LENDLEASE CONSTRUCTION PTY LIMITED | 97 000 098 162

LIVERPOOL HEALTH & ACADEMIC PRECINCT STAGE 2 & 3

ASBESTOS AND HAZARDOUS BUILDING MATERIAL MANAGEMENT SUB PLAN

23/07/2024 |
Revision No: 3

Sub Plan Revision Status				
Date	Revision (in numbers)	Purpose and Summary of Amendments	Reviewed by	Approved by
30/03/17	2	Revision including LLB GMR and legislative amendments.	Tracey Wallbridge	Brian Falls
23/07/2024	3	Updated Lendlease Construction entity names, role titles and legislative references.	Alan Tran	Andrew Hereth
28/01/2025	14	Template update SOW update and EMD added to appendix 1	Daisy Marks	Sebastian Bartholomeusz
28/3/25	15	Updated EMD added	Daisy Marks	Sebastian Bartholomeusz

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1. SCOPE OF PROJECT AND SUB PLAN

Project Details	
Scope of the Sub Plan	This Asbestos and Hazardous Building Material Management Sub Plan details control measures for works where asbestos and/or hazardous building materials are present or identified during construction. It defines mitigation measures to be implemented during relevant construction activities, a monitoring program that enables assessment of the impacts of construction activities on potentially affected areas, and contingency measures that may be implemented if exceedances are measured. Refer to Section 1.6 of the Project EHS Management Plan Part 1 for clarification on how the EHS Sub Plans form part of the Lendlease Construction (LLC) EHS management system.
Objectives of the Sub Plan	• To provide a process for the identification of asbestos or hazardous building materials in site buildings or structures. • To ensure the proper removal of any asbestos or hazardous building materials identified in site buildings or structures. • To ensure that asbestos and hazardous building materials are properly stored, transported and disposed of to an approved, licensed waste facility. • To prevent any impact to air quality or site work areas and adjoining properties via inappropriate handling, removal or disposal of asbestos or other hazardous building materials.
Scope of Works	This Sub Plan has been prepared based on the following scope of works across all stages: Main works SSDA 10389 and On Grade Carpark Works SSDA 10388 • Site establishment • Demolition of the Alex Grimson building, Oncology and Pathology buildings. • Excavation of materials, backfilling and providing clean fill • Installation of continuous flight auguring (CFA) piling • Construction of new Integrated Services Building ISB 2, including basement • Refurbishment of numerous areas within the existing Caroline Chisholm and Clinical Services Building of the Hospital • Construction of Campbell St shared Zone • On Grade Car Park Works

	External works
Key Issues and Risks	Asbestos is commonly used as an acoustic insulator and can be found in brake pads (i.e. lifts), thermal insulation (i.e. pipes and cables), fire proofing (i.e. steel beams) and in building materials such as ceiling tiles, wall panels, pipes, floor tiles, linoleum and mastic. Asbestos is made up of microscopic bundles of fibres that may become airborne when distributed. These fibres may become inhaled into the lungs with significant potential risks to human health. Other hazardous building products that may be encountered on site include fluorescent light fittings with capacitors containing PCBs and building materials coated with lead-based paints. These materials pose potential risks to the environment and human health if removed, handled and/or disposed of inappropriately. The works required on site will involve the demolition of: • Alex Grimson building. • Oncology building. • Pathology building. The works will require the disturbance, removal, handling and disposal of buiding components that contain: • Asbestos, • Lead, \PCB's. The activities expected to have the greatest potential to impact on the local environment, site workers and community are: • Site clearing and establishment; • Removal of building components; • Demolition of structures; • Excavation and the removal of redundant services; • Temporary storage of materials; • Loading of materials and transport; • Waste disposal. The impacts of these works may include: • Direct exposure of workers and the community to hazardous materials; • Dust migration off site affecting project neighbours; • Runoff of sediment containing contaminants;

