

LIVERPOOL HEALTH & ACADEMIC PRECINCT MAIN WORKS PACKAGE

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

April 2022



DOCUMENT HISTORY

Version	Date	Issued by	Approved By
1	October 2021	MH	DP
2	April 2022	SB	DP

DOCUMENT CONTROL

To ensure the Construction Environmental Management Plan remains relevant and accurate, this document will be continuously reviewed and evaluated throughout the planning and delivery of the project.

Any revisions made will be communicated to the project team accordingly.

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

Main Works Package

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1.0 INTRODUCTION

1.1 OVERVIEW

The Liverpool Health & Academic Precinct - Main Works Package involves a staged construction approach for, up to, a 6 level Integrated Services Building (ISB) within the existing Liverpool Hospital Campus, refurbishment of existing buildings, demolition and associated site works.

The new Integrated Service Building (ISB) includes:

- Integrated Cancer Care (ICC) services
- Women's and children's health
- Increased inpatient bed accommodation
- Ambulatory and outpatient care clinics
- Additional clinical services including medical imaging
- New non clinical services including loading dock and satellite kitchen facilities

Expansion within the existing Clinical Services Building (CSB) includes:

- Intensive care unit (ICU)
- Emergency Department (ED)
- Operating Theatres (OT)
- Interventional Radiology (IR)
- Surgical day only & surgical short stay unit
- New and refurbished non clinical services

The Main Works Package is subject to two separate planning approvals:

- SSD10388 – Multi-Story Carpark (MSCP) – Construction and operation of an eight-level carpark, at-grade carpark, demolition works, remediation works, road connections and landscaping;
- SSD10389 & Mod-1 – Liverpool Hospital Redevelopment, comprising of construction and operation of the eight story Integrated Services Building (including basement and plant levels), refurbishment works to old and new clinical service building and Caroline Chisholm building, skybridge over Campbell St, tree removal, demolition, remediation, road, landscaping, and utility works.

The associated works within SSD10388 for the Main Works Package is limited to the at-grade carpark, demolition of hardstand including any relevant remediation and landscaping works.

The objective of this Construction Environmental Management Plan (CEMP) is to ensure that the Project is safely delivered using a robust set of methodologies and zero unplanned disruption to hospital services, and to comply with the regulatory requirements as outlined by the Department of Planning and other Authorities.

This plan has been developed from the approved Development Consent Conditions as outlined in SSD10388 approved on the 30 November 2020 & SSD10389 approved on 30 November 2020 and Mod-1 approved on 1 July 2021. There are several sub plans which will form the basis of this management plan. During the construction programme, these plans will be reviewed and updated as required.

The Lendlease construction management processes will provide:

- Seamless performance and accountability from a single responsible entity.
- The works will be managed by a single proven responsible entity; and
- a mechanism to reduce risks during project delivery.

Lendlease has produced this CEMP as the contractor responsible for the delivery of the project. It is envisaged that this CEMP will evolve during the course of the Project as the design develops in conjunction with the design consultant team, project stakeholders, Health Infrastructure (HI), South Western Sydney Local Health District (SWSLHD) and Johnstaff Project (JSP).

In the following sections, we have set out how we intend on managing the Project and activities associated with the Main Works Package.

The CEMP also defines the impacts of the proposed construction activities on areas within the Hospital Campus (Campus). This plan will outline the proposed mitigation strategies to be implemented during the relevant construction activities and outlines contingency measures that will be enacted to minimise any potential risk to HI, SWSLHD, its community partners and stakeholders.

Our proactive and collaborative approach to our client NSW Health Infrastructure is underpinned by the following overriding and non-negotiable objectives:

- Maintain business continuity of the campus and adjoining facilities and properties.
- To deliver a world class facility for our client on time to the highest safety and quality standards.
- Safe and timely delivery of each stage of the works.
- Communicate in a timely fashion with all relevant stakeholders what, when and how we are planning to undertake interface works.
- Present a positive public perception of the project during the construction works.
- Use experienced and qualified subcontractors with appropriate resources to deliver their works in the manner we prescribe; and
- Hands on control of subcontractors from experienced Lendlease site supervision.

HI will have four key outcomes from the Lendlease CEMP:



Figure 1: Key outcomes

1.2 CEMP SUB-PLANS

In response to condition B11 of SSD10389 the following sub-plans are appended to the CEMP.

Sub-Plan Name	Abbreviation	Condition of Consent	Appendix Reference
Construction Traffic and Pedestrian Management Sub-Plan	CTPMSP	B12	Appendix 1
Construction Noise and Vibration Management Sub-Plan	CNVMSP	B13	Appendix 2
Construction Waste Management Sub-Plan	CWMSP	B14	Appendix 3
Hazardous Chemical Sub-Plan	HCSP	B14	Appendix 4
Asbestos Management Sub-Plan	AMSP	B14	Appendix 5
Stormwater Erosion and Sediment Control Management Sub-Plan	SEMSP	B16 & B17	Appendix 6
Air Quality Management Sub-Plan	AQMSP	C25 & C26	Appendix 7
Archaeological Research Design and Excavation Methodology	ARDEM & ACHMSP	B24	Appendix 8
SUB PLAN Heritage and Archaeological Management Sub-Plan			

1.3 SCOPE OF WORKS

The LHAP is to be completed in three (3) key works scope areas as set out below:

Scope Area 1	Description
Scope Area 1	Integrated Services Building (ISB) South
Scope Area 1	Integrated Services Building (ISB) North
Scope Area 3	Refurbishment Zones

These are generally described below.

Note that the Staging Report submitted pursuant to SSD10389 sets out intended compliance staging

relevant to the design and construction programme. The staging generally aligns with the scope split areas, with some exceptions in the refurbishment areas, where some parts are to be expedited, where possible, while other parts will be refurbished once the transfer of hospital functions from these areas to newly constructed areas has occurred.

1.3.1 AREA 1 ISB SOUTH

The ISB Area 1 (south) includes demolition of existing Education Building and Construction of the 4 Level part of Integrated Services Building, generally southwards of grid line M, comprising of the following departments and incorporating external works within and adjacent to the stage demarcation:

Level	Department
Basement	Workshops Plant End of Trip Facilities
Ground Floor	New Entry Reception Demand Management Emergency Department (Zone 1) Staff Room Facilities Pharmacy Retail Radiation Oncology (in part)
Level 1	Medical Imaging Pixi Unit Rheum, Immunology, Geriatrics Haematology Ambulant Care
Level 2	NICU Birthing
Level 3	Pathology
Level 4	Plant

1.3.2 AREA 2 ISB NORTH

The ISB Area 2 (north) includes Demolition of the existing Alex Grimson, Cancer, Oncology & Pathology Building & Construction of the 6 Level Integrated Services Building (i.e., balance part) comprising of the following departments and incorporating external works within and adjacent to the stage demarcation:

Level	Department
Basement	Workshops Distribution Centre Loading Dock Storerooms Plant
Ground Floor	Education Conference Centre Retail Cancer Clinics Radiation Oncology (in part)
Level 1	Clinical Trials Wellness Centre Pre-Vocational offices Cancer Day Therapy Educational spaces
Level 2	Staff Health Education/ Library Women's Ambulant Care Paeds Consult Zone MSCL
Level 3	Palliative Care IPU Paediatric IPU
Level 4	Antenatal IPU Education Postnatal IPU
Level 5	Haematology IPU Oncology IPU
Level 6	Plant

1.3.3 REFURBISHMENT AREAS

The refurbishment component of the LHAP consists of numerous upgrades, extensions and decants of new and existing department throughout the existing facility and are to be delivered progressively across the programme stages, generally as depicted in the below. The decant period is the process of moving existing functions from the existing building refurbishment areas to other parts of the site to enable their refurbishment.

From a compliance perspective, these works are split across the three works Stages – with the compliance obligations relevant to the works set out in the SSD10389 Staging Report.

Level	During Stage 1	Stage 1 (Decant Period)	During Stage 2	During Stage 3
Basement			Bike Store HR & Medical Administration Bed Store & Med Gases 'name change' Staff Room & Training Staff Amenities	Mail & Print Room Temp Distribution Centre & Store conversion to carparking
Ground	Caroline Chisholm Landscaping (First 12 Months) Bunker shielding works Temporary Entry & Bed Store (E/W) Forensics (E/W)		Emergency Department (refer below) Medical Records Oncology Bunker	Cancer Admin, Multi Faith & Education (Caroline Chisholm) Nuclear Medicine
Level 1	SSD – Sterile Stock Hold			Specimen Collection, PIXI, Cancer Admin, Trauma (Caroline Chisholm)

Level 2	Interventional Radiology & General Operating Theatre (E/W) Emergency Operating Theatre & Staff Station Surgical Short Stay Unit Critical Patient Bays & Office Upgrade ICU 5 & 6 Upgrade	Cancer Admin, NICU Parent Rooms, W & C Admin (Caroline Chisholm – Cancer Admin to occupy entire floor, refer to interim staging)		ICU Simulation, Meeting & Offices etc.
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1.4 CONSENT CONDITIONS

The Department of Planning has issued the approved Development Consent conditions for the SSD10388 & SSD10389 (including Mod 1).

The Conditions relevant to the CEMPs which have been addressed in the CEMP are included in the Compliance Matrix. The CEMP has been developed to include the requirements outlined in SSD10389 Consent Condition B11.

The Applicant is to submit a copy of the CEMP to the Certifier and the Planning Secretary prior to commencing works.

1.4.1 CROWN CERTIFICATES

Lendlease will be seeking multiple Crown Certificates under SSD10389. They are intended to be as follows:

CC Stage	CC Stage Scope	Indicative Commence ment Dates	Indicative Completion Dates
Construction			
Stage 1 is intended to be comprised of 5 sub-stages:		Quarter 3 2021	Quarter 4 2025
Stage 1.1	Stage 1.1 will encompass the following scope of works: <ul style="list-style-type: none"> Demolition in Area 1 – Thomas & Rachael Moore Education Centre (Building 27) & part Old Clinical Services Building (Building 05) and associated adjoining and adjacent structures Associated services adjustments, and Refurbishment of existing Emergency Department – Forensics in Area 3. 	Quarter 3 2021	Quarter 4 2021
Stage 1.2	Stage 1.2 will encompass the following scope of works: <ul style="list-style-type: none"> 1.2a - Structure & Services in the Area 1 – In-ground / basement level (this includes piles, retaining walls, sub-structure, cores, core raft slab) 1.2b - Oncology Bunkers (Building 03) wall & roof reinforcement works (note -balance of works to the bunkers building are in the Stages 1.5 (landscape) and 2 scope), and 	Quarter 4 2021	Quarter 3 2022

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CC Stage	CC Stage Scope	Indicative Commence Dates	Indicative Completion Dates
	<ul style="list-style-type: none"> 1.2c - Interventional Radiology and Operating Theatre refurbishment within the existing New Clinical Services Building (Building 06), including associated façade works. 		
Stage 1.3	Stage 1.3 will encompass the following scope of works: <ul style="list-style-type: none"> 1.3a – Structure Ground to Level 5 incl PT design 1.3b - Old Clinical Services Building (Building 05 - Surgical Short Stay Unit (SSSU), Intensive Care Unit (ICU), Sterilization Services Department (SSD) 	Quarter 4 2021	Quarter 3 2022
Stage 1.4	Stage 1.4 will encompass the following scope of works: <ul style="list-style-type: none"> 1.4a - Façade, fit out and services of part of the new Integrated Services Building in the Area 1 Refurbishment of existing Old Clinical Services Building (Building 05) – Emergency Department (ED) on the Ground Floor, and Refurbishment of parts of Level 2 of the existing New Clinical Services Building (Building 06) – Operating Theatre (OT) 	Quarter 2 2022	Quarter 1 2023
Stage 1.5	Stage 1.5 will encompass external works including landscape and civil works across the site: <ul style="list-style-type: none"> Oncology Bunkers (Building 03) rooftop landscaped areas Integrated Clinical Services Building Rooftop landscaped area, and Landscaped areas, pathways and related works across the balance of the site. 	Quarter 2 2022	Quarter 4 2025
Stage 2	Stage 2 involves the construction of the balance of the Integrated Services Building, generally from around grid line M and northwards in Area 2. This includes the following key activities: <ul style="list-style-type: none"> Demolition of existing Cancer Building (Building 24), Pathology Building (Building 25) and Alex Grimson Building (Building 25) and associated structures, and Structural work including piling, substructure and main structure. Stage 2 also includes the completion of the façade upgrade works to the Oncology Bunkers Building (Building 03) as part of the overall integrated façade works.	Quarter 3 2023	Quarter 4 2025
Stage 3	Stage 3 will include the delivery of remaining refurbishment works to existing buildings in Area 3 including: <ul style="list-style-type: none"> The refurbishment of the existing Caroline Chisolm Building (Building 04), and Refurbishment of the existing New Clinical Services Building (Building 06) - Basement Level amenities and Ground Floor Level communications and information departments, including Distributed Antennae System (DAS) and Communications (Comms) facilities and Clinical Information Department (CID). 	Quarter 3 2023	Quarter 4 2026

The CEMP is requested to be approved for all these components of works.

