FISH MARKET – EARLY WORKS

Hazardous Materials Management Plan

Prepared by

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for

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Revision No.	Revision Date	Authority	Changes
A	29.07.2020	DR	Draft
B	28.08.2020	DR	Changes as per SafeWork NSW's comments

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1 REQUIREMENTS

Table 1-1 - D&S Requirements

Contract Reference	Description	Reference in Document
8.3A (b)	The Subcontractor will, in performing its obligations under the Subcontract, take into account and take appropriate action having regard to any information given to the Subcontractor by the Contractor or any other person, about hazards and risks at or in the vicinity of the workplace where the Subcontract Works are being carried out.	This Plan Appendix C
8.3A (e)	Without limiting any other obligation under the Subcontract, the Work Health and Safety Law or any other Legislative Requirement, if material that might contain asbestos or other hazardous substance is discovered the Subcontractor must: ▪ immediately notify the Subcontractor; and ▪ comply with all applicable obligations and restrictions imposed by the Work Health and Safety Legislation and any other relevant Legislative Requirement.	This Plan Appendix B
Schedule 4, Section 7	**7. HAZARDOUS MATERIALS** ▪ 7.1: The Subcontractor must maintain material Safety Data Sheets (SDS) and a Hazardous Material / Substance Register and submit these documents to the Contractor prior to brining any Hazardous Material / Substance to Site or as otherwise requested; ▪ 7.2: Any hazardous material must be stored in accordance with any Legislative Requirements and only in areas designated by the Contractor; ▪ 7.3: The Subcontractor must immediately notify the Contractor on the discovery of any material suspected to be hazardous. Any contaminated or hazardous waste must be disposed of in compliance with EPA and other Statutory Requirements. The Subcontractor must provide, to the Contractor, waste disposal records from a certified waste management facility for any contaminated or Hazardous waste removed from site upon request. ▪ 7.4: If any part of the Subcontract Works involves the disturbance/removal of Asbestos Containing Material (“ACM”), the Subcontractor must affect and maintain an asbestos liability insurance policy to cover the risks with the asbestos decontamination work, for a minimum cover of $10,000,000. Any works involving the disturbance/removal of “ACM” shall be in compliance with; EPA, Legislation, Asbestos Management Plan and Safe Work Method Statement.	This Plan Materials Tracking Register
Schedule 4, Clause 9	Liberty have allowed to lawfully dispose of any soil/sediment that remains attached to removed piles and dispose of that material in accordance with the RAP.	Materials Tracking Register

Table 1-2 - Condition of Approval Requirements

SSD Reference	Description	Reference in Document
B28	Prior to the commencement of demolition works, an updated Hazardous Materials Management Plan (HMMP) prepared by a suitably qualified person, shall be submitted to the Certifier. The HMMP must be prepared in consultation with the EPA and SafeWork NSW. The HMMP must: a. Be consistent with Safe Work Australia's codes of practice How to Safely Remove Asbestos 2019 and How to Manage and Control Asbestos in the Workplace 2019; b. Identify any known or potential areas of concern on site for hazardous and asbestos containing materials; c. Outline the procedures for identification, handling and disposal of hazardous materials; d. Include an Asbestos Management Plan; e. Ensure that all hazardous materials would be handled and disposed of by suitably qualified and licensed experts in accordance with the relevant guidelines and legislation; f. Ensure an induction process is in place for site workers and visitors regarding the identification of hazardous and asbestos containing materials and the formal procedures to be followed if such materials are identified on site; g. Include a suitable airborne asbestos fibre monitoring program for all asbestos removal works area s; and h. Outline the procedures for validation and inspection following the completion of asbestos removal works and issuing of asbestos clearance certificates. Prior to the commencement of works, a copy of the HMMP must be submitted to the EPA, SafeWork NSW and the Department.	This Plan
C32 & C33	Any hazardous materials, including asbestos, must be identified before demolition work commences and be removed in a safe manner. Removal of asbestos and other hazardous building materials must be undertaken by a suitably licensed contractor and an asbestos clearance certificate must be provided before waste classification, disposal or site validation is undertaken.	This Plan

2 GLOSSARY AND ACRONYMS

Term	Description
ACM	Asbestos Containing Material
ADG	Is the Australian Code for the Transport of Dangerous Goods by Road and or Rail
ARCP	Asbestos Removal Control Plan
ASS	**Acid Sulphate Soils:** Are naturally occurring sediments which contain iron sulphides. Sediments containing ASS have often been deposited in estuarine conditions, previously existing in a specific area. When ASS is exposed to air, the oxygen reactions reacts with the iron sulphides creating sulphuric acid.
Chemical:	Is a distinct compound or substance, especially one which has been artificially prepared or purified. A chemical may be solid, liquid or gas.
Dangerous Good	Is a substance that presents an immediate threat to safety (e.g. through fire or explosion), health (e.g. toxicity) or property if spilled or involved in some sort of accident or emergency situation. Dangerous goods are allocated a dangerous goods classification under the ADG Code:
Decanting	Is the process of transferring a hazardous substance from one container to another - normally from a larger drum to a smaller container for use on the job
Environmental Guidelines:	Is a component of the site Environmental Management System which provides guidelines to all worker(s) for the management of wastes and other environmental issues.
Hazardous Materials	Are substances that have the potential to pose a significant risk to the health and safety of people or the environment.
Hazardous Substance	Is any substance present in the workplace, which is on the *List of Designated Hazardous Substances* [NOHSC:10005] or may be classified as such using the *Approved Criteria for Classifying Hazardous Substances* [NOHSC:10008].
HAZMAT	Pre-Demolition Hazardous Material Survey
Hydrocarbon	An organic compound consisting entirely of hydrogen and carbon, including but not limited to fuels, oils, grease, and coolants
PASS	**Potential Acid Sulphate Soils (PASS):** Are soils that contain iron sulphide, but have not been to oxygen (for example below the water table) and therefore have the potential to produce sulphuric acid
PCB	**Polychlorinated biphenyls (PCBs**): Any of a family of industrial compounds produced by chlorination of biphenyl, noted primarily as an environmental pollutant that accumulates in animal tissue with resultant pathogenic and teratogenic effects
SDS	**Safety Data Sheet (SDS):** Is a document provided by the supplier or manufacturer of a hazardous substance, and by specialist service providers, that specifies the particular hazardous substance, how it shall be stored, handled, used and disposed of, particular precautions that should be taken, and the method of first aid treatment. SDS includes
SMF	**Synthetic Mineral Fibres**: Fibres such as mineral wool (rockwool and slagwool), glasswool (including superfine glass fibre) and ceramic fibres.

3 PURPOSE

This Hazardous Material Management Plan details how Liberty Industrial plan to remove, manage and dispose of hazardous building materials from all buildings/above ground structures and from soils onsite as part of the Fish Market Redevelopment 'Early Works' Package.

It defines mitigation measures to be implemented during removal and disposal activities, monitoring that will be conducted and contingency measures to ensure no adverse impacts occur to human health and the environment.

4 OBJECTIVE

The objectives of this plan are as follows;

- To identify any asbestos or hazardous building materials in site buildings or structures to be demolished and impacted soils with contaminants & ASS/PASS;
- To properly manage and remove any asbestos or hazardous building materials and ASS/PASS to be disposed of;
- To properly store, transport and dispose of all potential asbestos, hazardous building materials and ASS/PASS impacted soils to an approved licensed waste facility;
- To prevent any impact to air and soil quality or site work areas and adjoining properties via inappropriate handling, removal or disposal of asbestos or other hazardous building materials.

5 KEY LEGISLATION STANDARDS GUIDANCE

Works for this project are undertaken pursuant to the New South Wales legislation namely:

- Work Health and Safety Act 2011;
- Work Health and Safety Regulation 2017;
- Demolition Work Code of Practice;
- How to Safely Remove Asbestos Code of Practice;
- How to Manage and Control Asbestos in the Workplace Code of Practice;
- How to Manage Health and Safety Risks Code of Practice;
- Managing Risks of Plant in the Workplace Code of Practice;
- Managing Risks of Falls at the Workplace Code of Practice;
- Confined Space Code of Practice;
- Excavation Work Code of Practice;
- First Aid Code of Practice;
- Managing the Work Environment and Facilities Code of Practice;
- Mobile Crane Code of Practice;
- Labelling Workplace Hazardous Chemicals Code of Practice;
- AS NZS 2601 -2001 Demolition of Structures
- AS 1319-1994 and amendment No. 1 "Safety Signs for the Occupational Environment";
- AS 1715-2009 "Selection, Use and Maintenance of Respiratory Protective Devices";
- AS 1716-2012 "Respiratory Protective Devices";
- Contaminated Land Management Act 1997;
- Dangerous Goods (Road and Rail Transport) Act 2008;
- Environmentally Hazardous Chemicals Act 1985;
- Ozone Protection Act 1989;
- Waste Avoidance and Resource Recovery Act 2001;
- NSW EPA – Transport and Tracking Waste Guidance
- Bunding and Spill Management, technical bulletin (Environment Protection Authority, 1997).

6 HAZARDOUS MATERIALS

Previous surveys have identified a number of Asbestos Containing Materials (ACMs) onsite as detailed in the Pre-Demolition Hazardous Building Materials Survey conducted by JBS&G (2020).

Further to this, the historical use of hazardous materials during the time of the construction of the Hanson Batch Plant, Wharf and associated infrastructures (inc. substation, site offices and timber structures), has meant hazardous materials in addition to asbestos such as lead based paints, Synthetic Mineral Fibres (SMF) and Polychlorinated Biphenyls (PCB's) may also be present.

As the uncontrolled removal of these materials may present serious health, safety and/or environmental problems, a pre-demolition hazardous materials survey (HAZMAT) as described in *AS 2601*, to investigate and identify the presence of hazardous materials onsite to enable for their safe removal.

6.1 HAZARDOUS MATERIALS PRE-DEMOLITION SURVEY

As discussed, a pre-demolition survey has been undertaken by JBS&G and is located in Appendix B. This contains details on all hazardous materials onsite, their condition and location.

6.2 ASBESTOS

The primary issue associated with works associated with asbestos containing materials is managing the risk of inhalation of respirable fibres where Site activities result in the disturbance of these materials. A secondary issue with the presence of the asbestos is the appropriate classification and disposal of asbestos containing material to a lawful facility such that asbestos fibres and/or containing material does not inadvertently contaminate materials destined for beneficial reuse and/or the surrounding environment.

ACM were identified by testing at an accredited NATA laboratory and/or visual inspection using the experience of the hazardous materials surveyor. Representative dust samples were collected throughout the site, as well. A summary of the results of laboratory testing for asbestos are provided in Table 6-1 below. However, due to some areas were inaccessible during the hazardous material inspection by JBS&G, Liberty Industrial is expecting a further investigation in the follow structures

1. Substation S405
2. Substation S1608
3. Enclosed building on western side of Coal Loader

Table 6-1 – Detected Asbestos Results Summary Table (JBS&G, 2020)

Sample ID	Lab ID	Sample Location	Results	Observed Condition
Lot 3				
A-01	20-My03540	Top of brick wall adjacent shower room - bituminous membrane	**Chrysotile Asbestos**	Non-Friable
A-02	20-My03541	Store Room, floor - fibre cement conduit	**Chrysotile and Amosite Asbestos**	Non-Friable
Lot 4				
AD-05	20-My03556	Old Office Building, ground floor toilets, floor - settled dust	**Chrysotile Asbestos detected in loose fibre bundles**	Friable
A-07	20-My03546	Old Office Building, roof - corrugated fibre cement sheeting	**Chrysotile and Amosite Asbestos**	Non-Friable
A-08	20-My03547	Old Office Building, roof, barge capping - fibre cement sheeting	**Chrysotile and Amosite Asbestos**	Non-Friable
A-10	20-My03549	Old Office Building, ground floor, south wall - fibre cement fragments	**Chrysotile and Amosite Asbestos**	Non-Friable

An Asbestos Removal Control Plan (ARCP) has been prepared, which outlines the safe removal of asbestos onsite and is located in Appendix A.

6.3 LEAD

Lead is often found in paint, old water pipes and other plumbing fittings, sheet lead, solders, lead flashing, lead light windows and glass. The age of a structure may be directly related to the amount of lead that can be present.

Representative paint samples were collected throughout the site for laboratory testing. A summary of the results of laboratory testing for lead are provided in Table 6-2 below.

Table 6-2 – Detected Lead Results Summary Table (JBS&G, 2020)

Sample ID	Lab ID	Sample Location	Results	Observed Condition
Lot 3				
LD-01	20-My03557	Shower Room, floor - settled dust	**1,000 mg/kg**	Poor
LP-01	20-My03562	Store Room, door - green paint	**Lead Based Paint (28% w/w)**	Poor
LP-02	20-My03563	Timber structure, columns and beams - black paint	**Lead Based Paint (26% w/w)**	Poor
LP-03	20-My03564	Timber structure, external timber doors and metal vents - yellow paint	**Lead Based Paint (2.3% w/w)**	Poor
Lot 4				
LD-02	20-My03558	Old Office Building, roof void - settled dust	**1,500 mg/kg**	Poor
LD-03	20-My03559	Old Office Building, first floor, floor - settled dust	**4,800 mg/kg**	Poor
LD-05	20-My03561	Old Office Building, ground floor toilets, floor - settled dust	**1,800 mg/kg**	Poor

LP-06	20-My03567	General site, southwest end, timber and metal barrier – white paint	**Lead Based Paint (0.26% w/w)**	Poor
LP-07	20-My03568	Old Office Building, ground floor ceiling – white paint	**Lead Based Paint (0.12% w/w)**	Poor
LP-08	20-My03569	Old Office Building, ground floor toilets, walls – blue paint	**Lead Based Paint (0.72% w/w)**	Poor
LP-09	20-My03570	Old Office Building, ground floor toilets, timber doors and frames – yellow/orange paint	**Lead Based Paint (14% w/w)**	Fair

The precautions that will be taken when demolishing materials containing lead include:

- Minimising the generation of lead dust and fumes;
- Removing Lead Paint before hot cutting steel;
- Cleaning work areas properly during and after work;
- Wearing the appropriate PPE(), and
- Maintaining good personal hygiene.

