement process, which would be both responsive (to complaints) and proactive (with provision of information). The engagement would take many forms and would be agreed upon in conjunction with the Barangaroo Delivery Authority to align with their existing communications program.

3.2 Construction Methodology

All works would be carried out to satisfy the Consent Authority's requirements, ensuring safety and continuity of the works. Facilities, hoardings, notices, entrances, etc. have already been established as part of the PA1 works.

The construction scope of work includes:

- Foundations works;
- Construction of low-rise building superstructure;
- Cladding and façade works;
- Building services; and
- Building finishes.

Works are proposed to be generally undertaken between the hours of 7.00am and 7.00pm Monday-Friday and between 7.00am and 5.00pm on Saturdays. Occasional night works, and works on Sundays or public holidays, would be required where dictated by authority requirements (such as road closures) or for worker or public safety.

3.2.1 Foundation Works

Piling for footings and associated foundation works would involve the completion of four bored concrete piles three metres west of the western Stage 1A basement groundwater retention wall. This would be undertaken

over one week using one bored piling rig, similar to previous piling for the R8R9 buildings parallel with the western retention wall. The four piles will be drilled at approximately 5.0 intervals and a shallow concrete ground beam would be constructed on top of the piles.

Spoil generated from piling works would be managed in accordance with AECOM's letter *Barangaroo South - Building R1 Construction Works, Hickson Road, Millers Point* dated 14 August 2014. This addresses the requirements of the *Amended Remedial Action Plan, Barangaroo - ORWS Area* and provides measures to manage any unexpected finds.

3.2.2 Substructure Construction

The R1 substructure would be entirely within the existing basement as part of the PA1 works. Pile locations for R1 have been located to avoid existing in-ground and future metro tunnel services.

3.2.3 Superstructure Construction

Conventional low-rise formwork systems would be utilised for falsework to suspended levels. The core structure would either be shutter formed and a traditional scaffold system around the building perimeter. Suspended floors would be constructed with typical falsework / formwork systems progressively recycled up the floors as construction proceeds.

Any ancillary formwork or falsework material would be loaded out of the lower floors and recycled onto the upper floors using man and materials hoists / formwork hoists.

3.2.4 Building Services

Installation of building services would proceed in association with the progress of the superstructure. Access and materials handling will be undertaken via man and materials hoists.

3.2.5 Building Cladding and Façades

Construction of building cladding and façades would proceed in association with the progress of the superstructure.

3.2.6 Building Finishes

Installation of building finishes would proceed in association with progress of preceding programming items. Access and materials handling would be undertaken via man and materials hoists, a mobile crane and goods lift.

4 Environmental Management

4.1 Environmental Management Structure and Responsibility

The relevant ECSMP responsibilities are presented below in **Table 4.1**. Responsibilities would be implemented as part of the Project EH&S Plan.

Table 4.1 - ECSMP Responsibilities

Individual	Responsibility
All Staff including Sub-Contractors	All staff have responsibility for their own environmental performance. In particular, all staff should: • Undertake construction as per agreed management plans, procedures and work methods. • Ensure that they are aware of the contact person(s) regarding environmental matters. • Report any activity that has resulted, or has the potential to result, in an environmental incident. • Ensure they attend the environmental training provided.
Lend Lease	Lend Lease has the following responsibilities under the ECSMP: • Provide clear guidance under the EH&S Management System so that work undertaken is consistent with legal and contractual requirements. • Under risk assessment, to identify environmental risks. • Provide adequate resources for implementation and maintenance of the EH&S System. • Participate in the regular review of the EH&S System and associated documents.
EHS Manager	The EHS Manager would have responsibility for environmental management, including: • Prepare documents for operational deployment of the ECSMP, CFEMP and related documents. • Provide environmental advice on matters specified in conditions of approval, licences, permits. • Nominate appropriate pollution control measures for proposed works. • Comply with requirements of environmental documents, including contracts. • Facilitate induction and training programs for all persons involved in construction works. • Liaise with relevant government authorities such as the EPA and DP&E. • Implement and review compliance with the EHS system and environmental documents. • Maintain all necessary monitoring records and reports. • Report any activity that has resulted, or has the potential to result, in an environmental incident.
Project Managers	Project Managers are responsible for: • Informing the Site Foreman of their EHS responsibilities. • Allocate resources to meet the requirements of the EHS management system. • Investigate complaints to determine effective resolution. • Maintain all necessary monitoring records and reports. • Take action in the event of an environmental emergency and allocating required resources to minimise impact. • Report any activity that has resulted, or has the potential to result, in an environmental incident.
Site Foreman	The Site Foreman's responsibilities under the EHS management system include: • Manage works as per requirements of the EHS system, work instructions, and associated documents including the implementation of environmental controls. • Undertake environmental duties as defined by the Project Manager. • Attend to spills or environmental incidents that may occur on site. • Report activity that has resulted, or has the potential to result, in an environmental incident immediately to the Project Manager or Environment Manager. • Issue instructions and related information to employees that relate to environmental risks on site. • Where necessary, coordinate environmental inspections and maintain environmental records as defined by the EHS management system and work instructions.
Sub-Contract Personnel	All sub-contract personnel must carry out the work in accordance with contract instructions and would conduct their activities in an environmentally sound manner. All sub-contract personnel would undergo environmental induction before they commence any work on the construction site.