	• Pollution or contamination of land, air, water on and/or off-site due to poor handling and/or storage; • Inappropriate disposal of materials resulting in contamination or pollution. The implementation of the control measures identified in the EHS Plan and Asbestos and Hazardous Building Material Management Sub Plan are intended to prevent or mitigate these impacts.
Legislation, Approvals and Guidelines	**Federal/National:** • Model Code of Practice: How to Safely Remove Asbestos • AS 5370: Sampling and qualitative identification of asbestos in bulk materias • NOHSC Publication: Guideance Note for the Assessment of Health Risks arising from the use of Hazardous Substances in the Work place (1994) • NOHSC Publication: Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres 2nd Edition [NOHSC:300 3(2005) • NOHSC Publication: Guidance Note on the Membrane Filter Method for the Estimation of Airborne Synthetic Mineral Fibres [NOHSC:3006 (1989) • NOHSC Publication: List of Designated Hazardous Substances [NOHSC:10005 (1999) • Globally Harmonised System of Classification and Labelling of Chemicals (GHS) **State:** • Relevant State Government Safety Codes including: • How to Safely Remove Asbestos: Code of Practice. • How to Manage and Control Asbestos in the Workplace: Code of Practice • Work Health and Safety Act 2011 • Work Health and Safety Regulation 2017 • SSDA Conditions 10388 and 10389 **Lendlease Requirements:** • GMR: 4.13 Degradation or Pollution of the Environment • GMR 4.10 Occupational Health Exposure • GMR 4.11 Public Health Exposure • GMR: 4.15 Uncontrolled Release of Stored Energy (non-electrical))

	• Lendlease Construction Workplace Delivery Code (WDC) • PRA Occupational Health and Hygiene Management Plan (OHHMP) • Hazardous Materials Survey Report and Register – EMS196723 Hazmat Register Liverpool Hospital – SWSLHD 09 05 2019 • Hazardous Building Material Survey for Proposed Building Works JKE – E32674BTrpt HAZ Liverpool • Environmental Site Assessment - E32465BDrpt-Rev Liverpool • Preliminary Environment Site Assessment - E32465BDrpt3 Liverpool Final
Summary of Site Controls	Works must be planned and implemented in accordance with the Lendlease GMRs, the Project EHS Plan, this Sub Plan and the Lend lease Construction WDC. These documents detail Lendlease's approach and commitment to pro-active and responsible site management. Site specific controls, monitoring, reporting and performance measurements have been identified in this Sub Plan to protect the environment, workers and community. These include but are not limited to: ● Conducting a Hazardous Materials Building Survey (if deemed necessary) prior to any demolition or disturbance commencing; ● Preparing an Asbestos and Hazardous Building Materials Environmental Management Diagram (EMD) prior to any site activities commencing including clearing and demolition; ● Compiling a Hazardous Building Materials Register (including SDSs) to document the location and type of hazardous materials present (in ground or buildings); ● Erecting barricades, barriers, signage etc and applying hazard identification tags on structures; and ● Implementing the following unexpected find protocol if suspected toxic or hazardous materials are discovered/exposed during demolition/construction activities in an area of the site believed to be free of hazardous materials. Asbestos and hazardous building material handling and disposal requirements must be included in relevant specifications, contract ag reements, quality assurance documents, and subcontractor work method statements. Site inspections, monitoring and reporting will be undertaken by Lendlease and subcontractors as detailed in the EHS Plan and the following implementation table. **Unexpected Find Protocol** 1. Cease work and evacuate the area of work immediately. 2. Contact a LLC representative (EHS Manager/Coordinator, Foreman/Supervisor, Site Manager, Construction Manager). 3. Construction Manager to notify JSP