Further information can be found in AS 4361.1: Guide to lead paint management-Industrial applications. Testing can recognise dried paint film with more than 1 per cent (by weight) to be lead-containing paint.

6.4 POLYCHLORINATED BIPHENYLS

Workers can be exposed to Polychlorinated Biphenyls (PCBs) when dismantling electrical capacitors and transformers or when cleaning up spills and leaks. Appropriate control measures will be implemented when handling damaged capacitors to ensure that any spillage does not contact workers and is appropriately cleaned up and disposed of.

Any equipment or parts containing PCBs will be placed in a polyethylene or suitable bag, and then placed into a marked sealable metal container. If PCBs cannot be transported immediately for disposal, all containers will be stored in a protected area which prevents any discharge of PCBs to the environment.

PPE including gloves made of materials that are resistant to PCBs (for example polyethylene, nitrile rubber or neoprene), will be provided to workers and worn when there is any likelihood of exposure to PCBs. No PCBs have been found in the latest JBS&G survey.

Table 6-3 – Detected SMF Results Summary Table (JBS&G, 2020)

JBS&G SAMPLE NO.	LOCATION	MATERIAL DESCRIPTION	PHOTO NUMBER	ACCESSIBLE AREA?	FRIABILITY	ANALYTICAL RESULT	MATERIAL CONDITION	APPROX. QUANTITY	ACTION REQUIRED	DATE OF LAST INSPECTION (INCL. COMPANY NAME AND INITIALS)	DATE OF CONTROL ACTION &/OR REMOVAL
Old Office Building											
A-09	Old Office Building, roof void	Insulation	24	Yes	-	**SMF Detected**	Good	100 m^2	Remove in accordance with NOHSC:2006 (1990)	30/4/2020 JBS&G SL	
Site Office											
Synthetic Mineral Fibres (SMF)											
-	Site Office, external south aspect, hot water system	Internal insulation	40	Yes	Bonded	**Assumed SMF**	Good	2 m^2	Remove in accordance with NOHSC:2006 (1990)	30/4/2020 JBS&G SL	
-	Site Office, roof void	Insulation batts	41	Yes	Bonded	**Assumed SMF**	Good	85 m^2	Remove in accordance with NOHSC:2006 (1990)	30/4/2020 JBS&G SL	
-	Site Office, internal and external wall cavities	Insulation batts	-	Yes	Bonded	**Assumed SMF**	Good	150 m^2	Remove in accordance with NOHSC:2006 (1990)	30/4/2020 JBS&G SL	

6.5 SYNTHETIC MINERAL FIBRES

Synthetic mineral fibres are used extensively for insulation in building walls and ceilings as well as on items such as air-conditioning duct work. The specific material should be identified and control measures implemented relevant to the manufacturer's instructions.

PPE such as P2 dust masks (combination of disposable or non-disposable and half-face & full-face) and coveralls if required, depending on the state of the material, will be provided to workers and worn when insulation is being removed during the demolition process and dust will be suppressed by damping down.

Suspected SMF materials were identified in various forms throughout the site. Full details of all identified SMF materials are provided in the Hazardous Materials Register (Appendix B). The typical forms of SMF identified are summarised below:

Table 6-4 – Detected SMF Results Summary Table (JBS&G, 2020)

JBS&G SAMPLE NO.	LOCATION	MATERIAL DESCRIPTION	PHOTO NUMBER	ACCESSIBLE AREA?	FRIABILITY	ANALYTICAL RESULT	MATERIAL CONDITION	APPROX. QUANTITY	ACTION REQUIRED	DATE OF LAST INSPECTION (INCL. COMPANY NAME AND INITIALS)	DATE OF CONTROL ACTION &/OR REMOVAL
Old Office Building											
Detailed inspection of light fittings could not be undertaken due to access restrictions. All light fittings should be assumed to contain PCBs.									Undertake detailed inspection once safe access provided, OR Handle in accordance with ANZECC 1997	30/4/2020 JBS&G SL	

6.6 OZONE DEPLETING SUBSTANCES

Ozone depleting substances typically comprise refrigerant gases used in air conditioners, cool rooms and other forms of refrigeration and firefighting infrastructure. Inspection typically involves review of on-site labels, or alternatively if there are no labels present, a review of the age and condition of the identified plant.

6.7 ACID SULPHATE SOILS

ASS is a common name given to naturally occurring sediments and soils containing iron sulphides (generally as iron sulphide or iron disulphide). These soil profiles are typically located in coastal, low lying alluvial or estuarine areas such as mangroves, salt marshes, coastal rivers and creeks, estuaries, tidal lakes and coastal floodplains where historical iron rich sediment deposition in the presence of a sulphate source (commonly salt water), organic matter and microbial action over time has resulted in the formation of particular environmental conditions. ASSs are predominantly encountered in areas where the soil profile has an elevation of less than 5 m Australian Height Datum (AHD), and may be found close to the ground level or at depth in the soil profile where continued deposition actions have resulted in raising of the ground levels.

Changes in environmental conditions which result in the exposure of these materials to air, via excavation or drainage of subsurface soils, can lead to the reaction of the iron sulphides with oxygen, causing the generation of sulfuric acid. This may result in significant environmental and infrastructure damage if the produced acid is spread by groundwater or surface water.

Neutralisation techniques can be used to treat ASS by the addition of chemicals that react with the produced acid to ensure that acid is not released from the treated material. For the purposes of this plan, the neutralising chemical is assumed to be high quality agricultural lime (aglime). The aglime should be fine ground (<1mm) calcium carbonate ($CaCO_3$) or calcite (limestone or marble powder) stored in a dry area. Aglime will be required if ASS is identified during site works.

7 OFFSITE DISPOSAL

The transport and disposals of hazardous waste presents a high risk to the environment. These wastes must be tracked when transported into, within or out of NSW. The waste consignor, transporter and receiving facility all have obligations to ensure that the waste is properly tracked and disposed of at an appropriately licenced facility.

To ensure all Hazardous Building Materials sent for disposal offsite are tracked to their destination and Liberty Industrial meet all legal and contractual obligations, Liberty Industrial will employ the use of Liberty Industrials' Waste Register (FRM-123).

Steps in Waste Tracking to an appropriately licensed facility include.

- Determine whether the waste to be transported requires tracking (see the Waste that must be tracked fact sheet and the current list of exemptions). Waste streams for this project are concrete, brick, bitumen, asbestos, general demolition waste & Styrofoam material;
- Obtain prior approval to transport the waste in the form of a consignment authorisation (CA) issued by a person authorised to do so;

- Create a transport certificate (TC) which must accompany the waste while it is being transported;
- Complete the TC when the waste has arrived and been processed by the receiving facility;
- Report any non-compliances to the Environment Protection Authority (EPA).

8 RISK ASSESSMENT

Risk assessments have been conducted on the management of Hazardous Materials Onsite and have been included in DRAW supplied separately to this document.

9 HAZARDOUS CHEMICAL STORAGE

9.1 STORING HAZARDOUS SUBSTANCES

Correct storage of hazardous materials must consider:

- All relevant Australian Standards;
- For liquids, a minimum bund volume requirement of 110% of the volume of the largest single stored volume within the bund; and
- The Environment Protection Manual for Authorised Officers: Bunding and Spill Management, technical bulletin (Environment Protection Authority, 1997). In the event of an inconsistency between the requirements listed from a) to c) above, the most stringent requirement shall prevail to the extent of the inconsistency.

In addition to this;

- Hazardous materials shall be stored in a secure, limited access area until disposal;
- Storage is as per SDS recommendation;
- The storage area and bunding should be constructed as per Australian Standard AS1940;
- Incompatible hazardous materials must not be stored together;
- Appropriate first aid equipment must be available. For example, emergency shower;
- For carcinogens and reproductive toxicants (known and suspected), meeting the Occupational Exposure Limit (OEL) for that substance is not adequate; exposures must be “as low as reasonably achievable or practicable”.
- There must be an annual documented review of exposure controls for carcinogen and reproductive toxicants; and
- There must be a regular audit of storage practices and physical arrangements for hazardous materials.

For ASS impacted soils:

- The sediments will require at all times to remain below the water's surface such that they are not the drained and/or exposed to the air;
- Should sediments be pulled from above the water column, as a result of sediment being stuck to piles and timber, sediment will be gently scrapped using a long-armed excavator or similar and gently placed at the adjusted location to minimise mobilisation of the sediment into the water column;
- Sediments will be moved discretely from the required location to the proposed placement location, rather than using progressive shovelling and spreading techniques across the sediment bed which will break down the existing sediment structure and introduce oxygenated water to previously buried sediments;
- Closely held sediment curtains will be employed to minimise the potential mobilisation of sediment into the water column.

Main hazardous substances that will be used onsite are

- LPQ & Oxy;
- Fuel;
- Hydraulic oil; and
- Machine grease.

A hazardous chemical storage cabinet will be used to store chemicals prior to usage, larger items such as LPG/Oxy packs will be stored in storage shipping containers in a dry environment.

9.2 CLEANING UP SPILLS

If necessary, enact emergency procedures

If the spill threatens the safety or health of people or creates a fire hazard then the site emergency procedure shall be followed.

Where a chemical spill occurs, consult the SDS for spill procedures. If the SDS indicates requirement for containment and clean up then the following steps should also be considered:

9.2.1 Stop the source and spread of the spill if safe to do so

- Check for danger;
- Prevent the spill from getting larger (turn off valves, block damaged tanks or pipes); and
- Use any suitable material or equipment to confine the spill by "damming it off" (e.g. use available spill response equipment such as booms or absorbent or if unavailable then use soil or other suitable material).

9.2.2 Clean up the spill

- Once the spill has been contained, retrieve as much of the spilled liquid as possible and place in an appropriate onsite container (e.g. 20L drum or 1000L pod). The liquid should then be either re-used or disposed of (refer to EMS Procedure 4-06-3-1 Waste Management);
- Absorb remaining spill with absorbent material and place used absorbent in the appropriate waste bin;
- Treat areas of contaminated soil in accordance with “Treatment of Contaminated Soils” (see below); and
- Where applicable, replenish equipment used from Spill Response Kit.

9.2.3 Report the spill

- Report and investigate all spills in accordance with the Incident Management Plan.

9.3 SPILL RESPONSE KITS

Clearly labelled Spill Response Kits containing the appropriate spill response equipment will be available at appropriate locations.

10 INSPECTION AND MAINTENANCE

Areas and equipment used to manage and contain hazardous materials shall be regularly inspected and maintained. Skill ill be kept in storage container with absorbant pads, booms & sweeps, waste bags & oil resistant gloves.

Work orders shall be raised or an inspection / action item raised to ensure the inspection and maintenance activities are carried out. Where the inspections identify the need for maintenance this shall be raised as a work order. Superintendents shall be responsible for ensuring the work orders are raised and that the inspections and maintenance occur.

11 METHODOLOGY OF HANDLING HAZARDOUS MATERIALS

11.1 HANDLING HAZARDOUS SUBSTANCES

When using and handling hazardous materials consider (as mentioned in Section 6):

- Only transport and use hazardous materials according to relevant regulations and directions given on the SDS that applies to the substance;
- Use correct PPE;
- Suitable signage will be used whenever hazardous materials or dangerous goods are transported;
- Decanting and labelling will be carried out according to the National Code of Practice for the Labelling of Workplace Substances NOHSC (1994); and
- The types of containers to be used for decanting hazardous materials are advised on the SDS that applies to the substance. All containers holding hazardous materials will be labelled appropriately.

11.2 TREATMENT OF ACID SULFATE SOILS

Treatment of acid sulfate soils will comprise the addition of sufficient quantities of finely ground neutralising agent to treat all oxidisable S% and actual acidity and provide a factor of safety to compensate for potential impurities in the neutralising agent, non-homogenous mixing and limitations to the solubility of the neutralising agent.

Timber piles which contain ASS material will be immediately transferred to the treatment area and placed either in a stockpile within the pre-treatment stockpile area or soil will be immediately scrapped to the treatment pad. Treatment of material should occur within one day of removal of the piles/

If site conditions require the stockpiling of piles for longer than 24 hours, the piles should be treated with a guard layer of aglime of 5 kg lime/ m2 per vertical metre of soil in the timber piles. Should soil be removed and placed in the treatment pad, the ratio of aglime of 5 kg lime/ m2 per vertical metre of soils still applies. Soil material should then be covered with an impervious surface (i.e. builder's plastic) that covers the top and sides of the stockpile to minimise drying by wind and sun and to prevent rainfall entering the stockpile.