4.2 Reporting

Reporting for environmental issues would generally be undertaken for:

- pre-construction compliance;
- construction monitoring;
- non-compliance and corrective action;
- complaint management;
- auditing.

4.3 Environmental Training

4.3.1 Site Induction Training

Site induction would be undertaken in accordance with the EH&S Management System. Prior to commencing work on the project, all staff and subcontractors shall receive induction training that includes the following environmental information as a minimum:

- Overall EH&S Management System structure;
- Developer's and Contractor's Environment Health and Safety Policy;
- Roles and responsibilities and site management contact details;
- Relevant legislation as may be deemed appropriate;
- Key environmental issues and controls (covering environmental issues related to air quality, water quality, erosion and sedimentation, noise, traffic and access as necessary);
- Hazards, Risks and Emergency Response Plans, and
- Incident Reporting.

Those elements of the EH&S Management System that directly relate to the work to be carried out by the person or persons being inducted, shall be covered as part of the induction.

4.3.2 Specialist Environmental Training

In addition to the induction program, specialised training shall be provided to personnel, when deemed necessary, to present them with the knowledge, skills and awareness to minimise impact of site activities on the environment.

4.3.3 Training Records

Induction and training records would be maintained and include information on trainees, trainer, date, and training content.

4.4 Emergency Contacts and Response

An environmental incident is an unplanned event, such as an oil or chemical spill that occurs on site and could cause significant adverse environmental impacts. The EH&S Management System would nominate specific persons to be the primary contact for environmental emergencies. The nominated persons would be available 24-hours/day, 7-days/week.

4.4.1 Emergency Contacts

Emergency contacts are to be clearly displayed within the Site Office and to be accessible by the project team, e.g. Project Noticeboard. The accident and corresponding contact would be clear and concise as shown below in **Table 4.2**

Table 4.2 – Example Emergency Contacts

Accidents and Emergencies	Contact Telephone Number
Fire Brigade	000
Police	000
Ambulance	000
EPA Pollution Line	131 555
Dangerous Good Licencing Hotline	131 050
Work Cover	(02) 9827-8600

4.4.2 Site Information for Hazardous Materials

Specific guidance for storage and handling of hazardous materials on site would be implemented as part of the Project EH&S Plan.

5 Construction Environmental Management

5.1 Noise

Management of noise generated by construction of the building would be addressed in accordance with the recommendations of the *Barangaroo South; R1 Building - Construction and Operational Noise Report* prepared by Wilkinson Murray. This assessment would be used to manage construction impacts.

The processes adopted in the assessment are intended to minimise noise emissions, to meet the objectives of EPA's Interim Construction Noise Guideline, minimising and ameliorating impacts caused by these activities to the extent that it is feasible and reasonable.

A survey of potentially affected sensitive commercial and residential receivers has been conducted and the following locations have been identified:

- King Street Wharf – Commercial premises including offices and outdoor restaurants;
- Napoleon Street – Commercial premises including Aon Australia and Symantec;
- Hickson Road – Residential receivers.