1.4.2 COMPLIANCE MATRIX

For ease of reference, the following compliance matrix has been prepared to identify the sections within the CEMP that satisfy relevant conditions of the SSDA:

Condition	Condition B11 Requirement	Document
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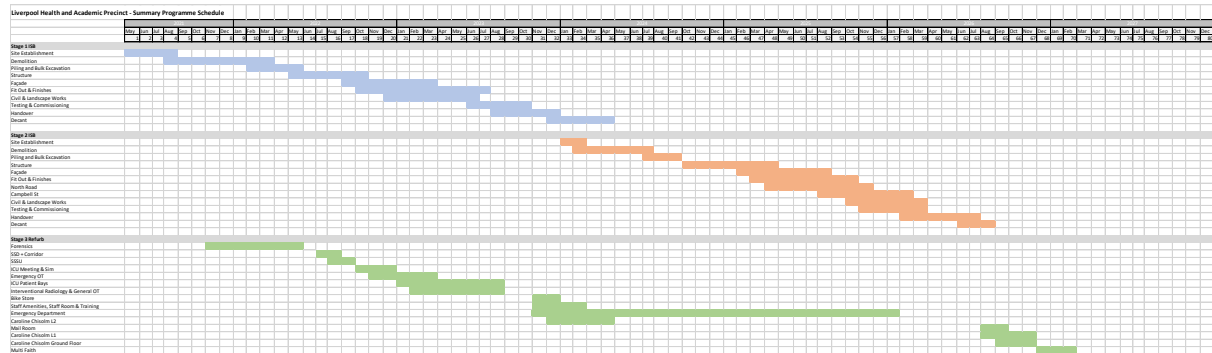
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B11 part		Reference
(a)	(i) Hours of Work	Section 5.3
	(ii) 24 Hour Contact details	Section 5.6
	(iii) Management of dust and odour to protect the amenity of the neighbourhood	Section 4.2,7.2, APP 7.0
	(iv) stormwater control and discharge	Section 11.0
	(v) measures to ensure that sediment and other materials are not tracked onto the roadway by vehicles leaving the site;	Section 11.0
	(vi) groundwater management plan including measures to prevent groundwater contamination;	Section 11.0, APP 4.0
	(vii) external temporary lighting in compliance with AS 4282-2019 Control of the obtrusive effects of outdoor lighting;	Section 13.0
	(viii) community consultation and complaints handling;	Section 7.0
(b)	Construction Traffic and Pedestrian Management Sub-Plan (see condition B12)	Section 8.0
(c)	Construction Noise and Vibration Management Sub-Plan (see condition B13)	Section 9.0
(d)	Construction Waste Management Sub-Plan (see condition B14)	Section 10.0
(e)	an unexpected finds protocol for Aboriginal and non-Aboriginal heritage and associated communications procedure;	Section 12.0
(f)	waste classification (for materials to be removed) and validation (for materials to remain) be undertaken to confirm the contamination status in these areas of the site	Section 10.0

2.0 CONSTRUCTION PROGRAMME

2.1 PROGRAMME OVERVIEW

The programme below summarises the key stages of the scope of the project.



2.2 CONSTRUCTION STAGING OVERVIEW

The Lendlease project team fully appreciate the disruption and change the construction works will bring to hospital operations and understand the challenges the HI, SWSLHD and the Liverpool Hospital Precinct management will have in communicating the staging sequences and the program of the works to the staff and public. The better hospital staff and public understand the timing and reasoning of the staging of the works, the more comfortable they will be with the temporary inconveniences.

We have completed a review of our construction program and methodology and documented a draft set of staging plans covering the works phases, these will provide the basis for a full set of staging control plans, which will be developed in conjunction with detailed design development during the Planning Phase in consultation with HI, SWSLHD and Liverpool Hospital Precinct Management.

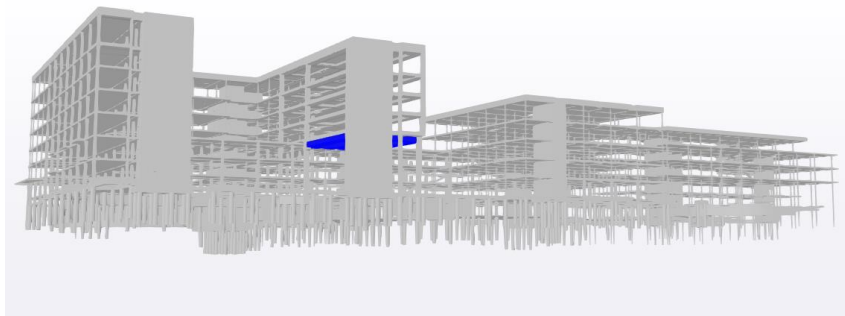
The staging plans will be developed to include:

- All site establishment items;
- Changed or modified egress paths;
- Pedestrian and vehicle circulation route changes;
- Temporary signage requirements; and
- Upcoming changes to works areas including approximated program dates.

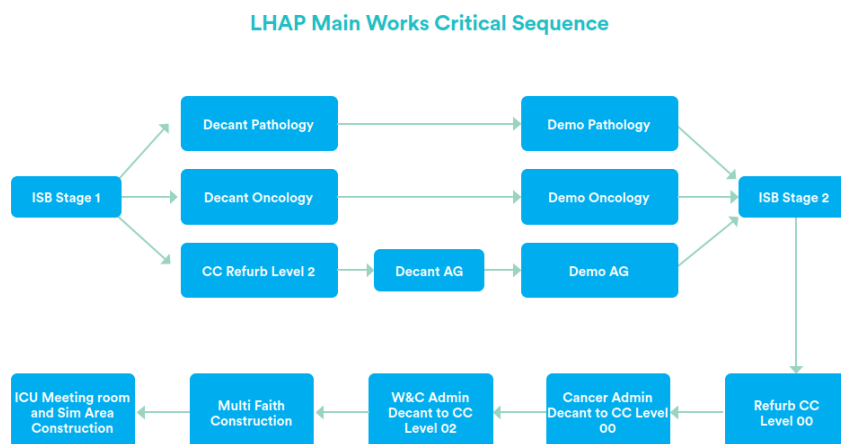
2.3 CONSTRUCTION SEQUENCING

The key sequence of construction of each ISB Stage of the project include the following:

- Demolition
- Bulk Earthworks
- Inground Structure
- Form, Reinforcement and concrete pouring of the suspended concrete structure;
- Erection of the steel roof and cladding;
- Installation of the façade system
- Fit out and services works to all levels of the building
- Energization of services and pre commissioning
- Cleaning and Validation
- Integrated Testing and Commissioning



The above figure is an isometric view of the ISB structure indicating its structural configuration with the below outlining the critical path programme sequencing of the project:



3.0 PURPOSE OF THE CEMP

3.1 OVERVIEW

This CEMP has been developed for the Liverpool Health & Academic Precinct Main Works and provides a management system and procedures to ensure that Lendlease establish and maintain best practice controls to manage potential environmental impacts and risks during the Project and are aligned with the Environmental performance outcomes. Lendlease is committed to providing its services in a manner that conforms to the contractual requirements and to all relevant regulatory and legislative requirements. To achieve this, Lendlease will plan, implement and control an integrated management system that facilitates the management of the environmental aspects of the Project.

The Construction Environmental Management Plan (including all sub plans) is compliant and consistent with:

- ISO 14001:2015;
- SSD10388 & SSD10389
- Environmental Impact Statement (EIS) and Submissions and
- Department of Infrastructure, Planning & Natural Resources (known now as the Department of Planning, Industry and Environment (DPIE)) Guideline for the Preparation of Environmental Management Plans, 2004.

This CEMP has been prepared to specify the actions and environmental controls required during construction works associated with the Project. The primary purpose of the CEMP is to provide a framework reference document detailing how Lendlease will manage and control environmental aspects of the Project during the construction phase. The CEMP will be used as a working document to ensure that obligations and commitments provided in the SSD, and EIS, and other licences, permits and approvals are made known to all staff (including sub-contractors) and implemented effectively as an integral part of project construction.

It also aims to detail processes to minimise impacts associated with the construction of the project on adjacent sensitive areas in particular Hospital operations.

The CEMP contains core Environmental Management System (EMS) elements and follows the principles of ISO 14001 – 2015. This CEMP has been developed to satisfy the requirements of the Guidelines for the Preparation of EMP's (Department of Infrastructure, Planning and Natural Resources 2004, now known as DPIE). The CEMP will be reviewed when necessary to reflect new processes, controls and procedures.

The CEMP, including the environmental management sub plans and procedures will be applicable to all staff and sub-contractors during the construction phase.

3.2 OBJECTIVES AND TARGETS OF THE CEMP

The environmental objectives for the CEMP in the construction period are:

- To satisfy key requirements contained within the Planning Approval conditions;
- To satisfy key commitments contained in the EIS and in other planning documents;
- To ensure compliance with relevant legislation and regulatory requirements;
- To develop, implement and maintain effective management systems for the environmental aspects of construction works;
- To monitor environmental impacts relating to the project as identified in this document and related sub plans; and
- To be consistent with the elements of the Australian / New Zealand Standard 14001: 2015 –

Environmental Management Systems (referred to as AS/NZS ISO 14001).

Lendlease will adopt the following objectives and targets:

Objective	Target
To comply with applicable legal and other requirements (environmental laws, regulations, statutory requirements and instruments of approval)	Nil instances of non-compliance with environmental statutory requirements (e.g. infringement notices, clean-up notices, etc.).
To implement a rigorous and comprehensive CEMP that meets the requirements of AS/NZS ISO 14001, and continuously monitor and improve environmental performance	Environmental Inspections completed; All Environmental Audits completed as per the Lendlease EMS and Environmental Audit program required under SSD C41; and All Non-Conformances closed out in specified timeframes.
To provide training and information on environmental aspects/impacts and controls for the project to workers	All workers complete an environment induction prior to commencement of works on site.
To minimise the impacts of noise and vibration from construction activities.	Maintain noise and vibration levels within project goals, human comfort and structural damage criteria.
To minimise the impacts of dust from construction activities.	Prevent fugitive dust emissions from the construction site.
To protect all heritage items that will be impacted by the Project.	Complete and implement unexpected finds protocols for Aboriginal Heritage & Historic Heritage.

3.3 PREPARATION OF THIS CEMP AND SUB PLANS

All environmental management requirements specified as being the responsibility of Lendlease, including those stipulated in the environmental documents, have been considered and addressed in preparing this plan, as have requirements of Lendlease's EMS which is accredited to AS/NZS ISO14001. This plan draws on the extensive knowledge Lendlease has acquired from successful environmental management of multiple and varied projects in a range of locations.

This CEMP has been developed in consultation with the relevant Authorities including DPIE, TfNSW, Liverpool Council and the SWSLHD. The Sub plans have been prepared in consultation where required with the above departments and records have been kept and maintained. This CEMP has been prepared according to relevant Conditions of Consent and will be reviewed and revised as per the requirements of Conditions of Consent. This includes:

- In response to internal Environmental Audits as per the requirements of AS/NZS 19011:2014 Guidelines for Auditing Management Systems;
- Consultation with required agencies, authorities and relevant stakeholders;
- Any new or changed environmental risks identified during the project;
- Changes to regulatory requirements;
- Results of corrective or preventive actions;

- Opportunities for improvements identified; and
- Requests by the NSW Department of Planning, Industry and Environment (DPIE).

The CEMP is the key management tool in relation to environmental performance during the design and construction phases. The CEMP describes the construction environmental management requirements for the Project and Lendlease's system for minimising and managing environmental risks associated with the construction phase of the Project. The CEMP is a dynamic document that will be reviewed and amended to incorporate additional requirements as required, changes to the project team, organisational structure and responsibilities or as improvements to procedures and methodologies develop.

The CEMP will be issued to the project Certifier and a copy provided to the Planning Secretary.

3.4 ENVIRONMENTAL HEALTH & SAFETY

Lendlease is committed to a vision of Incident and Injury Free (IIF) workplaces wherever we have a presence. Our vision is supported by an uncompromising culture which holds the safety of people and the protection of the environment as first.

Lendlease has the following objectives with respect to implementing the EHS and Rehabilitation policies:

- Carry out the works safely and in a manner that, so far as it is reasonably practicable, does not put at risk the health and safety of persons.
- Identify and eliminate Potential Class 1 / Class 2 incidents and occurrences.
- Comply with Work Health & Safety / Environmental legislation &, Lend Lease GMR's
- Provide sufficient resources (people, time and money) to effectively implement these activities and nominated controls;
- Develop and implement an Incident and Injury Free project strategy to achieve good practice EHS management and reward positive safety related behaviors
- Achieve any client/contract specific EHS objectives and targets for the project;
- Achieve any EHS and Regional/Strategic Business Plan objectives and targets for the project (e.g. LTIFR, training);
- Apply the Lendlease Way for Safety, Core Values and Code of Conduct in all business decisions and undertakings.4.

It is the commitment of LLB that ongoing good practice EHS Management and good industry practice is encouraged and implemented on the project.

3.5 ENVIRONMENTAL HEALTH & SAFETY POLICY

Lendlease's Environmental Health & Safety Policy is provided below. Lendlease will seek to ensure that this policy, environmental procedures, construction methods and associated Management Plans are understood, implemented and maintained by personnel at all levels involved with the Project.

Policy

Environment Health and Safety

Building, Australia



Lendlease Building is part of the Lendlease Corporation, an international property and infrastructure group with core expertise in shaping cities and creating communities. Our national delivery capability and sector focused approach enables innovative and industry leading project management, design and construction services.

We are committed to our vision 'to create the best places' through a Culture Of Care which holds the health and safety of people and the protection of the environment as a key priority in all business undertakings.

To achieve our vision we commit to:

- Setting objectives and targets within the framework established by the Environment, Health & Safety (EHS) Management System (MS) to promote continual improvement, the protection of health and safety, the prevention of pollution and protection of biodiversity.
- Eliminating work related incidents and impacts associated with our business undertakings, products and services.
- Complying with applicable legislation, codes of practice, compliance standards, obligations and guidelines.
- Defining roles, responsibilities and accountability for clarity, consistency and predictability across our workforce.
- Understanding the needs and expectations of workers and other interested parties; including suppliers, subcontractors, clients, the community and regulatory authorities; through partnerships and consultative forums.