4. Erect barricades to isolate the immediate areas providing 10m between the suspect material and the erected barrier if possible.
5. Notify the appropriate regulatory authorities as soon as possible if applicable.
6. Prevent access to the barricaded area unless express permission has been given by the qualified environmental specialist. A clearance certificate or approval should be given in writing prior to entry.
7. Undertake sampling of the suspect material (to be carried out by an appropriately qualified environmental specialist, usually a consultant) as advised by the LLC Construction Manager.
8. Determine, in consultation with the nominated environmental specialist and in liaison with LLC senior site personnel and/or relevant authorities, if further remedial actions are necessary based on the sample test results. Identify appropriate treatment/handling or disposal options and procedures.
9. Obtain all required permits to carry out remedial work prior to the commencement of any new works. The nominated environmental specialist must provided written clearance approval for entry.
10. Remove the barricade to allow work activities to resume under the direction of the LLC Construction Manager.

2. IMPLEMENTATION OF THE SUB PLAN

Control Measure	Timing	Methodology	Responsibilty	Monitoring and Reporting	Performance Measurement
Planning and Identification					
Undertake a Hazardous Building Material survey.	60 days prior to demolition works commencing	Survey be conducted by a qualified specialist consultant. Identify hazardous materials building.	CM	Survey prepared and reviewed. Register included. Findings incorporated into site documents.	All Hazardous Building Materials listed in Register. All Hazardous Building Materials tagged. Appropriate Safety Data Sheet present in file.
Prepare a Hazardous Building Material Register.	Prior to demolition works commencing	Establish a register based on survey. Communicate details to workers and subcontractors. Addressed in IHRA.	CM/SM	Details included in subcontractor SWMS. Inspections prior, during and after material removal.	Register current.
Include information in the Site Induction about the risks and potential impacts of asbestos and hazardous building material handling.	Prior to works commencing and ongoing	Revise Lendlease standard induction package to include site specific information. Deliver induction material.	CM SM	SWMS prepared by subcontractors to address environmental and safety requirements.	Site induction delivered to all workers on site.
Prepare an Asbestos and Hazardous Building Materials Environmental Management Diagram (EMD) showing the location of affected instructure, buildings and site areas.	At site establishment and prior to works commencing	Review Environmental Management Diagram (EMD Appendix 1). Prepare diagram showing details of affected structures/ areas.	CM SM	EMD reviewed. Diagram prepared prior to works commencing. Diagram updated every 6 weeks.	Diagram prepared containing all relevant details and communicated.

Control Measure	Timing	Methodology	Responsibilty	Monitoring and Reporting	Performance Measurement
					Diagram updated to reflect changes in site conditions. Controls implemented in accordance with the EMD.
Install barriers, fencing, tags, signage etc, around/on affected structures/areas as per the EMD.	Prior to works commencing	Undertake a site inspection to verify the correct location of controls. Install controls in accordance with EMD, design/engineers documentation.	SM	Daily surveillance to assess effectiveness and condition. Weekly/monthly inspection checklist.	Controls modified or new controls installed as required.
Develop health and environmental monitoring programs (as required).	Prior to works commencing	Engage a specialist consultant to develop and advise on monitoring requirements.	CM	Daily surveillance. Real-time assessment of results.	Monitoring implemented as required.
Identify handling, loading and temporary storage areas.	Prior to works commencing. Maintain at all times	Retain existing hard surfaces where possible. Establish secure storage areas with appropriate signage, dust and runoff controls. Construct stable site entry/exit points and roadways using appropriate materials.	SM Foreman	Daily surveillance and maintenance. Weekly/monthly inspection checklist.	No tracking onto public roads or dust. Tracking of all waste materials removed from site. No runoff or loss of materials.