In all commercial premises considered as part of the survey, such as office buildings with closed windows and air conditioning, the predicted worst case noise levels would not exceed the Noise Management Levels and therefore do not adversely affect the receivers.

However, in the case of commercial premises with external activities / occupancies having operable windows or external spaces and residential receivers; the predictions indicate, in worst case situations, some of the construction activities may exceed the noise goals.

Typical exceedences over the general construction phase of works would primarily be caused by the cumulative effect of general construction activities on site. The assessment notes that the exceedences predicted are relatively small and would occur for only limited periods.

Management Controls and Mitigation Measures

The noise goals for the proposed construction activities are in the assessment. Should noise emission exceed these control limits, the assessment applies a dynamic decision tree management approach to addressing exceedence of noise objectives or limits.

The assessment also provides specific abatement guidance for the cumulative construction noise condition, which is the most likely process to exceed control limits.

Noise would be managed as per the existing *Noise & Vibration Management Sub-Plan*.

Monitoring

Noise monitoring would be conducted:

- Intermittently, as an ongoing indicator of noise emissions from the site;
- In response to complaints; and
- Where specific monitoring is needed.

Attended or unattended monitoring may be used as appropriate.

5.2 Vibration

The scope of work for the construction of Building R1 includes works above foundation structures. Activities associated with the excavation of the basement car park have been addressed in previous ECSMPs for Barangaroo South.

The *Barangaroo South; R1 Building - Construction and Operational Noise Report* prepared by Wilkinson Murray indicated that vibration impacts from construction activities are not predicted.

Management Controls and Mitigation Measures

Vibration would be managed as per the existing *Noise & Vibration Management Sub-Plan*.

Monitoring

Vibration monitoring would be conducted:

- Intermittently, as needed, to provide an ongoing indication of vibration emissions from the site;
- In response to complaints; and
- Where specific monitoring is needed, for example, vibration is produced near sensitive structures to confirm safe working distances.

5.3 Air Quality and Odour

Dust and odour from construction is not expected to be significant, as per the Letter of Opinion - *Barangaroo South Building R1 - Air Quality* from AECOM (August 2014).

Management Controls and Mitigation Measures

The minimisation of air-borne pollution is a key component for environment management of the site. Construction phase air quality impacts shall be minimised or avoided by incorporation of appropriate air quality control measures as directed by the Letter of Opinion.

The installation and application of air quality controls during the construction phase would be in accordance with the existing *Air & Odour Management Sub-Plan*, and specifically the following principles:

- All equipment used and all facilities erected on site are to be designed and operated to control the excessive emission of smoke, dust, fumes and any other air impurity into the atmosphere;
- Spray earthworks, roads and other surfaces as necessary with water to reduce dust generation;
- A water cart would be employed, as required, to dampen work areas and exposed soils to prevent the emission of excessive dust from the site;
- Trucks transporting material from the site shall be covered after loading to prevent windblown dust emissions and spillages;
- All access roads shall be surfaced in appropriately selected materials;
- Subcontractors would maintain all construction equipment to reduce exhaust emissions.

Monitoring

The Site Manager would visually monitor levels of dust deposition and air quality, the effectiveness of dust emission controls and the construction site and the impacts of any nuisance on adjoining properties.

5.4 Stormwater and Erosion

The majority of erosion and sediment controls have been implemented as part of the PA1, Basement works. Supplementary erosion and sediment controls will be implemented, as required, to facilitate collection and treatment of surface run-off to temporary sediment basins during construction. Stormwater from the site may alternately be collected and treated in an on-site water treatment plant, prior to discharge to Darling Harbour under Environmental Protection Licence 13336.

Refuelling using mini-tankers would be undertaken on site for construction equipment, such as excavators, mobile cranes and other plant / equipment operating on site.

Management Controls and Mitigation Measures

Prior to building works commencing on site, all erosion and sediment control measures would be implemented. These measures shall generally include supplementary erosion and sediment controls implemented as part of Barangaroo South, as deemed necessary:

- Installation of additional sediment fencing;
- Installation of silt arrestors to collect site runoff and retain suspended particles; and
- Placement of sediment controls around and along proposed catch drains.

