CONSTRUCTION MANAGEMENT PLAN FOR SSDA6

SYDNEY INTERNATIONAL CONVENTION, EXHIBITION AND ENTERTAINMENT PRECINCT – ICC HOTEL

CONTENTS

1.0 INTRODUCTION

This report supports a State Significant Development Application (SSDA) submitted to the Minister for Planning and Infrastructure pursuant to Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

The Application (referred to as SSDA6) seeks approval for construction of the International Convention Centre (ICC) Hotel component of the Sydney International Convention, Exhibition and Entertainment Precinct (SICEEP) at Darling Harbour.

This SSDA follows SSDA1, which seeks approval for the core convention, exhibition and entertainment facilities of the SICEEP Project; SSDA2, a staged application that sets out a Concept Proposal for a new mixed use neighbourhood at Darling Harbour known as 'The Haymarket'; and a number of detailed proposals (SSDA3, SSDA4, and SSDA5) for use of development plots within The Haymarket. SSDAs 1 and 2 were submitted to the Department of Planning and Infrastructure (DoPI) in March 2013, and the SSDAs 3-5 were submitted in May 2013.

The ICC Hotel forms part of the SICEEP Project, which will deliver Australia's global city with new world class convention, exhibition and entertainment facilities and support the NSW Government's goal to "make NSW number one again".

2.0 OVERVIEW OF PROPOSED DEVELOPMENT

The proposal relates to a SSDA for the ICC Hotel component of the SICEEP Project. The hotel is located at the northern end of the precinct and comprises a single building with up to 656 keys. The hotel is being developed by Lend Lease and is consistent with Darling Harbour Live's Preferred Precinct Plan.

More specifically, this SSDA seeks approval for the following components of the development:

- Demolition of existing site improvements;
- Associated tree removal and replanting;
- Construction and use of a single hotel tower providing for up to 656 keys and including guest facilities, restaurant and ballroom;
- Public domain improvements including integration with existing / proposed works; and
- Extension, realignment and augmentation of physical infrastructure / utilities as required.

3.0 BACKGROUND

The NSW Government considers that a precinct-wide renewal and expansion of the existing convention, exhibition and entertainment centre facilities at Darling Harbour is required, and is committed to Sydney reclaiming its position on centre stage for hosting world-class events with the creation of the Sydney International Convention, Exhibition and Entertainment Precinct.

Following an extensive and rigorous Expressions of Interest and Request for Proposals process, a consortium comprising AEG Ogden, Lend Lease, Capella Capital and Spotless was announced by the NSW Government in December 2012 as the preferred proponent to transform Darling Harbour and create SICEEP.

Key features of the Preferred Precinct Plan include:

- Delivering world-class convention, exhibition and entertainment facilities, including:
  - Up to 40,000m^2 exhibition space;
  - Over 8,000m^2 of meeting rooms space, across 40 rooms;
  - Overall convention space capacity for more than 12,000 people;
  - A ballroom capable of accommodating 2,000 people; and
  - A premium, red-carpet entertainment facility with a capacity of 8,000 persons.
  -
- Providing a hotel complex at the northern end of the precinct, immediately adjacent to the new International Convention Centre.
- A vibrant and authentic new neighbourhood at the southern end of the precinct, called 'The Haymarket', including apartments, student accommodation, community facilities, shops, cafes and restaurants.
- Renewed and upgraded public domain that has been increased by a hectare, including an outdoor event space for up to 27,000 people at an expanded Tumbalong Park.
- Improved pedestrian connections linking to the proposed Goods Line (formerly Ultimo Pedestrian Network) drawing people between Central, Chinatown and Cockle Bay Wharf as well as east-west between Ultimo/Pyrmont and the City.

4.0 SITE DESCRIPTION

The SICEEP Site is located within Darling Harbour. Darling Harbour is a 60 hectare waterfront precinct on the south-western edge of the Sydney Central Business District that provides a mix of functions including recreational, tourist, entertainment and business.

With an area of approximately 20 hectares, the SICEEP Site is generally bound by the Light Rail Line to the west, Harbourside shopping centre and Cockle Bay to the north, Darling Quarter, the Chinese Garden and Harbour Street to the east, and Hay Street to the south. The SICEEP Site has been divided into three redevelopment areas – Bayside, Darling Central and The Haymarket.

The ICC Hotel Site (refer to Figure 1):

- is located within the northern end of the Bayside precinct;
- is bound by Harbourside Shopping Centre to the north and east, the International Convention Centre to the south and Darling Drive to the west; and
- occupies an area of approximately 3,730m^2.

Figure 1 – Aerial Photograph of the SICEEP Site and Redevelopment Areas

The ICC Hotel Site occupies an area of approximately 3,800m2. The site is located in the northern end of the SICEEP Site bounded by Darling Drive to the west, Harbourside Shopping Centre to the east, and the proposed International Convention Centre to the south (refer to Figure 2).

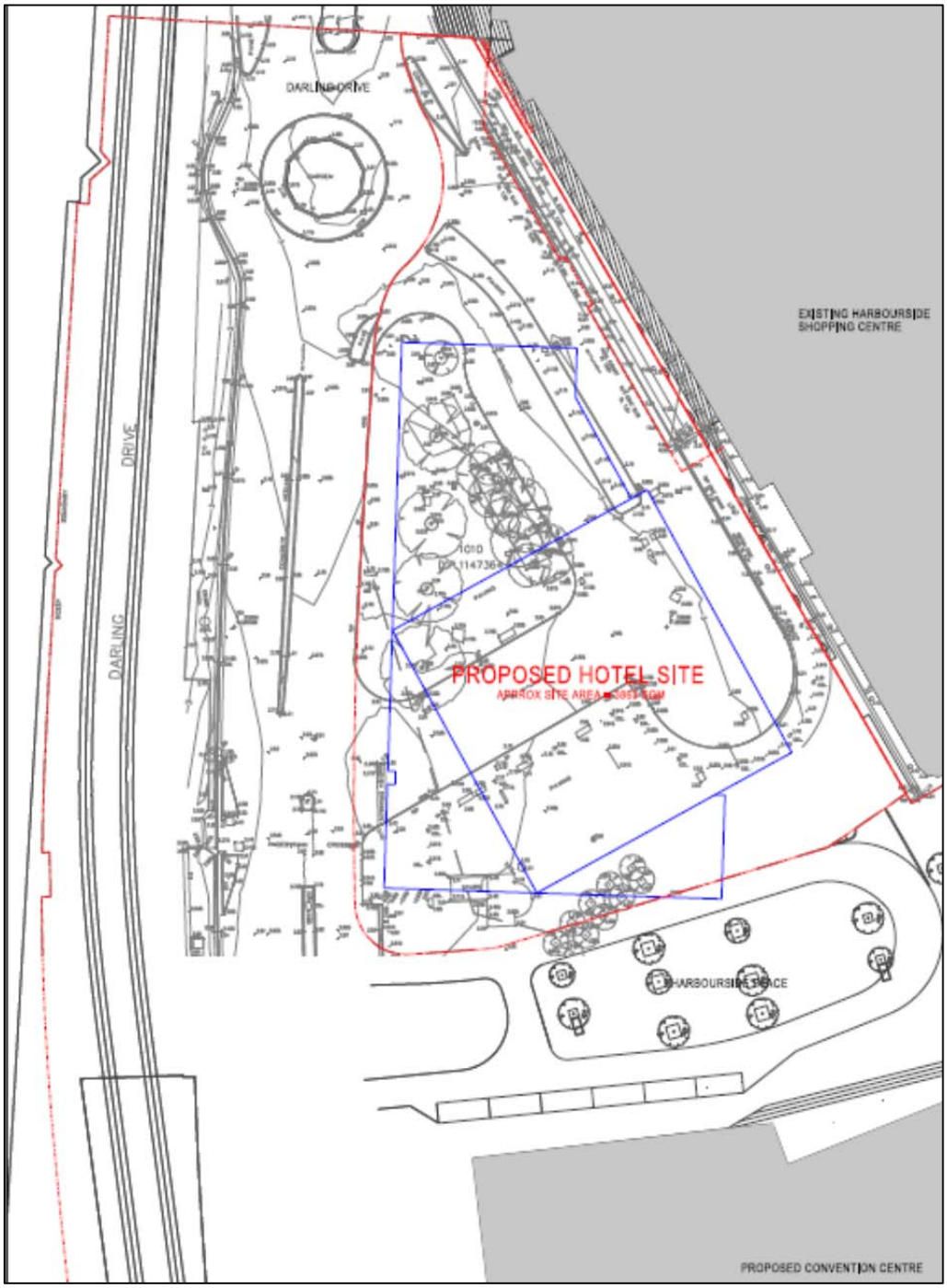


Figure 2 – ICC Hotel Site Plan

5.0 CONSTRUCTION PLANNING AND METHODOLOGY

Overall

Construction methodology has been assessed on:-

- Existing road works and traffic flow
- Limited space for deliveries and set down areas
- Tower cranes and mobile cranes to conduct the majority of the materials handling
- Maintaining the public realm and public access to Darling Harbour
- Traffic alignments to Darling Drive.
- The introduction of a new slip Lane between the Hotel Development and Harbourside Shopping Centre
- Concurrent construction of PPP buildings.
- Minimal impact to Harbourside Shopping Centre

The basic construction planning methodology for this project will be undertaken in the following manner:-

- Bulk Excavation for the basement
- Piling and Foundations
- Basement, podium and tower concrete structure (40 levels)
- Services
- Curtain Wall façade system
- Finishes
- Roof Plant Room

The basic construction planning sequence for this project will be constructed in the following elements:-

- Stage 1 Programmed Works - (Initial Enabling Works to the Site)

  - Site Establishment
  - Services relocation/removal.

- Stage 2 Programmed Works – (Construction)

  - Civil Works / Piling (assumed cased bored piles or continuous flight auger (CFA) piles socketed into bedrock).
  - Bulk excavation
  - Structure
  - Façade
  - Essential Services / Substation
  - Building Fit Out
  - Commissioning
  - External Works
  - Handover / PC

Stage 1 – Site Establishment

To maintain safe public egress between the Light Rail Station and Darling Harbour, a “B” class hoarding will be erected on the western perimeter of the site along Darling Drive. Pedestrians will be able to walk under the hoarding to and from the existing Darling Drive pedestrian crossing (refer Figure 3).

To maintain safe egress from Darling Harbour into Harbourside Shopping Centre, a “B” Class Hoarding will be erected along the South East perimeter (refer Figure 3).

Type “A” Hoardings will be erected along the Southern and the North West boundary to fully segregate the site from the public.

Once the compound has been secured existing services will be removed and or relocated outside the building footprint.

This work will be carried out using excavators over a period of 2- 3 months

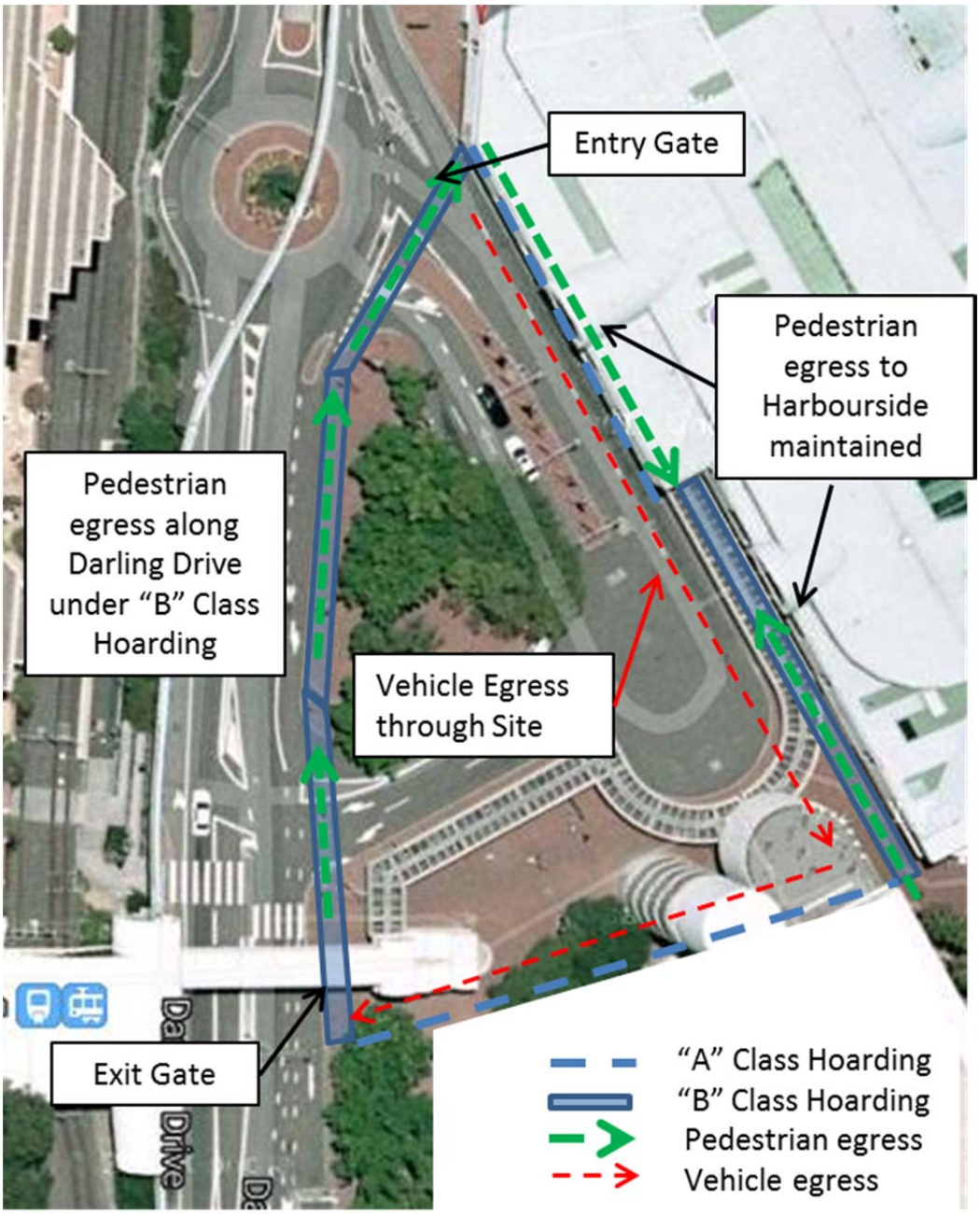


Figure 3 – Hoarding and Egress Plan

Stage 2 – Construction Works – (Construction)

Following the relocation and removal of services, piling to the perimeter shoring wall will commence along with the piling for the suspended ground floor structure to the north of the site.