Control Measure	Timing	Methodology	Responsibilty	Monitoring and Reporting	Performance Measurement
Demolition/Refurbishment Works					
Engage licenced contractors to undertake the removal of: • Asbestos and related building materials. • PCBs in light fittings. • Timber/metal/brick structures containing lead based paints or other hazardous substances.	At all times	Include removal, handling and disposal procedures and controls in subcontractor SWMS. Implement monitoring program/s.	CM SM	Daily surveillance. Weekly/monthly inspection checklist. Clearance certificate from occupational hygienist.	SWMS requirements met. No asbestos dust particulates detected during monitoring. Appropriate PPE worn.
Maintain barriers, tags, signage, dust and runoff controls in an operable condition, until works are completed and validated.	At all times and after rain events	Install new controls as new work areas open. Check the condition of controls. Undertake maintenance as required.	SM Foreman	Daily surveillance. Weekly/monthly inspection checklist.	No breach of environmental and/or safety requirements.
Excavation of Contaminated Material (mechanical means)					
Engage a licensed contractor to undertake and supervise the works.	At all times	Docment removal procedures in contractor SWMS (i.e. sprays to stabilise paints /dust). Implement dust monitoring (as required).	SM Foreman	Daily inspections	SWMS followed. No non compliance detected by the asbestos licensed removal contractor.
Ensure: • Excavator (plant) has an enclosed cabin for the operator; and • Operator remains inside the cab for the duration of works with air conditioning running.	At all times	Document removal procedure documented in contractor SWMS (i.e. sprays to stabilise paints /dust). Implement dust monitoring (as required).	SM Foreman	Daily inspections	SWMS followed.

Control Measure	Timing	Methodology	Responsibilty	Monitoring and Reporting	Performance Measurement
Implement dust, erosion and sediment controls prior to works commencing (particularly on highly erodible soils).	At all times	Ensure a reliable source of water is available for dust suppression. Implement erosion and sediment controls to capture potentially contaminated sediment. Document removal procedures in contractor SWMS. Implement dust monitoring (as required).	SM Foreman	Daily inspections	SWMS followed.
Prepare and implement specific procedures for the transport of excavated, asbestos impacted soil to approved locations.	At all times	Load asbestos impacted soil into a truck or bin lined with 200µm thick polythene. Truck/bin to be securely covered and sealed. Dispose of material in accordance with authority requirements. Keep dockets/tracking details.	SM Foreman	Daily inspections	SWMS followed. Waste tracking of trucks/bins leaving site and dockets from licensed landfill.
Excavation of Contaminated Material (non-mechanical means)					
Engage a licensed contractor to undertake and supervise the works.	At all times	Docment removal procedures in contractor SWMS (i.e. sprays to stabilise paints /dust). Implement dust monitoring (as required).	SM Foreman	Daily inspections	SWMS followed. No non compliance detected by the asbestos licensed removal contractor.
Establish defined ‘contamination zones’ where asbestos material is located on exposed or excavated surfaces.	At all times	Remove asbestos debris using a combination of ‘emu picking’ and raking and place material into a 200µm thick polythene bag until it is no more than 50% full.	SM Foreman	Daily inspections	SWMS followed. No non compliance detected by the asbestos licensed removal contractor.