Following placement within the treatment pad the material should be spread to a depth that will allow the material to be properly treated by thoroughly mixing neutralising agent through the soil. The actual depth of spreading will be somewhat dependent upon the soil type, the machinery used to mix the material and the form of the neutralising agent. However, the nominal spread depth should initially be no more than 0.3 m. Mixing of the lime and soil mixture will be undertaken by using an excavator shaker bucket to blend the material or similar equipment.

Care shall be taken to ensure that mixing occurs throughout the depth of the layer. The soil must be managed to achieve a consistency that will allow for thorough mixing of the soil and neutralising agent to ensure that the effective neutralisation occurs. This may require drying of the disturbed material (with associated management of any acidic leachate and other resulting contaminants), mechanical turning and breaking up of soil. Drying should not be undertaken during foreseeable wet weather events due to the increased risk of runoff flushing acid from the material and into uncontrolled areas.

Following mixing, aglime shall be spread at a rate of approximately 5 kg lime/m2 around the toe of the treated soil, around a 1 m perimeter between the toe of the material and across the exposed face of the bund to neutralise any leachate released from the soil. Once the soil has sufficiently dried that no more leachate is being released, the material should be turned to ensure that all leachate is released from the treatment area.

11.3 REMOVAL OF LEAD

Elevated levels of lead in dust shall be removed in accordance with the AS4361.2-2017 prior to the commencement of any demolition works. It is anticipated that a portion of the lead dust hazards will be removed in conjunction with asbestos removal works. Where peeling or deteriorated lead paint will be removed under controlled conditions. The lead-based paints, as identified should also be managed in accordance with the AS4361.2-2017.

It is anticipated that lead removal work procedures may include one or a combination of the following:

- Bulk removal of lead flashing and/or painted materials where the paint is in good condition via removal of whole panels, window frames, etc.
- Stabilisation of lead in poor condition via over-painting and/or application of PVC glue prior to wholesale removal of construction materials (eg. Cladding, gutters, signage, window frames, etc), followed by bulk removal of the stabilised building material.
- Removal of paint systems in poor condition via soft water stripping, chemical stripping or similar, prior to disposal of resulting collected lead waste.
- Removal of lead dust and flaking paint via dry/wet vacuuming using industrial equipment fitted with HEPA filters. Where power tools are used, exhaust ventilators on units are required to be fitted with HEPA filters to reduce the potential distribution of lead containing dust and associated future user exposure.
- Disposal of all lead containing waste, inclusive of collected shavings, chemical stripping residues, used PPE etc is required to be appropriately bagged, or otherwise sealed. This material will require disposal in accordance with the requirements of the NSW EPA (2014) *Waste Classification Guidelines*.
- Collection and off-site disposal of all excess water generated by site activities is required to be collected using a wet/dry vacuum operated in conjunction with the cleaning/removal process. The water will require treatment prior to off-site disposal.

12 HEALTH

12.1 MODES OF CHEMICAL ABSORPTION

12.1.1 Inhalation

Inhalation is the most common route of absorption as many chemicals release vapours.

The process for controlling the risk of inhalation is by using the Hierarchy of Control:

- Eliminate the need to use a chemical;
- Substitute the chemical with a less toxic substance;
- Engineering controls to prevent exposure such as extraction systems, etc;
- Personal Protective Equipment;

Respiratory Protective Equipment (RPE) shall be matched to the chemical. For example, a P1 respirator is not effective in controlling the risk posed by inorganic vapours.

Workers shall be trained in the use of RPE and including selection and maintenance of the correct RPE.

The correct RPE shall be provided with information posted at the storage location to allow workers to determine which RPE is to be used with the relative chemical.

12.1.2 Skin Absorption

Certain chemicals provide exposure through skin. Some chemicals damage the skin leading to dermatitis and other illnesses.

It is preferred that an alternative product be used that does not pose a hazard of absorption. If this is not practical, engineering controls should be used to prevent skin contact.

Absorption through the skin can be controlled with Personal Protective Equipment such as gloves. Only gloves fit for purpose shall be used. Manufacturer's instruction shall be consulted prior to selecting the PPE and then cross-referenced with the information from the SDS. The wearing of PPE shall be monitored by supervisors to ensure compliance.

Training in the selection and use and checking of the PPE shall be provided prior to the chemical being used.

Barrier creams shall be used where appropriate.

Absorption can also occur when chemical impregnated rags are put in the pocket allowing the chemical to absorb into the clothing and then contact the skin.

12.1.3 Ingestion

While absorption by ingestion is uncommon, it can occur when hygiene practices are poor, for example:

- Workers not washing their hands prior to eating or smoking
- Workers eating in work areas
- Chemicals on a worker's clothing coming in contact with their food
- Poor practices that allow the consumption of contaminated water
- Workers sharing cups

12.1.4 Health Monitoring

All health monitoring and testing will be undertaken by registered Occupational Health practitioners on a periodical basis in accordance with legislative requirements.

12.1.5 Asbestos Monitoring

During asbestos removal activities, perimeter air monitoring will be conducted in accordance with the requirements of the National Occupational Health and Safety Commission (NOHSC) *Asbestos Code of Practice and Guidance Notes, including The Safe Removal of Asbestos* (2nd Ed) [NOHSC: 2018(2005)] and *The Management and Control of Asbestos in Workplaces* [NOHSC: 2018(2005)]. The air monitoring activities will be completed by the appointed Hazardous Materials Consultant independent of the Asbestos Removal Contractor.

Air monitors will be established at the extent of the established asbestos removal areas during each works activity with a minimum of four monitors (one upwind, three down-wind) at each works location. Monitoring will be conducted in accordance with the National Occupational Health & Safety Commission (NOHSC) membrane filter method as approved by the National Association of Testing Authorities (NATA).

13 RESPONSIBILITIES

Following is a list of the project's personnel and their key accountabilities regarding the management of hazardous materials;

13.1 GENERAL MANAGER/DIRECTORS:

- Provide resources sufficient to comply with this Management Plan.

13.2 ENVIRONMENTAL AND HEALTH AND SAFETY MANAGERS

- Approve all new hazardous materials before they are purchased;
- Organise the purchase and provision of spill kits;
- Review and advise on the location of spill kits;
- Ensure training is adequately provided for effective spill prevention, management and clean up;
- Ensure all relevant documentation, including this plan and other related plans, are available, promoted, and implemented;
- Advise as to the response to the spill of highly toxic hazardous materials;
- Manage the disposal and waste tracking requirements for hazardous wastes;

- Advise on remediation of contaminated areas;
- Manage disposal of contaminated soils; and
- Maintain appropriate Environment registers and management processes.

13.3 SITE SUPERVISOR

- Overseeing the hazardous material management system;
- Regular auditing of the safe transport, storage, handling, and disposal of hazardous materials systems and procedures for compliance;
- Supervise the removal of hazardous materials;
- Advise line management with regards to the safe transport, storage, handling, and disposal of hazardous materials; and
- Aid in the evaluation, assessment, testing, and approvals of new onsite hazardous materials.
- Communicate this plan's requirements to their department's personnel;
- Provide the resources required for the management of hazardous materials;
- Ensure new chemicals are not procured or used without approval; and
- Provide appropriate hazardous material storage facilities.
- Ensure all personnel have access to the site SDS register;
- Ensure that their area's hazardous materials management register is maintained and developed, and that it includes all of the hazardous materials used or stored in their area of supervision;
- Ensure the ready availability of the hazardous materials management plan and register for emergency use. Copies are to be kept near to where hazardous materials are stored and used, and are to be available to users of the material;
- Train people in the use, handling and storage of hazardous materials, the Hazardous Material Database, and the interpretation of SDSs;
- Ensure hazardous materials are managed in accordance with this plan;
- Ensure that checks for hydrocarbon leaks are performed during pre-start inspections and that leaking equipment is correctly repaired;
- Monitor and review hazardous material storage and handling in their area of supervision;
- Identify when spill kits are required and maintain them in areas where a high risk of hazardous material spillage is present; and
- Manage bunded facilities in their area of supervision in accordance with this plan.

- Ensure chemicals are registered with the required approvals prior to being purchased through the supply system and or being added to the supply stock;
- Check the Hazardous Material database for each chemical prior to issue to ensure that it is on the site register and approved for use;
- Inform the relevant Manager upon arrival of any product not on the site register, and store the product in a secure location until the correct paper work requesting Chemical Approval has been completed; and
- Ensure minimum volumes are stored on site by managing hazardous material purchasing.

13.4 ALL PERSONNEL

- Use and purchase hazardous materials that are on the Hazardous Material Database register; and
- Follow procedures and controls outlined in the SDS to mitigate the risks related to hazardous materials.

14 TRAINING

Training on the management of chemicals shall be provided to all workers who are or may work with or store chemicals.

Training in regards to the removal of Asbestos is located in the ARCP Appendix A

The information to be included in the training for all hazardous chemicals that will be used onsite shall be (Refer to Section 9.1):

- The use and maintenance of respiratory protective equipment;
- Hazards and risks posed by chemicals;
- Routes of exposure;
- Typical symptoms and treatment;
- How to read an SDS;
- What the SDS is used for;
- Where the SDS and register is;
- The delivery of substances to site including quarantine;
- Risk assessment process for chemicals;
- Spill management;
- Waste disposal;
- Action in the event of exposure.

15 INDUCTIONS

All worker(s) who attend site must hold a current general construction industry card **(CPCCOHS 1001A)** to be recorded on the site-specific induction questionnaire FRM-047 and be inducted in accordance with the following induction procedures.

- Hansen Yuncken Site Induction
- Liberty Industrial Site Specific Induction

The site safety induction will also include discussion of hazardous materials on site, identification of their whereabouts, and explanation of handling methods to be employed, including Personal Protective Equipment (PPE) to be used.

All worker(s) shall immediately report unidentified or suspicious substances encountered during the course of the project which may not have previously been identified.

Site visitors will be required to undertake a “Project Visitors Induction”;

Worker(s) shall not work on site until they have successfully completed the induction on the prescribed form in the prescribed manner.

16 COMMUNICATION

All personnel required to purchase, receive or use chemicals shall be trained in the requirements of this Standard Operating Procedure.

APPENDIX A – ASBESTOS REMOVAL CONTROL PLAN

FISH MARKET – EARLY WORKS
Asbestos Removal Control Plan

Prepared by

Liberty Industrial Pty Ltd

for

Hansen Yuncken

Revision No.	Revision Date	Authority	Changes
A	03/08/2020	MD	Draft
B	28/08/2020	DR	Comments as per SafeWork NSW's comments

PREPARED: *Mohamad Darwish* Date: 03 - 08 - 2020

Project Engineer

ACCEPTED: *Antoine Delort* Date: 03 - 08 - 2020

Project Manager

TABLE OF CONTENTS

1 PURPOSE

The intended purpose of the Asbestos Removal Control Plan (ARCP) is to describe how Liberty Industrial will implement the work in accordance with the requirements of the Project Approvals for the approved development SSD8924 for 1A,1B and 1C Bridge Road, Glebe (lots 3,4,5 DP 1064339).

2 LEGISLATION REQUIREMENTS

Works for this project are undertaken pursuant to legislation namely:

- NSW Work Health and Safety Act 2011;
- NSW Work Health and Safety Regulation 2017;
- Demolition Work Code of Practice;
- How to Safely Remove Asbestos Code of Practice;
- How to Manage and Control Asbestos in the Workplace Code of Practice;
- How to Manage Health and Safety Risks Code of Practice;
- Managing Risks of Plant in the Workplace Code of Practice;
- Managing Risks of Falls at the Workplace Code of Practice;
- Confined Space Code of Practice;
- First Aid in the Workplace Code of Practice;
- Managing the Work Environment and Facilities Code of Practice;
- Labelling Workplace Hazardous Chemicals Code of Practice;
- AS 2601 -2001 The demolition of Structures
- AS 1319-1994 Safety Signs for the Occupational Environment;
- AS 1715-2009 Selection, Use and Maintenance of Respiratory Protective Devices;
- AS 1716-2012 Respiratory Protective Devices;
- Department of Natural Resources and Mines;
- Department of Energy and Water;
- Department of Heritage Protection;

3 ASBESTOS REMOVAL CONTROL PLAN APPROVAL

This Asbestos Removal Control Plan will be made available to the client's representative prior to implementation.

4 DEFINITIONS MEANING OF KEY WORDS

4.1 NOTIFICATION

The regulator must be notified in the prescribed manner of the work pursuant to WHS Regulation 466 being a minimum of 5 days' notice prior to work commencing. Notice of intent will be

provided by Safe Work NSW before works begin and will be made available to all relevant parties involved.
http://www.safework.nsw.gov.au/

4.2 AIRBORNE ASBESTOS

Means any fibres of asbestos small enough to become airborne. For the purposes of monitoring airborne asbestos fibres, only respirable asbestos fibres counted.

4.3 ASBESTOS

Means the asbestos form varieties of mineral silicates belonging to the serpentine or amphibole groups of rock forming minerals, including Actinolite asbestos, Grunerite (or amosite) asbestos (brown), Anthophyllite asbestos, Chrysotile asbestos (white), Crocidolite asbestos (blue) and Tremolite asbestos or a mixture of any of these.

4.4 ASBESTOS CONTAINING MATERIAL (ACM)

Means any material or thing that, as part of its design, contains asbestos.

4.5 ASBESTOS-CONTAMINATED DUST OR DEBRIS (ACD)

Means dust or debris that has settled within a workplace and is (or is assumed to be) contaminated with asbestos.