Once the retention system has been completed the basement excavation will commence. This will be carried out using a rock break and saw to cut and remove the rock. There will be a number of trucks movements during the day to remove the rock from the site.

Following bulk excavation, the ground floor and basement concrete structure will commence, utilizing the tower crane to lift material to the floors.

Once the structure reaches a certain height, a concrete pump will be set up to place concrete to the hotel tower structure.

Services and curtain wall installation will trail the structure. Loading platforms will be installed so that plant, materials and panels can be lifted by the tower crane to their designated floors.

Finishes to the inside of the Hotel will progress following the installation of the curtain wall.

The Landscape surrounding the Hotel site will be completed in sequence with the Public Domain works to Harbourside Place.

Access to the site will be from Darling Drive, entering the site from the north via the slip lane between the Hotel and Harbourside and leaving the site from the south back onto Darling Drive (refer Figure 3).

Within the building site, crawler cranes will erect the external sides to the podium.

6.0 PROJECT SITE ESTABLISHMENT

The Construction Phase is committed to maintain minimal disruption to surrounding precincts, both on a commercial and public domain level. It is our intention to achieve this through a concurrent build with clear lines of safety and demarcation.

All hoardings will comply with all relevant regulations including lighting, signage, daily inspections and maintenance to uphold the appearance and maintain structural integrity. Lend Lease will use a suite of comprehensive communication channels and procedures to keep all stakeholders, including the broader community and users of the Precinct informed of progress and awareness of construction activities and potential impacts.

We are experienced in working on fully operational commercial and public domain sites. Lend Lease understand the focus for safety and clear way finding during the Development Phase. Lend Lease also acknowledge that dust, noise and vibration needs to be kept to a minimum for the enjoyment of our neighbours, their patrons and other visitors to the Precinct. Whilst undertaking the smooth delivery of the ICC Hotel project Lend Lease will ensure that construction traffic is directed and managed appropriately including nominated access routes, lay over areas , nominated access/egress points and a specific Construction Traffic Management Plan to manage deliveries.

Prior to commencing on site Lend Lease will achieve our effective and efficient site management by applying proven systems and processes, including the following:

- Providing a developed security plan
- Providing an environmental work health and safety plan
- Providing a risk management plan
- Providing one point of contact for site management, our Senior Site Manager
- Using way finding and technology to communicate with the wider community
- Regular and ongoing communication and coordination with neighbouring PPP works.

Optimising Access and Egress

The contents of this section include an outline description and layouts of the planned mitigation arrangements demonstrating how, during the development, the pedestrian and vehicular movements will be addressed to minimise impact.

To enable this, perimeter hoardings, fences and signage will be erected to establish a secure construction site. During the establishment of this activity certain functions will be addressed to minimise the impact on the Precinct.

Refer to Figure 3 for overall site plan showing hoarding layout and egress in and around the site.

Pedestrian Movements

Pedestrian movement diversions as detailed shall be in place to ensure that the Public are diverted safely around the site.

"B" Class hoardings shall provide overhead protection where the general public come into close contact with construction activities.

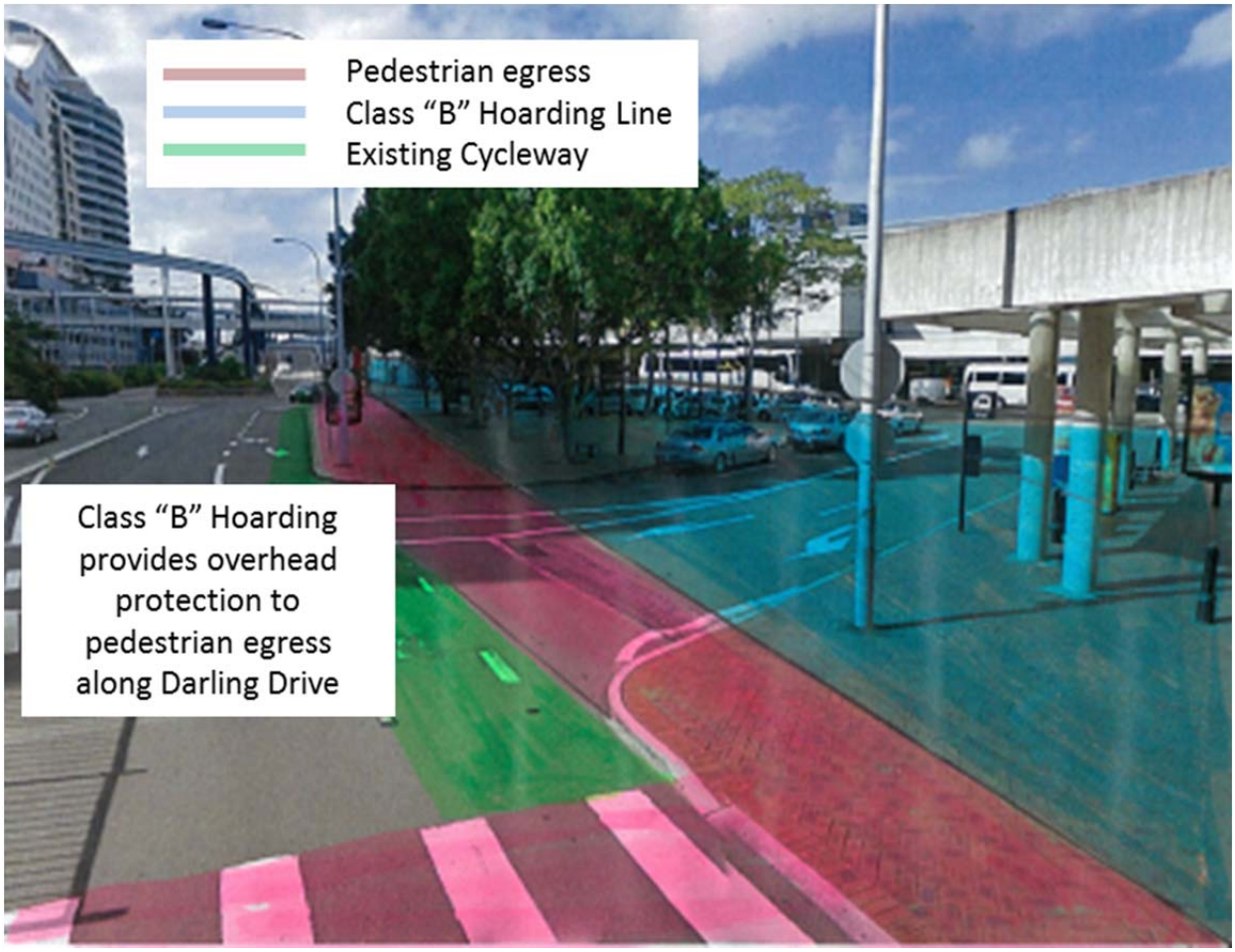


Figure 4 – Pedestrian egress along Darling Drive (facing north)

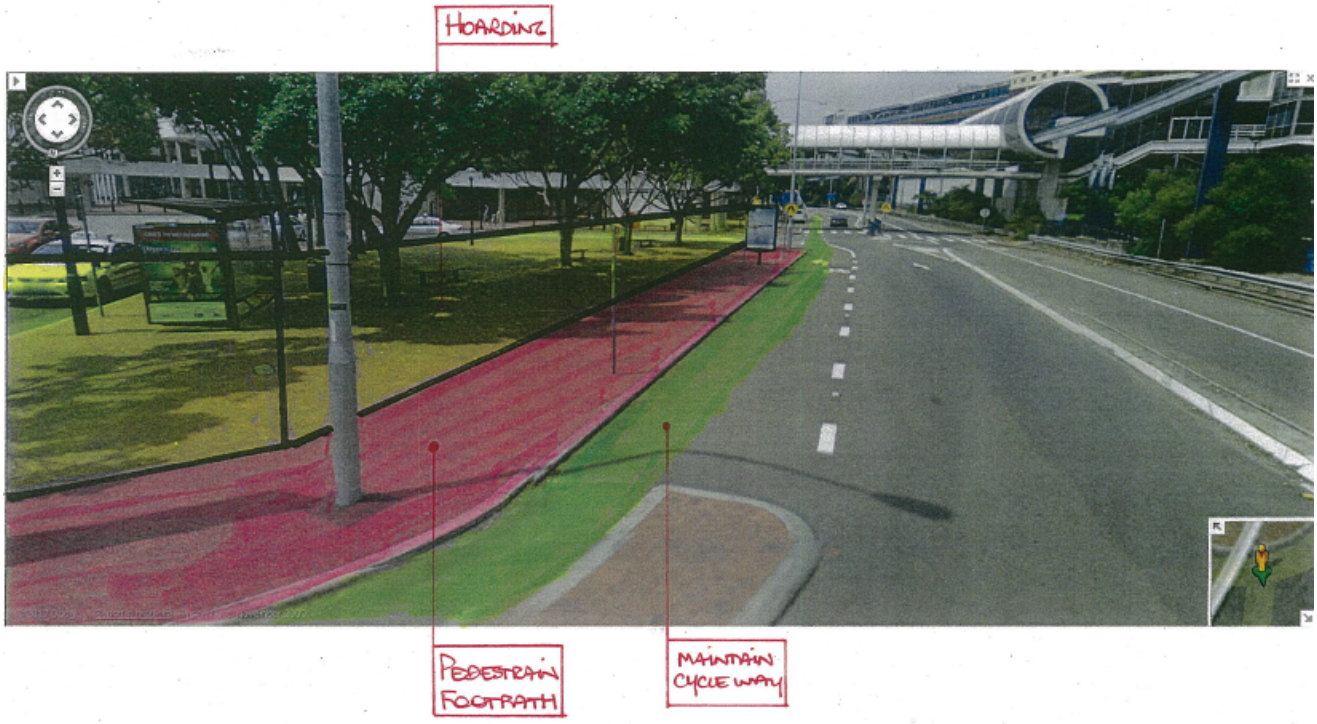


Figure 5 – Pedestrian egress along Darling Drive (facing south)

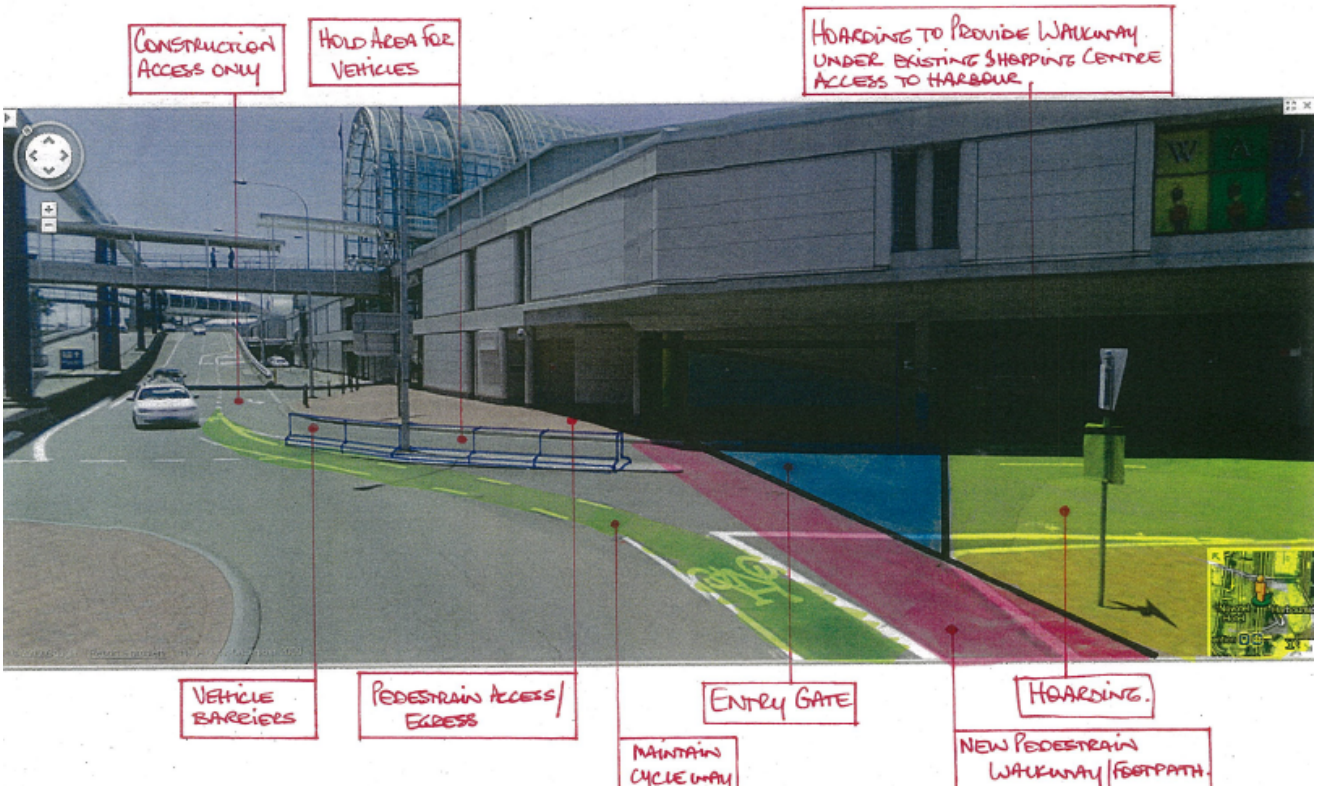


Figure 6 – Vehicle Entry from Darling Drive heading south. “B” Class hoarding provides overhead protection to Harbourside

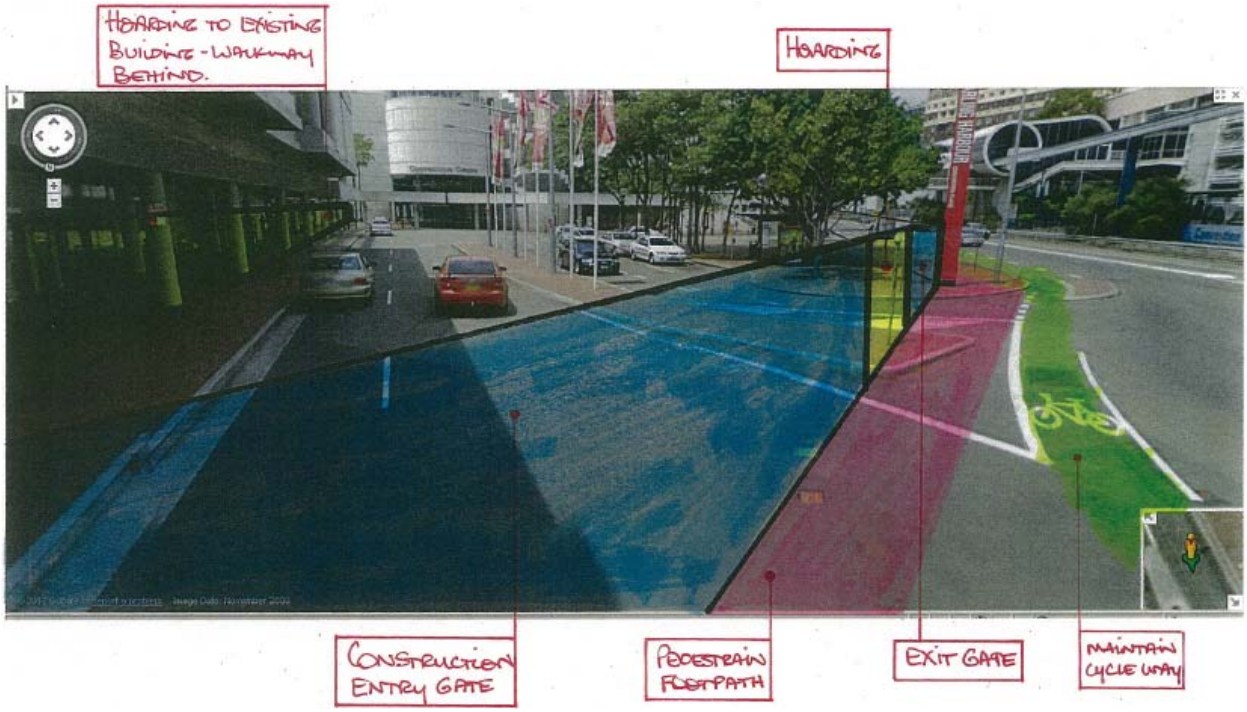


Figure 7 – Vehicle Entry from Darling Drive (facing south)

Figure 8 – Class “B” Hoarding will be erected to provide overhead protection to public entering Harbourside (refer to Figure 3 for extent of B Class Hoardings)

Access Site Personnel

Site personnel will access through security activated turnstiles placed at the site boundary on Darling Drive. These are activated via an electronic security pass provided once inducted into the site safety procedures.