Stormwater would be managed as per the existing *Water and Stormwater Management Sub-Plan*. The Sub-Plan also includes monitoring of ambient water quality in Darling Harbour.

5.5 Waste Management

Construction of Building R1 would result in minimal waste generation. It is estimated that the works would generate around 100m³ of general construction waste.

The goal for construction waste management is primarily the reduction of waste generated. Waste reduction would occur through materials procurement, handling, storage and use. Waste generated during construction would be reused onsite, or recycled or disposed at a suitably licenced facility.

Waste collection would be appropriately managed through the staged nature of construction and the use of known quantities of materials. The majority of recyclable material that could be recovered during construction is likely to be off cuts and discards of concrete reinforcement (steel), paving off cuts, drainage pipes, cabling, plastics, paint and timber. Waste would be managed as per the existing *Spoil & Waste Management Sub-Plan*.

No hazardous materials or dangerous goods would be stored on site.

5.6 Traffic Management

As part of construction activities, traffic management and controls would be implemented both within and surrounding the development site.

The following minimum goals have been identified in relation to site and surrounding traffic management:

- Provide a safe environment during construction for those associated with construction activities;
- Provide a safe environment for motorists, cyclists and pedestrians utilising the existing road network;
- Limit delay times within the surrounding road network.

Traffic management and control measures would be implemented within the site to clearly identify road location(s). The placement of jersey kerbs and fencing would provide a safe environment for construction personnel, vehicles and pedestrians. Associated signage would supplement physical structures within the site.

Adequate directional and warning signage shall be installed surrounding the development site to clearly inform motorists, cyclist and pedestrians of the approaching changes within Hickson Road, Sussex Street and Shelley Street. Signage shall also inform delivery drivers of the proposed entry and exit gate locations.

All proposed traffic management and controls shall be documented in the detailed design stage by accredited Roads and Maritime Services (RMS) traffic control designers and where required, the approval obtained by the necessary statutory approval organisations. Road occupancy certificates shall be obtained prior to any works commencing where appropriate.

5.7 Management of Existing Services

Existing services within the development area consist of electrical, communications, gas and stormwater drainage conduits. Associated drainage, sewer and communication services shall be diverted from within the construction area with temporary connections made, as required.

5.8 Consultation Strategy and Management

A comprehensive action plan to engage with stakeholders in relation to the construction works programme would be developed to establish appropriate processes for engaging stakeholders and managing complaints and enquiries. Management of stakeholders would be undertaken in accordance with the Lend Lease Stakeholder Engagement Statement of Commitment (**Appendix B**) in order to maintain a good neighbour policy with the existing adjoining properties and other local facilities, residents and special interest groups by reducing disturbances and confining any potential loss of amenity.

The potential for negative environmental and amenity impacts during construction, although over a relatively short duration, needs to be managed through environmental monitoring during construction, ongoing community engagement of environmental performance and provision of project information such as operating hours and traffic circulation routes.

Due to the nature of the proposed construction works and the proximity of the site to the local community, appropriate mitigation measures and safeguards are required to avoid the potential for impacts such as:

- Noise generated during construction activities, which affects adjoining properties;
- Dust generated from construction activity, which affects adjoining properties; and
- Vehicles leaving the construction site depositing dirt/mud on public roads.

Existing properties directly affected by the construction program would be advised of works and provided with contact details, which would be supported by a community relations team that would provide:

- A contacts database for registering, managing and reporting complaints & enquiries;
- A 1300 number for enquiries & complaints;
- A website with a dedicated email address and feedback forms; and
- Specific information in the form of letters, fact sheets and newsletters for the local community.

The intent is for all works to be conducted within approved working hours; however, if works are expected to extend beyond these hours, appropriate stakeholders would be notified prior to these activities.

5.9 Environmental Management Plans

The CFEMP and the following associated sub-plans would be implemented during the works:

- Air Quality & Odour Management Sub-Plan;
- Noise & Vibration Management Sub-Plan;
- Spoil & Waste Management Sub-Plan;
- Water & Stormwater Management Sub-Plan;
- Acid Sulfate Soil Management Sub-Plan.