4.6 ASBESTOS-RELATED WORK

Means work involving asbestos (other than asbestos removal work to which Part 8.7 of the WHS Regulation applies) that is permitted under the exceptions set out in regulation 419(3), (4) and (5).

4.7 ASBESTOS REMOVALIST

Means a person conducting a business or undertaking who carries out asbestos removal work.

4.8 ASBESTOS REMOVAL WORK MEANS

- Work involving the removal of asbestos or ACM
- Class A asbestos removal work or Class B asbestos removal work as outlined in Part 8.10 of the WHS Regulation.

4.9 COMPETENT PERSON

A competent person will carry out the clearance inspections pursuant to the WHS Regulation 473. A competent person means a person who has acquired through training or experience the knowledge and skills of relevant asbestos removal industry practice and holds a certification in relation to the specified VET course for asbestos assessor work, or a tertiary qualification in occupational health and safety, occupational hygiene, science, building, construction or environmental health.

For all other purposes, competent person means a person who has acquired through training, qualification or experience, the knowledge and skills to carry out the task.

4.10 EXPOSURE STANDARD

Means asbestos as a respirable fibre level of 0.01 fibres/ml of air measured in a person's breathing zone and expressed as a time weighted average fibre concentration calculated over an eight-hour working day and measured over a minimum period of four hours in accordance with:

- the Membrane Filter Method;
- a method determined by the relevant regulator;

4.11 GHS

Means Globally Harmonised System of Classification and Labelling of Chemicals.

4.12 LICENSED ASBESTOS ASSESSOR

Means a person who holds an asbestos assessor licence.

4.13 LICENSED ASBESTOS REMOVALIST

Means a person conducting a business or undertaking who is licensed under the NSW WHS Regulation to carry out Class A or Class B asbestos removal work.

4.14 NATURALLY OCCURRING ASBESTOS (NOA)

Means the natural geological occurrence of asbestos minerals found in association with geological deposits including rock, sediment or soil.

4.15 NON-FRIABLE ASBESTOS

Means material containing asbestos that is not friable asbestos, including material containing asbestos fibres reinforced with a bonding compound.

4.16 FRIABLE ASBESTOS

Means asbestos-containing materials that can be easily reduced to powder by hand, when dry such as sprayed asbestos fire retardants, insulation and thermal lagging.

4.17 RESPIRABLE ASBESTOS

Means an asbestos fibre that:

- is less than 3 micron metres (µm) wide;
- more than 5 micron metres (µm) long;
- has a length to width ratio of more than 3:1;

4.18 HEALTH MONITORING

The company will undertake a health check of the worker (s) prior to work commencing. Worker (s) will be informed of the health monitoring and the records retained for 40 years. The health monitoring will be undertaken at no cost to the worker (s). Worker (s) in asbestos removal conduct annual health check ups to ensure they are fit for work. This is stored in Liberty Industrial's internal management system.

5 SCOPE OF WORKS

This scope of work is for the demolition of existing buildings, structures wharves and jetties on the site including:

- Erection of perimeter fencing, hoarding and scaffolding (as required), site accommodation and environmental controls;
- Establishment of temporary access and pedestrian arrangements (where required);
- Services verification, relocations and installation of selected temporary services including capping and removal of in-ground services, diversions and terminations;
- Demolition of structures
- Localised remediation works;
- Selected early civil works (temporary works, drainage and other in ground services);
- Make good works to the existing sea wall and provision of revetment structures as required.

5.1 PROJECT DIRECTOR

Is responsible for (Dave Wall, 0488 055 845):

- financing of the project;
- ensure adequate plant and staff are available to carry out the work;

5.2 PROJECT MANAGER

Has responsibility for all matters related to HSE for the project and also responsible for (Antoine Delort, 0429 776 216):

- ensuring an asbestos register is available and updated as required;
- ensuring the risk to workers and the public are as low as reasonably practical;
- implementing a safety and health management system for the site;
- organise formal training for workers so they are competent to perform their duties;
- adequate planning, organisation, leadership and control of operations;
- regulator approved supervision and control of operations on each shift at the site;

- regular monitoring and assessment of the asbestos removal process to ensure it complies with the Code of Practice;
- site inspections to ensure the undertakings don't impact on the public and neighbours;
- assurance the project is in line with the Asbestos Removal Control Plan and statutory requirements as well as being updated as required and made available to all lawful person;
- liaison with the client in contractual matters and meeting with public or authorities in matters relating to the project;
- assurance that any worker, who is engaged on the site, is aware of their responsibilities under the WHS legislation, Regulation and statutory requirements;
- participation in the planning design stages of the asbestos removal;
- a high level of safety awareness at all times;
- assurance that safe plant is provided and maintained;
- assist in the identification and preparation of JSA's;
- review of safety reports and inspections and initiating corrective action;
- participation in incident investigations;
- participation in tool box talks;
- monitoring of compliance on site;

5.3 ASBESTOS SUPERVISOR

Is responsible for (Bayden Tilley, 0431 005 221):

- the running of the asbestos removal area as defined, with direct authority over all workers and;
- the implementation of this Asbestos Removal Control Plan and the Quality programme;
- Implementing the company Management Systems and observing all WHS legislation and asbestos and Code of Practice;
- ensuring that all tasks are conducted in a manner that is safe and without risk to workers health and safety and the public;
- providing advice and assistance on WHS to all workers;
- participation in the planning and design stages of the activities;
- actioning reports and carrying out workplace inspections;
- preparing and participating in safety meetings and safety programs;
- facilitate the preparation of JSA's;
- participate in incident investigations;

5.4 PROJECT TEAM

Is responsible for (Sean Zhou, 0417 221 190 & David Rizkalla, 0438 603 327):

- ensure all lifts are conducted in a safe manner;
- ensure that all works are conducted in a manner that is safe and without risk to themselves and other workers health and the public;
- participate in safety meetings and safety programs;
- preparation of JSA's with team members;
- participate in incident investigations if required;
- operate hand held tools when required in a safe manner;
- operate plant in a safe manner;
- stimulate WHS compliance within the team environment;

6 MANAGEMENT OF ASBESTOS PROCESS

6.1 GENERAL

The company is responsible for providing instruction and training to its workers. It will also maintain records of the training worker(s) undertake.

Health monitoring records (required to be conducted annually) will be stored and retained for 40 years by the company pursuant to Management System Manual, which prescribes the method for recording, storage and disposal.

Training will be provided to the worker(s) on the correct use and maintenance of respirators.

6.2 DEFINING THE WORK AREA

In determining the distance between barriers and the asbestos removal area, the following shall be considered:

- condition of the asbestos;
- activity around the asbestos removal area (for example, other workers, visitors, neighbours, the public) to determine the risk of exposure to other people;
- the method of asbestos removal;
- any existing barriers (walls, doors);
- the quantity of asbestos to be removed;
- the type of barrier used (for example, hoarding, fencing and full encapsulation);

The company will ensure that the work area be defined by perimeter fencing and internal barriers, rope or rail, and by appropriately and prominently placed signs indicating that it is an asbestos work area. Red & White Hazard warning tape will be placed around the Asbestos Work Site and

Yellow Asbestos Warning tape positioned to demarcate the Asbestos Removal Area/s. Asbestos warning signage will be placed at all entry and exit points of ***all removal areas.***

Open-air asbestos removal will be clearly demarcated from the entire work area at a minimum 10m distance (where practically possible). Any changes to this exclusion zone will be determined in consultation with the LAA and ASA supervisor.

Where the asbestos removal work is in the open air such as a shed at the rear of the property and the Decontamination area is some distance from the asbestos removal area, a roped off walkway may be provided, with appropriate signs prohibiting unprotected workers from entering the same area as the asbestos removal workers.

All workers entering the asbestos removal work area and encapsulation will comply with requirements to wear respiratory protection equipment, and clean their footwear upon exit from the area, even if work is not proceeding. If work is actually proceeding and it is suspected that dust levels inside the work area exceed the prescribed maximum levels, any worker entering the work area at that time will also comply with the full Decontamination procedure.

Any personnel entering the encapsulation will enter only through the approved entry / Decon area and will only exit in the same fashion through the multi stage shower unit.

Areas requiring removal are shown in the image below as identified in the JBS&G HazMat Survey Report.

6.3 NOTIFICATION

Notification of intent to remove asbestos:
The company will notify SafeWork NSW electronically of the undertaking will be no less than 5 days prior to work commencing.

A notice of intent will be sent to the regulator for each individual property which has been identified to contain asbestos.

In the event that air monitoring reports detect that a higher than prescribed limit is recorded all work will stop and the source of the fugitive respirable particulates emanating from the work area reported to SafeWork NSW as outlined below:

Notification of asbestos fibre levels exceeding 0.02fibres/ml:
Where a licensed removalist carrying out asbestos removal work requiring an A class removal licence at a workplace records asbestos fibre levels at more than 0.02fibres/ml they must immediately:

- stop asbestos removal works;
- notify the regulator;
- investigate the cause of the respirable asbestos fibre level;
- implement controls to prevent exposure of anyone to asbestos;
- Prevent the further release of respirable asbestos fibre;
- Lodge a notification by completing the notification form online at SafeWork NSW;

  http://www.safework.nsw.gov.au/data/assets/pdf_file/0018/50373/notification-of-respirable-asbestos-fibre-levels-WC03589.pdf
- Email: adu@safework.nsw.gov.au

Consultation:
In addition to the above and with specific reference to the consultation required between the client and the various stakeholders likely to be affected by the asbestos removal works, including employees and neighbouring properties, an information letter will be issued as part of the consultation process.

6.4 PLANT PERFORMANCE

The company will ensure that materials and plant will function to their intended purposes and specifications and sealed appropriately for operation.

6.5 ASBESTOS REMOVAL PROCEDURE

1. Gain Approval from regulator SafeWork NSW for asbestos removal (See Section 6.3).
2. Site supervisor to review scope of works, ARCP & undertake Toolbox Talk with allocated work crew.

3. Establish Boundaries and Warning Signage to restrict access to site with the use of temporary fencing covered in geofabric and one panel displaying the task force design.
4. Complete dilapidation report of the property and outside of the neighbouring properties.
5. Identify site facilities, including emergency assembly area(s) and welfare facilities.
6. Set up of environmental controls around site to contain sediment run off.
7. Identify location of Decontamination point in close proximity to hazmat removal works (between Coal Loader and Old Office Building) and connect water and power to unit.
8. Establish location & haul road for asbestos waste vehicles & trucks.
9. Unpack tools and equipment using manual handling techniques.
10. Ensure PPE/RPE (such as P2 dust masks combination of disposable or non-disposable and half-face & full-face, steel-cap boots, hard hat, safety glasses and coveralls) is appropriate for removal works, and fitted correctly (Responsibility to ensure RPE is tested for each operative).
11. Site supervisor shall ensure that all tools, materials and equipment are located within the adjacent to the Asbestos Removal area.
12. All ACM & associated waste to be wet down during removal works.
13. Bins/trucks are to be double lined with plastic prior to be stored with asbestos material for disposal. Waste trucks/skip bins to be appropriately sealed prior to leaving site.
14. All asbestos special waste to be transported and disposed at the nominated Waste Management Facility with accompanied WasteLocate consignment note.
15. Machinery used for the removal of asbestos containing material to be moved to 'Decontaminating zone' prior to removal from site and are to be validated by the hygienist before completing clean works or being taken offsite.
16. Final validation and asbestos clearance certificate to be issued.

6.6 EQUIPMENT

- Mobile Decontamination Unit and modular Decon units (type and procedure found in Section 6.8)
- Machinery to assist in the removal of contaminated material including excavators and trucks
- Various Hand tools for removal of asbestos
- Dust suppressant materials & water spray bottles
- Water truck/ water trailers to be used for dust suppressant for larger areas
- H Type Vacuum Cleaners (to be double bagged in 200 micron waste bags during transport)
- 200micron polythene sheeting
- 200micron polythene asbestos waste bags
- Barrier tape/warning signs and fencing
- Clean rags & buckets of water

6.7 MONITORING OF FIBRES

Asbestos fibres will be monitored for the duration of the work throughout the day while works are being undertaken at each work area during the asbestos removal works. The monitors will be in place for all asbestos removal works and samples collected and analysed daily as defined by the Licensed Asbestos Assessor LAA.

6.8 DECONTAMINATION PROCEDURES

The following Decontamination procedures will be carried out:

Decontamination of tools

All tools used during asbestos removal work should be fully dismantled (where appropriate), cleaned under controlled conditions and Decontaminated using either the dry decontamination or wet decontamination procedure described below before they are removed from the removal work area.

If tools cannot be Decontaminated in the asbestos removal work area, or are to be reused at another asbestos removal work area, they should be:

- tagged to indicate asbestos contamination
- Double bagged in asbestos labelled bags before removing from the asbestos removal work area.

The bags containing the tools must remain sealed until Decontamination or the commencement of the next asbestos maintenance or service task where the equipment can be taken into the removal work area and reused under full control conditions.
PPE should be worn when opening the bag to clean or reuse the equipment or tools, and Decontamination must only be performed in a controlled environment.
In some circumstances it may be better to dispose of contaminated tools and equipment, depending on the level of contamination and the ease of replacement.