Movable A Class Hoarding

“A” Class hoardings will consist of concrete jersey kerbs topped with a vertical security panel, similar to the images below. These panels provide excellent site security with the ability to be relocated. This will provide flexibility in our site fencing position and may facilitate the provision of additional Public space for specific events and vehicle movements. This hoarding provides the required vehicle impact protection that will ensure public and site personnel safety.

Figure 9 – Examples of Class “A” Hoarding

B Class Hoardings

Standard B Class hoarding will be provided where the public come into close proximity to the site during construction phases. These provide overhead protection to ensure safe passage with natural light and ventilation.

Figure 10 – Example of Class “B” Hoarding

Maintaining Egress Though and Around the Site

We have identified the current pedestrian paths as illustrated to be maintained during the development during construction.

Vehicle Site Access

Traffic movements and vehicles will conform to current Roads and Maritime Services (RMS) requirements and the Traffic Management Plan.

All vehicles accessing the site will conform to the “Traffic controls at work sites” manual, and Australian Standard 1742 – Traffic control, and only certified traffic controllers shall be used to direct vehicles outside of the construction boundaries. Traffic movements and vehicles to the site shall enter the northern end of the site from Darling St. Vehicles will egress through the site and exit onto Darling Drive bound south only.

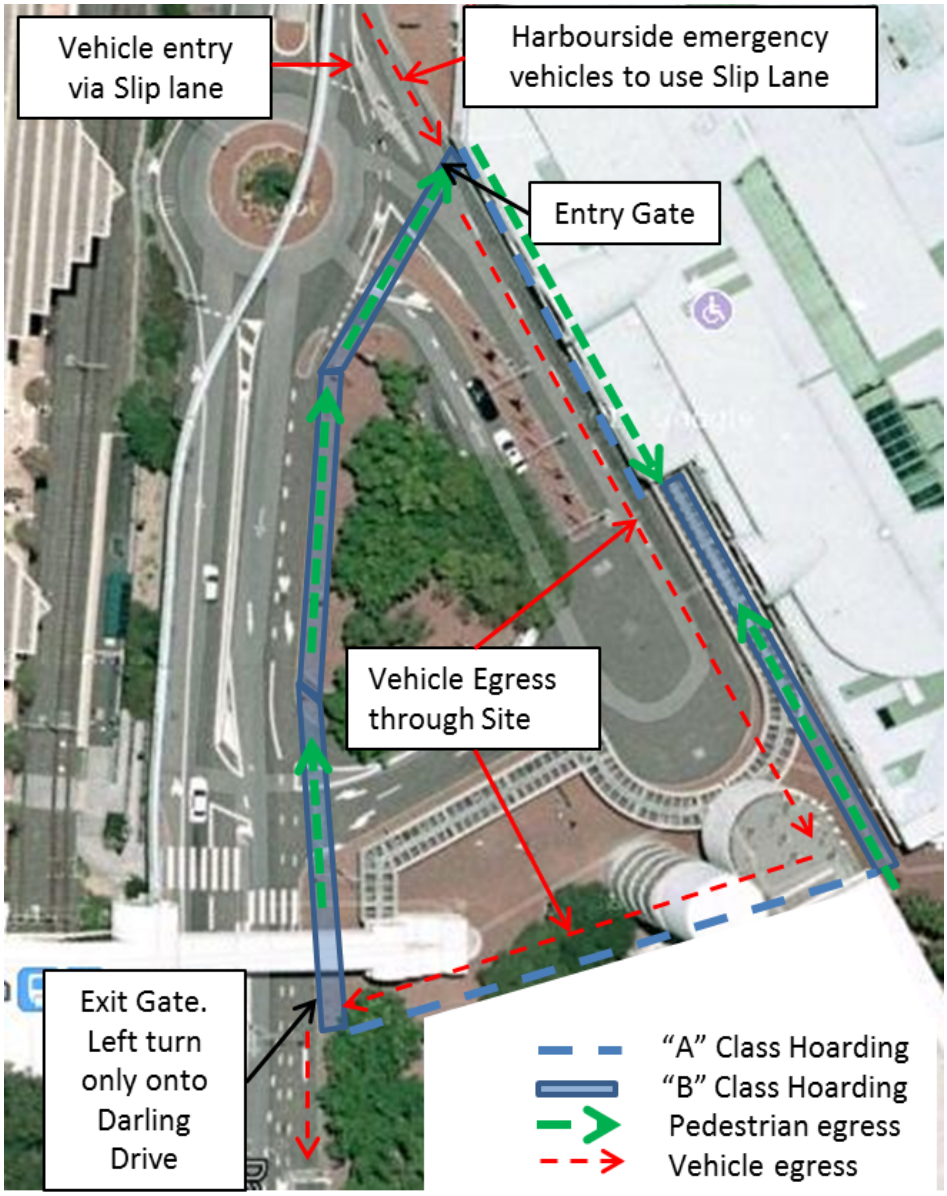


Figure 11– Vehicle & Emergency Vehicle Egress Plan

Vehicle gates are to be manned so that there is no unauthorised access. At all other times they will be locked and monitored. All vehicle movements will be controlled through a vehicle permit system and notification procedure. All vehicles will use the entry and exit gates as detailed. Gates shall be monitored during the works to ensure safe access and egress is maintained for vehicles and pedestrians. Harbourside emergency vehicles will be able to park in the slip lane.

Figure 12 – Example of Class B Hoarding and Vehicle Entry Gates

Traffic Movements

As the existing Buildings and associated car parks to the whole PPP and PDA sites shall be closed during the development, current traffic routes will be reduced to through traffic only.

Although Darling Drive is over 4 lanes wide with its turning and truck parking bays, it is effectively only a single two lane road.

The primary construction heavy vehicle egress will be via the established Darling Drive network to the West of the development. This will involve vehicles accessing Darling Drive from the North using Pyrmont Bridge Road, Pyrmont and vehicles accessing Darling Drive from the South using Ultimo Road and Harris Street, Ultimo.

The main entry for construction materials and vehicles shall be from the north, off Darling Drive, and exit and from the southwest corner of the site onto Darling Drive (heading south only).

On site construction access routes will be established, within the construction boundary, inside the east and south boundaries side of the site, to facilitate materials handling for tower/crawler cranes and forklifts. Hoists will transport personnel and lighter materials within the building.

Construction traffic to and from the development site will be subject to constraints imposed by the current traffic network. Advice received from the RMS at various meetings is that increased traffic to Darling Drive and surrounding road network would be best suited to non-peak hour times as such we will ensure that our bulk deliveries will be coordinated to these times.

It is noted, however, that the construction vehicle movements will not exceed the current vehicular movements that have been monitored, from the existing convention centre, exhibition centre, multi deck car park and entertainment centre into the surrounding road network.

The truck movements anticipated will be spread evenly throughout the construction programme. During the course of the development we anticipate vehicle movements for such trades as Demolition, Civil, Piling, Detail Excavation, Structure, Facade, Internal Finishes & Public Domain works.

Based on the programme and volume of materials required for construction activities, it is estimated that there would be approximately a 3 – 4 trucks increase per hour, above the existing vehicle volume, for the duration of the development. In such instances as concrete pours, this volume will increase on the day, but shall be controlled (as our preferred supply plant is within 1km of the development) to alleviate any congestion to the surrounding traffic network.

The control of vehicle logistics to and from the site shall be managed as follows:

- Traffic Management Plan to form part of tender documents and ultimately part of the Subcontract &/or Supplier Agreements
- Traffic Management Plan will form part of the subcontractor inductions, both on site and in some instances held in the Subcontractor / Supplier place of business.
- Subcontractors / Suppliers will be required to submit a formal delivery booking request 5 business days prior to delivery. All bookings will be registered and controlled by the various manned gates. Predetermined routes and times shall be agreed as part of this process to ensure non congestion of traffic.
- Established holding areas for urgent & emergency vehicle within the development.
- Traffic Management coordinated with the SICEEP PPP works.

In order to facilitate minimal materials storage on the development our solution is as follows:

- Strategic location of construction zones to eliminate double handling of materials delivered to site
- Controlled delivery of materials necessary to maintain programme.
- Nominated and controlled storage areas within the development site hoardings.
- Prefabrication of materials off site will assist in minimizing storage requirements.

In addition to the above, we will have in place current arrangements with local businesses which will assist with offsite storage and handling. These include numerous local sites within Pyrmont, Ultimo and Alexandria. Also we have arrangements with numerous sites further west, including Strathfield to Windsor.

All loads on vehicles removing or delivering materials will be within Roads and Maritime Services Regulations including legal weight limits, only on approved roadways, with loads secured and covered. Vehicles that are frequent to site, such as concrete delivery vehicles, shall be inducted into the Traffic Management Plan to comply with their vehicle movements to and from the site.

Appropriate directional signage and traffic control will be provided to ensure vehicles enter and leave the site with minimal disturbance to other road users and so they are advised of any changes in road conditions.

Temporary road closures, single lane access and relocations during the construction period will be subject to coordination with the appropriate authorities. All traffic related issues and changes shall also be presented to Stakeholders as part of the consultation process. These will, wherever and whenever possible, are carried out in non-peak periods.

Onsite parking will not be allowed. We will encourage the use of public transport systems already in place for construction staff and workers. Also available around the development are public car parking stations. These will be conveyed through all subcontract documentation and site inductions. Timetables shall be provided for all public transport systems routes, especially the light rail and buses.

On site construction access routes will be established within the construction boundaries with hoists transporting personnel and materials within the building.

Education

All site personnel will be inducted into the construction site and traffic management systems and protocols that will be operating for their sequence of the works during the site induction program and updated through daily pre-starts and toolbox talks.

7.0 LEND LEASE APPROACH TO ENVIRONMENTAL AND SAFETY MANAGEMENT

The design and delivery phase of this project, presents many opportunities to contribute to Lend Lease Building and construction industry benchmarks for Environmental, Health and Safety (EHS) management through developing and implementing Occupational Health and Safety, and ecologically sustainable practices.

EHS management during construction is the responsibility of each and every member of the project construction team. Identification of potential EHS aspects and impacts is an ongoing activity. Potential impacts will be identified at both the design and construction phase via the project risk Assessment and safe work practices procedures.

This Project EHS Plan is to be maintained to the requirements of the Lend Lease Building Bluebook and the forms, guides, policy's, etc are to be obtained from the related information in Bluebook. Where the Lend Lease Building forms are required to be amended altered or developed these shall be undertaken in consultation with appropriate Senior Management (ie EHS Manager, Operations Manager, Executive Project Manager or Management System Manager).

7.1 ENVIRONMENTAL VISION

Lend Lease Building recognizes how closely linked our business activities are to environmental issues, on a global, regional and local level and is committed to minimising our environmental impacts and to meeting the environmental challenges facing our industry.

Lend Lease Building is eager to achieve this by investing in environmental technology in responsive building techniques and in environmentally sound business practices.

Lend Lease Building aims to minimise any environmental effect by adherence with all applicable environmental legislation and requirements and by developing a comprehensive reporting and data collection ability, so that it can be analysed in an effort to provide continuous improvement of our performance.

Lend Lease Building Australia's Environment Vision presents a basic approach of active environmental managed activities with the aim to enhance and protect the environment in which we interact.

7.2 INCIDENT AND INJURY FREE VISION

Lend Lease Building will operate Incident & Injury Free (IIF) and we are committed to realising this wherever we have a presence.

We will:

- Invest in what it takes to achieve this vision
- As employees be empowered to lead in making this vision real

- Proactively work with all stakeholders, including clients, designers, contractors and the workforce to make this vision a reality and be prepared to walk away rather than compromise our commitment to safety
- Own and act on our vision.
- This requires a mindset intolerant of any injury regardless of frequency or severity.

We believe:

- That working Incident & Injury Free is a choice and a basic human right.
- The leaders in our industry will be those who succeed in the transformation to making an Incident & Injury Free industry a given

We recognise:

- That this vision is achievable if we are committed.
- This commitment to Incident & Injury Free requires taking a personal stand, great courage and trust.

7.3 OBJECTIVES

The Project Team has the following objectives with respect to Environmental Health & Safety (EHS):

- Identify and eliminate potential Class 1 and Class 2 incidents and occurrences;
- Maintain statutory compliance with respect to EHS;
- Conform to company EHS Management System, Standards, Instructions and EHS Business Plans,
- Provide, training, skilling, awareness and Best Practice to meet Legislative and Lend Lease Building requirement;
- Maintain accurate reporting and record keeping.
- Report, support and enhance Senior Management
- Undertake Positive Performance activities with the Project Team, Subcontractors, Client, Site personnel and other interested parties i.e. audits, tool box and neighbourhood consultation, PCG, etc
- Achieve the incident and injury free objectives for the project
- Ensure the effective management of environmental issues to reduce our impact on the natural environment.