6 Auditing, Monitoring and Review

6.1 Environmental Monitoring

Monitoring of environmental activities would be undertaken according to the procedures outlined in the EH&S Management System.

The environmental monitoring protocols would be incorporated into the EH&S Management System for the project.

Monitoring records shall be collated, distributed, and stored as part of the EH&S Management System.

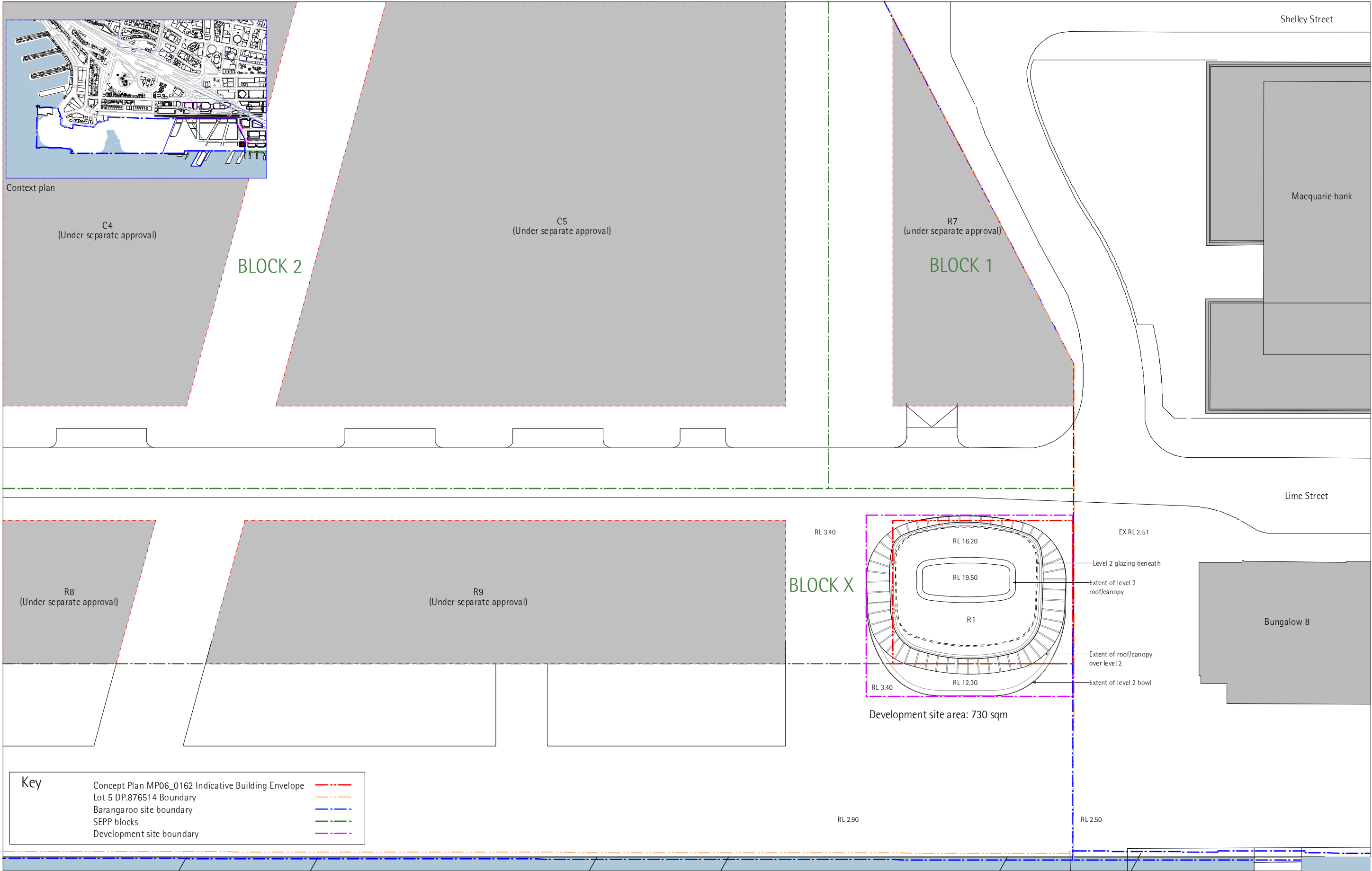
6.2 Environmental Auditing

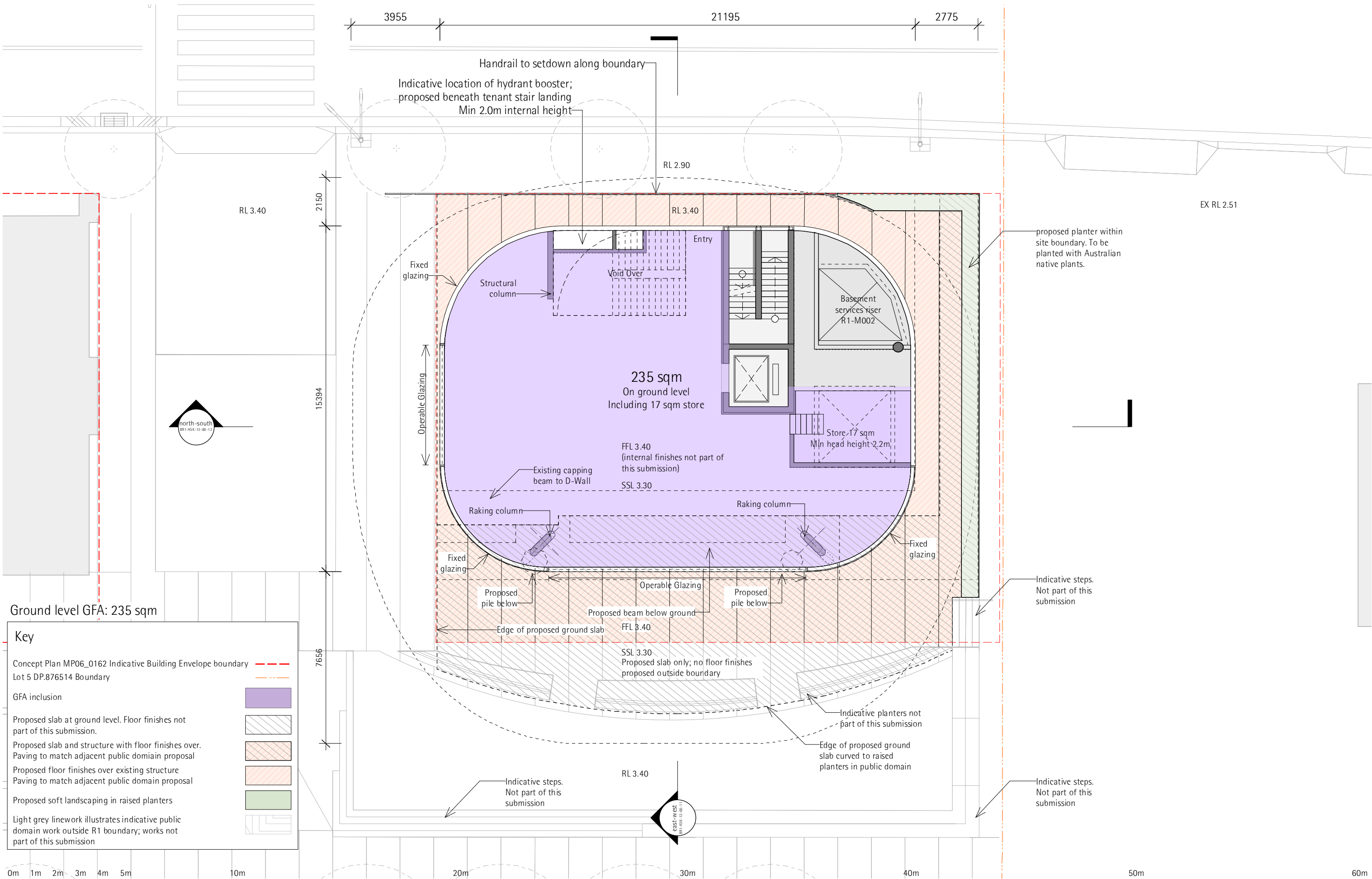
Auditing would be undertaken to review the effectiveness and implementation of the Lend Lease EH&S Management System at regular intervals.