Personal Decontamination procedures

Personal Decontamination involves the removal of all visible asbestos dust/residue from PPE and RPE. Personal Decontamination must be undertaken each time a worker leaves the asbestos removal work area and at the completion of the asbestos maintenance or service work. Personal Decontamination should be done within the asbestos removal work area to avoid recontamination.

Asbestos-contaminated PPE must not be transported outside the asbestos removal work area except for disposal purposes. All masks, boots and reusable / cleanable items will remain in the decon area and will not be taken outside of the asbestos removal area until deemed clean by the hygienist or bagged and sealed to be used on the next stage of works.

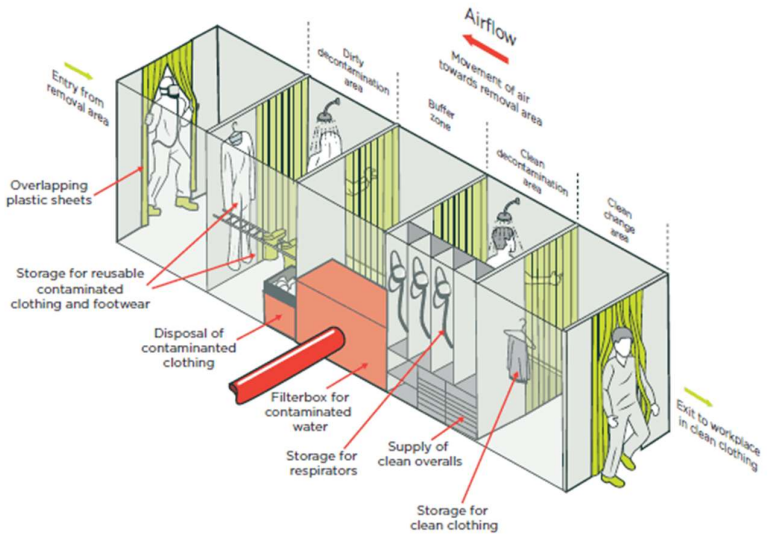
RPE must be continued to be worn until all contaminated disposable coveralls and clothing has been vacuum cleaned and/or removed and bagged for disposal and personal washing has been completed. Any PPE used while carrying out asbestos removal work must not be taken home by a worker.

Personal hygiene and careful washing are essential. Particular attention should be paid to the hands, fingernails, face and head.

Contaminated clothing will not be removed from within the prescribed area.

Personal Decontamination from FRIABLE asbestos works area through Decontamination unit:
Never leave the asbestos removal work area until Decontamination is complete.

- Remove any excess visible asbestos dust/residue from protective clothing before entering the shower / Decon unit by wiping down with damp cloths or a mist spray. Warning: do not reuse or resoak damp cloths. As per Diagram below
- The 1st stage of the Decon is the entry from the dirty area and for storage of dirty footwear and reusable contaminated items such as a vest which are not to leave the area.
- Shower over the coveralls leaving the mask on in the 2nd stage of the shower / Decon unit and dispose of the coveralls into an asbestos bag.
- The 3rd stage of the shower / Decon unit is the buffer zone (RPE must still be worn). As per Diagram below
- Final shower in the 4th stage of the Decon where the mask can be removed and stored correctly followed by a shower.
- Place cloths into disposal 200micron polythene sheeting bags (200µm thick).
- Take disposable coveralls off and place into disposal bags (RPE must still be worn)
- Exit into the final 5th stage of the Decon where you can get changed into clean clothes and proceed out of the area.
- Seal all 200micron polythene sheeting bags with duct tape and place each into a second 200micron polythene sheeting bag.
- Seal this second 200micron polythene sheeting bag and label/mark as ‘Asbestos Waste’.
- Use damp rags to wipe external surfaces of the disposal bags to remove any dust before it is removed from the asbestos removal work area.
- Remove PPE and double bag, seal with duct tape and mark as ‘Asbestos Waste’.
- Remove non-disposable PPE and place in container labelled as containing asbestos.
- Remove RPE and double bag, seal with duct tape and mark as ‘Asbestos Waste’.
- Ensure the outside of the bags are Decontaminated by using a damp cloth.
- Place the damp cloth into disposable bags.
- Dispose of asbestos waste at the appropriate waste facility.



Personal

Decontamination from BONDED asbestos works area through Decontamination unit:

Never leave the asbestos removal work area until Decontamination is complete.

In cases where the works area outside of the friable asbestos enclosure and involve bonded asbestos removal the following procedures will be used.

Set up of small 'dry decon' blocking of a small area using a plastic sheet on the ground and fencing or bunting around the perimeter on the exit from the asbestos works zone. Set up a bag for disposing of asbestos PPE & a spray bottle or hose for misting over the remaining dust on the asbestos PPE.

- Remove all excessive mud / dirt off gum boots or remove boots covers and place in asbestos bag.
- With the mask still on mist spray over the coveralls.
- With the mask still on remove coveralls and place into asbestos waste bag.
- Remove mask once process is complete and place into asbestos waste bag.
- When disposing of the asbestos waste bag where a mask and mist spray the inside and outside of the bag to reduce the potential for airborne fibres and duct tape the bag in a goose neck fashion.
- Place the asbestos bag into another asbestos bag and place mask in before repeating the taping in a goose neck fashion so as the waste is double bagged.
- All asbestos PPE is to be placed in the appropriate asbestos waste skip bin or truck.
- Upon completion of the activity the plastic is to be wrapped up and disposed of using the method above and place in the appropriate asbestos waste skip bin or truck.

7 EMERGENCIES

The site supervisor (Bayden Tilley and First Aid competent) and operatives will ensure they familiarise themselves with all entry/exit points to the asbestos removal areas and work site and how to safely Decontaminate in case of an emergency. The site supervisor will liaise with the client to ensure site security is maintained and any site-specific procedures are identified. Where available, the site plan shall identify the location of the emergency assembly area.

Site personnel need to be trained to deal with all/any emergencies. In an emergency, personnel should vacuum themselves/and the affected personnel, sponge down RPE and boots. In an extreme case, evacuation of a seriously ill person can be done without delay and attempts to Decontaminate the person can be waived.

In the event of an accident the accident and emergency procedures as outlined in the onsite Health & Safety Policy are to be followed. At least one trained first aid person will be available on site. Fully equipped first aid kits will be available onsite at all times.

Where emergency services are requested to attend the site they should be advised as to the nature of works being completed in order that they are aware of the PPE and RPE requirements as necessary. Information for contacting emergency services will be held onsite. Information will be provided to any emergency services that are called to site, including precautionary measure for asbestos and hazards. Spare RPE and coveralls will be made available for anyone who has to enter the asbestos removal area.

Local Hospital: SEE APPENDIX A
Phone: (02) 9515 6111
Street Address: 50 Missenden Rd, Camperdown NSW 2050

Local Fire station:
Address: 75 St Johns Rd, Glebe NSW 2037
Phone: (02) 9660 7156

Workers will familiarise themselves with response in the event of a fire. The nature of fire alarms and escape routes will be identified in site induction training. Escape routes will be kept clear and accessible at all times. Escape in the event of a fire should not be delayed by undergoing Decontamination. RPE should be Decontaminated after reaching a safe area. An audible alarm will be available onsite at all times. The site supervisor will sound the alarm in the case of a fire emergency.

Emergency:

- Alert others to situation, including site supervisor
- Contact emergency services on 000
- Contact client and safety representatives ASAP

An emergency assembly point will be nominated and clearly identified with signage at the start of the project. In an emergency, contaminated personnel will congregate in a separate area to unprotected personnel, until full Decontamination procedures have been applied.

7.1 PROTECTIVE CLOTHING

Protective clothing will be provided and worn as set out in the "How to Safely Remove Asbestos" Code of Practice, namely but not limited to the following:

- protective clothing will be worn at all times by worker(s) within a removal area irrespective of the type of asbestos being removed or about to be removed;
- the coverall will be of a suitable standard to prevent tearing or penetration of asbestos fibres so far as is practicable;
- disposable coveralls rated type 5, category 3 (prEN ISO 13982–1) or equivalent would meet this standard;
- they will be one size too big, as this will help prevent ripping at the seams;
- fitted with hood and cuffs;
- if cuffs are loose, they are sealed with tape;
- coverall legs are worn over footwear as tucking them in lets the dust in;
- the fitted hood is worn over the respirator straps;

7.2 RESPIRATORY PROTECTION

The company will only use equipment approved by the appropriate authority, before commencement of work.

Respirators will be stored separately from other clothing and in a clean area not subjected to asbestos contamination.

All workers engaged in asbestos removal work must wear an approved respirator conforming to the requirements of A.S.1715 and A.S.1716. Respirators will be labelled clearly with the workers name, issued for worker(s) use only.

Workers with beards, extensive facial stubble or other extensive facial hair will not be protected properly by half-face respirators, which require a good facial seal. Such workers will use a continuous flow, positive pressure, full face respirator.

Workers requiring the use of prescription spectacles may not be able to use full-face respirators due to the loss of seal around the spectacle arms. If the spectacles cannot be modified in such a way that they do not need the support of the ears, such workers cannot use full-face respirators they will be accommodated by appropriate air supply hoods.

A P2 respirator (such as P2 dust masks combination of disposable or non-disposable and half-face & full-face) can be used and only if; a quick inspection or visit is required in the area and only then if; there are no removal works being undertaken at the time, no visible dust, and it is approved by the supervisor. All other workers in the area at the time of removal will require the correct masks as outlined above.

7.3 NOISE CONTROL

The company will take all practicable precautions to minimise noise resulting from work activities. Plant will be fitted with noise suppressors and used so that noise in public areas is minimised and complies with the WHS Regulation clause 56 Part 4,

- (a) LAeq,8h of 85 dB(A), or
- (b) LC,peak of 140 dB(C)

EPA Noise Control Guidelines.

7.4 SIGNS BARRIERS AND LABELS

The work area will be defined and delineated by barriers and by appropriately placed asbestos signs.

Labels used to identify asbestos containing materials will comply with AS 1216-2006: Class labels for dangerous goods.

Signs will conform to the Australian Standard 1319 – "Safety Signs for the Occupational Environment".

7.5 WASTE REMOVAL DISPOSAL

Asbestos waste will not be allowed to accumulate excessively within the work area. It will be bagged or placed in appropriate receptacles as the work proceeds.

Controlled wetting of waste will be employed to reduce asbestos dust emission during bag sealing or in case of subsequent rupture of the bag.

Solid asbestos waste will be placed in a heavy duty 200 µm thick polythene lined bin (20-30m^3 bin will be used). When bin has reach capacity, will be replaced with a new lined bin to continue removal works

Bags which have contained asbestos material will not be re-used.

Bags marked for asbestos waste will not be used for any other purpose.

Bags will be twisted tightly, folded over and the neck secured in the folded position with adhesive tape or other effective method. The external surfaces will be cleaned to remove any adhering dust before the bags are removed from the work area.

Hard and sharp asbestos waste such as AC sheet may not be suitable for disposal in a polythene bag. In this case, a solid waste bin lined with plastic is suitable.

The bags, once removed from the work area, will be either:

- Placed in a lockable solid waste bin or skip which will be locked when the work has been completed pending removal; or
- Removed from site by licensed carrier. Bin will be double lined prior to being stored with asbestos;
- Asbestos waste will not be stored on site other than for waiting for transportation to a lawful landfill site;
- Asbestos waste will be transported by an EPA licensed contractor using Waste locate to an approved disposal facility in a manner which will prevent the liberation of asbestos dust into the atmosphere;
- Transport routes and facilities are as per the Waste Management Plan; and
- Records will be kept of the asbestos waste along with tracking number for audit purposes on the Waste Register.

7.6 DEMOBILISATION

The following is to be followed for packing up the work area prior to leaving site:

- Receive confirmation from hygienist that all areas were deemed clean and a clearance certificate has been issued.
- Decontaminate all tools and plant used to excavate asbestos impacted soils – hygienist to inspect and supply clearance certificates where applicable.
- Dismantle all barricades/take down asbestos warning signs and leave asbestos clearances displayed.

- Ensure all asbestos waste that has been removed as per above procedures.
- Inform client that job is complete. Provide air monitoring reports and clearance certificates where required.
- Copy of waste tracking documents to be saved to project file and then provided to the client.

8 PRESCRIBED MAXIMUM DUST LEVELS (ACTION LEVELS)

The maximum fibre concentration for preliminary and final clearances will not exceed 0.01 fibres per millilitre (f/ml).
The maximum fibre concentration for all other air monitoring situations will not exceed 0.01f/ml.
Readings above 0.02f/ml will result in a compulsory shut down, pending investigation.