An Environmental, Health and Safety Plan (EHSP) will be prepared to demonstrate Lend Lease Building's understanding of EHS management and controls required for construction activities.

This EHS Plan is intended to ensure that any EHS commitments made and other requirements of the proposed development are identified and their incorporation in the works proposed is planned and implemented.

The EHS Plan is a working document to be updated as necessary and forms part of the contract documentation for the project. It is a commitment of Lend Lease Building that Best Practice EHS Management is adopted and implemented at the all projects.

7.4 ENVIRONMENT HEALTH & SAFETY AND REHABILITATION POLICIES

The Lend Lease Corporation Environment, Health and Safety Policy, and Rehabilitation Policy form the foundation for the EHS and Rehabilitation performance of each group company. The Policies represent the commitment of Lend Lease Building to meeting EHS and Rehabilitation objectives on a project specific basis to all project personnel.

The *Lend Lease Building Policies* are to be clearly displayed within the Site Office, be accessible by the project team (e.g. Project Notice board) and intent clearly communicated through the Project induction to persons working on site.

7.5 EHS STANDARDS

Objective

The Project team are to set Project specific EHS Standards/Rules to meet the Region's legislative and regulatory requirements, Lend Lease Building *Means and Methods* and industry best practice to provide an incident and injury free environment.

Key Management Issue

- Tenderers are expected to meet the project EHS Rules and Lend Lease Building Means and Methods;
- Site inductions will be conducted in accordance with EHS Rules and Lend Lease Building Means and Methods;
- All personnel and visitors to the project will undertake their activities in accordance with the project EHS Rules and Lend Lease Building Means and Methods;

Actions

- The projects Project Manager(PM), Construction Manager(CM) and Site Manager(SM) are responsible for developing project rules in accordance with Lend Lease Building Means and Methods;
- The project CM will ensure tenderers are aware of project EHS Rules and Lend Lease Building Means and Methods
- The project SM will ensure site inductions are in accordance with Lend Lease Building Means and Methods and Lend Lease Building Induction Guide;
- The project SM will ensure personnel and visitors to the project will conduct their activities in accordance with Lend Lease Building EHS Means and Methods and project rules
- All visitors must report to the site office and enter their details in the *Site Visitor's Register* and advise the name of the person / organisation they wish to meet. All visitors must be accompanied at all times by site inducted persons, who are also responsible for ensuring visitors complies with project rules and are signed out when leaving.
- All vehicles entering the Project need to obtain and display the *Vehicle Entry Permit.*

7.6 ROLES AND RESPONSIBILITIES

Lend Lease Building is the Principal Contractor and as such is responsible for the overall management of the Project's Environment Health and Safety. All Lend Lease Building Subcontractors, Consultants and Visitors are responsible to comply with their EHS Management system, Lend Lease Building Means and Methods and Legislative requirements

The designated Lend Lease Building EHS person responsible for Site implementation, compliance and the weekly documented inspection of EHS and Means and Methods will be the *Construction Manager/Site Manager or their nominated delegate.*

Lend Lease Building Project staff is required to:

- lead by example;
- utilise the Project EHS Plan and treat it as a living document;
- encourage and support workers to work safely and with care for the environment;
- set priorities that reinforce safe and environmentally aware activities; and
- display ownership of areas under their control and assist project team members in overall EHS management

Project Roles and Responsibilities for EHS will be detailed in the elements of the projects EHS Plan.

8.0 WASTE MANAGEMENT PLAN

Objectives:

The objectives of the Waste Management Plan are based on the hierarchy of avoidance/reduce, re-use, recycle, treat and dispose as outlined in the National Waste Minimisation and Recycling Strategy.

To re-use and/or recycle a minimum of 80% of all Hard Waste Material, and Soft Waste Material generated on the construction site, thus achieving up to 80% reduction/avoidance in waste to landfill.

Best Practice should be adopted wherever possible, to achieve waste minimisation and reduction. Key areas that will be targeted in the Waste Management Plan are:

- To avoid, whenever possible, the generation of wastes
- Demolition Materials (including hazardous building materials i.e. asbestos)
- Construction Materials
- Excavated Fill Materials
- Domestic & Human Waste
- Wastewater
- Litter generation due to construction activities

In addition the project will:

- liaise with Subcontractors to identify areas where they can reduce waste and reuse materials in their respective trades;
- meet local, state and federal waste minimisation legislation and environmental standards;
- prevent pollution and damage to the environment; and
- Protect the safety and health of our employees, site personnel and the public.

Key Management Issue:

The waste management strategy has been developed from best practice models.

Waste Materials generated on site are to be managed such that recycling is maximised and the volume of waste transported to landfill is minimised.

Construction waste minimisation requires early planning and establishment of “Waste minimisation Culture” by all participants in the Design, Construction and End User process. Waste minimisation is a key element in life cycle analysis, material selection and specification.

Materials selected must be fit for use. The use of building materials that are fully recycled and/or include recycled material in their production will be maximised where practicable.

All disposal documentation from construction processes should be supplied to Lend Lease Building and filed in the site records for verification purposes.

Site Controls:

Planning

A Waste Management Contractor will be involved in the early stage of the project to ensure effective planning for the waste management.

Major Subcontractors will be asked to submit prior to commencement on site waste minimisation details including as a minimum the following:

- practical measures associated with their works to prevent waste entering on site;
- waste streams resulting from their works which can be recycled and will be actively managed as part of their waste reduction plan; and
- Alternative products containing recycled material that could be utilised in their works, in place of more traditional materials, which conform and meet with the design specification.

All suppliers of building materials will be encouraged to nominate packaging minimisation and reuse initiatives, which have been implemented, as part of product supply to the project.

Bulk handling and reusable/returnable transport containers will be encouraged.

Site set up should include measures to prevent litter entering the stormwater drains and waterways feeding to the adjacent stormwater systems and Darling Harbour.

Waste Management will be addressed at any or all of the design coordination meetings.

A Waste storage and Handling Diagram will be prepared for the site showing details of the designated storage locations of bins, segregated waste, water / washout waste etc.

Pre-Construction Phase:

Demolition

Specialist subcontractors will be used to remove classified material identified in any Hazardous Materials Buildings Survey that is to be performed on-site prior to demolition works commencing. These materials will be removed separately first and disposed of in accordance with relevant Authority requirements. Once all this material is removed a qualified Occupational Hygienist will provide certification that all classified material has been removed.

Demolition of the remaining components of the existing improvements and structures will be conducted in a manner to maximise material recycling.

A demolition strategy will be developed and further consideration of sorting and segregating waste for reuse and disposal will be defined as the project progress.

Construction Phase:

Excavated Fill Materials

Any fill materials identified as requiring excavation from within development footprints will, where suitable, be re-used on the site as part of the site engineering or landscape works.

In the event that excavated soils are deemed unsuitable for re-use on site, the excavated fill materials will require initial waste classification testing in accordance with relevant authorities. Depending on the outcome of the waste classification, a suitably licensed landfill will be chosen to receive and dispose of the soils. Appropriate waste documentation and permits will be maintained throughout this process.

Options for either re-use or off-site disposal of excavated soil materials will be assessed throughout the project.

Waste Materials Bin System

The demolition and construction waste management system to be adopted on site will be through the use of the separation bins for the various recyclable materials, and non-recyclable waste materials.

Signs will be located on each bin, indicating type of bin and what waste may be placed in that bin.

The Subcontractors will be responsible for the daily cleaning of their respective work areas and placing of their waste in the correct bins.

Additional bins will be provided where possible to further separate waste. Adequate number of litter bins will be made available within the construction site areas, including work and lunch areas. These bins must be regularly emptied.

The Subcontractors working on site will place all their waste in the correct bins on site.

If a particular bin is found to be "contaminated" by waste material from a subcontractor that particular Subcontractor will be liable for the cost associated with tipping or sorting of waste.

Waste Water / Washout Areas

Washout processes and facilities for paint and/or finishing trades are to be minimised and water recycling for these activities are encouraged where possible.

Utilisation of Lend Lease Building guidelines/management plan for disposal of paint and associated wastes are to be implemented.

Finishing trades washout facilities should NOT be plumbed to any building services and will be of a stand-alone nature. The maintenance of these facilities should be the subcontractor's responsibility and should comply with all appropriate Environmental Legislation and local authority guidelines.

Packaging

All suppliers of building materials will be encouraged to nominate packaging minimisation and reuse initiatives, which have been implemented, as part of product supply to the project. Bulk handling and reusable transport containers will be encouraged.

Recycled Materials

Suppliers will be encouraged to nominate products that include a recycled component and ability/opportunity for recycling of unused components in accordance with the specified 80% waste reduction target. Product selection will include a selection factor associated with recyclability and percent of recycled product.

Domestic & Human Waste

All domestic waste including litter will be managed via a similar bin system that will be provided in the vicinity of designated eating areas, change areas and amenities. Materials collected for recycling should include:

- Paper/Cardboard
- Food waste
- Aluminium Cans
- Drink containers: Glass & co-mingled
- General waste

Construction and demolition waste bins and domestic waste bins will be located in separate designated areas on the site to ensure appropriately safe storage and collection of waste. Waste areas will be clearly signposted and colour coordinated to define acceptable waste types suited for each bin and secured where required. The location of the waste bins and recycling areas will be marked on the site waste management plans.

All human waste and associated waste water will be collected via the provision of portable toilet and sanitary systems during the construction and demolition period. Where practicable, temporary connection will be made to the existing sewer services on site. Where these facilities are too remote to prevent connection, a licensed waste

contractor will be appointed to manage the waste collection and disposal in addition to general maintenance and cleaning of the toilets.

Training:

Communication and education material on the waste management system will be part of the Site Environmental Awareness Program that will be incorporated into the site induction program.

Additional third party training will be investigated when a waste contractor is nominated.

The responsibility to ensure that waste materials go into the correct bins will be with everyone on site.

Performance Measures:

- A Waste Management Contractor will be involved in the early stage of the project to ensure effective planning for the waste management.
- The Waste Management Contractor will coordinate waste recycling, recovery and disposal of all waste during all stages of the project.
- The waste system (bins / signage / training) is in place prior to any major waste generation works.
- All waste transportation and disposal documentation to be maintained on-site and signed as received or disposed by the appropriate contractor or waste receiving facility.
- Destination of all wastes to be approved by the receiving waste facility prior to the commencement of works.

Monitoring and Reporting:

The Waste Management Contractor will be responsible for providing monthly reports to the SM: the number and size of bins taken away, tonnages and m^3 taken away and tonnage's and m^3 recycled. This will include the final destination of materials for recycling.

The Waste Management Contractor will be responsible for providing dockets to the SM for the removal and appropriate disposal of scheduled waste from the project.

The SM will produce monthly reports and other statistic information as per Lend Lease Building EHS requirements.

The Lend Lease Building Project EHS Manager will formally audit the progress on waste management from the above monthly reports to ensure waste reduction targets are met and appropriate waste documentation maintained.

Correctives Actions:

Non-conformances are to be recorded by way of the System Defects.

The Subcontractor and Lend Lease Building SM/CM if applicable shall review and analyse the cause of detected non-conformance and develop a corrective action to prevent recurrence. Details of the non-conformance including any immediate corrective actions undertaken are to be recorded, reviewed and accepted by the CM.

It is the responsibility of the CM to immediately initiate corrective actions following approval. The non-conformance and corrective action must include details of the action proposed; desired performance target and action close out date. The system defects report should be signed, dated and filed.

All corrective and preventative action taken by the Subcontractor will be carried out by and at the cost of the Subcontractor.

If such corrective and preventative action leads to further non-conformance, any further action shall be subject to approval by the CM in consultation with the Project EHS Manager.

Waste Management Implementation Plan

Control	Timing	Methodology	Responsibility	Monitoring and Reporting	Performance Measure
Waste Identification					
A Waste storage and Handling Diagram will be prepared for the site showing details of the designated storage locations of Segregated waste, water / washout waste etc.	Prior to works commencing	In accordance with the Waste Management Plan.	CM/SM/Waste Contractor.	Review of Diagram prior works commencing.	Diagram Map prepared & containing all relevant details.
Hazardous building materials to be identified in Hazardous Materials Building Survey	prior demolition works commencing	Independent surveyor to prepare a Hazardous Materials Register	CM	To be reviewed by PM and incorporated into WMP.	Preparation of a functioning HazMat Register for building materials.
Project waste types to be identified and quantified.	Prior to works commencing	Bins will be supplied for the nominated waste streams in accordance with the Waste Management Plan.	CM/ PM/Waste Contractor.	To be reviewed by PM and incorporated into Waste Management Plan.	List of relevant waste streams and volumes from construction & demolition.
Waste Disposal					
Remove all hazardous building materials off-site.	Prior demolition works	Appropriately licensed contractor to remove and transport waste to licensed landfill	SM/Demolition Contractor.	Air quality monitoring daily. Clearance Survey by hygienist as required.	Non detect asbestos during ambient air monitoring. Landfill disposal dockets.
Segregation and storage construction/ demolition and domestic waste prior offsite disposal.	At all times	Waste contractor to address and follow legislative requirements.	SM	Weekly inspection of Waste Collection Areas.	No cross contamination of wastes. No spillage or loss of wastes from collection containers in storage

Control	Timing	Methodology	Responsibility	Monitoring and Reporting	Performance Measure
					compound. Waste Dockets.
Transport and handling of demolition/ construction waste and domestic waste by licensed contractors.	At all times	Only approved contractor to be used. Appropriate SWMS for transportation of waste	SM	Random inspection of waste transport licenses. Random inspection of waste transport vehicles.	Correct covers and containers for waste transfer. No spillages/loss of waste during transport.
Demolition/ construction and domestic waste disposal to correct licensed waste receiving facilities.	All times	Only approved waste receiving facilities to be used.	SM	Waste classification reports. Inspect as required.	Waste disposal dockets correspond to waste types/ volumes.
Disposal of excavated fill materials deemed for off-site disposal.	Prior construction	Waste soils (if any) classified in accordance with relevant authority Guidelines (e.g.: DEC, EPA etc). Licensed waste contractor and landfill used	SM	Waste classification reports. Inspect as required.	Waste disposal dockets correspond to waste types/ volumes.
Collection and storage of wastewater from site operations (i.e. paint washing) or temporary facilities (i.e. toilets).	At all times.	Design and installation of appropriate wastewater collection/storage system.	SM	Weekly inspection of bunds, drains and sumps.	No wastewater spills or uncontrolled discharges.
Appropriate disposal of all wastewater from site operations (i.e. paint washing) or temporary facilities (i.e. toilets).	At all times	Collection and disposal of wastewater by approved licensed contractor	SM	As required	Waste disposal dockets correspond to waste types/ volumes.