Audit methodology would be a review of written procedures and implementation activities on site to assess the effectiveness of the management system and control activities.

Audit results would be reviewed and corrective action taken, as necessary. Where corrective action or updates are required, subsequent auditing would be undertaken to confirm the appropriateness of the corrections or updates.

Appendix A: DRAWINGS





Ground level GFA: 235 sqm

Key

Concept Plan MP06_0162 Indicative Building Envelope boundary

Lot 5 DP.876514 Boundary

GFA inclusion

Proposed slab at ground level. Floor finishes not part of this submission.

Proposed slab and structure with floor finishes over. Paving to match adjacent public domain proposal

Proposed floor finishes over existing structure Paving to match adjacent public domain proposal

Proposed soft landscaping in raised planters

Light grey linework illustrates indicative public domain work outside R1 boundary; works not part of this submission

Appendix B:

STAKEHOLDER

ENGAGEMENT

STRATEGY

STAKEHOLDER ENGAGEMENT - STATEMENT OF COMMITMENT

Lend Lease recognises the importance of positive relationships with our stakeholders and seeks to proactively engage with them in the communities in which we operate.

This statement of commitment covers project level stakeholder engagement, meaning our interactions with individuals and/or groups that have an interest in or are affected by our projects.

Objective

Our objective is to:

- Ensure that our business has a positive impact on communities and other stakeholders

Approach

Our approach is to:

- Be proactive in our engagement in order to understand the needs of our stakeholders and be in a position to respond to these needs and meet them wherever possible
- Provide accurate, up to date and accessible information to our stakeholders as early as possible and at regular intervals throughout the project
- Be open, honest, fair and realistic in all dealings with our stakeholders
- To treat the communities in which we work with respect
- Recognise diversity and seek to inform all stakeholders in the decisions affecting them in a way so that they can understand the nature of our operations and ensure that they have an opportunity to be engaged

Delivering Stakeholder Engagement

Our commitment is that we will:

- Assess the requirement for a stakeholder Engagement Strategy on all projects
- As required, prepare a Stakeholder Engagement Strategy and Action Plan outlining who our stakeholders are and how we will engage with them on projects
- Strive to add value (where appropriate) to the communities in which we operate by developing initiatives that positively contribute to the community and surrounding environment; in consultation with all relevant stakeholders
- Treat our stakeholders, in particular our neighbours with respect and take reasonable steps to minimise impacts where possible

- Be aware of, and acknowledge, any engagement undertaken prior to our involvement in the project; and work with our client to seek solutions that balance the needs of all stakeholders
- Provide training for all employees involved in stakeholder engagement processes and include relevant information in subcontractor inductions
- Ensure that all public concerns and complaints are documented, acted upon promptly and resolved, where possible, with outcomes communicated back to the relevant affected groups
- Ensure that all subcontractors and consultants are aware of and adhere to our Statement of Commitment

Monitoring and Reviewing

In order to evaluate and review the success of Stakeholder Engagement, each project will have as part of the regular Project Reviews process:

- An assessment of how stakeholders have been engaged in accordance with the project's stakeholder engagement plan and how stakeholder's feedback has been integrated into the project's development
- A review of comments expressed by stakeholders (via customer feedback and complaints process) and how they have been genuinely acted upon/responded to within agreed periods

Consultation Strategy – Barangaroo South				
Key Stakeholders	Relationships/rationale	Aim of Engagement	Strategy	Timeline
Local Residents e.g.: - Kent St. Residents Group - Millers Point Resident Action Group - Walsh Bay Precinct Committee - Pyrmont - Hickson Road - Millers Point Estates Action Board – Housing NSW	- Neighbours and surrounding community living in local area. - Local businesses in surrounding area	• Inform community of proposed design and gain feedback • Develop positive relationships • Provide regular updates on proposal	• Participated in large scale Community Forums organised by the Barangaroo Delivery Authority • Smaller community forums run by Lend Lease for local and surrounding residents that may have been impacted by or have an interest in the development. Providing updates on proposed plans and progress of planning submissions • Provide fact sheets with details of the proposed plans • Provide feedback forms to gain feedback and understand the concerns of the community • Leverage existing and develop relationships with the local resident and business groups attending existing meetings or forums to provide updates on proposed plans and progress on planning submissions. • Provide notifications to local residents and groups when planning submissions are taking place	• During planning phase • Ongoing Project/Precinct stages
Local Businesses e.g. - Hickson Road - Walsh Bay - Kent Street - Kent street Wharf				