9 UNEXPECTED FINDS

In the event that asbestos is found on site which has not been identified or on the asbestos register the following course of action must be taken:

- All work must cease;
- The ASA supervisor is to be notified;
- The supervisor must assess the asbestos and put control measures in place to address the identified risk and make safe. This may require amendments to the ARCP;
- Once the control measures are in place then a Work Method Statement will be developed for the removal works;

The asbestos register is updated to reflect the current position and amended as the asbestos removal work progresses to reflect the level and quantum of asbestos;

APPENDIX A – EMERGENCY CONTACTS LIST

	Radio Contact	Mobile Number
Project Manager: Antoine Delort	For the most part won't have a radio. Always contact via phone	0429 776 216
Project Engineer: Mohamad Darwish	For the most part won't have a radio. Always contact via phone	0450 571 271
Site Engineer: Sean Zhou	2-way radio – channel will depend on property location and will be confirmed at pre-start and onto site signage	0417 221 190
Demolition Supervisor: Bayden Tilley	2-way radio – channel will depend on property location and will be confirmed at pre-start and onto site signage	0431 005 221
Asbestos Supervisor: David Chum	2-way radio – channel will depend on property location and will be confirmed at pre-start and onto site signage	0488 050 232
Emergency Response Team: All workers	Always have access to radio inside works area – CH: TBC	
Emergency (Fire Police and Ambulance)	000	
Nearest Police Station	Address: 1 Talfourd St, Glebe NSW 2037 Phone: (02) 9552 8099	
Nearest Hospital	Address: 50 Missenden Rd, Camperdown NSW 2050 Phone: (02) 9515 6111	
Nearest Fire Station	Address: 75 St Johns Rd, Glebe NSW 2037 Phone: (02) 9660 7156	
Client Representative	Eugene Godfrey – 0436 857 222	

APPENDIX B – PRE-DEMOLITION HAZARDOUS MATERIALS SURVEY

Infrastructure NSW

Pre-Demolition Hazardous Building Materials Survey

New Sydney Fish Markets,
1A to 1C Bridge Road,
Glebe, NSW

18 May 2020

58317/129,541 (Rev 0)

JBS&G Australia Pty Ltd

www.jbsg.com.au

Infrastructure NSW

Pre-Demolition Hazardous Building Materials Survey

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JBS&G Australia Pty Ltd

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Abbreviations

Term	Definition
AC	Asbestos Cement
ACM	Asbestos Containing Material
ACD	Asbestos Containing Dust
ANZECC	Australian and New Zealand Environment Conservation Council
AMP	Asbestos Management Plan
COC	Chain of Custody
EPA NSW	Environmental Protection Authority, New South Wales
FA	Friable Asbestos
HIL	Health Investigation Levels
HSL	Health Screening Levels
JBS&G	JBS&G Australia Pty Ltd
LAA	Licenced Asbestos Assessor
LCD	Lead Containing Dust
LOR	Limit of Reporting
LP	Lead Paint
NATA	National Association of Testing Authorities, Australia
NEPC	National Environmental Protection Council
NEPM	National Environmental Protection Measure
PCB	Polychlorinated Biphenyls
PPE	Personal Protective Equipment
SMF	Synthetic Mineral Fibre
SWA	Safe Work Australia
SWNSW	SafeWork New South Wales
WHS (WH&S)	Workplace Health and Safety

1. Introduction

1.1 Background

JBS&G Australia Pty Ltd (JBS&G) was engaged by Infrastructure NSW (INSW, the client) to undertake a pre-demolition hazardous building materials survey (HBMS) of the structures located at 1A to 1C Bridge Road, Glebe, NSW (the site). The site is legally identified as Lots 3-5 in DP 1064339 with the site location and site layout presented in **Figure 1** and **Figure 2** respectively.

The site will comprise the new Sydney Fish Market site, and to enable construction of the new development, removal of the existing site structures is required. The decommissioning/demolition activities will comprise all existing structures within the extent of Lots 3-5 in DP 1064339 including:

- The Hanson concrete batching plant infrastructure;
- The wharf structures, a finger jetty, a concrete jetty, piles supporting the existing wharves and jetty structures;
- The Jones Brothers Coal Loader remnants; and
- All other associated land and water based infrastructure, in addition to works as required to make good the existing seawall infrastructure where required.

A Hazardous Materials Removal Management Plan (HMRP, JBS&G 2019[1]) was prepared by JBS&G detailing management procedures required to mitigate the potential environmental impacts and exposure hazards associated with hazardous materials during the decommissioning/demolition activities to be undertaken at the site.

Additionally, a previous hazardous materials assessment (Prensa 2018[2]) was completed on the three structures located across Lots 3 & 4. The Prensa 2018 assessment identified the presence of hazardous materials including asbestos, synthetic mineral fibres (SMF), lead based paints (LP) and lead containing dust (LCD). Prensa 2018 was provided to JBS&G prior to the completion of the HBMS works and a number of data gaps were identified including inaccessible areas, height access restrictions and assumptions were made about the composition of materials.

This HBMS was requested re-assess the data gaps identified in Prensa 2018 and undertake a detailed inspection of all wharf and jetty infrastructure required to be demolished as part of the redevelopment.

All structures within Lot 5 were in the process of being demolished and as such assessment of the existing features above slab level were not included as part of this HBMS.

This advice presents the outcomes of the inspection undertaken by JBS&G personnel and provides recommendations on requirements for the removal of identified hazardous materials in accordance with regulations and guidance in force at the time of the inspection. It is understood this HMBS report is proposed to in the future form part of the client's early works tender package.

The structures were inspected for the following hazardous materials:

- Asbestos containing materials (ACMs);
- Asbestos containing dust (ACD);
- Lead based paints (LP);

[1] *Hazardous Materials Management Plan, The New Sydney Fish Market, 1A to 1C Bridge Road, Glebe and Part 56-60 Pyrmont Bridge Road, Pyrmont, NSW*. JBS&G Australia Pty Ltd, issued 8 April 2019, ref 5416/114239 Rev 2 (JBS&G 2019)

[2] *Destructive Hazardous Building Materials Assessment, 1C Bridge, Road, Pyrmont, NSW*. Prensa Pty Ltd, issued August 2018, ref: C0065:SJD:August 2018 (Prensa 2018)

- Lead containing Dust (LCD)
- Synthetic mineral fibres (SMF);
- Polychlorinated biphenyls (PCB);
- Ozone depleting substances; and
- Marine timber treatments including:
    - Organotins;
    - Creosote; and
    - Copper Chrome Arsenate (CCA).

1.2 Objectives

The objective of the HBMS was to determine the presence, quantity and condition of any hazardous materials within the buildings prior to proposed demolition works.

The HBMS and production of this report have been undertaken in accordance with the requirements of:

- *Work Health and Safety Act* (2011);
- *Work Health and Safety Regulation* (2017);
- *How to Safely Remove Asbestos Code of Practice*, SafeWork NSW, (2019) (SWNSW 2019a);
- *How to Manage and Control Asbestos in the Workplace Code of Practice*, SafeWork NSW (2019) (SWNSW 2019b);
- Australian Standard 4361.2 (1998) *Guide to Lead Paint Management - Part 2: Residential and Commercial Buildings* (AS4361.2-1998);
- Australian Standard 4361.2 (2017) *Guide to Hazardous Paint Management - Part 2: Lead Paint in Residential, Public and Commercial Buildings* (AS4361.2-2017);
- National Occupational Health and Safety Commission's *National Standard for Synthetic Mineral Fibres* [NOHSC:1004(1990)];
- National Occupational Health and Safety Commission's *National Code of Practice for the Safe Use of Synthetic Mineral Fibres*, [NOHSC:2006(1990)];
- Australian and New Zealand Environment Conservation Council's *Identification of PCB-containing Capacitors: An information booklet for Electricians and Electrical Contractors*, (ANZECC 1997);
- *Ozone Protection and Synthetic Greenhouse Gas Management Regulations* (1995);
- Australian Institute of Refrigeration, Air Conditioning and Heating (AIRAH) – *Refrigerant Handling Code of Practice 2007* (AIRAH 2007); and
- NSW EPA *Waste Classification Guidelines Part 1: Classifying Waste* (NSW EPA 2014)
- NSW EPA *General Approval of the Immobilisation of Contaminants in Waste, Approval Number 2001/11, Copper-Chrome-Arsenate (CCA) Treated Timber Waste* (NSW EPA 2001/11)
- NSW EPA *General Approval of the Immobilisation of Contaminants in Waste, Approval Number 2001/12, Creosote Treated Timber Waste* (NSW EPA 2001/12)

1.3 Hazardous Materials Survey Limitations

Whilst all reasonable care has been taken by JBS&G during the completed HBMS, this report is limited due to:

- No inspection of above ground infrastructure on Lot 5.
- Only safely accessible areas of the site were surveyed.
- Access restrictions to operational areas such as energised services, gas, air conditioning/heating, pressurised vessels, chemical lines etc.
- Potential materials located in areas in which they could not reasonably be envisaged or anticipated.
- Limited access to internal building components e.g. set floor, walls, ceiling cavities etc., in which case only representative areas were inspected with the hand tools available to the JBS&G consultants for destructive investigation.
- Access restrictions to areas above 3 metres or any area deemed inaccessible without the use of specialised equipment.
- Access to restrictions to areas of structures where the structural integrity for the floor and/or ceiling has been compromised.
- Service pits, confined spaces, voids, cavities within the building structure and internal areas of plant and equipment that could not be safely accessed.

It should be noted that buildings built between the 1930s - 1980s may have general occurrences of ACMs in areas which are not readily accessible with the hand tools available for the survey. These areas and materials include, inter alia:

- Fibre Cement Sheeting (FCS) used as packing to bearers and joists in the underfloor void or as boxing/shuttering to concrete formwork;
- FCS packing between window/door frames and timber studs; and
- Compressed FCS underneath tiled floor areas.

Whilst all care is taken by the consultants to uncover hidden materials, not all areas can be accessed within the allowable timeframe without more industrial (power) tools. As such, only minor destructive sampling techniques were employed to gain access. Consequently, without substantial demolition of the building, it is not possible to guarantee that every source of hazardous material has been detected. JBS&G recommends that areas inaccessible during the survey be inspected as the demolition progresses. If suspected hazardous materials are observed, confirm the presence or absence of hazardous materials through laboratory testing.

In the event suspected hazardous materials are identified during strip out or demolition which are not included in this report, JBS&G recommends that works should cease and an assessment of the materials undertaken by a competent person for further appropriate recommendations.

No one section or part of a section of this report is to be taken as giving an overall idea of this report. Each section is to be read in conjunction with the whole of this report, including the appendices and attachments.

2. Methodology

2.1 Hazardous Materials

2.1.1 Asbestos Containing Materials and Asbestos Containing Dust

Representative samples of suspected ACMs and ACDs were collected where possible and placed into a zip-lock bags. These were subsequently delivered to a NATA accredited laboratory for analysis using polarised light microscopy in conjunction with dispersion staining techniques. Similar materials to those analysed or other materials known to contain asbestos from the consultant's experience (e.g. Electrical backing boards, corrugated asbestos cement roofs and older fibre cement sheeting) or materials not accessible may also be assumed to contain asbestos as per the relevant Code of Practice.

At the time of inspection, the following details were recorded:

- Location;
- Type of material;
- Accessibility;
- Condition;
- Friability; and
- Volume/dimensions.

2.1.2 Lead Based Paint

Australian Standard AS4361.2 (2017) *Guide to Hazardous Paint Management - Part 2: Lead Paint in Residential, Public and Commercial Buildings* defines lead paints as those in which the lead content (calculated as lead metal) is in excess of 0.1 percent by weight of the dry film. This can be determined by field spot tests, laboratory testing or the use of portable X-ray fluorescence (XRF) field tests. JBS&G utilises XRF technology as a screening tool for the identification of lead based paints in the field. Any detection of lead greater than 0.1 mg/cm^2 was adopted for the assessment of lead based paints for this investigation with representative samples collected where possible and delivered to a NATA accredited laboratory for analysis using inductively coupled plasma optical emission spectrometry (ICP-OES).

2.1.3 Lead Containing Dust

Representative samples of accumulated or settled dust were collected and delivered to a NATA accredited laboratory for analysis via ICP-OES. A conservative assessment criteria was adopted for this investigation given the potential for human exposure and the readily disturbed and uncontained nature of accumulated or settled dust.

Concentrations of lead within accumulated or settled dust were compared against the health investigation level (HIL) for residential sites with garden/accessible soil of 300 mg/kg as outlined in National Environment Protection Measure (NEPC 2013) guidelines.

2.1.4 Polychlorinated Biphenyls

Old fluorescent light fittings and other appliances which may contain capacitors containing PCB dielectric oil are identified by inspection and evaluation with the consultant's experience of similar light fittings and appliances. Alternatively, where possible and when it was safe to do so, a representative light fitting was opened to reveal the capacitor and the make and model recorded to be compared against the ANZECC (1997) list of PCB containing capacitors.

2.1.5 Synthetic Mineral Fibres

SMF containing materials were either sampled as per the asbestos methodology or assumed to contain SMF from the consultant's experience of similar materials.

2.1.6 Ozone Depleting Substances

Refrigerants associated with air conditioning cooling systems, fire fighting foams and aerosol propellants were identified by visual inspection, with the name and type recorded and assessed in accordance with the *Ozone Protection and Synthetic Greenhouse Gas Management Regulations 1995* and AIRAH 2007.

2.1.7 Marine Timber Treatments

Marine timbers used in the construction of the wharf structure/s were assessed for the presence of hazardous timber treatments. Where possible, representative samples of the marine timbers were collected for laboratory analysis to be analysed for organotins, heavy metals (chromium VI and arsenic), polycyclic aromatic hydrocarbons (PAHs), and phenolics (Creosote).

2.2 Inaccessible Areas

As per SWNSW 2019b, any areas not accessible must be recorded as such. Where hazardous materials are suspected to be contained within inaccessible areas, these shall be documented in this report and the associated Hazardous Materials Register (**Appendix A**).

3. Site Description

The HBMS was conducted on 30 April and 4 May 2020 by Stuart Lumsden, one of JBS&G's experienced hazardous materials surveyors and a SafeWork NSW Licensed Asbestos Assessor (LAA 001140). Stuart was assisted by one of JBS&G's experiences surveyors for the duration of the HBMS.