Control	Timing	Methodology	Responsibility	Monitoring and Reporting	Performance Measure
Recycling					
Waste building or demolition materials (i.e. concrete, timber, steel, etc) to be segregated and stored in separate site bins.	All times	Appropriately designed waste storage areas with designated recycling bins.	SM/Waste Contractor	Weekly inspection	Clean waste bin area. No cross contamination of waste types.
Segregated waste building/demolition materials are appropriately recycled.	All times	Approved waste recycling contractor to collect bins for recycling.	SM/Waste Contractor (Environment Manager if appropriate)	Established collection schedule. Audit actual recycling volumes compared to waste recycling targets (%).	Waste recycling dockets. Waste recycling targets are met.
Minimisation					
Excavated material to be reused or recycled where possible.	As required	Independent contractor to test soils for environmental/ geotechnical parameters.	CM/SM	Soil testing report to confirm suitability for re-uses. Review by Environment Manager.	No contaminated soils re-used on site.
Any fill imported onto the site is to consist of certified clean material only	As required	Indentation of material	CM/SM	Certificate of suitability.	Certificate provided prior to bring to site.
Minimise packaging and maximise use of recycled products by contractors.	At all times	Review contractor materials and packaging proposals	CM/SM	Inspect material deliveries/ specifications.	Proven examples of minimal packaging and recycled materials.
Site Offices					
Recycling bins shall be provided with the site working area.	As required	Coordinated with existing operational facility	CM/SM	Ensure waste is disposed in accordance with existing operations	Monthly EHS Managers review
Site amenities shall be provided on-site	Prior to works	Coordinated with site population	CM/SM	Ensure waste is disposed in	All waste disposed of

Control	Timing	Methodology	Responsibility	Monitoring and Reporting	Performance Measure
as required	commencing	numbers		accordance with existing facilities requirements	appropriate

9.0 STORMWATER & EROSION MANAGEMENT PLAN

Objectives

To avoid erosion, contamination and sedimentation occurring as a result of the construction or demolition activities associated with the redevelopment.

To control the quality of stormwater leaving the construction site such that no unacceptable impact occurs to adjoining natural watercourses or stormwater drains discharging into these water bodies.

Minimise disturbance to the hydrologic regime of the surrounding landscape and maximise opportunities for stormwater recycling on the site.

Key Management Issues

Construction and demolition activity on the project site involves removal of existing structures to ground level and excavation to facilitate the proposed development and services. In addition the site soils and the proximity to groundwater would suggest that dewatering of site excavations will be required.

The construction and demolition works have the potential to adversely impact ecosystems and water quality within adjacent surface water bodies via sediment loads and potential contaminants contained in runoff. Potential impacts to the site environment, including existing soils and groundwater also need to be considered as part of any stormwater and erosion management plan. Other physical impacts to be considered include the susceptibility of the site to potential flooding events.

The following activities are expected to be the key risk sources during construction:

- Site clearing, spoil and material stockpiling.

The following management issues have been identified:

- Sediment laden water from the construction site may potentially flow into the stormwater system and/or adjacent surface water bodies (Environmental Class P2 Risk);
- Stormwater with excessively high or low pH values could run-off from the selected stockpiles stabilisation area (Environmental Class P3 Risk);
- Stormwater collected in excavations and requiring disposal (Environmental Class P3 Risk);
- Groundwater entering excavations and requiring disposal after dewatering (Environmental Class P1 Risk).
- Site cut off drains eroding and increasing site water sediment loads (Environmental Class P3 Risk);
- Vehicles leaving the construction site depositing dirt/mud on public roads after rain periods (Environmental Class P3 Risk);
- Removal of bulk material off site escaping from vehicles and polluting roadways (Environmental Class P3 Risk); and
- Debris and litter collecting along roads and in catch drains and consequently could affect nearby water bodies quality (Environmental Class P2 Risk).
- Site contamination through the potential for an overflow of fuel/chemical storage containers and contamination from the equipment and plant repair area (Environmental Class P1 Risk)

- Stormwater runoff coming into contact with potential contaminated soils may potentially flow into the stormwater inlets and natural water courses could be affected and consequently reduce water quality (Environmental Class P2 Risk);

Site Actions

The prevention of soil erosion by water and wind and by sediment pollution is key components of the Stormwater and Erosion Management Plan for the site.

An overall Stormwater & Erosion Control Plan will be prepared prior to site activity. This Plan shall be used as a basis to develop detailed controlled plans for each work areas, detailing collection points, temporary drainage flows, sediment controls and general stormwater overflow management.

Construction stage water quality impacts shall be minimised by incorporation of appropriate erosion and sediment control measures in the detailed design, specification and contract arrangements and quality assurance inspection during construction.

Adopt best practice environmental management strategies in accordance with the principles outlined in the Department for Infrastructure, Planning & Natural Resources document titled “Guidelines for Erosion & Sediment Control on Building Sites” and other key reference documents and legislation previously outlined.

Planning

- Locate all stockpiled soils away from surface waters, potential watercourses and flood prone areas.
- Limit land disturbance to the area needed, especially in the vicinity of existing stormwater drainage.
- Cease works if excess dust is being generated and resolves the problem prior to recommencing works.
- Restrict construction and demolition traffic to designated traffic routes that are well drained and all weather.
- Annual weather patterns to be taken into account when planning general site operations and in particular during planned excavations or land disturbance activities.
- Clearly identify, demarcate and fence off areas of vegetation or landscape on or near the boundaries of proposed excavation and demolition footprint to indicate these areas are not to be entered or disturbed.

Controls

- Divert up slope runoff around disturbed areas;
- Construct earth bunds and similar diversion drains to divert surface water runoff around the perimeter of the proposed demolition or construction areas. Where possible, seed all diversion channels to dissipate water velocity.
- Install temporary sediment and erosion controls to prevent the erosion of soil from disturbed construction areas and stockpiles. Measures may include filter barriers (straw bales or silt fence), temporary covering or revegetation with hydro-mulching and native seeding.
- Control access to construction areas by limiting entry and exit points. Ensure all approved access points shall be marked prior to the commencement of construction within that area.
- Reduce the erosive energy (concentrated flow and velocity) of water using measures such as temporary storage, dissipaters, level spreaders and drain grass planting’s.
- Prevent deposition of sediment on the public road network due to truck / equipment movements to and from the site via a purpose built truck/wheel wash facilities at site exit point.
- Collection of stormwater into temporary detention basins (refer to de-watering procedure)
- Progressive landscaping and rehabilitation of disturbed areas

Sediment Fences / Devices:

Sediment fences and devices will be used in areas where temporary sediment control is required. These relatively simple devices will dissipate stormwater velocity and collect moving solids.

Throughout the Construction period, temporary sediment fences and devices will need to be positioned where erosion is most severe.

Sediment fences will be placed downstream of stockpiles and disturbed areas. It is important that sediment is collected adjacent to these areas to prevent loss of material downstream.

Sediment devices will be placed in areas where energy dissipation is required. When constructed these systems are commonly known as check dams and are placed in areas where a major flow path exists. Straw bales filter coarse sediments but tend to be less effective with fine sediments. For this reason all Straw bales will be lined on the upstream side with a geotextile filter fabric where appropriate. Straw bales will be secured with three stakes and positioned so the bale twine does not degrade due to direct sunlight.

Rehabilitation

On completion of works decommission sediment traps constructed as part of the temporary works by removing all silt material from the base of the trap, removing the trap wall and filling the trap with compacted fill. The diversion drains will be graded to match surface levels.

Temporary silt traps or sediment control devices will not be removed for landscape or streetscape works, but shall only be removed following stabilisation of disturbed areas.

For rehabilitated areas, maintenance will continue until vegetation is well established.

Maintenance of Controls:

Perform routine maintenance inspections of the stormwater diversions and sediment and erosion controls, particularly after rainfall events or extremely windy conditions.

Where required, clean or repair diversion drains, storage basins, silt fences and other related control structures to ensure the continued effective operation of these over the duration of the construction and demolition period.

Stormwater Re-use:

- Any stormwater entering the excavation or works areas will be collected and retained for re-use on-site for uses ranging from dust suppression on construction roads to landscape watering.

Controlled Discharges (Dewatering):

Lend Lease Building is committed to Stormwater Management during construction, and as such, operates without formal licences but in accordance with industry best practice for the management of stormwater and de-watering discharge.

All site waters during construction and landscaping shall be contained on site, and released only when suspended solids are less than 50mg/L (for storms less than 1 in 5 year time of concentration) in order to avoid pollutants entering the stormwater drainage system.

The collection of stormwater/ground water on a project could be discharged to the stormwater system if it meets certain criteria. This would involve an analysis of the quality of receiving waterways and the collected water within the project boundary. This analysis would need to be carried out by a NATA accredited laboratory and the results and final report supplied to Lend Lease Building.

The analysis would need to demonstrate that the collected water within the project boundary does not exceed the tested parameters and have no evidence of the following substances detected:

- nutrients, from fertilisers;
- herbicides and pesticides used in landscaping;
- acids from washing;
- building wastes and litter;
- paint and paint wastes; and
- Oils, grease and fuel, from equipment operation and maintenance.

> Note:
>
> This initial analysis should be engaged by the Lend Lease Building site project team to an Environmental Consultant to prepare and interpreted the results for verification and acceptability before any pump-out work can commence.

An onsite treatment with discharge to stormwater system could be implemented providing that there is no chemical contamination (as listed above) and water quality during construction must comply with any specific requirements of the Local Planning Authority. In addition to the schedule of anolytes outlined below, the potential for contamination of the retained waters should also be determined and if required, additional analysis performed to meet criteria.

- pH is between 8.5 and 6.5
- suspended solids is less than 50 mg/L,

> Note:
>
> This site treatment should be sub contracted to an appropriate contractor and the test results supplied to Lend Lease Building and filed in the site records for verification purposes.

Treatment options could include the use of a mobile specialist plant for this procedure and may prove more cost effective than a procedure of pumping out and/or on site storage of this water.

Ongoing water quality monitoring would need to performed and the contractor engaged to do this work would need to provide a safe work method statement (SWMS) detailing the frequency of sampling and on site procedures to ensure discharge does not exceed the criteria.

Training

Communication and education material on the stormwater, erosion and sediment controls will be part of the Site Environmental Awareness Program that will be incorporated into the site induction program.

Performance Measures

- Control structures constructed and operational prior to earthworks commencing in the nominated area.
- All site cut-off drains unobstructed.
- All major site drains adequately stabilised.
- All controls maintained and functional.

- All stockpiled material adequately stabilised and protected.
- No de-watering stormwater/ground water discharge from the site in a 5 year ARI storm event have a suspended solid content of less than 50mg/L.
- Appropriate parameters for any contaminants of concern (if present) meet the relevant ANZECC (2000) criteria.
- No complaints concerning mud/organic debris on the surrounding public roads to the site.

Monitoring and Reporting

At least weekly, the Bulk Earthworks or Maintenance Subcontractor or nominated Stormwater/ Sediment Control contractors will inspect (and document) the site and, providing particular attention to the following matters:

- Perform daily visual inspection of stormwater diversions and sediment/ erosion control devices ensuring they are operating effectively and at full capacity.
- Maintain erosion and sediment control measures in a functioning condition until all earthwork activities are completed and the site is rehabilitated.
- Devise and implement appropriate remedial measures where any controls or devices are not functioning effectively or are inappropriate.
- Ensure rehabilitated lands have effectively reduced the erosion hazard and initiate upgrading or repair as appropriate.
- The SM will maintain records and comments on the condition of existing erosion and run-off controls (drains, silt fences, catch drains etc.) de-watering procedures and test results, and any site instruction issued to Subcontractors to undertake remedial works.
- Rainfall data will be filed on site by SM and discussed where reports of poor drainage areas occur.
- Water quality parameters meet relevant discharge limits for either re-use on-site or via a controlled discharge.
- All daily inspection reports, environmental incidents and controlled discharge records will be maintained and may be reviewed during any Environmental Audit performed on the site.

Corrective Actions

Non-conformances are to be recorded by way of the System Defects.

The Subcontractor (and EM/ CM/ SM if applicable) shall review and analyse the cause of detected non-conformance and develop a corrective action to prevent recurrence. Details of the non-conformance including any immediate corrective actions undertaken are to be recorded, reviewed and accepted by the CM.

It is the responsibility of the EM to immediately initiate corrective actions following approval. The non-conformance and corrective action must include details of the actions proposed, desired performance target and action close out date. The system defects report should be signed, dated and filed.

All corrective and preventative action taken by the Subcontractor will be carried out by and at the cost of the Subcontractor.

If such corrective and preventative action leads to further non-conformance, any further action shall be subject to approval by the CM in consultation with the EM.

Stormwater & Erosion Management Implementation Plan

Control	Timing	Methodology	Responsibility	Monitoring and Reporting	Performance Measure
Planning					
Prepare a Stormwater & Erosion Control Diagram outlining environmental safeguards.	Prior to works commencing	In accordance with the Stormwater & Erosion Management Plan.	CM/SM	Review of Diagram prior works commencing.	Diagram prepared & containing all relevant details.
Installation of Stormwater & Erosion environmental safeguards.	Prior to works commencing	In accordance with Stormwater & Erosion Management Plan & Civil Engineering consultant's documentation.	CM/SM	Weekly inspection	Pre-construction check and daily thereafter.
Stormwater & Erosion Controls					
Silt stop filter fences to be located below disturbed areas and across all potential runoff sites.	Prior to works commencing	In accordance with the Stormwater & Erosion Management Plan.and Civil Engineering consultant's documentation.	CM/SM	Daily visual inspection & Weekly documented inspection.	Pre-construction check. Silt collected at base of fence. No breach of fence line
Truck wheel wash/ shake facility to be installed near construction access.	Prior to construction commencing	Detailed work method statement to be prepared by sub-contractor.	CM/SM	Pre-construction check and daily /weekly maintenance inspections.	Pre-construction check. No mud/silt tracked onto roadways.
Stockpiles located away from watercourses, sensitive ecosystems or flood prone areas.	Prior to construction commencing	Contractor to perform in accordance with the Stormwater & Erosion Management Plan.	CM/SM	Pre-construction check and daily /weekly maintenance inspections.	Pre-construction check. No mud/silt migration into waterways, ecosystems or off-site.
Stockpiles left for >	1 month	In accordance	SM/EM	Weekly	No erosion from

Control	Timing	Methodology	Responsibility	Monitoring and Reporting	Performance Measure
one month to be temporarily seeded using sterile crops.	after stockpile placement	with the Stormwater & Erosion Management Plan.		monitoring.	stockpiles.
Stormwater inlet sediment traps to be installed.	Prior to construction commencing	In accordance with the Stormwater & Erosion Management Plan & Civil Engineering consultant's documentation	CM/SM	Weekly inspection	Sediment collected in traps.
All erosion controls to be maintained until potential for erosion and sedimentation passed.	At all times	In accordance with the Stormwater & Erosion Management Plan.	SM/ EM	Weekly inspection	Retaining all controls effective. No uncontrolled discharges of sediment off-site or into waterways.
Stormwater & Runoff					
Site facilities to be of aggregate material.	Prior to construction commencing	In accordance with the Stormwater & Erosion Management Plan.	CM/SM	Pre-construction inspection	No sedimentation from site facilities.
Collected stormwater to meet reuse onsite or discharge requirements.	Ongoing	In accordance with the Stormwater & Erosion Management Plan and WMS to be prepared by sub-contractor.	EM	Daily inspection and NATA test results.	No discharge to exceed controlling Authority criteria.
Install sediment control devices upstream of existing stormwater pits.	Prior to construction	In accordance with the Stormwater & Erosion Management Plan and Civil Engineering consultant's	CM/ SM	Monitor for siltation and sedimentation at downstream locations.	Effective sediment traps.