			• Provision of email address for enquiries • Developing a contact management system (incl.) - Contacts database for registering, managing and reporting complaints & enquiries - Provision of a 1300 number for enquiries and complaints - Provision of a Barangaroo South community relations team to manage complaints/enquiries, feedback and engage with the community	
Councils & Chamber of Commerce e.g. - City Of Sydney - Sydney Cove Rotary - Rocks Chamber of Commerce	Local Councils and Chambers of Commerce	• Develop positive relationships • Provide regular updates on the proposal and the proposed timeline of commencing	• Regular briefing meetings with key representatives • Provide presentations to all key staff on proposed development • Notification prior to planning submissions taking place	• During planning phase • Ongoing Project/Precinct stages
Agencies/Utilities e.g. - Sydney Ports - Sydney Water - NSW Maritime - Sydney Ferries	Key agencies with an interest in the project	• Ensure agencies are kept updated on the progress of the proposal and pending works • Develop positive relationships • Promote positive messages about the project	• Provide updates on key works and upcoming construction activities via: - 1-1 meeting where required - Website - Letters - Newsletters • Participation in Technical Working Groups	• During planning phase • Ongoing Project/Precinct stages
Government Departments e.g. - Department of Environment, Climate Change and Water (DEEC-W) - Housing NSW - RTA	Government departments with an interest or role in the project	• Provide regular updates on the proposal and the proposed timeline of commencing • Joint initiatives and projects	• Provide updates on proposal and upcoming construction activities that may interface with these agencies • Offer regular meetings to ensure agencies are briefed on the project • Ensure these stakeholders are kept up to date with status of pending works • Advise of potential impacts and mitigation measures being implemented • Notification prior to works commencing & links to complaints management system	• During planning phase • Ongoing Project/Precinct stages
Local Educational Institutions e.g. - Fort Street Public School - Observatory Hill Environmental & Education Centre	Local Schools and educational institutions	• Use this landmark project as an educational opportunity • Encourage schools and universities to become involved in the project • Ensure the positive project	• Provide updates on proposal and upcoming construction activities via: - 1-1 meeting where required - Website - Letters - Newsletters • Engage with local school to organise opportunities to involve children in activities i.e. photography, art and student	• During planning phase • Ongoing Project/Precinct stages

		messages get out to the educational community	based traineeships. Organise site tours to be provided as part of educational development.	
General Public	People commuting/working in the area, pedestrians who use Hickson Road, general road users and cyclists.	• Provision of information & upcoming traffic changes & transport links • Minimise disruption and complaints • Maintain safety on and around the site • Promote positive messages about the project	• Provide up to date information on works, access and transport impacts via: - Site signage - Factsheets • Establish information channels for stakeholders including: - 1300 information line - Website - Email address - Community Relations Tea, to manage enquiries and feedback	• During planning phase • Ongoing Project/Precinct stages
Local Cultural Groups & Facilities e.g.	Cultural groups & organisations within the local community	• Provision of information on upcoming traffic changes and any modifications to key transport links • Develop positive relationships	• Provide updates on proposal and upcoming construction activities via: - 1-1 meeting where required - Invitation to Community Forums - Letters - Factsheets	• During planning phase • Ongoing Project/Precinct stages
Interest & Action Groups e.g.	Local interest and action groups with an interest or stake in the project	• Be open and transparent with project information • Minimise disruption and complaints by being responsive to concerns	• Provide updates on proposal via: - 1-1 meeting or community forum where required - Letters - Factsheets • Address concerns and feedback in a timely and comprehensive manner	• During planning phase • Ongoing Project/Precinct stages
Media	Key public opinion influencers regarding this project	• Be open and transparent with project information as appropriate • Facilitate a positive working relationship with media	• Provide updates on proposal and upcoming construction activities • Respond to media enquiries where appropriate • Ensure project spokesperson is available for comment when required	• During planning phase • Ongoing Project/Precinct stages