Key strategies to achieve our vision include:

- Implementing and maintaining an EHS MS aligned with Lendlease Global Minimum Requirements for Environment, Health & Safety.
- Integrating risk identification, risk management and compliance principles into core planning and delivery activities.
- Considering and taking action on risks, impacts or opportunities that may affect (positively or negatively) the ability of the Management System to deliver its intended outcomes.
- Identifying and implementing project specific strategies and controls to prevent pollution, protect significant environments and reduce demand on natural and material resources.
- Reviewing objectives and targets to promote continual improvement in EHS performance.
- Involving senior leadership in assessing the effectiveness of the Management System and its implementation.
- Undertaking strategic review of system procedures, policies and annual performance outcomes to reflect current business operations, legal and other compliance requirements to enhance EHS performance.
- Engaging with external stakeholders, such as government and industry to develop and promote leading practices and innovation.
- Developing planning, design and construction delivery solutions that reduce reliance on individual behaviours and the potential for injury and impact.
- Investigating incidents, reviewing the effectiveness of corrective and preventative actions and sharing outcomes to prevent recurrence.
- Planning and implementing timely and effective EHS management remediation strategies.
- Facilitating timely and effective injury management and return to work / rehabilitation for injured workers.
- Consulting with our broader workforce and key internal and external stakeholders by seeking participation and engagement on improvement to EHS policies, procedures, processes, initiatives, risks, impacts and outcomes.
- Communicating EHS information including alerts and lessons learned to employees, workers and other interested parties.
- Implementing learning / development initiatives to increase engagement, skills, awareness and competency.
- Implementing initiatives to promote the health and wellbeing of employees and other workers.
- Reviewing resources and the EHS MS to ensure effective, pro-active management of EHS and a focus on continual improvement.
- Recognising, rewarding and sharing leading practices with internal and external stakeholders.

I commit our project management, design and construction services across Australia to this Policy and the achievement of our vision, to create the best places.

A handwritten signature in black ink, appearing to read "D. Paterson".

David Paterson
Managing Director, Building

Current as at 03 September 2021



Other Languages

Uncontrolled when printed

4.0 BUSINESS CONTINUITY

4.1 WORKING WITHIN THE OPERATIONAL HOSPITAL ENVIRONMENT

The Lendlease project team understands the challenging nature of the project and the constraint of managing major construction works adjacent and within an operational hospital environment and the non-negotiable requirement of no disruptions to hospital 'business continuity'.

Works areas

The first strategic approach from the site team in addressing live environment works is elimination. This means isolating work areas from operational hospital areas prior to any works being commenced and eliminating a works/hospital operations interface.

This will be the case for the major works to the following areas:

- The identified excavation zones will be enclosed by A Class hoarding and will be secured to ensure no unauthorised access. The A Class hoarding will be maintained for the construction of the ISB within both Stage 1 & Stage 2.

When elimination is not feasible, the second approach is to fully isolate the work area through secure hoardings prior to commencing any works and to provide controlled work access through the operational environment. This will be applicable to:

- Refurbishment works.

Along with significant works interfaces noted above there will also be planned investigative works, access to plant rooms, minor temporary works and installation of protective measures which will require process and controls to ensure full visibility of all subcontractors for these types of activities. Lendlease will impose a strict regime of consultation on all works outside the site perimeters, regardless of the nature of the intended works.

The Disruption Works Notice process will be implemented and followed. This includes all workers to firstly complete the required SWSLHD hospital worker induction and Lendlease Site Inductions. Secondly, Lendlease will approve the Disruption Notice & applicable Permit to Work process for all works outside of the secured site areas that will cause disruption to the normal day to day operation of the facility.

The Disruption Notice and permit system puts hold-points in place, which have to be signed-off prior works proceeding. If workers are found to be working without an approved Disruption Notice and relevant permits, they may be removed from the Project following investigation.

Lendlease have identified a 4 step process that we will undertake to ensure that the design and construction methodology mitigates the construction risks inherent in conducting site works within a live Health Campus (refer Figure 2). The planning for health service continuity and risk management 4 step process will underpin all stages of the project and will be used as the guiding principle for how construction will be undertaken around the campus.

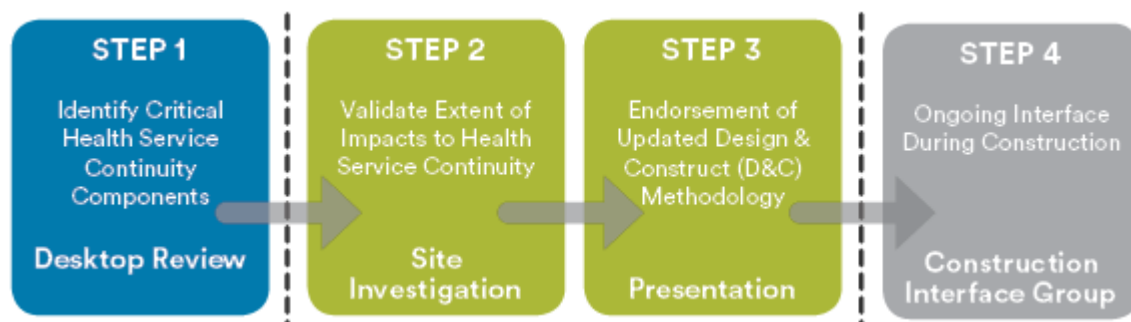


Figure 2: Four step business continuity process

Step 1 will be undertaken during the planning phase by Lendlease and will heavily influence initial construction methodology planning. Examples include but not limited to the following:

Program and staging:

- Analysis of disruptive works staging in the most efficient manner to minimise disruption to the Campus stakeholders; and
- Sequencing construction to ensure handover of completed spaces to minimise impact on the Campus and spread construction activities through Refurbishment zones.

Site establishment:

- Efficient use of limited space available for site establishment so to consolidate space taken by the construction site;
- Off Campus solutions to construction car parking to ensure no disruption to car parking within the precinct; and
- Planning for construction access in controlled zones.

Construction interfaces:

- Strictly controlling where construction will interface with the Hospital nearby residential dwellings or public;
- Implementing airtight, acoustically treated and fire rated (where required) hoardings for all existing building connections to minimise Infection Control risks and reduce construction noise impacts to nearby existing buildings;
- Ensuring sight lines from the construction site are managed so that patient and residential privacy in adjacent buildings is maintained;
- Separation of the construction workers from staff, public and patients by providing site accommodation and amenities within the construction boundaries, to B Class Hoarding and separate facilities within discrete locations on campus; and
- Using low impact construction methods to ensure noise and vibration doesn't impact the daily operations of the Hospital and nearby residential properties.

Lendlease will follow steps 2 and 3 to validate these assumptions and further develop them ready for the construction phase.

Step 4 implements ongoing risk assessment, mitigations and controls that have been established through Steps 1-3 and the continual monitoring of changing conditions that may affect our design and construction methodology. Strategies to support Liverpool Hospitals business continuity include but not limited to:

- Regular construction risk assessment using the Interface Strategy principles to identify areas of and manage potential interface risks that may affect the Campus business continuity;
- Utilising the Disruptive Works Notification process to identify, manage, communicate and collaborate on works that affect the existing Hospital facility in a clear and transparent way;
- Undertake a holistic integrated system testing and commissioning process;
- Undertaking an efficient, transparent Completion and Validation process in collaboration with the SWSLHD and principal representatives to ensure that the completed product is seamlessly transitioned into a live hospital environment; and
- Community notices / updates.

4.2 IDENTIFICATION AND MANAGEMENT OF KEY PROJECT RISKS

The Liverpool Health & Academic Precinct project presents a number of challenges that need to be delivered through a planned and structured approach. Prior to commencing with construction activities an extensive analysis of the project documents will be undertaken including multiple site inspections to thoroughly understand and plan the project based on our awareness of the key risks. Within this section an initial assessment of such risks and the proven construction delivery techniques adopted for the project. The key objective is to cause “zero unplanned disruptions” during delivery of the works.

To achieve this objective Lendlease propose using a risk identification strategy built around the key interface points between the construction and the operational Health Precinct. This Interface Strategy will be critical in risk identification and will be used to influence design decisions and dictate construction methodology. The following provides an initial assessment of the key interface risks and mitigations associated with the demolition and site clearance activities associated with the project. These will be developed in meticulous detail during the planning phase to inform the design and construction methodology, eliminate or manage risks appropriately and to ensure a smooth interface with the existing Liverpool Hospital Precinct.

Approach to Risk Management			
Risk, Major Issues and Interface Type	Details	Mitigation	Benefit
Maintain the public's perception of 'business as usual' for the Liverpool Hospitals' Campus.	Understand the implications of construction staging on the hospital's operational drivers and the potential impacts.	Review the construction staging with the hospital to ensure the full understanding and acceptance of the proposals: timing/ durations, construction impacts, power tools, noise, temporary partitions and access routes etc. All workers will be made aware of their responsibilities towards the understanding what constitutes disruptive works and to understand the time frames associated with preparing to carry out such works.	Minimise impacts of disruption to the hospital's daily activities wherever possible. Separation of construction and Hospital/ public. Workers to be constantly reminded of the importance of patients and users of the Hospital.
Working adjacent to the existing CSB	Construction works will take place adjacent to existing CSB facilities with potential disruptions to services.	Privacy screens will be erected to remove direct sightlines from the CSB into the site. Workers will be made aware of patient privacy within the CSB bedrooms. No unauthorised removal of privacy screens erected on scaffold to prevent direct sightline within wards from the site. Where there are potential disruptions, extensive planning and consultation will be undertaken prior to commencement of disruptive works.	Increased patient privacy to improve wellbeing. Separation of staff and patients from construction. Workers to be constantly reminded of the importance of patients and users of the Hospital.
Construction workers access and egress affecting daily Hospital Operations.	Construction workers should cause the least amount of disruption possible for staff and patients.	Access to and from site will be defined and out of bounds areas clarified for workers. The induction will focus on the amenities planned for within the construction site boundary which include lunch facilities with a selection of food outlets designed to offer choices to workers to limit their need to exit site at meal times. Disruption notices for refurbishment work zones to include pathways to the work area for the LHD to review and acknowledge or proposed amendment.	Reduce congestion of public areas through separate access routes and social areas. Workers to be constantly reminded of the importance of patients and users of the Hospital

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Approach to Risk Management			
Risk, Major Issues and Interface Type	Details	Mitigation	Benefit
Disruption to critical life services.	Disruptions to critical life services for tie-in's between new and existing.	Clear identification of critical building services. Any construction works which could impact these services can only proceed once full works plans and contingency plans are in place and signed off by all parties through the Disruption Notice protocols.	Zero unplanned disruptions to existing facility and critical services.
Disruption of the existing hospital pedestrian and vehicle access.	Entry/exit to the construction site will be manned and managed by Lendlease Traffic controllers to mitigate disruption to pedestrian and vehicle access.	The project will be programmed with a full temporary traffic management system to be established and coordinated with the hospital stakeholders prior to the commencement of construction. In consultation with the Principal and Local Council, identify proposed construction vehicular traffic movements and routes. Prepare and agree a detailed traffic management plan that will be implemented on the project.	Pedestrian safety with logical wayfinding, controlled traffic management. Minimise interface between construction and the Health precinct.
Vehicle parking	The commencement of the construction works for the early and main works contracts will see an influx of subcontractor workforce on the Precinct.	We will actively encourage the construction workers to use public transport to commute to and from the site, and park within the Collimore Park.	Minimise interfaces between construction and the Health precinct. Maintains existing carpark numbers for staff, patients and public.
Impact for hospital operations	Minimising loss of amenity for patients and staff during construction, in particular the interface works at the existing facades, structure and refurbishment works adjacent to occupied areas.	Throughout the interface works we expect there will be a need for concrete cutting, impact drilling for structural connections and the like. Lendlease will plan and sequence these works to occur at specific agreed times to allow as much respite time as possible, in addition the utilisation of low frequency low impact tools and equipment will be implemented where possible.	Continuation of regular hospital activities with minimal disruption to staff and patients. Minimise noise, dust and vibration effect on the operational hospital.
Disruption to nearby residential and business properties	Minimising loss of amenity for nearby residential and business properties during construction.	Noise, dust and vibration monitoring proactive notification of disruptive works (particularly demolition and civil works) selection of low impact equipment where possible for public safety.	Minimise noise, dust and vibration impacts on nearby dwellings.
Infection control	A major issue whilst undertaking construction work on an operational campus.	Provision of acoustic and dust proof hoardings providing construction containment, maintenance of negative pressure areas to ensure our construction containment regimes are working. The project specific infection control plan is developed prior to commencing the construction works. In preparing this plan Lendlease will make reference to the 'Infection Control Principles for the Management of Construction. Renovation, Repairs and Maintenance within Healthcare Facilities'. The plan will identify the different types and locations of works planned on the project and specify the level of activity. Identification of existing hospital air intakes and review to determine if additional filtration is required.	Elimination of negative impacts on staff and patients' health and wellbeing. Prevent dust from entering a clean hospital environment with ongoing monitoring to ensure adherence to this policy. Minimise noise and vibration effect on the operational hospital.