Control	Timing	Methodology	Responsibility	Monitoring and Reporting	Performance Measure
		documentation.			
Stormwater pipes and pits should be well maintained and kept clear of debris and sediment.	Ongoing	In accordance with the SEMP.	SM/ EM	Daily/weekly inspection	Free flowing pipes capable of discharging maximum flows. Monitor for potential blockages.
Sediment Retention					
If required a Sedimentation basin size and construction to meet requirements of the publication mentioned in the Key legislation under key management issues.	Prior to construction	In accordance with the publication mentioned in the Key legislation under key management issues	CM	Daily/weekly inspection	Effective basin that is easily cleaned and maintained. Monitor for sediment build-up and litter collection.
Within 24hrs of a 1in 5 year ARI storm event, inspect the sediment/detention basin and stormwater treatment devices and remove any build-up of debris.	As required by storm events	In accordance with the Stormwater & Erosion Management Plan.	EM	Daily/weekly inspection	Basin clear of storm debris.
Rehabilitation					
Stabilisation works & landscaping of batters, open drain etc will be given high priority to ensure that bare ground is rehabilitated.	As required	In accordance with the Stormwater & Erosion Management Plan & Landscape scope of works	CM/ SM/ EM	Daily/weekly inspection Project planning and design meetings.	Appropriate stabilisation of works.

10.0 NOISE & VIBRATION MANAGEMENT PLAN

Objectives

To minimise the generation of noise and vibration from construction activities occurring on site and its impact on site operations and workers.

To minimise the generation of noise and vibration from construction activities occurring on site and its impact on the neighbouring residents, businesses and associated building structures.

Establish and maintain good relations with community and neighbouring sites.

Key Management Issues

Noise generated during the demolition and construction works, will be primarily associated with vehicle movements, generators, heavy machinery (eg: Excavators) and hand-held machinery and tools. Some additional vehicle noise may be generated by the thoroughfare of vehicles using transport corridors to and from the site.

As no blasting is proposed all the works will be conducted within the hours detailed by the condition of consent, potential noise impacts are predicted to be negligible and expected to pose a minor impact (if any) to the nearest residences to the west and north of the site. In view of this, the following management issues have been identified:

- Noise and vibration generated during construction and demolition works affecting nearby properties (Environmental Class P2 Risk).
- Vibration generated during construction and demolition works affecting site structures, including western distributor and light rail (Environmental Class P1 Risk).
- Establish and maintain good relations with community and neighbouring sites.

Site Actions – Noise

All construction and demolition activities have been planned to be performed in accordance with the proposed hours as outlined below:

- 7:00am to 7:00pm on Mondays to Fridays, inclusive;
- 7:00am to 5:00pm on Saturdays; and
- No work on Sundays or public holidays.

Any noisy activities proposed outside the hours detailed above will require prior written consent from the nominated approval authority and subject to conditions of consent.

Noise limits during the demolition and construction works are to meet the Maximum Allowable Noise Contribution as specified in the conditions of consent.

No construction works shall commence unless the Subcontractor has submitted a Work Method Statement which details the schedule of demolition / excavation equipment which describes the equipment types to be used, noise levels these will generate, expected time and duration of use, and any measures required to ensure the noise levels are acceptable (such as screen mufflers).

The Major Subcontractors generating noise should consider engaging an acoustic consultant to monitor construction noise level during its identified noisy activities.

Ensure traffic access to and from the site will be via designated entry/exit points.

Fit and maintain appropriate mufflers on construction and earth-moving equipment as required.

Lend Lease Building will utilise existing Noise Impact Assessment data, where required, to determine noise sources and confirm ambient background levels or will conducting baseline noise monitoring prior to construction work commencing and may engage an acoustic consultant to monitor construction noise level during its activities.

Personnel safety measures shall be implemented wherever noise exceeds 85dB(A).

All typical plant and equipment used during the construction and demolition works will be within the maximum noise levels specified (at 7 metres) refer to Table 8.1.

TABLE 8.1: TYPICAL NOISE LEVELS

ITEM	TYPICAL PLANT OR EQUIPMENT	MAX NOISE LEVEL (at 7 metres)
Excavator	30T Hammer	97
Excavator	30T General Works	86
Front End Loader	Wheeled	90
Jack Hammers	With silencing bags	85
Air Track Drill	800 CFM Compressor	96
Piling	Rig for Bored Piles	93
Load/unload	Backhoe/Bobcat	88
Grader	Caterpillar 16	85
Compactor	Caterpillar 825	85
Compactor	Vibrating Plate	92
Vibratory Roller	10-12 Tonne	89
Water Cart	15T Truck/Sweeper	88
Truck and Dog	35 Tonne	96
Excavator	20T General Works	83
Rock Breaker	Hydraulic on Excavator	98
Truck	15-20T Flat tops	80
Crane	Truck Mounted	85
Compressor	600 CFM	75
Compressor	1500 CFM	80
Generator	Diesel	79

Spreader	Asphalt, concrete	70
Asphalt Truck	15T General	92
Asphalt Paver	15T General	89
Tip Truck	15T General	83
Tower Cranes	Diesel	98
Spraying Machine	15T General	75
Mechanical Broom	Various sizes	83
Forklift	2.5T – 16T	92
Concrete truck	Mobile	83
Concrete Pump	Static	84
Concrete Vibrators	Flexible	80
Drill	Air	85
Drill	Pneumatic	85
Welders	Mobile	85
Concrete Saw	Mobile	93
Concrete Leveller	Mobile	90
Cherry Picker	On Truck	80

Site Actions - Vibration

When planning for construction work, that will include vibration, all practical efforts to protect vibration sensitive buildings and the amenity of the occupiers of buildings shall be considered and apply a practical and economical combination of vibration control measures to manage vibration impacts such as:

- Substitution by an alternative process
- Restricting times when work is carried out
- Screening or enclosures
- Consultation with affected residents.

During leisure hours, vibration disturbance from construction operation must be kept to a minimum. The basis for this vibration management strategy will be to limit the times that certain vibration producing activities may be carried out. Generally, this will be accomplished by performing such work during weekdays, when the majority of residents are either not present or engaged in less vibration sensitive activities.

No construction or demolition works is permitted within a nominated vicinity of any heritage listed items or features of cultural significance. Any activities, potentially resulting in vibrations should be planned to avoid disturbance of these protected items, in particular feature monuments located on the site.

No blasting will be performed as part of the proposed construction works program.

All activities involving vibrating rollers will be performed in accordance with the safe working distances to buildings and structures as outlined in Table 8.2.

TABLE 8.2 GUIDELINES FOR RESTRICTION

Roller Class & Weight Range	Centrifugal Force Range	Example of Rollers	Distance from Building A B	Remarks
Very Light Less than 1.25 tonnes	10-20kN	Coates 32RD tandem Davleco 32CR tandem	3m --	Maintenance and patching rollers. Generally not restricted for normal
Light 1 to 2 tonnes	20-50kN	Coates 42RD tandem Pannell 54T drawn	5m --	Generally not restricted for normal road use.
Medium 2 2 to 4 tonnes	50-100kN	Coates 66Tdrawn Davleco 66 drawn	6m 12m	
Medium-Heavy 4 to 6 tonnes	100-200kN	Coates 72Tdrawn Davleco 72 drawn Pacific V12 drawn Raypo Rascal 400	12m 24m	Not advised for city and suburban streets.
Heavy 7 to 11 tonnes	200-300kN	Coates 78Tdrawn Pacific V24D drawn Raypo Rascal 600	25m 50m	Restricted. Not advised built-up areas.
Very Heavy 12 tonnes and over	Over 300kN	Coates 96Tdrawn Pacific V36D drawn	25m 50m	Restricted to major construction areas away from structures and buildings.

A – to prevent damage to buildings

B- Values suggested to keep claims and complaints to an acceptably low level. For complaints to be stopped completely in residential areas, these values may need to be increased still further.

Training

Communication and education material on the noise and vibration controls and procedures will be part of the Site Environmental Awareness Program that will be incorporated into the site induction program.

Performance Measures

- Not exceed specified noise limits during monitoring event
- No noise or vibration complaints received from adjoining operations or from the community.
- The maximum noise level (LA max), when measured at a distance of 7 metres from any item of plant or equipment and must not exceed the maximum noise level.
- Assessment of performance by number of complaints received from adjoining operations or from statutory Authorities.

- No warnings/notices received from statutory authorities for exceeding noise levels or work outside the approved work hours as set out in the conditions of consent.

Monitoring and Reporting

All subcontractors shall submit noise monitoring compliance certificate or monitoring results for all major plant and equipment on the project within one month of use on site demonstrating conformance with any operational licence.

Routine inspections of plant and equipment should include reference to acoustic performance. Subcontractors to provide details of acoustic performance of plant and equipment on site as part of these inspections.

Any noise complaints or feedback from adjoining properties or from the operational facility on site are to be recorded, reported and monitored.

The SM may require the Subcontractor to carry out additional noise monitoring if a complaint regarding construction noise is received.

The SM in consultation with the EM will advise the monitoring location and the monitoring required will be manned monitoring.

Corrective Actions

Non-conformances are to be recorded by way of the System Defects.

The Subcontractor (and EM/ CM/ SM if applicable) shall review and analyse the cause of detected non-conformance and develop a corrective action to prevent recurrence. Details of the non-conformance including any immediate corrective actions undertaken are to be recorded, reviewed and accepted by the CM.

It is the responsibility of the EM to immediately initiate corrective actions following approval. The non-conformance and corrective action must include details of the action proposed, desired performance target and action close out date. The system defects report should be signed, dated and filed.

All corrective and preventative action taken by the Subcontractor will be carried out by and at the cost of the Subcontractor.

If such corrective and preventative action leads to further non-conformance, any further action shall be subject to approval by the CM in consultation with the EM.

Noise & Vibration Management Implementation Plan

Control	Timing	Methodology	Responsibility	Monitoring and Reporting	Performance Measure
Planning					
Prepare a Specific Noise and vibration report for construction.	Prior to works commencing. Review prior following works stages.	Base provisions on construction Equipment and staging.	CM	Review of base provisions prior works commencing.	Report covers all key areas and site-specific considerations, which will include detailing the locations and type of equipment .
Working Hours					
No work shall occur outside permitted	At all times	Hours and times as	CM	Continuous	No complaints from public or

Control	Timing	Methodology	Responsibility	Monitoring and Reporting	Performance Measure
working hours, unless approved.		specified in conditions of consent.			authorities.
Construction noise not to be exceeded next to neighbouring and residential premises.	At all times	Hours and acceptable noise levels as specified in conditions of consent.	CM	Continuous	No complaints from public or authorities.
Adjoining properties likely to be affected by noise to be notified.	Reasonable notice prior to works.	Provide written notice to residences as soon as practicable.	CM	Continuous	No complaints from public or authorities. Record of notifications.
Plant & Equipment					
Plant & Equipment Register kept detailing approved equipment, noise compliance certificates and relevant restrictions/ conditions of use (if any).	Prior construction	Sub-contractor to submit Plant & Equipment Register.	SM	Included in sub-contractors work method statements. Sub-contractor audit	Records maintained.
Plant & Equipment to be operated in a proper and efficient manner.	At all times	Subcontractor to submit SWMS prior to works.	SM	Continuous inspection of operators and activities.	All operators are licensed. No inappropriate use of plant or equipment.
Ensure traffic access is through designated entry/ exit points	Ongoing	Traffic Management Plan.	CM/SM	Continuous monitoring.	No complaints from public or authorities.
Demolition to be conducted in accordance with AS 2601:1991	Prior to engagement	Detailed in subcontractor SWMS. Approved licensed contractor used.	CM/ SM	At tender review.	Registration cited. SWMS provided.
Mitigation Measures					
Plant to be fitted with	Prior	Included into	SM	Pre-construction	Compliance

Control	Timing	Methodology	Responsibility	Monitoring and Reporting	Performance Measure
engine covers and residential class mufflers.	construction	sub-contractors tenders.		inspection. Included in routine environment Audit.	certificates provided. No complaints
PPE including ear muffs and plugs to be issued and worn where noise exceeds 85dB(A)	At all times	In accordance with the Noise & Vibration Management Plan	SM	Pre-construction inspection. Continuous inspection.	Register of use. Personnel using PPE.

11.0 AIR QUALITY MANAGEMENT PLAN

Objectives

To ensure construction and demolition must not prejudice air quality.

To maintain the current levels of local air quality during construction activities.

To minimise the generation of dust from the project site.

To implement appropriate controls to suppress dust and other suspended particulates in accordance with the consent conditions and risk management requirements.

To minimise all potential odour issues relating to contaminated soil or groundwater.

Key Management Issues

Major sources of air emissions from the proposed demolition and construction works at the site are primarily associated with traffic movements, minor excavation /stockpiling and handling of soils on site and the demolition of some existing buildings and structures. In addition, the likely presence of existing soils/groundwater on the site may give rise to potential odour emissions as a result of minor excavation or soil disturbance.

The generation of dust, air emissions or odours from the site can be a major nuisance to adjacent land users, create unsafe working conditions on site and result in environmental degradation via the loss of topsoil and placement of dust onto sensitive ecosystems and adjacent water bodies. In view of this, the following management issues have been identified:

- Dust/Odours generating from construction activities from the site affecting adjoining properties or public access (Environmental Class P2 Risk).
- Dust generated on the construction site affecting site operations (Environmental Class P2 to P1 Risk).
- Odours emitted from any disturbed soils/ groundwater affecting site workers or site personnel (Environmental Class P2 Risk).