The site was bound by Bridge Road to the southeast and Blackwattle Bay to the northeast, southwest and northwest. The site comprised three separate lots identified as follows:

- Lot 3 comprised the eastern lot and the site of the former Jones Brothers Coal Loader;
- Lot 4 comprised the central lot and the site of the former Sydney Event Cruises; and
- Lot 5 comprised the western lot and the site of the former Hanson concrete plant.

At the time of inspection, the properties were vacant, however, the structures on Lot 3 were in the process of being demolished.

The type, location, friability, accessibility and approximate quantities of identified and suspected hazardous materials based on this HBMS and Prensa 2018 are provided in the Hazardous Materials Register in **Appendix A**. Photographs taken during the HBMS are presented in **Appendix B**. A summary of the observations made during the HBMS is included in the following sections.

3.1 Lot 3

Lot 3 comprised the site of the former Jones Brothers Coal Loader. The lot comprised old steel framework and claw buckets with a single structure along the southeast lot boundary herein identified as the 'timber structure'.

The timber structure predominantly comprised a lattice framework of timber elevated above steel columns and concrete beams. A shower room was identified at the southwest end constructed of brick and concrete and three rooms at the northeast end constructed of brick and concrete, two of which were associated with an Ausgrid substation (S405).

At the time of inspection all objects and structures were observed to be in a derelict condition.

A summary of the significant observations made during the HBMS is as follows:

- Asbestos containing bituminous sheet material (A-01) was identified melted on top of the southeast boundary brick wall, adjacent to the shower room. It is assumed that the bituminous material is from a waterproofing membrane to the damaged concrete roof of the shower room.
- An asbestos containing fibre cement conduit (A-02) was identified penetrating the concrete floor to the northeast store room. The extent and direction of the conduit beneath the concrete floor is unknown, but is assumed to extend into the adjacent Ausgrid substation.
- Elevated levels of lead within settled dust above the adopted site criteria (LD-01, 2,000 mg/kg) was identified to the floor of the shower room. This dust was found not to contain asbestos (AD-01).
- An inspection of the paint systems throughout the structure were observed to be consistent with the identified lead based and non-lead based paints detailed in Prensa 2018 with the addition of the following:
    - Lead based green paint (LP-01, 28% w/w) was identified to the door of the northeast store room. This paint was observed to be in poor condition with significant degradation.

- Lead based black paint (LP-02, 26% w/w) was identified to the steel columns and concrete beams. This paint was observed to be in poor condition with significant degradation.
- Lead based yellow paint (LP-03, 2.3% w/w) was identified to the external timber doors to the substation. This paint was also identified to the metal ventilation windows to the substation and shower room.
- The blue/green paint to the internal walls of the shower room was screened via XRF and was identified as lead based paint (XRF result > 1.00 mg/cm^2). This paint was observed to be in poor condition with significant flaking and degradation.

- No ODS, PCB or SMF materials were identified at the time of inspection.
- The asbestos containing electrical backing board previously identified in Prensa 2018 (refer sample 58788-001-006) amongst dumped electrical equipment could not be located at the time of inspection. It is assumed that this material was removed, however, no removal documentation was made available to JBS&G.
- The dumped door with lead based white paint previously identified in Prensa 2018 (refer sample 58788-001-LP07) could not be located at the time of inspection. It is assumed that the door was removed, however, no removal documentation was made available to JBS&G.
- There was no internal access to the substation at the time of inspection. Based on the age of the substation, there is the potential for hazardous materials, including asbestos and lead materials and dusts, to be present within the substation. A detailed HBMS of the building will be required once access can be provided and/or the substation is decommissioned.

3.2 Lot 4

Lot 4 comprised the site of the former Sydney Event Cruises. The lot comprised predominantly open hardstand surfaces of asphalt and concrete with the Old Office Building located in the northeast corner of the lot and the Site Office located adjacent the southeast boundary.

A summary of the significant observations made during the HBMS is as follows:

- The wharf area of the lot comprised concrete hardstand and the pier area comprised asphalt hardstand.
- Non-asbestos containing mastic material (A-05) was identified to the concrete expansion joint in the southwest portion of the lot.
- Non-asbestos containing mastic material (A-06) was identified to the concrete expansion joint running the length of the lot from the southwest end to the northeast end.
- Lead based white paint (LP-06, 0.26% w/w) was identified to the timber and metal barrier at the southwest end of the lot. This paint was observed to be in poor condition with significant degradation.
- Non-lead based white paint (<0.005% w/w, refer sample 58788-001-LP02, Prensa 2018) was identified to the top section of the timber piles to the wharf and pier.

3.2.1 Old Office Building

The Old Office Building comprised a two storey building with brick external walls, corrugated fibre cement roof, timber floors, plaster ceilings and a combination of brick and plaster internal walls.

Internally the ground floor comprised toilets, multiple store rooms and stairs leading to the first floor. The first floor comprised toilets and two large rooms.

At the time of inspection, the building was observed to be in a derelict condition.

A summary of the significant observations made during the HBMS is as follows:

- Asbestos containing corrugated fibre cement sheeting (A-07) was identified to the roof. Corrugated fibre cement debris, assumed to be from damage to the roof, was identified on top of the concrete roof to the north store room.
- Asbestos containing fibre cement sheeting (A-08) was identified to the corner barge capping of the room. Fibre cement debris, assumed to be from damage to the barge capping, was identified on top of the concrete roof to the north store room.
- Assumed asbestos containing fibre cement gutters were identified to the roof. A sample was unable to be collected due to height safety hazards, however, based on the experience of the surveyor, this material is assumed to contain asbestos.
- Assumed asbestos containing fibre cement downpipe was identified to the gutter on the southeast aspect of the building. A sample was unable to be collected due to height safety hazards, however, based on the experience of the surveyor, this material is assumed to contain asbestos.
- Accumulated soil and debris within the gutters and associated downpipes are assumed to be impacted with friable asbestos, as a result of degradation of the cement matrix to the ACM roof sheeting and water runoff.
- Asbestos containing settled dust (AD-05) in the form of loose fibre bundles was identified to the floor of the ground floor toilets and is classified as friable asbestos. Based on observation there were no unique identifiers as to why asbestos was present in dusts in this portion of the building and not detected elsewhere. It is assumed that the friable ACD is a result of cross contamination from water runoff from the ACM roof and damaged ACM gutter directly above the entry door.
- Asbestos containing fibre cement fragments (A-10) were identified on the timber studs and behind nails to the southern wall of the large ground floor room (shared wall to the stairs).
- Non-asbestos containing red cable sheath (A-11) and black cable sheath (A-12) was identified to redundant electrical wiring throughout the building.
- Non-asbestos containing settled dust was identified within the remaining areas of the building as follows:
    - Settled dust throughout the roof void was found not to contain asbestos (AD-02);
    - Settled dust to the floor of the first floor was found not to contain asbestos (AD-03); and
    - Settled dust to the floor of the ground floor was found not to contain asbestos (AD-04).
- An inspection of the previously identified non-ACM were observed to be consistent with the materials detailed in Prensa 2018 and no further assessment was required.
- Elevated levels of lead within settled dust above the adopted site criteria was identified within the building as follows:
    - A lead concentration of 1,500 mg/kg (LD-02) was identified throughout the roof void;
    - A lead concentration of 4,800 mg/kg (LD-03) was identified to the floor of the first floor;
    - A lead concentration of 1,000 mg/kg (refer sample 58788-001-LD04, Prensa 2018) was identified to the floor of the first floor;
    - A lead concentration of 3,900 mg/kg (refer sample 58788-001-LD05, Prensa 2018) was identified in the void between the first floor and ground floor;

- A lead concentration of 3,600 mg/kg (refer sample 58788-001-LD01, Prensa 2018) was identified to the ground floor window sills;
- A lead concentration of 320 mg/kg (refer sample 58788-001-LD02, Prensa 2018) was identified to the floor of the ground floor;
- A lead concentration of 2,100 mg/kg (refer sample 58788-001-LD03, Prensa 2018) was identified to the floor of the stairs; and
- A lead concentration of 1,800 mg/kg (LD-05) was identified to the floor of the ground floor toilets.

- An inspection of the paint systems throughout the building were observed to be consistent with the identified lead based and non-lead based paints detailed in Prensa 2018 with the addition of the following:
  - Lead based white paint (LP-07, 0.12% w/w) was identified to the ground floor ceiling. This paint was observed to be in poor condition with significant peeling and flaking and was previously classified as non-lead based in Prensa 2018 (refer sample 58788-001-LP14);
  - Lead based blue paint (LP-08, 0.72% w/w) was identified to the internal walls of the ground floor toilets. This paint was observed to be in poor condition with significant peeling and flaking; and
  - Lead based yellow/orange paint (LP-09, 14% w/w) was identified to the timber doors and door frames within the ground floor toilets.
- SMF insulation batts were identified throughout the roof void. A sample was collected (A-09) to be analysed for potential ACD, however, no asbestos was detected.
- Fluorescent light fittings were identified throughout the building and based on their age and appearance are assumed to contain PCB containing capacitors.
- No ODS was identified at the time of inspection.

3.2.2 Site Office

The Site Office comprised a single storey building with fibre cement and corrugated metal external walls, corrugated metal roof, concrete floor, suspended plaster ceiling tiles and plaster internal walls. Internally the building comprised a toilet, former kitchen, and large and small office areas.

A summary of the significant observations made during the HBMS is as follows:

- Assumed SMF insulation batts were identified throughout the roof void.
- Assumed SMF insulation batts were identified to the internal and external wall cavities.
- A hot water system was identified to the external southeast aspect and is assumed to contain internal SMF insulation.
- An inspection of the previously identified non-ACM were observed to be consistent with the materials detailed in Prensa 2018 and no further assessment was required.
- No ODS, lead paints or PCB materials were identified at the time of inspection.

3.3 Lot 5

Lot 5 comprised the site of the former Hanson concrete plant with a number of above ground structures and pits. All above ground structures and plant in the process of being demolished were outside the scope of this HBMS and no inspection was undertaken.

A summary of the significant observations made during the HBMS is as follows:

- The accessible ground surfaces throughout the site comprised predominantly concrete material with some asphalt in the southeast portion.
- Non-asbestos containing flexible white mastic material (A-03) was identified to the concrete expansion joint in the northern portion of the lot.
- Non-asbestos containing brittle mastic material (A-04) was identified to the concrete expansion joint material in the central portion of the lot.
- Non-lead based white paint (LP-04, 0.02% w/w) was identified to the steel framework to the pier extending from the northern portion of the lot.
- Non-lead based yellow paint (LP-05, 0.06% w/w) was identified to the metal bollards surrounding the water pipework in the southern portion of the lot.
- All remaining accessible paint systems were screened via XRF and found not to comprise lead based paint systems (i.e. XRF result <0.1 mg/cm^2).
- Fluorescent light fittings were identified within the pit located in the central portion of the lot and are assumed to contain PCB containing capacitors. A detailed inspection was unable to be undertaken due to access restrictions to the pit at the time of inspection.
- There was no access to the pits located within the lot due to ongoing demolition works and safety hazards.
- An Ausgrid substation (S1608) was located in the southeast corner of the site but was locked and unable to be accessed. A survey of the building was not undertaken and based on the age of the building, there is the potential for hazardous materials including asbestos and lead materials and dusts to be present. A detailed HBMS of the building will be required once access can be provided and/or the substation is decommissioned.

3.4 Wharf & Piers

The wharf area on Lot 4 was observed to have been constructed between 1998 and 2003 based on available aerial imagery and comprised concrete piles and beams.

The pier on Lot 4 was observed to have been constructed between 1943 and 1961 based on available aerial imagery and comprised predominantly timber piles and beams. A significant number of the timber piles were observed to have completely worn through and it is assumed that concrete piles and beams were added at a later date to reinforce the decaying timber.

The remnants of a white paint coating were identified to the timber beams, however, a sample was unable to be collected. This paint system is assumed to be consistent with the lead based white paint identified to the timber and metal framework at the southwest end of Lot 4 (refer **Section 3.2**, sample LP-06)

The wharf and pier on Lot 5 were observed to have been constructed circa 1930 based on available aerial imagery and comprised predominantly timber piles and beams. The wharf and pier were observed to have been reinforced with steel beams and concrete piles and the existing timber piles were wrapped with protective black material. It is assumed these reinforcements were added prior to the re-use of the lot as a concrete plant between 1970 and 1982.

Representative samples of the timber piles from the wharf and pier areas of Lots 4 and 5 were collected from accessible areas as follows:

- Sample T-01 was collected from a timber pile at the northern end of the pier on Lot 5;
- Sample T-02 was collected from a timber pile at the northern end of the pier on Lot 4; and
- Sample T-03 was collected from a timber pile in the eastern portion of the wharf on Lot 4.

The reported laboratory analysis results for the organotins, creosote (PAHs and phenols) and CCA (chromium VI and arsenic) timber treatments indicate that none of the tested timber treatments were present on the representative samples collected of the timber piles. All reported results were below the laboratory limit of reporting (LOR).

4. Results

4.1 Hazardous Materials

All identified hazardous materials are recorded in the Hazardous Materials Register in **Appendix A** with relevant photographs in **Appendix B**. NATA accredited laboratory analysis reports and chain of custody are provided in **Appendix C**.