Approach to Risk Management			
Risk, Major Issues and Interface Type	Details	Mitigation	Benefit
Environmental conditions	The site area will require careful management of the site run-off.	Environment controls to be established prior to commencement and maintained throughout construction.	Minimises negative impact of construction to surrounding precinct and green zones.
Removal of potentially hazardous materials	Removal and disposal of potentially hazardous or contaminated materials or substances.	Clearly communicate our methodologies to the hospital and liaise with all stakeholders to ensure visibility and understanding of the process.	Containment of the potentially hazardous materials in a controlled manner.
Damage to existing building facades	During construction adjacent to existing buildings.	Temporary hoarding of glazed facades will be installed to enable continued operation of spaces adjacent to the affected areas.	Limit of potential impact of construction to the existing facilities. Continuation of regular hospital activities with minimal disruption to staff and patients.
Continued compliance of existing fire zones	Fire zones and egress paths are to be maintained where possible. Where existing pathways are unable to be maintained a detailed strategy must be developed and approved.	Maintain all required egress paths in coordination with the authorities. Undertake works in consultation with the fire engineer, principal certifying authority and HI NSW. Develop fire egress strategies and seek approval for pathways that are unable to be maintained and update emergency plan by the SWSLHD.	Clear communication of emergency egress for public and hospital users.
Unauthorised access to the construction site	Prevent public/ patients from climbing the perimeter fence	A solid 2.4m "A" class hoarding wall to be installed externally and full height hoarding internal along the 'cutline'.	Provision of a safe site environment.

4.3 MANAGING RISKS WITHIN AN OPERATIONAL HOSPITAL ENVIRONMENT

Lendlease is aware of the challenging nature of the project being located adjacent to and in close proximity to the existing Hospital buildings. The project has critical construction and services interfaces and non-negotiable stakeholder requirements to ensure operational continuity is maintained. Lendlease have developed our stakeholder communication structure to address all stakeholder requirements and concerns. The activities below have the potential to significantly impact on the operation of the hospital, the wider Precinct and neighbours, if not managed effectively and communicated proactively with stakeholders:

- Access and traffic management.
- Planning and management of any major shutdowns.
- Minimising and controlling disruptions.
- Protection of existing hospital assets.
- Maintenance of existing patient and staff privacy and security.
- Emergency after-hours call-out.
- Hazardous material identification and removal.
- Noise, dust and vibration control; and
- Out of hours work.

Lendlease have prepared the following Management Plans to develop clear and concise communication channels for each area of interface works and support the ongoing operation of the hospital:

- Stakeholder Management Plan.
- Impacts & Hazards Risk Assessment.
- Noise & Vibrations Management Plan; and

- Environmental, Health and Safety (EH&S) Management Plan.

Lendlease will continue implementing the already created Disruption Works Notification Procedures developed by HI, SWSLHD & JSP throughout the Infrastructure & Enabling Works.

Our integrated Environmental, Health and Safety Management Plan will identify all EH&S risks associated with stakeholders including and not limited to members of the public, hospital staff, hospital clients, and workers on site. The sub plans below will be developed with the collaboration of the relevant stakeholders during the pre-construction phase:

- Construction Traffic and Pedestrian Management Plan (CTPMP).
- Construction Noise and Vibration Management Sub Plan (CNVMSP).
- Air Quality Management Sub Plan.
- Stormwater & Erosion Management Sub Plan (SEMSP).
- Construction Waste Management Sub Plan (CWMSP).
- Emergency Response Management Plan.
- Hazardous Chemicals Sub Plan (HCSP).
- Asbestos Management Sub Plan (AMSP); and
- Workplace Relations Management Plan.

4.4 INDUCTIONS

The Lendlease induction will be specifically tailored to inform workers of their obligations working within a live health environment for the Liverpool Hospital Campus. The content of the induction will be reviewed with the health project team to ensure the strategies imposed by Lendlease are aligned with the requirements of the precinct and the SWSLHD. The project induction will train new workers on project specific safety and emergency procedures; however, the key focus will include interface controls, including:

- Working in a live environment: The construction methodology has been designed around maintaining business continuity for the Hospital. This is key to a successful project and will be the underlying theme of the induction procedure for every worker on site.
- Infection control: Content within the induction will focus on the importance of infection control and the risk to the existing Hospital from construction works. It will also focus on work methodologies and quality procedures to ensure the end product delivered to the client has been constructed in accordance with the documentation and without risk of infection to end users.
- Access within Existing Hospital: We will provide clarity regarding no access into existing Hospital areas.
- There will be clear 'no-go' zones identified including maintaining the travel path for all emergency vehicles to and from the Hospital.
- Separation of Construction Works from Hospital Operations: Access to and from site will be defined and out of bounds areas clarified for workers. The induction will focus on the amenities planned for within the construction site boundary.
- Disruptive Works Procedure: All workers will be made aware of their responsibilities towards understanding what constitutes disruptive works and understand the time frames associated with preparing to carry out any such works; and

We will also focus on the unique requirements of each stakeholder within the campus to ensure that the information in the induction is up to date and relevant to the specific work areas on site. An example of the specific requirements and locations are:

- Working Adjacent to the Existing Clinical spaces: All workers will be made aware of the need to ensure patient privacy within the facility. No unauthorized removal of privacy screens erected on scaffold to prevent direct sightline into wards will be permitted.
- Working Adjacent to Local Residential and Business Properties: All workers will be made aware of the need to ensure positive contractor behaviour at the approach and on site, including minimizing disruptions to local parking and access.

5.0 OPERATIONS & SITE MANAGEMENT

5.1 OVERVIEW

The Liverpool Health & Academic Precinct project will require precise site establishment, staging and operation, to ensure both safety, appropriate security, interface management and productivity are achieved. Lendlease's nominated delivery team has developed this detailed plan, which is integral to program and construction methodology.

Close attention to detail and the quality of the finished product are paramount, particularly on this multifaceted Healthcare Project.

Lendlease believes this focus on quality must be promoted and fostered amongst the workforce on the project. This begins with an efficient site establishment strategy, and clean amenities which will set the standard for a high-quality outcome. The planning and methodology assessment for the project has identified a number of key stages in the general configuration of the site during construction. This section provides an overview of the overall approach adopted with detail description of these stages provided below.

5.2 DILAPIDATION SURVEYS & MONITORING

Prior to commencing works Lendlease have completed an extensive dilapidation survey of existing infrastructure covering roads, footpaths, external areas and will complete dilapidation of internal areas of the existing buildings adjacent and interfacing with the construction site. Coordinated access to internal hospital areas will be arranged through the principal. The resulting report will be provided to the principal as a pre-commencement record of the existing built works on the precinct adjacent to the construction areas. Our team also propose to inspect existing plant and equipment conditions throughout the project to determine the capacity of any plant and equipment that the new works interface with. This is critical to inform design scope and establish key opportunities and risks for consideration during interface planning. Considering the above, we carry out the following works:

Lendlease has allowed to engage an acoustic consultant during the course of the construction works to provide detailed advice and practical methodologies in the form of a Construction Noise and Vibration Management Plan in order to manage the potential noise issues with the adjacent sensitive receivers. Lendlease has extensive experience in managing these issues on similar health projects and will look to introduce the following measures on this project such as:

- Positioning major plant away from sensitive receiver boundaries where possible concrete pumping zones, craneage, and loading zones have been positioned away from operational existing facilities.

The Construction Noise and Vibration Management Plan mentioned previously, details the criteria and protocols for vibration and noise protocols to the surrounding properties. This report details a number of sensitive receivers above ground in relation to vibration being:

- Ingham Institute/ Animal Research Lab.
- Oncology Bunkers; and
- Existing CSB.

5.3 HOURS OF WORK

The construction hours approved for the development are set out in SSD10389 Consent Conditions C4 - C9 and Condition C18.

The current approved General Construction Hours are as follows (Condition C4):

General Construction hours	
Monday – Friday	7:00am to 6:00pm
Saturday	8:00am to 1:00pm
Sunday	No work

Rock breaking, rock hammering, sheet piling, pile driving or similar activities are only to be carried out between the following hours (Condition C9):

Specific Construction hours	
Monday – Friday	9:00am to 12:00pm 2:00pm to 5:00pm
Saturday	9:00am to 12:00pm
Sunday	No work

Construction activities may be undertaken outside the normal hours if required for the following activities when notification has given to affected residents before the activities or as soon as practical afterwards (Conditions C5 and C6):

- by the Police or a public authority for the delivery of vehicles, plant or materials; or
- in an emergency to avoid the loss of life, damage to property or to prevent environmental harm; or
- where the works are inaudible at the nearest sensitive receivers; or
- for the delivery, set-up and removal of construction cranes, where notice of the crane related works is provided to the Planning Secretary and affected residents at least seven days prior to the works; or
- where a variation is approved in advance in writing by the Planning Secretary or his nominee if appropriate justification is provided for the works.

In addition to regular working hours, there will be occasional periods when out of hours works are required. Extended working hours have been approved for concrete finishing works (including the use of helicopter float) provided that an Out-of-Hours Work Protocol has been prepared in consultation with the EPA and Liverpool Council and approved by the Planning Secretary (Conditions C7 & C8). The nominated extended working hours for concrete finishing works, beyond the General construction hours, are:

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Extended Construction hours	
Monday – Friday	6:00pm to 10:00pm
Saturday	1:00pm to 10:00pm
Sunday	On occasion, there may be work on Sundays for Delta only. There will be no Sunday work for other trades.

Construction vehicles are not to arrive to the site outside of the hours of work provided for above (Condition C18).

5.4 CONSTRUCTION SITE PLAN

During the course of the Liverpool Health & Academic Precinct project multiple site establishments will be completed to each relevant stage.

The following figures highlights the location of the Lendlease project office inclusive of clients Project Management Office (PMO) and the site establishment of Stages 1,2 & 3.



Figure 3 –Project & PMO Office locations

Stage 1 Site Setup A

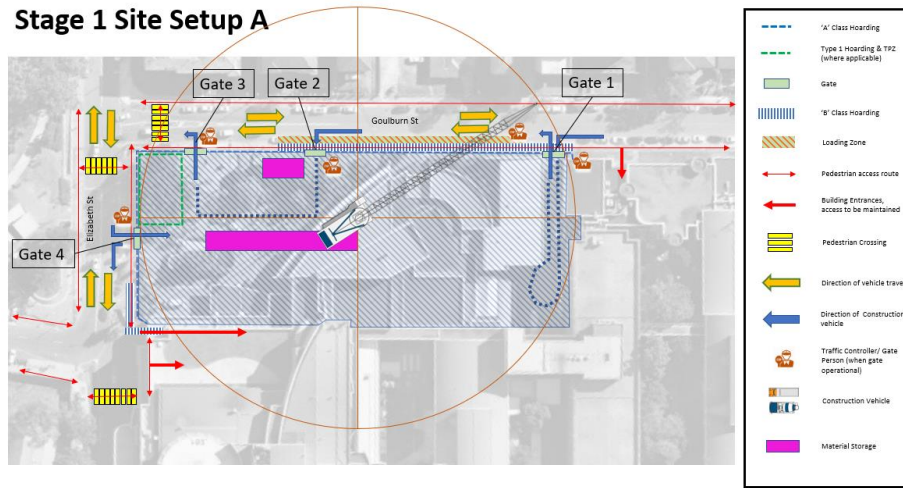


Figure 4 – Stage 1 ISB Initial Site Establishment

Stage 1 Site Setup B

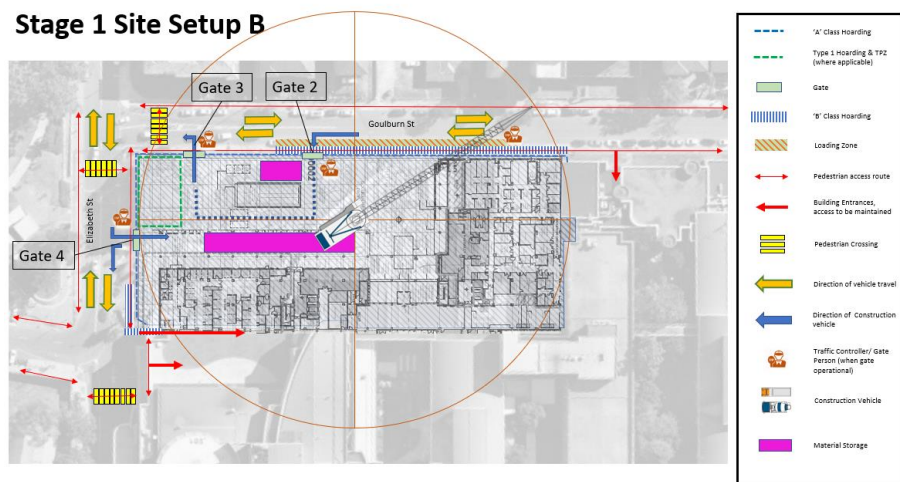


Figure 5 – Stage 1 ISB Site Establishment

Stage 2 Site Setup

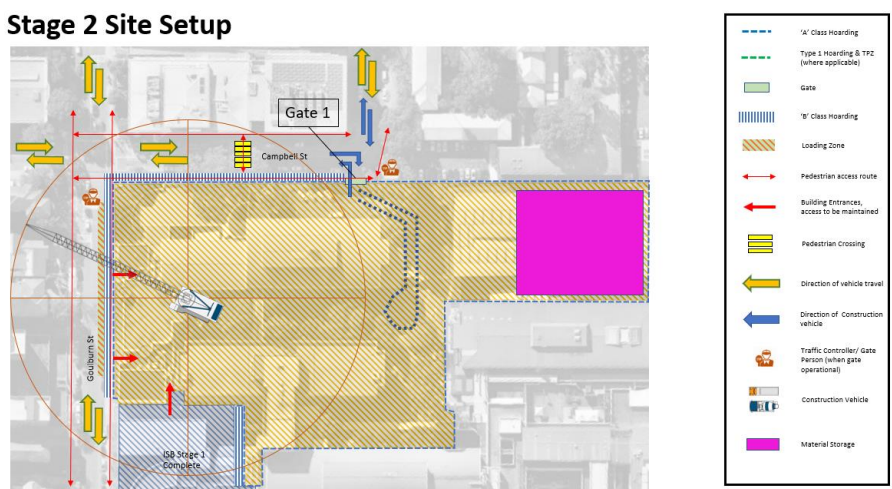


Figure 6 – Stage 2 ISB Site Establishment

5.5 CONSTRUCTION WORKFORCE

The following Figure 7 identifies the workforce numbers proposed for the project.