Site Controls

The minimisation of air-borne pollution is a key component for this environment management plan for the site. Construction and demolition phase air quality impacts shall be minimised or avoided by incorporation of appropriate air quality control measures.

Air Quality Monitoring Equipment Diagram will be prepared prior to site activity, detailing the locations and type of equipment e.g. dust gauges or dust loggers to be installed and monitored.

The installation and application of air quality controls during the construction phase shall be in accordance with the following principles:

Planning

- Ensure that all equipment used and all facilities erected on site are designed and operated to control the emission of smoke, dust, fumes and any other air impurity into the atmosphere;
- spray earthworks, roads and other surfaces as necessary with water;
- seal temporary haul roads where appropriate which will be in use for prolonged periods;

Construction & Demolition Phase

- Schedule the civil works program in a manner to minimise the length of time that excavations and stockpiles are left exposed.
- Provide adequate truck wash-down and wheel washing facilities on site to preventing tracking of muds/ sediment onto public roadways and generating dust.
- Transport routes and traffic areas shall be clearly defined by marker posts or other suitable barriers to prevent unnecessary vehicle movement onto other areas. These roads shall operate under defined speed limits.
- A water cart will 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 immediately after loading to prevent windblown dust emissions and spillages. The covering must be maintained until immediately before unloading the trucks.
- All access roads shall be surfaced in selected materials and where required, hard surfaced. Mud stone, clay stone and shale stone shall not be used.
- Subcontractors will maintain all construction equipment to ensure exhaust emissions comply with the relevant Air Regulations issued under State Legislation.
- All waste material will be removed from the site in a manner described in the Waste Management Plan.
- No cleared vegetation, demolition materials and other waste material shall not be burnt on the site.
- No excavation or similar works involving disturbance of large volumes of soil will be permitted during extremely windy conditions.
- Progressively revegetate and landscape disturbed areas to minimise long durations of soils exposed to weathering. Seed stockpiles with local grasses.
- Development and implementation of an Asbestos (& Hazardous Building Materials) Management Plan as part of the demolition phases.

Training

Communication and education material on the air quality and dust controls and procedures will be part of the Site Environmental Awareness Program that will be incorporated into the site induction program.

Performance Measurements

- Achieve air quality monitoring targets.
- No visible dust for more than 15 continuous minutes during construction activities.
- No odour or dust complaints received from adjoining operations, nearby residents or from statutory Authorities.

Monitoring and Reporting

The SM will perform air quality monitoring to determine of the acceptable air quality thresholds are being met for each of the nominated monitoring parameters. This information will be used to determine the effectives of existing air quality mitigation measures and provide for any remedial actions if required.

The Site Manager will 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.

The SM may require the Subcontractor to carry out additional Air monitoring if a complaint regarding Air Quality is received.

The SM in consultation with the EM will advise the monitoring location and the monitoring required will be manned monitoring.

Corrective Actions

Non-conformances are to be recorded by way of the System Defects.

The Subcontractor (and EM/ CM/ SM if applicable) shall review and analyse the cause of detected non-conformance and develop a corrective action to prevent recurrence. Details of the non-conformance including any immediate corrective actions undertaken are to be recorded, reviewed and accepted by the CM.

It is the responsibility of the CM to immediately initiate corrective actions following approval. The non-conformance and corrective action must include details of the actions proposed, desired performance target and action close out date. The system defects report should be signed, dated and filed.

All corrective and preventative action taken by the Subcontractor will be carried out by and at the cost of the Subcontractor.

If such corrective and preventative action leads to further non-conformance, any further action shall be subject to approval by the CM in consultation with the EM.

Air Quality Management Implementation Plan

Control	Timing	Methodology	Responsibility	Monitoring and Reporting	Performance Measure
Planning					
Prepare an Air Quality Management Plan, Detailing the controls to be implemented.	Prior to works commencing. Review prior to work stages.	Base provisions on approved requirements by nominated consultant.	CM	Review of plan prior works commencing.	Plan covers all key areas and site specific considerations to maintain and document controls.
Design, implement and maintain Air Quality Monitoring Program and Plan.	Prior to works commencing	Based on Air Quality Management Plan and to be prepared by Environmental Consultant.	CM	Air Quality Monitoring Program/Plan to detail key parameters, methodology and guidance levels. Monitoring Plan to show monitoring locations	Not to exceed target values for each parameter. Scheduled air monitoring performed correctly.

Control	Timing	Methodology	Responsibility	Monitoring and Reporting	Performance Measure
Areas to be disturbed will be limited in order to minimise surface with potential to generate dust.	Prior to works commencing.	In accordance with Air Quality Management Plan.	SM	Weekly inspection or as required.	No visible dust. Acceptable dust monitoring levels.
Dust Controls					
Exposed surfaces and stockpiles to be kept moist by spraying with water or dust suppressant	Daily or as necessary when dry and windy weather conditions prevail.	In accordance with the Air Quality Management Plan.	SM	Daily inspection and monitor activities for dust generation.	No visible dust. No reported dust monitoring exceedances.
Exposed surfaces and stockpiles left for longer than 4 week to be stabilised by sealing, seeding or spraying with water or dust suppressant.	Four weeks from completion of activity.	In accordance with the Air Quality Management Plan	SM	Daily inspection and monitor moisture content of exposed areas.	No visible dust. No reported dust monitoring exceedances.
Avoid soil disturbance works during periods of high wind or other extreme weather conditions.	At all times.	In accordance with Air Quality Management Plan.	SM	Monitoring of predicted meteorological conditions.	No works performed during high wind or rainfall events.
Immediate stabilisation works & landscaping batters of disturbed grounds undergoing rehabilitation.	As required	In accordance with the SEMP & landscaping works	CM/ SM	Daily/weekly inspection Project planning and design meetings.	Appropriate stabilisation of works. No areas left exposed for prolonged periods.
Truck wheel wash/shaker facility to be installed near access gate	Prior to construction commencing	Detailed work method statement to be prepared by sub-contractor	CM	Pre-construction inspection.	No dust generated by traffic on leaving site
Maintain clean traffic routes and 10km/hr speed limit within site	Ongoing	Appoint street sweeper and water kart.	SM	Weekly inspection of exterior roadways or	No complaints from public or authorities.

Control	Timing	Methodology	Responsibility	Monitoring and Reporting	Performance Measure
and at site entrance/exist.				immediately after rainfall events.	No dust from exterior roads. No speeding vehicles.
All site internal roads to be sealed or constructed from gravel or non-dust generating materials.	Prior to construction	In accordance with the Air Quality Management Plan	SM	Pre-construction inspection.	No breakdown of surface material. No loose material.
Trucks transporting loose material to and from the site to be covered.	At all times	In accordance with the Air Quality Management Plan.	SM	To be put into tenders for sub-contractors. Compulsory inspection at gate prior to entrance/exit to site.	No visible loose material from trucks. No community complaints.
Dust Quality Controls					
Minimise potentially contaminated dusts being generated from any contaminated site soils.	At all times	In accordance with Air Quality Management Plan.	SM	Dust Monitoring Plan to include parameters when contaminated soils encountered or disturbed.	No contaminants detected in dust monitoring samples.
Vapour & Emission Controls					
No vapours within work areas.	At all times	In accordance with Air Quality Management Plan.	CM/SM	Intensive air vapour monitoring (and personal air monitoring if required) during and after works by consultant.	No elevated vapours detected during works. No works performed whilst elevated vapours are detected in work areas.

Control	Timing	Methodology	Responsibility	Monitoring and Reporting	Performance Measure
Combustible waste material shall not be burnt on site	At all times	Covered in site induction.	SM	Continuous monitoring. To be put into tenders for sub-contractors.	No fires or incineration on site from construction works.
Plant and equipment to be fitted with standard pollution/noise control devices as a minimum.	Prior to construction commencing	In accordance with the Air Quality Management Plan	SM	Routine inspection. To be put into tenders for sub-contractors.	Copies of compliance certificates to be supplied. No complaints from site or land users.

12.0 TRAFFIC & PARKING MANAGEMENT PLAN

Objectives

To minimise any potential conflict associated with demolition and construction site traffic and nominated traffic routes over the duration of the proposed works and to prevent injury to persons from moving plant onsite.

Powered mobile plant is extremely hazardous when it is operated in situations where people or other vehicles are sharing the same area. Workers are particularly vulnerable in areas where mobile plant and machinery is operated and the operator's vision may be restricted and plant, which is apparently idle, may move with little warning.

To minimise any adverse environmental impacts related to air emissions, water quality and soil contamination.

Key Management Issues

A Construction Traffic Management Plan will nominate and set out access points, heavy vehicle routes to external roads, and controlled circulation within the site to reduce traffic congestion or vehicle conflict.

The location of the site and careful vehicle management will ensure that conflicts between construction and other operational facilities and community activities in the area, will be controlled.

Construction traffic is subject to constraints imposed by site conditions and public traffic movements.

The primary issues that affect the construction phases include:

- construction and demolition areas with site access and egress;
- interaction with existing operational facilities around the site, in particular neighbouring PPP works;
- the controls of roadways;
- the timing and extent of material deliveries;
- traffic conflicts with both existing vehicles and other construction traffic;
- traffic congestion and conflicts on external roads; and

- signage and directions.

Use of specific measures to eliminate or control risks in work areas will be:

- Isolating vehicles and plant used in or around the site and work area from persons on the site or work area. This is to be co-ordinated daily with site foreman and subcontractors.
- Maintain a controlled permit system for vehicles at access gates.
- Use of fencing, barriers, temporary warning or control signs to secure the area where moving plant is used.
- Planning the direction that plant moves so the visibility of operators is not restricted.
- Using spotters to control traffic movement.
- Implementing safe working distances and exclusion zones.
- Reversing alarms on plant and flashing lights.
- Designated walkways to be established and maintained for areas where workers and plant interact.
- Establish notifications of public transport systems and local parking stations to site workers.

Vehicle Access

Access to the site is to be detailed on a Construction Traffic Plan and diagrams, taking into account the staging of construction and demolition works over the duration of the works, by establishing:

- Main Access Gates, with Controllers, signage and a controlled vehicle permit system in place. General entry for all vehicles and delivery's will be from Darling Drive at the western boundary of the project.
- All vehicles enter through advised gates in an forward direction speed limit 10 kmh
- Those directed onto site, will be located in nominated marked layover spaces and wait for unloading or loading.
- Deliveries will directed out of the way of other moving vehicles and wait instructions for delivery.
- If reversing is necessary the vehicle will be directed by a suitably trained person who will give direction and keep other persons from entering the area.
- After delivery, vehicles will leave site through gates, whenever possible, in a forward direction.
- General entry requirements to be included in the Site Induction with all regular vehicle delivery companies.
- general site access and egress and these routes and points clearly signposted
- restricted points of access during the construction and demolition phase.
- Maintain specific access corridors for each construction stage
- Reduce opportunities for vehicle –borne transfer of sediments off-site.

There is no construction parking provided on site. Use of current public transport types shall be informed to all through tender interviews and site inductions.

Vehicle Site Entry

Entry gates onto the construction work will be manned to ensure that all vehicles comply with procedures and controls in place for entry and exit from the various gates located around the site. Personnel access and egress shall be through security controlled ID swipe card gates located to the eastern side of the site.

General requirements for all plant and vehicles while on site will be

- All vehicles entering the site will be maintained in a safe and serviceable condition (ie road registered or complying to Lend Lease Building plant requirements ie qualified person sign off and daily inspection). Operators of plant (including all moving plant ie EWP's) will hold appropriate WorkCover certificate of competency or where this is not required be appropriately trained, instructed and supervised into its safe operations.

- Prior to moving a vehicle on site the Supervisor responsible will assess (ie walk) the path of access to ensure it is suitable for entry of that vehicle.
- Those drivers delivering onsite will remain in their vehicle under the instruction of the Supervisor/Subcontractor unless brought in as an inducted person or visitor with the inducted subcontractor. Operators and drivers of plant are to be aware of anyone in the work area.
- All vehicles moving on site will move in a forward direction, if reversing a trained person with full view and knowledge of surrounding activity will guide the vehicle at all times. All plant is required to have a reversing beeper and a flashing light on top of vehicle.
- Repairs on machines need to be carried out by competent person. All mechanics working out on site with machines need to be inducted or sign visitors' book and be with inducted worker.
- All subcontractors moving vehicles on site will provide to Lend Lease Building a copy of their Vehicle Movement Plan (VMP) for review prior to locating on site. Examples will be:

    a. Concrete deliveries. Prior to commencing, an induction shall be held at the nominated plant `s yard to deliver drivers with routes and gate locations. When ordering concrete, a gate location to enter site can be given and operators/drivers have upfront knowledge of location allowing traffic movement in and out of site. Concrete pours will have traffic controllers for location of trucks to pumps and associated area clearly defined with signage and barriers.

    b. Mobile Cranes. Prior to commencing, an induction shall be held at the nominated crane yard to deliver drivers with routes and gate locations. When ordering cranes, a gate location to enter site can be given and operators/drivers have upfront knowledge of location allowing traffic movement in and out of the site. Mobile Cranes will have exclusion zones for setup and documents for each crane is kept in Lend Lease Building site office, filed in EHS filing system. Area Foreman will review daily inspection prior to commencing on site.

- If a subcontractor requires bringing an item of plant on an irregular basis the Subcontractor in charge are required to complete a "Supply of Plant Permit", which has access rules and diagrams attached and return to Lend Lease Building the day before of plant arriving on site. The permit requires the attachment of the SWMS, Inductions and Plant and equipment inspection report . All subcontractors are responsible to ensure those they bring on site meet all Lend Lease Building requirements for site entry.
- A review of the risk assessment and control measures associated with vehicle movement will be undertaken as a part of the subcontractor's weekly inspection (or more frequent were required) and where necessary the control measures will be upgraded. Weekly safety walk is to inspect all number gates for signage etc.
- Construction Site entry requirements to be included in the Company Specific Induction.

Signage

The CM will be responsible for providing the signage on site regarding traffic management and the updating and maintenance of the signs as required.

On-site signage, speed limits and speed reducers will be used to ensure drivers use appropriate routes through the site and to and from the site access points.

Training

All site personnel will be inducted into the construction traffic management system that will be operating for the site during the site induction and education program.

An ongoing site education update on changes to any traffic operations shall be reviewed and notified through meetings, correspondence and site notice boards.

Performance Measures

- Access provided prior to works commencing;
- Provision and maintenance of fencing and gates;
- No complaints received from adjoining operations, statutory authorities or local road users;
- Accurate recording and prompt resolution of public complaints (if any); and
- Regular checks of vehicle access and egress points for efficiency.