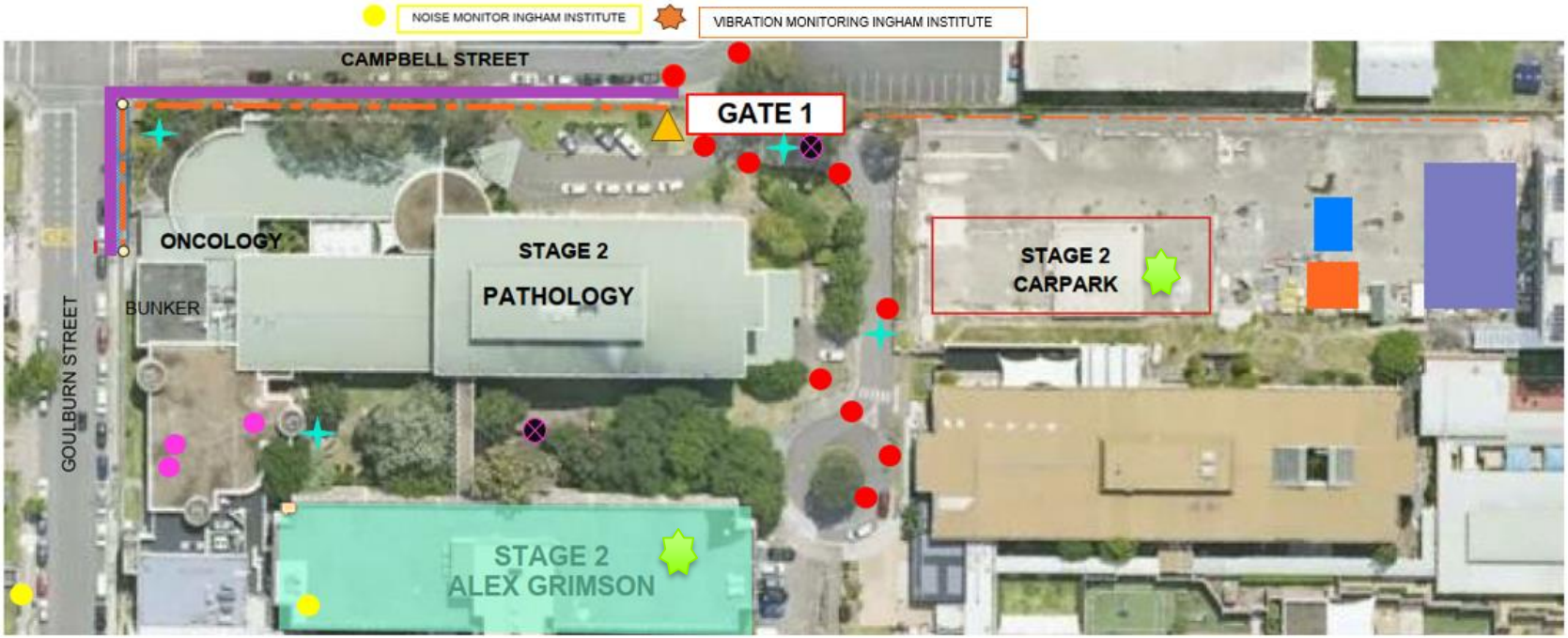
Control Measure	Timing	Methodology	Responsibilty	Monitoring and Reporting	Performance Measurement
		When at 50% capacity, the bag should be double bagged and sealed air-tight with industrial tape.			
Obtain a clearance certificate.	As required	Engage an occupational hygienist to inspect the surfaces of the excavated area including ground surfaces to confirm there is no visually identifiable asbestos remaining on site.	SM Occupational hygienist	Inspections to all areas as required	Issue of a clearance certificate following a satisfactory inspection result.
Backfill excavations in asbestos impacted soils (including new service trenches) with certified clean fill.	At all times as required	Install a geo-textile fabric layer along the walls and base of the trench as well as over ground surfaces to provide delineation between the clean fill and asbestos impacted soils. Use certified clean fill such as crushed concrete or a pebble layer at the base of the trench for the new services to sit on. Use clean, validated fill material to backfill and encapsulate the trench. Engage the occupational hygienist to inspect surfaces of the backfilled trench including the ground surface, to confirm the encapsulation of the asbestos impacted soils with geo-fabric.	SM	Inspections to all areas as required	SWMS followed. Certified documentation for clean fill obtained.
Temporary Storage, Transport and Disposal					
Undertake sampling and analysis of the soil/material to determine its waste classification.	At all times	Engage a specialised environmental consultant to undertake sampling and provide a waste classification report. Identify a suitably licensed facility to accept the waste.	CM SM	Waste classification report.	Acceptance by licensed waste facility