The following peak workforce is estimated for each stage:

- Stage 1 - ~ 350
- Stage 2 - ~ 420
- Stage 3 - ~ 45

At its peak the project will engage a cumulative workforce of approximately 430 individuals. All workers will undergo mandatory inductions to understand their responsibilities when working on the Liverpool project site and in close proximity to a live Hospital environment. This is inclusive of parking restrictions, dedicated parking facilities, transportation options and available on site storage facilities. Planning for construction workforce transportation and parking management will be aligned with projected workforce counts and associated parking demands. It is understood that a portion of the site worker population will elect to travel to site using private vehicles. Construction workers driving to sites in constrained parking environments which carpooling is typically encouraged to reduce traffic impacts on the local road network. The project site is well serviced by public transport providing site workers with alternative travel options which is preferable (refer Figure 8).

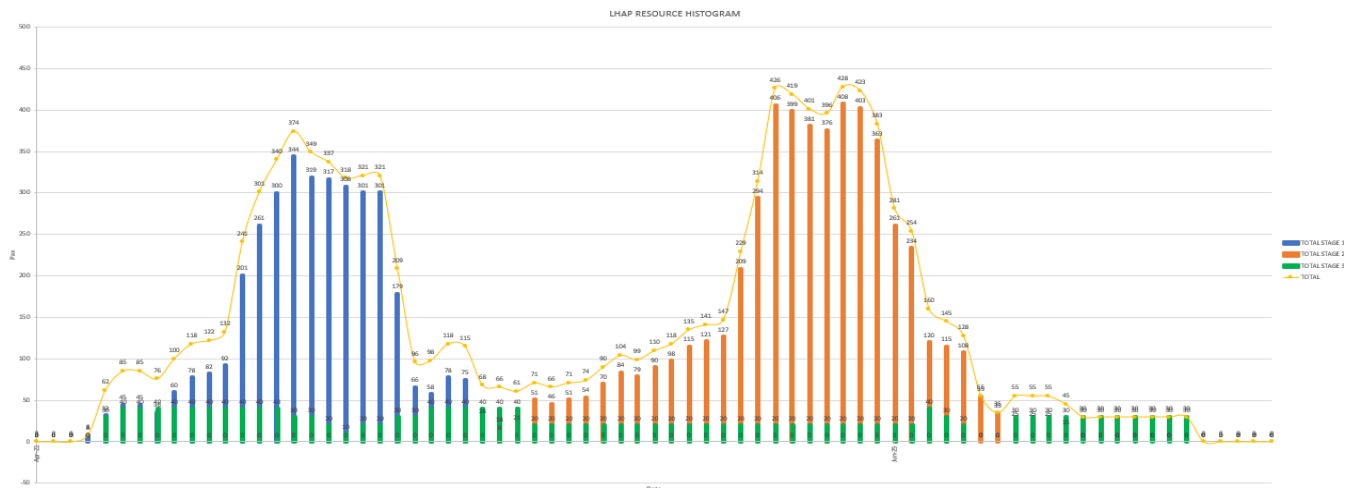


Figure 7 – Labour histogram

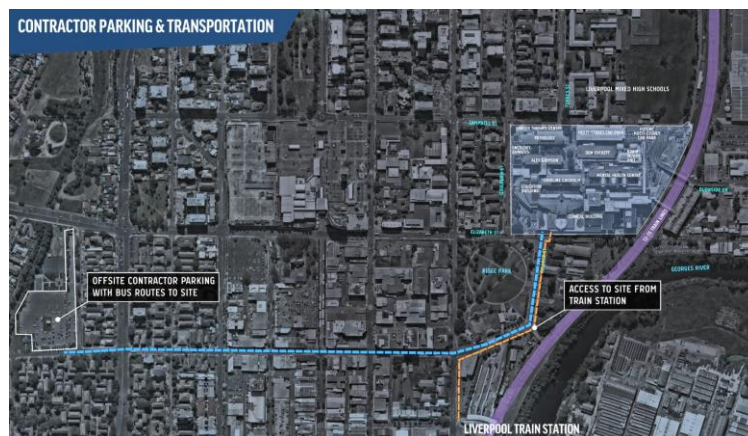


Figure 8 – Contractor Parking proposed and public transport

5.6 SITE CONTACTS

A list of key contacts, phone (business and after hours) will be maintained and available on site.

Organisation	Contact Name	Contact Number
Lendlease	Damien Smith - Senior Site Manager	0437 559 361
	Daniel Puljic - Construction Manager	0477 393 259
	Dylan Stewart - EHS Coordinator	0473 884 638
	Raz Favotto – Project Director	0413 019 047
	Lauren Hosking - Stakeholders & Communications Manager	0437 914 208
	24 Hour Project Contact – Damien Smith	0437 559 361
Liverpool Hospital		(02) 8738 3000
Fire and Rescue NSW	Liverpool Fire Station	(02) 9824 0521
NSW Ambulance		000
Liverpool Police Station		(02) 9765 9499
Bicycle NSW		(02) 9704 0800
Gandangara Local Aboriginal Land Council		(02) 9602 5280
Liverpool City Council	Mahavir Arya	(02) 8711 7592
EPA Pollution Hotline		131 555 or (02) 9995 5555 (if calling from outside NSW).
Ministry of Health		(02) 9391 9000
SafeWork NSW		13 10 50
South Western Sydney Local Health District		(02) 8738 6000

5.7 SITE CONSIDERATIONS

Lendlease has carefully planned and considered the staging requirements for the project. These established strategies are to best manage logistics of the project within a live hospital campus. In doing so we have identified the following key considerations for management of the site:

- Site establishment schedule;
- Worker transport and parking;
- Pedestrian access and circulation routes;
- Site evacuation / major incident response;
- Site compound and amenities;
- Temporary services;
- Site temporary services;
- Fencing and hoarding for site segregation;
- Site access points, construction traffic and deliveries;
- Materials storage and handling;
- Working adjacent to residential and business properties;
- Site management controls;
- Business continuity of Liverpool Hospital,
- Risk management;
- Construction methodology; and
- Project completion.

5.8 SITE ACCESS POINTS, CONSTRUCTION TRAFFIC & DELIVERIES

Lendlease understands that one of the keys to the successful delivery of the Project will be the flow of materials and equipment into and out of the construction site. We believe it is imperative that our planning considers and successfully manages:

- The maintenance of pedestrian and traffic flows to the surrounding roads and footpaths.
- Providing vehicular access to existing car parks and appropriate signage where car park entries and exits are temporary omitted (e.g., P1).
- Providing alternate entry points to the existing hospital and suitable Wayfinding signage for entrances that are being closed due to significant development (e.g., Entrance A & B).

To achieve this, a Construction Traffic and Pedestrian Management Plan has been developed in accordance with SSD10389 Consent Conditions and gives focus to:

- Carpark entry and egress points: Carpark operations will be maintained by including a traffic signal link between the existing P1 & P3 carpark, including all car park services and emergency egress. Particular focus will be on peak flow access and egress during hospital shift change overs and strategies are to be employed to ensure flows are adequately provided. It is our understanding that P1 will be a Staff carpark only during construction.
- Supplementary offsite parking: Lendlease have identified supplementary parking for visitors, contractors, and consultants which could potentially alleviate current parking pressures over the life of the

redevelopment.

- Pedestrian access and paths of travel: Throughout all activities, pedestrian access, including paths of travel for disabled pedestrian access within the existing hospital campus, will be maintained with details of alternate routes and distances of paths of travel. The public way (outside of any approved construction works zone) must not be obstructed by any materials, vehicles, refuse, skips or the like, under any circumstances, in accordance with Condition 16. Figures 9 & 10 below represent examples of pedestrian footpath routes proposed during closure events throughout Stage 1 & 2 and are further detailed within the CTPMP.
- Lendlease will consult with all suppliers to ensure the correct size and weight vehicles are allocated to the project and are cognisant of carriage weight constraints.
- Ambulance entry: No works or vehicle movements will be allowed to affect access to ambulance entry and parking area. Detailed methodology will be completed when constructing Zone 2, 4 & 6 of the existing Emergency Department, located in the refurbishment areas of the existing hospital (Area 3) referred to in Chapter 1.
- Construction Vehicles: Mitigating impact to the Hospital precinct and surrounding roads will be considered along with a detailed analysis of delivery frequency in conjunction with the program and access routes to the site from the various approaches. Procedures for timely delivery notification will be developed (e.g., 24-hour booking, call prior to arrival and also advise on aborted deliveries). Hours for vehicle arrivals to site will be in accordance with Conditions C4-C7 and Condition C18. All construction vehicles are to be wholly contained within the site, except if stopped wholly within an approved on-street work zone, in line with Condition C14.
- Loading Zones: A Loading Zone will be established for Stage 1& Stage 2 on Goulburn St with the approval from Liverpool Council & road occupancy licence by TfNSW, to take up kerbside space to enable trucks to pull up adjacent the Class B hoarding for lifting of materials into the construction site. The loading zone location on each Stage is included within the below figure 9 & 10.

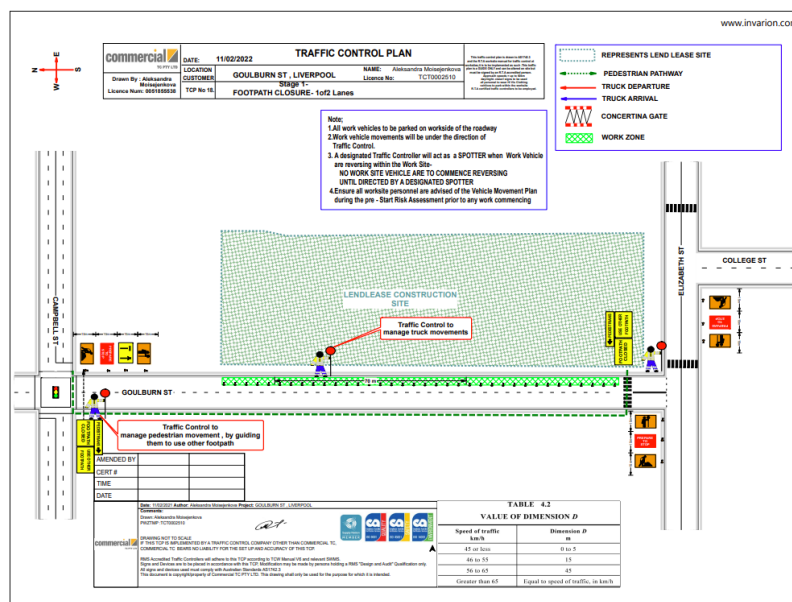
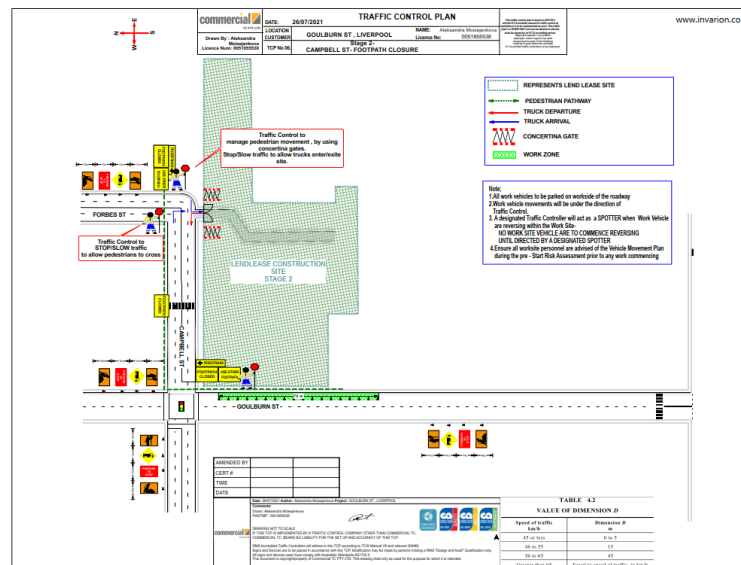


Figure 9 – Stage 1 Pedestrian management during footpath closure

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5.11 SITE COMPOUND AND AMENITIES

Lendlease places emphasis on the quality and amenity of the project and accommodation facilities. Quality facilities set a standard and a level of expectation that we expect our staff and subcontractors to take with them to the workplace on site. Accommodation and amenities for the construction workforce will be provided in demountable site sheds. These site sheds will be erected in stages to cater for fluctuating workforce demand throughout each stage of the project.

The location of the Site accommodation facilities for the Stage 1 ISB development is in accordance with the following layouts.