Monitoring and Reporting

The CM will report when required on the implementation of the Traffic & Parking Plan. The plan will be periodically updated to include but not be limited to: -

- access points in use and regular checking of access corridors and designated layover areas for congestion;
- location of access points;
- variations to traffic management plans to suit various staging works around the site;
- identification of any safety or operational incidents and actions taken to address the conditions that caused the incidents;
- monitoring complaints and corrective actions;
- Accurate recording and prompt resolution of public complaints; and
- Appropriate signage to internal and external roads and maintained to comply.

Corrective Actions

Non-conformances are to be recorded by way of the System Defects.
The Subcontractor (and EM/ CM/ SM if applicable) shall review and analyse the cause of detected non-conformance and develop a corrective action to prevent recurrence. Details of the non-conformance including any immediate corrective actions undertaken are to be recorded, reviewed and accepted by the CM.
It is the responsibility of the CM to immediately initiate corrective actions following approval. The non-conformance and corrective action must include details of the action proposed, desired performance target and action close out date. The system defects report should be signed, dated and filed.
All corrective and preventative action taken by the Subcontractor will be carried out by and at the cost of the Subcontractor.
If such corrective and preventative action leads to further non-conformance, any further action shall be subject to approval by the CM in consultation with the EM.

Traffic & Parking Management Implementation Plan

Control	Timing	Methodology	Responsibility	Monitoring and Reporting	Performance Measure
Planning					
Development of a Construction Traffic Circulation Diagram.	Prior to works commencing .	In accordance with the Traffic & Parking Management Plan and Transport and Traffic Impact Assessment.	CM	Pre-construction inspection.	Diagram covers all key areas of traffic circulation internal and external. It must clearly show traffic circulation routes, loading/ unloading areas and gates.

Construction & Demolition Operations					
Only site personnel and authorised visitors shall be permitted to enter the work areas.	At all times	In accordance with the Traffic & Parking Management Plan	CM	Monitor for unauthorised access.	No unauthorised access, parking or deliveries.
Material deliveries to be scheduled to minimise disruption to site operations and the local community.	Any times	In accordance with the Traffic & Parking Management Plan	CM	Ensure deliveries arrive at scheduled times.	No complaints received. No deliveries outside specified working hours.
All construction traffic for internal works shall access the site via the main site access points	At all times	In accordance with the Traffic & Parking Management Plan	CM	Monitor unauthorised access.	No unauthorised access.
Truck movements to be restricted to specified routes.	At all times	In accordance with the Traffic & Parking Mgt Plan To be included in sub-contractor tenders.	CM	Specified routes detailed during site induction. Routes shown on traffic circulation map in TPMP.	No complaints from residents, regulatory authorities or site operations.
Delivery areas to be clearly marked.	Prior to commencing and on going.	In accordance with the TPMP.	CM	Monitoring designated areas for compliance.	No Deliveries within unauthorised areas. Site Gates clearly signposted.
Speed limit of 10km/h shall be adhered to at all times.	At all times	In accordance with the TPMP.	CM/ All personnel.	Monitor compliance.	No complaints from residents, regulatory authorities or site operations.
Vehicles departing the site shall be not release mud, dust or other matter onto public roadways.	At all times.	Wheel wash and shaking racks to remove mud. All loads covered by contractor.	EM	Monitor compliance.	No complaints from residents, regulatory authorities or site operations.

13.0 COMPLAINTS MANAGEMENT PLAN

The purpose of this section of the plan is to detail the communication protocols and procedures to be employed across all phases of the project. Lend Lease (NW Plot)will work in collaboration with Infrastructure NSW to develop joint protocols for all consultation and engagement, ensuring that from Day One there is a consistent, coordinated and proactive approach to the management of complaints.

The proposed approaches and frameworks outlined in this section aim to assist in the early identification of both existing and emerging issues and the development of appropriate and agreed responses. It also provides clear background and direction for the management of stakeholders and the community over the three phases of the project. It is intended that these protocols will form the foundation for planning all activities that require stakeholder or community consultation, engagement or issue management.

It is anticipated that these projects protocols will evolve and be reviewed and agreed collaboratively by Infrastructure NSW and Darling Harbour Live.

Complaints will be recorded on the community consultation database. The record will be filed and actioned and distributed as necessary to those involved in the contact. A stakeholder and community contact database will be maintained to track contacts and records.

The following information will be captured on the stakeholder and community contact database:

- Persons full name and contact details;
- Date and time of enquiry /complaint;
- Description of issues raised by the stakeholder;
- Nature of the contact (i.e. conciliatory, conflicted, hostile);
- Action required and timing, particularly if any commitments have been made around timeframes;
- Person responsible for the action.

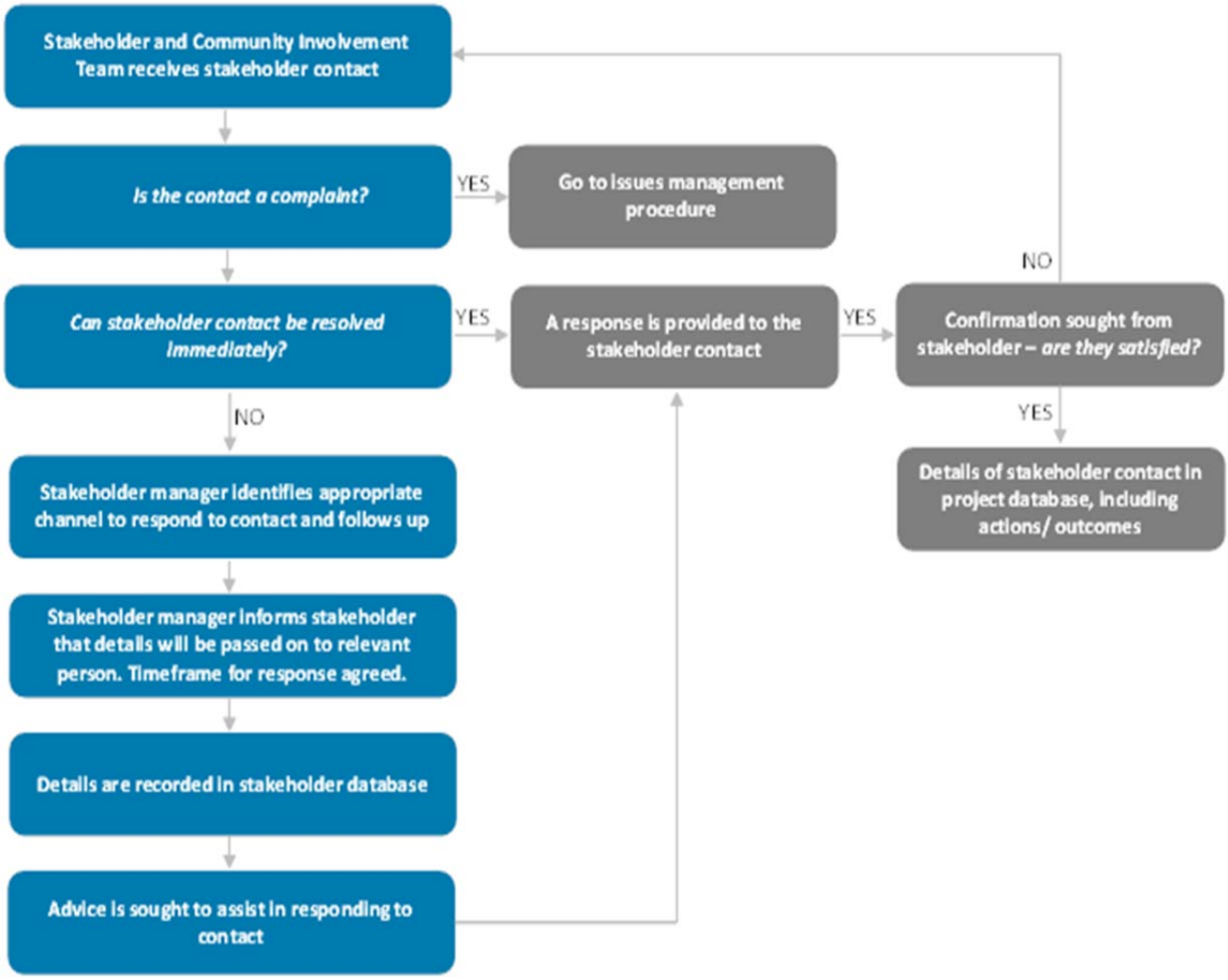
The following figure represents the stakeholder contact procedure, and incorporates the communications infrastructure described above. It details the system to be followed when receiving a contact from an external stakeholder.

It is anticipated that these contacts will generally relate to individual residents or community groups, however there may be occurrences when they relate to other stakeholders or organisations

An issues (or complaint) can be defined as any communication received from a stakeholder or community member that expresses dissatisfaction with any aspect the project, its delivery or ongoing management. Management of issues is of critical importance for developing and maintaining meaningful relationships with stakeholders and community members throughout the life of the project.

The procedure will assist in identifying issues that may escalate (from low to medium or medium to high) and offer mitigation measures. Lend Lease (NW Plot)recognise the need to be flexible in the classification of key issues to ensure the team, including Infrastructure NSW, respond appropriately to each issue as it arises. Similarly these classifications will be identified based upon both the complaint and the stakeholder member involved.

This procedure is supported by an issues classification matrix that identifies and defines three categories of issues as detailed as follows. All issues raised will be reported as part of the monthly project communications working group via the stakeholder and community issues report.



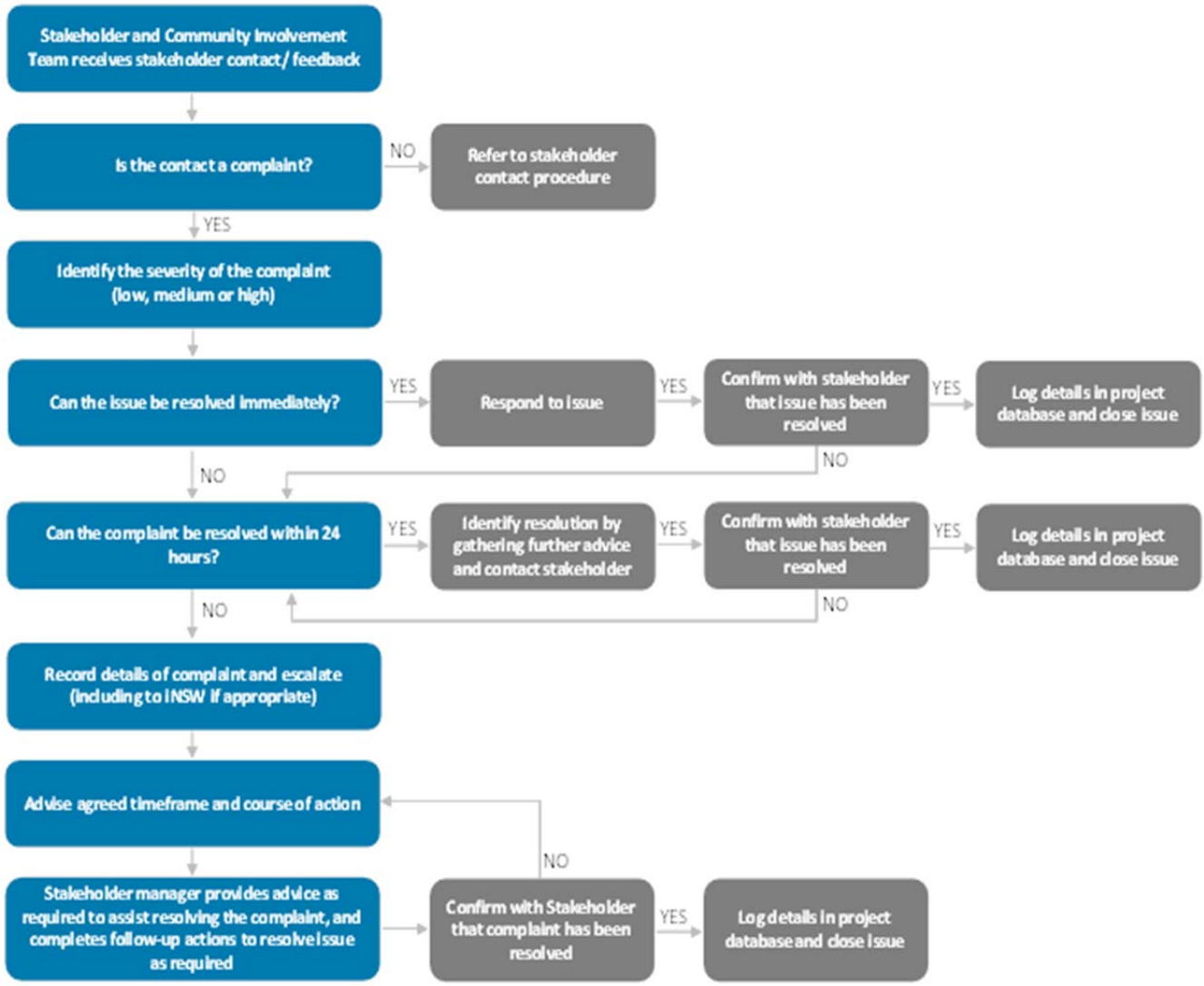
CLASSIFICATION	DESCRIPTION	ACTION
High (*issue cannot be resolved by the project team*)	Involves negative media coverage Involves political and/or government agencies Relates to safety or security	Immediate verbal report to the Lend Lease (NW Plot)Project Director and Infrastructure NSW Project Director (followed by written advice).
3 Medium (*issue cannot be immediately resolved*)	Involves an individual or group expressing negative sentiments towards the project with the threat of further action. The stakeholder raising the issue is not satisfied with the response provided.	Issue an action to the relevant Lend Lease (NW Plot) team member through consultation manager Follow up via email, to infrastructure NSW within 48 hours
4 Low (*issue can be responded to immediately*)	Involves an individual or group expressing negative sentiments towards the project. There is no threat of further action	Communities Team member responds appropriately.

Contact response targets have been defined as:

- Same day acknowledgement of stakeholder enquiries;
- 48-hour response target for all routine business and community inquiries, e.g. questions about project basics, timeframes or high-level milestones. This timeframe can be extended where more detailed information is required, provided the stakeholder is advised of the reason for delay;
- 72-hour response target for complex or policy-related inquiries, e.g. a detailed request from an events industry association or peak body.

These response targets are consistent with those specified in the *Infrastructure NSW Stakeholder and Community Involvement Strategy* to ensure consistency across all components of the SICEEP project for stakeholders and community members.

The following figure represents the issues management procedure that will be adhered to by the project team.



APPENDIX – A – SICEEP TRAFFIC MANAGEMENT PLAN