Control Measure	Timing	Methodology	Responsibilty	Monitoring and Reporting	Performance Measurement
Provide dedicated and clearly identified bins for the temporary on-site storage of asbestos, PCBs, lead-based paints or other hazardous building materials – where storage is required.	At all times	Provide dedicated and clearly marked/delineated waste bins. Bins must be lined and sealed prior to removal for disposal.	SM	Daily inspections	Waste correctly stored in marked bins. No cross contamination of wastes.
Track details for all materials excavated from the site and transported for disposal (ie cradle to grave).	At all times	Document detailed and specific procedures for the transport and disposal of asbestos, PCBs, lead based paint and other hazardous materials. Identify suitable licensed waste transporters and facilities. Transport asbestos impacted fill and/or hazardous building materials off-site in leak proof, covered vehicles and dispose of at a licensed facility (based on waste classification). Record the following for trucks leaving site: • Origin of material; • Material type; • Approximate volume; and • Truck registration number.	CM SM EHS	SWMS prepared by subcontractor Daily inspections. Tracking register of trucks or bins leaving site. Periodic inspections of transport vehicles/containers. Periodic inspection of waste disposal documentation.	No non conformances from inspections. All transport vehicles covered and showing appropriate signage and permits. No rejection of loads from licensed facility.
Dispose of all asbestos affected/ exposed materials to a licensed facility.	At all times	Bag, double wrap and seal bags of polythene, coveralls, geo-fabric and rags used during the operation for disposal as asbestos contaminated waste. Transport affected/hazardous materials to an appropriately licensed waste facility.	SM	Tracking of materials an/or bins leaving site. Check license/approval of facility to receive waste.	No non conformances from inspections. No rjection of loads from licensed facility. Landfill waste dockets correspond to removed waste volumes/types.

Control Measure	Timing	Methodology	Responsibilty	Monitoring and Reporting	Performance Measurement
Environmental Monitoring (air) and Clearance					
Engage an occupational hygienist (OH) to implement monitoring and undertake inspections of the work.	Prior to work commencing. Ongoing – as determined by the OH At completion of removal work	Request that the OH carry out a full visual inspection of the work area prior to the commencement of asbestos/ hazardous materials removal works to ensure containment measures are satisfactory. Request that the OH carry out perimeter, personal (including excavator operator) and clearance air monitoring* and inspections. (*continuous asbestos fibre monitoring must be conducted by a NATA accredited OH) Request that the OH carry out a full inspection of the work area and transit route at the completion of hazardous material removal works. If removal works are not to the satisfaction of the OH, removal contractors will be required to re-enter the work area to rectify any issues arising from the inspection.	CM SM OH	Daily inspection and checks during works to check monitoring equipment and identify dust. Continuous fibre monitoring.	Monitoring results. Certificates and inspection reports provided by OH. Satisfactory clearance inspection.
Personal and Plant Decontamination					
Establish a process and personal decontamination facilities within the asbestos affected area in a location where re-contamination cannot occur.	At all times	Ensure personal decontamination occurs each time workers leave an asbestos affected work area AND at the completion of the asbestos removal work. When leaving the work area all site personnel must make their way to the nominated decontamination area, remove	SM	As detailed in the SWMS prepared by sub-contractor. Daily inspections of decontamination area, process and controls.	Hygienist inspection reports and clearance.

Control Measure	Timing	Methodology	Responsibilty	Monitoring and Reporting	Performance Measurement
		their coveralls and clean their masks and boots using the wet rags. Respirator must remain on during decontamination and must only be removed on completion of decontamination. All equipment and waste removed from the asbestos affected work area must be decontaminated using wet rags. At the completion of works, all asbestos related materials including polythene, coveralls, geo-fabric and rags must be double wrapped and sealed for disposal as asbestos contaminated waste.			
Establish a process and an area for the decontamination of plant used in the removal of asbestos or other hazardous materials.	At competition of works or if plant moved within or off site.	Park excavators/trucks etc within a designated washing area at the conclusion of works. Remove all soil from the tracks, body and bucket as far as reasonably practicable. Collect, remove and deposit soil and sediment from the cleaning process in a truck parked outside of the asbestos affected area. Classify and dispose of waste (including soil/sediment) in accordance with relevant State Government requirements.	SM	As detailed in the SWMS prepared by sub-contractor. Daily inspections of the decontamination area, process and controls.	Landfill waste dockets provided. Landfill dockets match waste volumes/types removed.