Stage 1 Site Amenities A

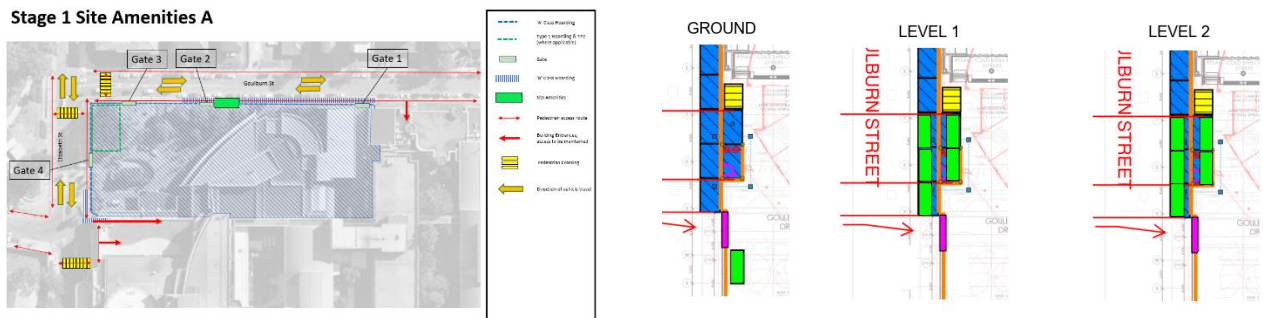


Figure 11 – Stage 1 ISB Site Amenities A

Stage 1 Site Amenities B

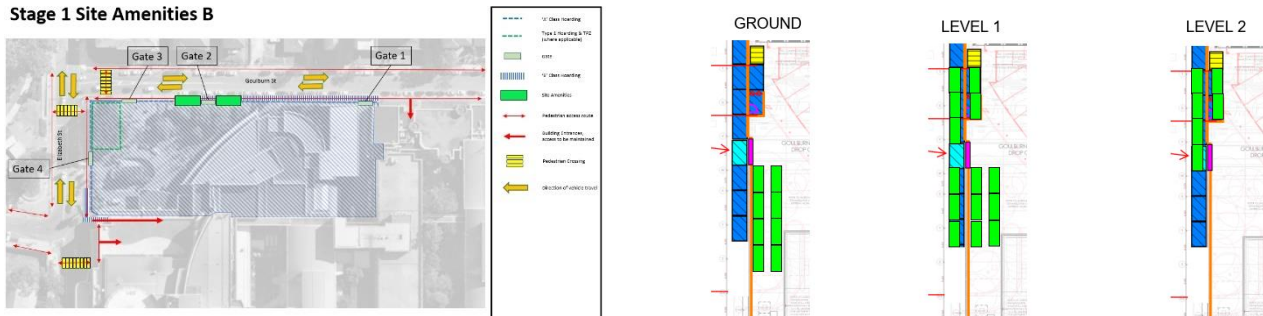


Figure 12 – Stage 1 ISB Site Amenities B

Stage 1 Site Amenities C – Peak Workforce

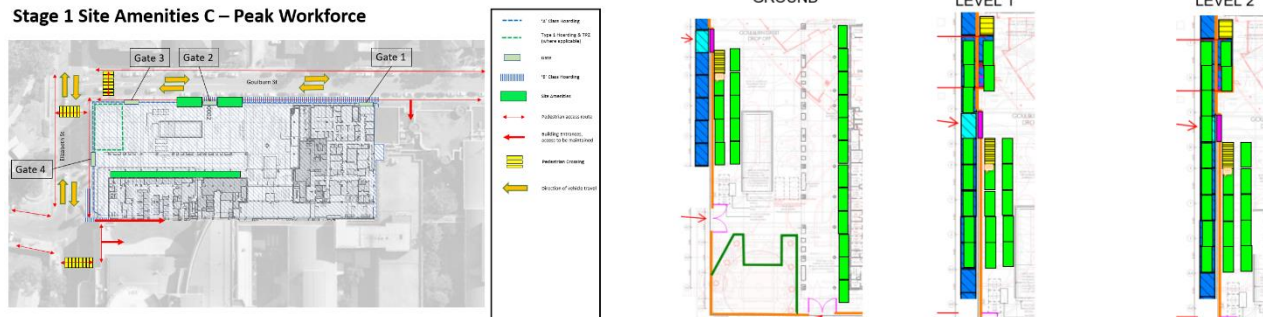


Figure 11 – Stage 1 ISB Site Amenities C – Peak Workforce

LIVERPOOL HEALTH & ACADEMIC PRECINCT CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

The location of the Site accommodation facilities for the Stage 2 ISB development is in accordance with the following layouts.

Stage 2 Site Amenities A

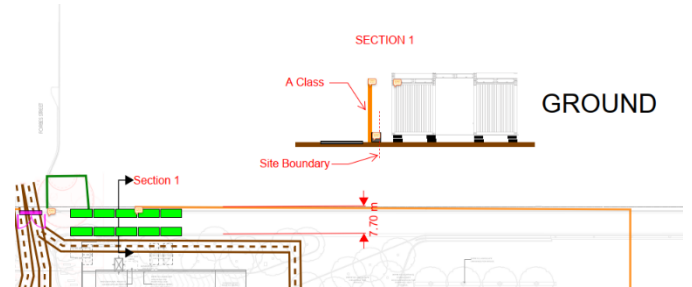
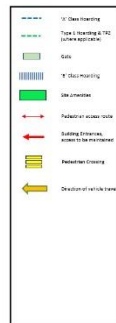


Figure 13 – Stage 2 ISB Site Amenities A

Stage 2 Site Amenities B

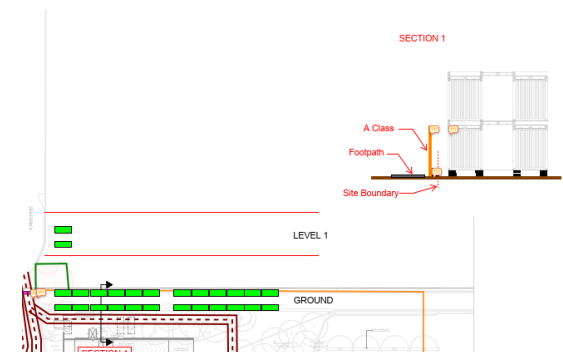


Figure 14 – Stage 2 ISB Site Amenities B

Stage 1 Site Amenities C – Peak Workforce

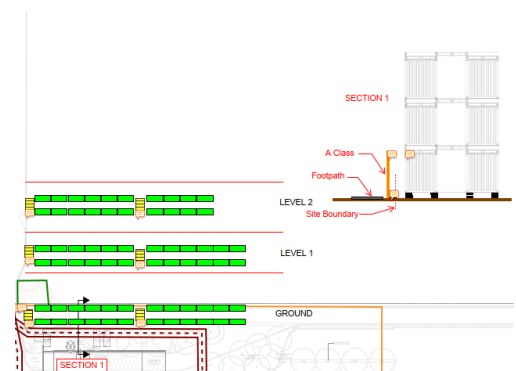
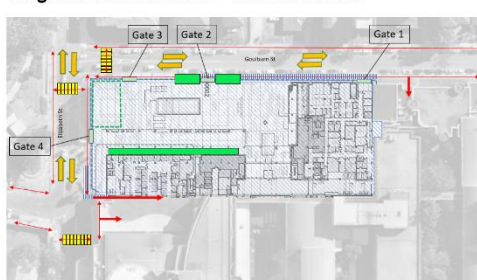


Figure 15 – Stage 2 ISB Site Amenities C – Peak Workforce

The location of the Site accommodation facilities for the Stage 3 refurbishment is in accordance with the following layouts.

Stage 3 Site Amenities



6.0 INSPECTION, MONITORING, AUDITING AND REPORTING

6.1 ENVIRONMENTAL INSPECTIONS

A compliance monitoring tracking schedule and matrix must be developed and implemented during construction works in order to monitor compliance with the terms of the project approval. Compliance tracking will be undertaken in accordance with the Tracking Schedule.

In addition to reporting required under the compliance monitoring schedule, the Lendlease Environmental Manager will also prepare a summary report or supply relevant documentation on environmental matters on a monthly basis, with a detailed report on environmental performance prepared quarterly.

The Report will include details on:

- Summary of works undertaken for the relevant reporting period.
- All cases of non-compliance with environmental obligations and the CEMP.
- Inspections by agencies and actions resulting from the inspection.
- Actioning and reporting of all incidents.
- Frequency of environmental checklists and actioning of concerns.
- Any client issues not addressed after two months.
- Monitoring results.
- Environmental complaints; and
- Audits conducted (internal and external).

The effectiveness of environmental protection measures described in this CEMP and sub plans will be assessed on a regular basis by the relevant team members. A checklist will be used to:

- Provide a surveillance tool to ensure that safeguards are being implemented.
- Identify where problems might be occurring.
- Identify where sound environmental practices are not being implemented; and
- Facilitate the identification and early resolution of problems.

Regular environmental inspections will monitor aspects including.

- Review of relevant works approvals and permits
- Erosion and sediment controls and review of associated plans
- Drainage protection
- Air quality, dust emissions and mitigating controls
- Heritage impacts
- Noise and vibration management including approved working hours, required respites and safe working distances
- Hazardous substances and dangerous goods
- Waste management, recycling, and recovery

Any necessary corrections will be identified through the checklist process will be highlighted and an environmental inspection report (minor issues). In the case of any incidents, this will be addressed in line with the Environmental

Protection Authority and Safe Work Requirements and relevant conditions of development consent.

The checklist will remain 'open' until:

- The identified issue has been resolved.
- A new or revised procedure has been established and implemented; or
- Training has been provided to relevant personnel/ sub-contractors.

Site Activity/Description	Frequency	By Whom	Form
Site inspections to ensure site controls operating as required	Daily	Site Supervisor/Foreman	Visual
Lendlease environmental site inspection of activities	Weekly/Monthly	Site Supervisor, Site Foreman, Site Manager, EHS coordinator, Construction Manager, Client Authorised personnel	Environmental Inspection checklist

6.2 ENVIRONMENTAL MONITORING

Environmental monitoring will involve collecting and interpreting data to provide quantification of the effectiveness of the CEMP and sub plans. As required under approved conditions (A23), Construction Monitoring Programs are required to be prepared in consultation with the relevant government agencies. The following monitoring programmes will be implemented.

- A Construction Noise and Vibration Monitoring Program (short term) is incorporated within the Construction Noise and Vibration Management Plan (CNVMP). This program has been developed in compliance with Condition E5 and associated conditions. During construction, noise and vibration monitoring data will be made available to DPIE, EPA, the construction team, and other parties.
- An Air Quality Management Sub-plan will be implemented and managed in accordance with relevant consent conditions (e.g., SSD10389 C25 & C26)
- Groundwater hydrology and contaminant monitoring (in-situ) and management will be implemented during the carrying out of excavation works associated with the project. Groundwater management measures will be developed as required post-demolition phase based on inspection, sampling, and monitoring by a geotechnical engineer as required and appropriate, having consideration to the sampling results relating to potential contaminants. No dewatering measures associated with groundwater have been deemed required in association with the works.
- Contaminants associated with construction activities will be managed in accordance with the Hazardous Chemicals Management Sub Plan. Contaminants occurring on-site requiring remediation will be managed pursuant to the project Remediation Action Plan (RAP).
- Monitoring of stormwater management measures to be implemented during construction will occur routinely on a daily basis and also feature weekly and monthly inspection schedules of components, as well as post rain event inspections and checks. These are set out in the Stormwater Erosion and Sediment Management Sub-Plan
- Construction waste monitoring reporting is required of subcontractors as set out in the Construction Waste Management sub plan (CWMSMP) in accordance with relevant legislation, codes, standards, and guidelines, as required by SSD10389 Condition B14.

These aspects will be managed by the site environmental management, inspection, and auditing procedures.

The timing, frequency, methodology, locations, and responsibilities for the proposed environmental monitoring

programs are specified in the respective Sub plans. The monitoring programs range from those involving formal measurement and assessment, and sample collection and validation (e.g., remediation), to those involving a more qualitative assessment.

Irrespective of the type of monitoring conducted, the results will be used to identify potential or actual problems arising from construction processes.

Where a non-conformance is detected or monitoring results are outside of the predicted range, the results will be analysed with the view of determining possible causes for the non-conformance, engagement with relevant stakeholders will occur as appropriate, and corrective / improvement actions will be identified and implemented.

An Environmental Incident Report (in the case of an incident) and/or Environmental Improvement Notice may be issued by the Environmental Manager in response to the problem if it is found to be construction related. The timing for any improvement will be agreed between the Construction Manager and Environmental Manager based on the level of risk e.g., a significant risk will require immediate action.

Environmental Incidents will also be reported in line with the requirements of part 5.7 of the Protection of the Environment Operations Act 1997 and Appendix 1 to, and conditions of, the relevant Development Consent. Non-compliances against consent conditions which are not classified as incidents will also be reported pursuant to relevant conditions of the relevant Development Consent.

6.3 ENVIRONMENTAL AUDITS

6.3.1 INTERNAL LENDLEASE AUDITS

Internal environmental compliance audits and management plan reviews will be routinely conducted by the Environmental Manager every three months and as required pursuant to SSD10388 Conditions A30 & A31 and SSD10389 Conditions A31 & A32. Elements to be audited include:

- Compliance with the conditions of approval.
- Compliance with the EIS.
- Compliance with the CEMP & associated sub plans.
- Compliance with approval, permit and licence obligations.
- Compliance with method statements.
- Complaint response.
- Sub-contractor activities.
- Training records.
- Non-conformances.
- Monitoring results; and
- System documentation such as checklist completion.

Regional environmental system compliance audits are also to be completed by the Lendlease Regional Environment and Sustainability Manager to monitor compliance with the Lendlease Environmental Management System. This process will commence within three months of construction commencement, then every six months thereafter during construction.

6.3.2 EXTERNAL AUDITS

External audits may be conducted by Health Infrastructure under the Head Contract relation to environmental and workplace health and safety matters and any corrective actions taken to resolve any identified non-conformances and incidents.

Independent Environmental Audits will also be undertaken in line with SSD10389 Conditions C43-46 in line with the schedule for these audits submitted to the Planning Secretary and Certifier pursuant to Conditions C41 and C42.

6.4 COMPLIANCE REPORTING

Reports on compliance with the planning approval will be submitted to the Department of Planning, Industry and Environment (DPIE) in accordance with the timing outlined in the Compliance Monitoring and Reporting Schedule submitted to the Department under Conditions A33 and A34, and the Compliance Reporting Post Approval Requirements referred to in Condition A35. This will include:

- A compliance table that describes the consent conditions, the triggered phase/s of the project to which the condition relates, the monitoring methodology for each requirement and evidence of compliance.
- A results summary and analysis of environmental monitoring.
- A summary of the number of complaints received (if any), the main areas of complaint and actions taken/strategies for reducing the recurrence of such complaints.

A register of any consistency assessments undertaken and their status.

- A table describing the progress and outcomes of any actions arising out of any previous independent environmental audits and compliance reports.
- Summaries of all non-compliances and environmental incidents that have occurred during the reporting period (if any), including their nature, cause, method of identification, reporting/notifications made, corrective actions taken / to be taken and the timing of these corrective actions; and
- Any other matter relating to compliance with the terms of this approval or as requested by the Secretary of Planning.

7.0 COMMUNITY CONSULTATION & COMPLAINT MANAGEMENT

7.1 STAKEHOLDER ENGAGEMENT

Guiding principles for Stakeholder Engagement and Community Consultation

Throughout all stages of construction, the project will remain committed to early, coordinated, proactive and transparent stakeholder engagement. Extensive planning and engagement has been undertaken to identify and develop collaborative and productive relationships with key stakeholders to support planning and construction delivery.

Lendlease will work in close coordination with the Project's communications team to maintain strong stakeholder and community relations. The following principles underpin our approach to stakeholder engagement for project delivery:

- **Purposeful:** Engagement is meaningful to stakeholders and provided in a clear and consistent manner.
- **Timely:** Information is provided, and available, to stakeholders at the appropriate time and in the appropriate format.
- **Inclusive:** Engagement activities are accessible to all relevant interested and impacted stakeholders.
- **Respectful:** Stakeholders diverse, needs and perspectives are acknowledged and respected.
- **Transparent:** Engagement is open and honest with expectations clearly set.

LHAP engagement approach

Coordinated and transparent communications will be integral to the success of this plan. Lendlease will operate in accordance with the Project's engagement requirements and protocols.

The below table outlines key objectives that have been set for each main phase construction. These objectives are intended to deliver best practice stakeholder and community engagement and will be amended, as required, to best reflect the Project's overarching requirements. Lendlease understands that the majority of engagement activity will be carried out by the Project's communications team.

Project Phase	Objective	KPI
Planning	Identify and build collaborative relationships with impacted stakeholders.	Early identification of issues and modification to the construction methodology that responds to issues or concerns.
	Engage Campus and community stakeholders to analyse construction staging to ensure the methodology pro-actively responds to stakeholder needs.	Early identification of key construction impacts and development of mitigation strategies. Stakeholders are given the opportunity to provide input into the planning and design of the project within communicated parameters Stakeholders are listened to and understand how their feedback has been used
	Anticipate and respond to potential issues or concerns transparently.	Provide quick and mutually agreeable resolutions to matters which may impact stakeholders.

Site establishment and construction	Deliver accurate and timely information that address the needs of each stakeholder group.	Stakeholders understand key stages of construction and how impacts are managed Build and maintain project awareness and support Early identification of issues and concerns Issues are managed promptly with transparency
	Deliver a comprehensive communications program that ensure stakeholders are pro-actively notified of and clearly understand changes to site conditions.	Stakeholders understand how the construction activities affects them. Stakeholders clearly understand how to provide feedback or lodge complaints regarding construction activities.
	Provide stakeholders with clear communication channels to raise issues and provide project feedback.	Stakeholders feel valued and confident their feedback is received. Stakeholders receive timely responses to complaints and enquiries.
	Utilise notification platforms to document and communicate potential disruptions for Hospital campus.	Disruptions are communicated in a timely, interactive and transparent manner Disruptive works are approved by key campus stakeholders Stakeholders are provided with advance notice of disruptions Disruption to Hospital campus operations are minimised and effectively coordinated
	Deliver site specific inductions to all workers engaged in the Project	All site workers conduct their business in a respectful manner and understand their responsibilities when working in a live Hospital environment and in close proximity to sensitive receivers.
Commissioning and opening.	Communicate information about the benefits to community, site changes. Consistent enhanced reputation of all project partners across the life of the Precinct.	Stakeholders understand the features of the project and how it benefits them

Stakeholder Analysis

The Project's stakeholder environment is complex and extensive. The ongoing proactive identification of issues and sound analysis of stakeholders' needs are critical factors in successfully managing the Project's interface with staff, health consumers and the community.

The Lendlease project team will work in close coordination with the Project's communications team deep understanding of stakeholders and the engagement environment which has informed the timing, method and level of engagement across all stages of the Project.

Communication tools

The following communication tools will be made available to facilitate stakeholder engagement during Project delivery. Lendlease will work with the Project's Communications Team to implement the below listed tools.

Tool	Purpose	Frequency	Targeted Stakeholders
Community information phone	A key channel for stakeholders to raise issues, ask questions and speak directly to a member of the project team.	Prior to commencement of works onsite	All impacted stakeholders
Site signage	To inform the community about who is responsible for the construction activities and the contact details for further information about the work.	Prior to commencement of works onsite	All impacted stakeholders
Construction Notices - Community	To inform the community about upcoming works on site and outline how to contact the project.	Generally issued monthly/ as required in advance of works	Community stakeholders
Site Coordination Meetings	To provide information related to upcoming activities as well discuss onsite issues coordination of design and delivery	Weekly / Fortnightly (as directed)	Liverpool Hospital Campus
Construction Coordination Meetings	To help ensure works and materials handling on and around the Hospital campus are coordinated with all neighbouring contractors Opportunity to provide project status updates for the respective projects	Fortnightly / monthly (as required)	Project team Site contractors
Subcontractor Induction	Educate staff and workers about the correct protocols and procedures when dealing with stakeholders.	Prior to commencing works onsite	Onsite contractors and staff
Project Updates	To provide an update on the project's overall progress, key achievements and next stages. Updates to be distributed via email, phone or in person	Monthly As Required	To be disseminated via project team

Stakeholder and community notification periods

Stakeholder engagement and community notification will:

- outline the reason that the work is required
- outline the location, nature, and duration of the proposed works
- outline work hours
- be written in plain English
- include a diagram that clearly identifies the location of the proposed works, where required
- include 1800 community contact number, project email address and website details

Lendlease will work within minimum notification periods that will be targeted for stakeholder and community notification as defined by the Projects' Communications Team. Notification periods prescribed within development approvals or by approving bodies will be adhered to.

Stakeholder contact and complaints

Stakeholder contact is any communication with an external stakeholder or community member that results in a transfer of, or request for information. A contact may be a complaint, an enquiry, a comment or a compliment.

All stakeholder contact will be responded to in a professional and timely manner. All stakeholder contact will be documented and captured within the Project's record management system. A complaints register is maintained on the project's website to document complaints received and responses provided by the project team.

The following stakeholder contact categorisation matrix will be used to guide the approach to stakeholder contact.

Classification	Description	Action
High Issue cannot be resolved by the project team.	Involves media attention/coverage Involves political and/or government agencies Relates to safety or security incident.	Immediate report to the Hl Communications Director No comment to be provided
Medium Issue cannot be immediately resolved	Involves an individual or group expressing negative sentiments towards the project with risk of further action. The stakeholder raising the issue is not satisfied with the response provided.	Project Stakeholder Manager engages the broader project team to investigate further, determine a suitable outcome and respond appropriately Issue is reported on following reporting protocols
Low Issue can be responded to immediately.	Involve an individual or group expressing negative sentiments towards the project Involves an individual or group expressing concern for project impacts and outcomes There is no threat of further action.	Project Stakeholder Manager provides the appropriate response and notifies the broader project team as required Records of low-level issues to be tracked and reported on following reporting protocols

Community contact

During the course of works there will be times when Lendlease, and its contractors, come into contact with stakeholders. Stakeholder contact is any communication with an external stakeholder or community member that results in a transfer of, or request for information. A contact may be a complaint, an enquiry, a comment or a compliment.

Lendlease will document all stakeholder related feedback (excluding media) received in a professional and timely manner. All feedback received directly via a Lendlease Project Team member or onsite contractor will be captured and reported to the Project's Communications team.

Community contact will be available via project phone number, email and website contact form.

Incident Management

Health Infrastructure's Incident and Communications and Stakeholder Management Plan has been developed for the purposes of providing an incident-specific, proactive framework for the management of incidents and issues with the potential to arise in the construction of major capital works.

The project will comply with the Incident Management Framework as outlined within the Plan. All incidents will be managed by the Project.

7.2 ISSUES ANALYSIS

It is important to identify potential issues that could arise throughout any phase of the project and proactively develop and implement mitigation strategies wherever possible.

	THEME	DETAILS	MITIGATION STRATEGIES
PLANNING	Stakeholder requests have not been accommodated	During construction planning users request haven't been actioned or addressed.	To hold open, engaging and collaborative working group sessions and outline the parameters so the users understand where, and why, changes can and cannot be accommodated.
CONSTRUCTION	Operational capacity of the Hospital Campus	Management of disruption to essential services and/or infrastructure disruption.	Develop a detailed services disruption process that is approved and communicated to all relevant parties prior to works commencing All services disruptions are planned, approved, carefully coordinated, and communicated in a timely manner Disruption Works Notices are disseminated in a timely fashion to ensure works are planned in a considerate and timely manner.
		Vibration, noisy works and/or dust arising from site.	Disruptive Works Notices are disseminated in a timely fashion to ensure works are planned in a considerate and timely manner Noise, dust and vibration control measures are to be implemented inside and outside the Hospital Campus buildings.
		Unapproved obstruction and use of Hospital roads and assets.	No unapproved obstruction or parking of plant and/or equipment within dedicated hospital parking zones or access ways All onsite contractors to be advised of no parking areas within signage to be displayed in and around site office.
	Site Interface	Avoid or minimise any construction impacts (such as noise, dust, mud) to owners or surrounding building occupants.	Employ reasonable methods of noise and dust suppression on all compressors, jack-hammers, and other high-noise impact machinery Disruption Works Notices are disseminated in a timely fashion to ensure works are planned in a considerate and timely manner

			Regularly clean public roads which the site sits on as required or when conditions call for it and/or at the request of local authorities.
		Security of Site.	Employ proper and adequate precautions to prevent unauthorised access to the site.
	Project Communications	Impacted/interested stakeholders are communicated with in a timely and accurate manner	Disruptive Works Notices and/or Community Construction Notices are disseminated in a timely fashion to ensure works are planned in a considerate and timely manner. Project signage to link to a project information website which provides details on upcoming activities and project progress. Project communication material is provided to stakeholders in advance of works occurring.
		Coordination impacts from adjacent construction sites	Facilitate a monthly Precinct Construction Coordination Group with representatives of contractors from the adjacent building sites Ensure there is clear delineation and timed communication between projects to minimise construction fatigue and accuracy of information.
	Transportation and Movement	Changes to pedestrian and/or vehicular access to Hospital campus and/or adjacent neighbouring properties	Any changes are carefully planned in coordination with the project team, Authorities and Hospital Campus management. Changes are then clearly communicated via onsite signage, briefings, letterbox drops, and the Disruptive Works Notice.
		Wayfinding difficulties	Display of temporary signage and wayfinding.

MONITORING & REPORTING

The project promotes a culture of continuous improvement, constantly striving for better outcomes for the project, our reputation, the community and our stakeholders. The following channels will be implemented, in agreement with the Project's Communications Team, to monitor and review the effectiveness of stakeholder engagement.

CHANNEL	OBJECTIVE	DETAILS
Governance	To provide a summary of the stakeholder engagement and communication performance for inclusion in Governance reports.	<p>Outline key engagement activities for the period</p> <p>Highlight key stakeholder issues and strategies implemented to address them</p> <p>Provide visual updates on status of project (i.e., progress photos)</p> <p>Report on complaints and enquiries response rates</p>
Construction interface meetings with impacted stakeholders	To provide key project stakeholders and Hospital campus representatives with a summary of stakeholder engagement and communications activities underway. This forum acts as a mechanism to ensure key project stakeholders receive timely and relevant communications.	<p>Outline key engagement activities for the period</p> <p>Highlight key stakeholder issues and strategies implemented to address them</p> <p>Provide an opportunity for stakeholders to provide feedback on effectiveness of engagement</p> <p>Provide stakeholders with an opportunity to share their engagement and communication needs</p>
Communications Working Group	To provide a summary of stakeholder engagement activities and issues raised and addressed.	<p>Outline key engagement activities for the period</p> <p>Highlight key stakeholder issues and strategies implemented to address them</p> <p>Reporting on key stakeholder issues, complaints and actions taken</p> <p>Seeking advice on the engagement and communication needs of key stakeholder groups</p>

8.0 CONSTRUCTION TRAFFIC AND PEDESTRIAN MANAGEMENT PLAN

8.1 OVERVIEW

In co-ordination with Lendlease, GTA, now Stantec has developed the Construction Traffic and Pedestrian Management Plan (CTPMP) as a suitably qualified expert company which additionally incorporates a Driver Code of Conduct.

The CTPMP has been prepared and issued to TfNSW and Liverpool City Council for endorsement. The CTPMP is in accordance with the approved SSD10388 & SSD10389 Conditions and is being endorsed by the applicable Authorities. The plan addressed all traffic and pedestrian details for the Liverpool Health & Academic Precinct project, including the requirements of:

- SSD10389 (Main Works) Conditions B10, B11, B12, B15, B18, B19, C14, C16 and C18; and
- SSD10388 (Car Park Works) Conditions B11, B12, B13, B16, B21, B22, C13, C15 and C17.