APPENDIX 1: ENVIRONMENTAL MANAGEMENT DIAGRAM



Icon	Description
	Noise Monitor
	Stormwater Inlet
	Radiation Monitor
	Spill Kit
	HS / DG Storage
	Rubbish Skip
	LL Storage
	B-Class Hoarding
	Sediment Controls
	Air Monitoring
	Dust Monitoring
	Vibration Monitoring

KEY ENVIRONMENTAL ISSUES

- Unexpected finds
- Noise to general public / Hospital
- Water run off
- Sediment run off

SENSITIVE RECEPTORS

- Local Residents in Goulburn & Campbell Streets
- Alex Grimson Building
- Caroline Chisholm Building
- Existing Clinical Services Building
- Liverpool TAFE – College Street Campus
- Ingham Institute

KEY CONTROL MEASURES

- Blue metal to cap exposed soil
- Geofabric under pit grates to stormwater inlets to filter water
- Radiation monitoring of cancer bunker
- Shaker grid located inside of gates 2 & 3
- High pressure washer to clean tyres in inclement weather

KEY CONTACTS

Construction Manager	Senior Site Manager	Senior Site Supervisor	Senior EHS Coordinator	Emergency Services
Sebastian Bartholomeusz	Damien Smith	James Hall	Daisy Marks	000
0437 635 696	0437 559 361	0429 801 618	0409 845 126	

Asbestos Location - Not disturbed

SSDA 10388 & 10389 Compliance Conditions

Condition	Condition Requirements
A19 – 10388 A20 - 10389	**Site Contamination** Remediation approved as part of this development consent must be carried out in accordance with the Remediation Action Plan (RAP), dated 29 April 2020, prepared by JK Environments, or any updated RAP, prepared by a Certified Contaminated Land Consultant.
B9 - 10388	Prior to the commencement of construction, except demolition works, further post-demolition validation investigation outlined in Remediation Action Plan (RAP), dated 30 April 2020, prepared by JK Environments, must be conducted to determine the full nature and extent of the contamination at the project area after demolition works. The post-demolition validation investigation(s) must be undertaken, and the subsequent report(s), must be prepared in accordance with relevant guidelines and prepared by a Certified Contaminated Land Consultant.
B10 – 10388	The Remediation Action Plan (RAP), dated 30 April 2020, prepared by JKEnvironments, must be updated following results of the post-demolition validation investigation(s) by a Certified Contaminated Land Consultant.
C25 – 10388 C28 - 10389	**Imported Soil** The Applicant must: (a) ensure that only VENM, ENM, or other material approved in writing by EPA is brought onto the site. (b) keep accurate records of the volume and type of fill to be used; and (c) make these records available to the Certifier upon request.
D21 – 10388 D26 - 10389	The Applicant must submit a Validation Report for the development. The Validation Report must: (a) be prepared by a Certified Contaminated Land Consultant. (b) be submitted to the Planning Secretary and the Certifier for information within one month after the completion of remediation works; and (c) be prepared in accordance with the RAP and the Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites (OEH,2011).
D27 – 10389 D22 - 10388	**Site Audit Statement** Prior to the commencement of operation, the Applicant must submit a Site Audit Report and Section A Site Audit Statement for the relevant part of the site prepared by a NSW EPA accredited Site Auditor. The Site Audit Report and Section A Site Audit Statement must verify the relevant part of the site is suitable for the intended land use and be provided for the information of the Planning Secretary and the Certifier.