This includes provisions in relation to the management of vehicle movements in and out of the construction site, construction worker parking and transport, and pedestrian accessibility management in publicly accessible surrounding the construction site.

8.2 MONITORING & CONSULTATION

During the construction works, Lendlease will continue to monitor the effectiveness of the CTPMP and the controls in place and update the plan as required. Consultation with TfNSW & Liverpool City Council will occur for any modifications required.

The Construction Worker Transportation Strategy (CWTS) has been prepared in accordance with Conditions of Consent. This is included in the CTPMP and identifies the measures in place to safely and effectively manage workers transportation.

8.3 CTPMSP

The CTPMP including the CWTS is located in the Appendix 1.

9.0 CONSTRUCTION NOISE & VIBRATION MANAGEMENT SUB-PLAN

9.1 OVERVIEW

Lendlease has engaged a suitably qualified expert company, Property Risk Associates Pty Ltd to prepare the Construction Noise and Vibration Management Sub Plan (CNVMSP).

The CNVMSP has been prepared in accordance with the approved SSD10389 Conditions to assess the potential noise and vibration impacts associated with construction components of the project.

This assessment has been conducted in accordance with the requirements below:

- Conditions B11, B13 and C8 of the Development Consent.
- NSW DECCW Interim Construction Noise Guideline (ICNG) 2009.
- NSW DECC Assessing Vibration: A Technical Guideline 2006.
- NSW EPA Noise Policy for Industry (NPI) 2017.
- Australian Standard AS 2436:2010 'Acoustics – Guide to Noise Control on Construction, Maintenance and Demolition Sites'.
- British Standard 6472: Guide to evaluation of human exposure to vibration in buildings (1 Hz to 80 Hz).
- British Standard 7385: Part 2 – Evaluation and measurement of vibration in buildings; and
- German Standard DIN 4150: Structural Vibration in Buildings - Effects on Structures

The CNVMSP will incorporate detailed baseline data once taken from site prior to commencement and identify measures to be implemented to comply with the requirements of the plan.

9.2 MONITORING & CONSULTATION

Condition B13 requires consultation and monitoring of the effectiveness of the CNVMSP.

Due to the sensitive receivers and adherence with the CNVMSP, the plan will be monitored for its effectiveness during the particular work activities and updated to suit changing methodology or site conditions. Any new versions of the plan will be submitted as deemed necessary to required Authorities.

9.3 CNVMSP

The CNVMSP for the project is in Appendix 2.

10.0 WASTE & CONTAMINATION MANAGEMENT

10.1 OVERVIEW

Lendlease Building operates an integrated management system where the functions and requirements of environment management and work health and safety (WHS) /occupational health and safety (OHS)/occupational safety and health (OSH) management are integrated.

The LLB EHS Manual provides the overall framework for EHS management at LLB workplaces including construction projects. Within this manual there are specific sub plans. Waste Management is captured within multiple Sub Plans (Construction Waste Management Sub Plan, Asbestos Management Sub Plan & Hazardous Chemical Sub Plan) each sub plan is prepared in accordance with relevant Legislation and Guidelines and then adapted to the site specific requirements.

The Remediation Action Plan will be endorsed by a Section B Site Audit Statement issued pursuant to the Contaminated Land Management Act 1977 and will be implemented for the duration of the remediation works associated with the project. The process for validation of materials and disposal of contaminated material will be implemented during the carrying out of remediation in accordance with the RAP. Following the completion of Remediation to the Satisfaction of the EPA-Accredited Site Auditor, and prior to the Occupation of the areas to which the RAP applies, Section A Site Audit Statement/s will be obtained verifying the completion of remediation and suitability of the site for its intended use.

10.2 MONITORING & CONSULTATION

As part of the Lendlease Building EHS Manual, the plan is required to be reviewed quarterly. This will require a review of the scope, and the compliance with the plan. Regular waste stream statistics will be received to monitor effectiveness of the methodologies, and streams of waste and volume generated. Consultation will occur with the relevant stakeholders if non-conformances are identified.

Each will be issued to the subcontractors to ensure adherence and compliance throughout the project.

10.3 SUB PLANS

The Construction Waste Management Sub Plan (CWMSP) is located in the Appendix 3.

The Hazardous Chemical Sub Plan (HCSP) is located in the Appendix 4.

The Asbestos Management Sub Plan (AMSP) is located in the Appendix 5.

11.0 STORMWATER EROSION AND SEDIMENT CONTROL MANAGEMENT SUB-PLAN

11.1 OVERVIEW

The Stormwater and Erosion Management Sub Plan (SEMSP) has been prepared in accordance with SSD10389 Conditions B11, B16, B17 and C27 and SSD10388 Conditions B10, B17-B20 & C24 as well as relevant legislation, codes and guidelines relating to the disposal of stormwater during construction activities.

Lendlease has also engaged Douglas Partners, to undertake monitoring and advise on management activities as required to support the implementation of the SEMSP.

11.2 MONITORING & CONSULTATION

As part of the Lendlease Building EHS Manual, the plan is required to be updated quarterly. This will require a review of the scope, and the compliance with the plan. Weekly and monthly environmental inspections will be carried out by Lendlease site personnel. After significant rain events inspections will take place. Following these inspections consultation will occur if any changes are required to the controls in place.

The SEMSP will be issued to the subcontractors to ensure adherence and compliance throughout the project.

11.3 SEMSP

The SEMSP is located in the Appendix 6.

12.0 AIR QUALITY MANAGEMENT SUB-PLAN

12.1 OVERVIEW

The Air Quality Management Sub-Plan provides details of the control measures relevant to the minimisation and management of dust, odours, and emissions to the environment during site establishment, demolition, and construction of the LHAP project.

12.2 PRIMARY OBJECTIVES

1. Identify the controls to prevent emissions to the environment
2. Identify processes to manage emissions to the environment that cannot be prevented
3. Minimise the nuisance, health and ecological impacts associated with air emissions on the community, workers, and environment
4. Achieve compliance with regulatory and legislative requirements
5. Provide an adequate monitoring and communication regime to allow real time assessments of various dust/odour generating construction activities on the site.

12.3 AQMSP

The AQMSP is located in the Appendix 7.

13.0 HERITAGE AND ARCHAEOLOGICAL MANAGEMENT SUB-PLAN

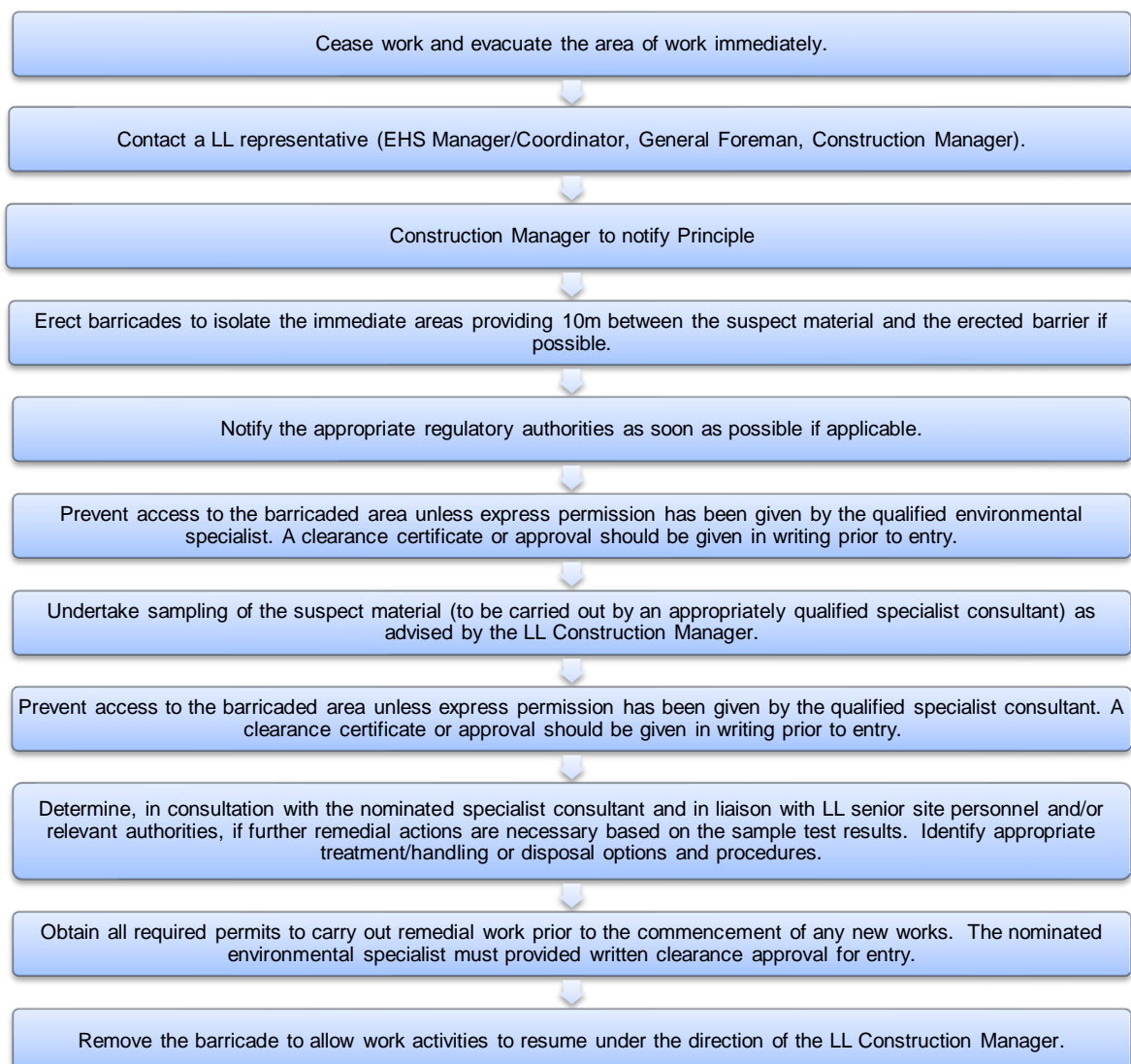
13.1 OVERVIEW

The Heritage and Management Sub Plan (ACHMSP) has been prepared in accordance with the approved SSD10389 B24, C32 and C33. This includes the Archaeological Research Design and Excavation Methodology with the historical archaeological program to be managed by the appropriately qualified and approved Excavation Director, as well as Unexpected Finds Protocols relating to Historic relics and Aboriginal objects that may be encountered during excavation.

13.2 UNEXPECTED FIND PROTOCOLS & CONSULTATION

General

Unexpected Find items can include, but are not limited to, hazardous building material, potential burial site or item of heritage or archaeological significance, medical paraphernalia, illicit items including weapons and drug related items.



Unexpected Finds Protocol – Aboriginal Heritage & Specialist Consultant Criteria

In the event that surface disturbance identifies a new Aboriginal object, all works must halt in the immediate area to prevent any further impacts to the object(s). A suitably qualified archaeologist and the registered Aboriginal representatives must be contacted to determine the significance of the object(s). The site would be registered in the Aboriginal Heritage Information Management System (AHIMS) which is managed by Heritage NSW and the management outcome for the site included in the information provided to AHIMS, as required by the *National Parks and Wildlife Act 1974* provisions. The Applicant must consult with the Aboriginal community representatives, the archaeologists and Heritage NSW to develop and implement management strategies for all objects/sites. Works may only recommence with the written approval of Heritage NSW.

Unexpected Finds Protocol – Historic Heritage & Specialist Consultant Criteria

If any unexpected archaeological relics are uncovered during the work, then all works must cease immediately in that area and Heritage NSW notified in accordance with Section 146 of the *Heritage Act 1977*. Depending on the possible significance of the relics, an archaeological assessment and management strategy may be required before further works can continue in that area following the receipt of written approval of from Heritage NSW.

13.3 HERITAGE AND ARCHAEOLOGICAL MANAGEMENT SUB-PLAN

The Heritage and Archaeological Management Sub-Plan is located in the Appendix 8.

14.0 EXTERNAL TEMPORARY LIGHTING

14.1 OVERVIEW

During construction, should there be a requirement to install external temporary lighting caused by a change in sequence, methodology or request by others, Lendlease will engage a suitable Electrical Consultant to ensure that the lighting is design in compliance relevant standards to ensure minimisation of obtrusive effects on neighbouring residents.

15.0 EXISTING HELIPAD OPERATIONS

15.1 OVERVIEW

The existing Liverpool Hospital has one functioning Helipad used for patient transfer services and emergencies. The secondary helipad that exists on-site has been decommissioned.

Lendlease has engaged a suitably qualified and experienced aviation professional, Avipro Pty Ltd, to undertake an assessment of potential impacts on the operations of the functional helipad and provide recommendations regarding required adjustments to helicopter flight paths for the duration of construction as well as measures to be implemented to mitigate risks to helipad operations.

15.2 MONITORING & CONSULTATION

Avipro has been engaged by Lendlease to assist in managing construction impacts during the project which include modifications to the existing flight paths during tower crane operation over Stage 1 & 2 and mobile crane operations during components of Stage 3. The temporary adjustments to helipad operations will be reviewed with and ultimately managed by the Local Health District and emergency services in partnership with Lendlease. Lendlease contractors will be required to adhere to the Crane Management Plan and any other recommendations of Avipro developed through consultation with the Local Health District and emergency services.

16.0 APPENDICES

APPENDIX 1 – CTPMSP

APPENDIX 2 – CNVMSP

APPENDIX 3 – CWMSP

APPENDIX 4 – HCSP

APPENDIX 5 - AMSP

APPENDIX 6 – SEMSP

APPENDIX 7 – AIR QUALITY MANAGEMENT SUB-PLAN

APPENDIX 8 – ARDEM & HAMSP

APPENDIX 9 – ERMSP