4.1.1 Asbestos Containing Materials

ACM were identified by testing at an accredited NATA laboratory and/or visual inspection using the experience of the hazardous materials surveyor. A summary of the results of laboratory testing for asbestos are provided in **Table A** below.

Table A: Asbestos Results Summary Table

Sample ID	Lab ID	Sample Location	Results	Observed Condition
Lot 3				
A-01	20-My03540	Top of brick wall adjacent shower room – bituminous membrane	**Chrysotile Asbestos**	Non-Friable
A-02	20-My03541	Store Room, floor – fibre cement conduit	**Chrysotile and Amosite Asbestos**	Non-Friable
Lot 4				
A-05	20-My03544	General site, southwest end, expansion joint - mastic	No Asbestos Detected	N/A
A-06	20-My03545	General site, expansion joint – mastic	No Asbestos Detected	N/A
A-07	20-My03546	Old Office Building, roof – corrugated fibre cement sheeting	**Chrysotile and Amosite Asbestos**	Non-Friable
A-08	20-My03547	Old Office Building, roof, barge capping – fibre cement sheeting	**Chrysotile and Amosite Asbestos**	Non-Friable
A-09	20-My03548	Old Office Building, roof void – insulation	No Asbestos Detected	N/A
A-10	20-My03549	Old Office Building, ground floor, south wall – fibre cement fragments	**Chrysotile and Amosite Asbestos**	Non-Friable
A-11	20-My03550	Old Office Building, redundant electrical wiring – red cable sheath	No Asbestos Detected	N/A
A-12	20-My03551	Old Office Building, redundant electrical wiring – black cable sheath	No Asbestos Detected	N/A
Lot 5				
A-03	20-My03542	Northern portion, expansion joint – mastic	No Asbestos Detected	N/A
A-04	20-My03543	Central portion, expansion joint – mastic	No Asbestos Detected	N/A

4.1.2 Asbestos Containing Dust

Representative dust samples were collected throughout the site. A summary of the results of the laboratory testing for asbestos are provided in **Table B** below:

Table B: Asbestos Dust Results Summary Table

Sample ID	Lab ID	Sample Location	Results	Observed Condition
Lot 3				
AD-01	20-My03552	Shower Room, floor – settled dust	No Asbestos Detected	N/A
Lot 4				
AD-02	20-My03553	Old Office Building, roof void – settled dust	No Asbestos Detected	N/A
AD-03	20-My03554	Old Office Building, first floor, floor – settled dust	No Asbestos Detected	N/A
AD-04	20-My03555	Old Office Building, ground floor, floor – settled dust	No Asbestos Detected	N/A
AD-05	20-My03556	Old Office Building, ground floor toilets, floor – settled dust	**Chrysotile Asbestos detected in loose fibre bundles**	Friable

4.1.3 Lead Containing Dust

Representative dust samples were collected throughout the site. A summary of the results of the laboratory testing for lead are provided in **Table C** below:

Table C: Lead Dust Results Summary Table

Sample ID	Lab ID	Sample Location	Results	Observed Condition
Lot 3				
LD-01	20-My03557	Shower Room, floor – settled dust	**1,000 mg/kg**	Poor
Lot 4				
LD-02	20-My03558	Old Office Building, roof void – settled dust	**1,500 mg/kg**	Poor
LD-03	20-My03559	Old Office Building, first floor, floor – settled dust	**4,800 mg/kg**	Poor
LD-04	20-My03560	Old Office Building, ground floor, floor – settled dust	200 mg/kg	Poor
LD-05	20-My03561	Old Office Building, ground floor toilets, floor – settled dust	**1,800 mg/kg**	Poor

4.1.4 Lead Based Paints

Representative paint samples were collected throughout the site for laboratory testing. A summary of the results of laboratory testing for lead are provided in **Table D** below.

Table D: Lead Paint Results Summary Table

Sample ID	Lab ID	Sample Location	Results	Observed Condition
Lot 3				
LP-01	20-My03562	Store Room, door – green paint	**Lead Based Paint (28% w/w)**	Poor
LP-02	20-My03563	Timber structure, columns and beams – black paint	**Lead Based Paint (26% w/w)**	Poor
LP-03	20-My03564	Timber structure, external timber doors and metal vents – yellow paint	**Lead Based Paint (2.3% w/w)**	Poor
Lot 4				
LP-06	20-My03567	General site, southwest end, timber and metal barrier – white paint	**Lead Based Paint (0.26% w/w)**	Poor
LP-07	20-My03568	Old Office Building, ground floor ceiling – white paint	**Lead Based Paint (0.12% w/w)**	Poor
LP-08	20-My03569	Old Office Building, ground floor toilets, walls – blue paint	**Lead Based Paint (0.72% w/w)**	Poor
LP-09	20-My03570	Old Office Building, ground floor toilets, timber doors and frames – yellow/orange paint	**Lead Based Paint (14% w/w)**	Fair
Lot 5				
LP-04	20-My03565	Pier extending from northern portion of lot, steel framework – white paint	Non-Lead Based Paint (0.02% w/w)	N/A
LP-05	20-My03566	Southern portion, bollards – yellow paint	Non-Lead Based Paint (0.06% w/w)	N/A

4.1.5 Polychlorinated Biphenyls

Detailed inspection of capacitors in all other light fittings could not be undertaken due to access restrictions. Therefore, PCB containing capacitors are assumed to be present within all light fittings throughout the site.

4.1.6 Synthetic Mineral Fibres

Suspected SMF materials were identified in various forms throughout the site. Full details of all identified SMF materials are provided in the Hazardous Materials Register (**Appendix A**). The typical forms of SMF identified are summarised below:

- Internal insulation to hot water systems;
- Insulation batts within roof voids; and
- Insulation to wall cavities.

4.1.7 Ozone Depleting Substances

No ozone depleting substances were identified at the time of inspection.

4.1.8 Marine Timber Treatments

Representative timber samples were collected throughout the site for laboratory testing. A summary of the results of laboratory testing for timber treatments are provided in the following tables.

Table E: Organotins Treatment Results Summary Table

Sample ID	Lab ID	Results		
		Monobutyltin	*Dibutyltin*	*Tributyltin*
T-01	20-My03572	< 0.5 ng/g (Below LOR)	< 0.5 ng/g (Below LOR)	< 0.5 ng/g (Below LOR)
T-02	20-My03573	< 0.5 ng/g (Below LOR)	< 0.5 ng/g (Below LOR)	< 0.5 ng/g (Below LOR)
T-03	20-My03574	< 0.5 ng/g (Below LOR)	< 0.5 ng/g (Below LOR)	< 0.5 ng/g (Below LOR)

Table F: Creosote Treatment Results Summary Table

Sample ID	Lab ID	Results					
		Benzo(a)pyrene	*Total PAH*	*Halogenated Phenols*	*o-Cresol*	*m&p-Cresol*	*Non-Halogenated Phenols*
T-01	20-My03572	< 2.5 mg/kg (Below LOR)	< 2.5 mg/kg (Below LOR)	< 5 mg/kg (Below LOR)	< 2.5 mg/kg (Below LOR)	< 5 mg/kg (Below LOR)	< 75 mg/kg (Below LOR)
T-02	20-My03573	< 2.5 mg/kg (Below LOR)	< 2.5 mg/kg (Below LOR)	< 5 mg/kg (Below LOR)	< 2.5 mg/kg (Below LOR)	< 5 mg/kg (Below LOR)	< 75 mg/kg (Below LOR)
T-03	20-My03574	< 2.5 mg/kg (Below LOR)	< 2.5 mg/kg (Below LOR)	< 5 mg/kg (Below LOR)	< 2.5 mg/kg (Below LOR)	< 5 mg/kg (Below LOR)	< 75 mg/kg (Below LOR)

Table G: Copper Chrome Arsenate Treatment Results Summary Table

Sample ID	Lab ID	Results	
		Chromium VI	*Arsenic*
T-01	20-My03572	< 1 mg/kg (Below LOR)	< 2 mg/kg (Below LOR)
T-02	20-My03573	< 1 mg/kg (Below LOR)	< 2 mg/kg (Below LOR)
T-03	20-My03574	< 1 mg/kg (Below LOR)	< 2 mg/kg (Below LOR)

4.2 Inaccessible Areas

There is potential for additional hazardous materials to be contained within inaccessible areas of the site as outlined in the following points:

- Lot 3, Substation S405 – The substation was locked and unable to be accessed at the time of inspection.
- Lot 5, Substation S1608 – The substation was locked and unable to be accessed at the time of inspection.

5. Conclusions and Recommendations

Based on the scope of this assessment and with reference to the limitations included in **Section 6**, the following conclusions are made with respect to the Hazardous Materials Survey completed.

5.1 Hazardous Materials

Identified and suspected hazardous building materials were observed throughout the site as a result of visual identification and laboratory analysis. A number of the identified hazardous building materials present a significant exposure risk to maintenance workers/contractors and demolition workers if they are not appropriately managed/removed.

The following broad recommendations are made for the removal of the identified hazardous materials to potentially mitigate harmful effects as a result of the proposed works program. The person with management or control of the site, must ensure so far as is reasonably practicable that the identified hazardous materials are removed prior to the commencement of the proposed demolition works.

The identified and suspected hazardous materials are presented in the Hazardous Materials Register included as **Appendix A**.

5.1.1 Asbestos Containing Materials

5.1.1.1 Friable Asbestos Containing Dusts

Friable asbestos impacted dusts have been identified within the ground floor toilets of the Old Office Building located on Lot 4. Prior to the commencement of any demolition works it is recommended that the following work is undertaken:

- Access to the ground floor toilets of the Old Office Building on Lot 4 shall remain boarded up and access restricted. Appropriate asbestos warning signage shall be installed to access/egress points to inform personnel of the known asbestos hazards for the interim period and until asbestos removal works can be completed.

  In the event that access to this area is required, care should be taken to avoid any activities that may disturb the identified friable asbestos hazard. Personal protective equipment (PPE) shall be adopted to preclude potential inhalation exposures to dusts, including – as a minimum – P2 half face respirators and disposable coveralls worn by any persons who require to enter the friable ACD impacted area, with appropriate decontamination procedures implemented when exiting the identified friable ACD impacted area.

- The identified friable ACD hazard will be disturbed as part of the proposed demolition works and must therefore be appropriately removed by a Class A licensed asbestos removal contractor in accordance with the requirements of *Work Health and Safety Act (*2011), *Work Health and Safety Regulation* (2017) and SWNSW 2019a prior to any demolition works commencing. An asbestos removal control plan is to be developed by the engaged Class A licensed asbestos removalist prior to the removal works, outlining the specific removal methodologies and control measures necessary to minimise any risk from exposure to asbestos.

- A permit to remove friable asbestos application shall be submitted to SafeWork NSW by the engaged Class A contractor prior to works commencing. No asbestos removal works may commence until receipt of the approved friable asbestos removal work permit from SafeWork NSW.

- Asbestos waste and asbestos impacted waste materials shall be disposed of to an appropriately licensed landfill in accordance with NSW EPA 2014.

- Air monitoring is required to be conducted during the removal of the friable asbestos impacted dusts and following their completion (clearance monitoring, see **Section 5.1.1.3**) by an independent Licensed Asbestos Assessor (LAA).

5.1.1.2 Non-Friable Asbestos Containing Materials

Non-friable ACM has been identified in various forms throughout the site. Prior to the demolition of the structures it is recommended that the following work is undertaken in conjunction with the friable ACD removal works detailed in **Section 5.1.1.1** above:

- A Class A licensed asbestos removalist shall be engaged to remove all asbestos containing materials as identified in the Hazardous Materials Register (**Appendix A**). Removal and disposal of non-friable asbestos materials shall be undertaken in accordance with the *Work Health and Safety Act (*2011), *Work Health and Safety Regulation* (2017) and SWNSW 2019a.
- While not mandatory during the removal of non-friable ACM, it is considered best practice that asbestos air monitoring is also undertaken by the independent LAA during all non-friable asbestos removal works, given the amount of friable ACD identified throughout the site.

5.1.1.3 Clearance Certification

- Following completion of friable and/or non-friable asbestos removal works within each structure, a clearance inspection shall be undertaken by the independent LAA to ensure that the all asbestos containing materials identified in the Hazardous Materials Register (**Appendix A**) have been removed to a satisfactory industry standard.
- Clearance air monitoring is required to be undertaken as part of the clearance inspection following the removal of the friable asbestos hazards. The results of the clearance air monitoring will form part of the clearance certification.
- Following the completion of the clearance inspection, a clearance certificate shall be issued by the LAA to confirm that the identified non-friable asbestos hazards and/or friable asbestos hazards have been successfully removed and that each structure is suitable for proposed demolition or refurbishment works to commence.

5.1.2 Lead Containing Dust

Elevated levels of lead in dust above the adopted site criteria were identified at the site. A suitably experienced hazardous materials removal contractor should be engaged to remove the lead containing dust in accordance with the AS4361.2-2017 prior to the commencement of any demolition works. It is anticipated that a portion of the lead dust hazards will be removed in conjunction with the friable ACD removal works outlined in **Section 5.1.1.1**.

5.1.3 Lead Based Paints

The lead based paints, as identified in Hazardous Materials Register (**Appendix A**), ranged in condition from fair to poor and should be managed in accordance with the AS4361.2-2017. Where peeling or deteriorated they should be removed under controlled conditions by an experienced contractor prior to demolition. Stable lead based paints adhered to building fabric can be disposed as general solid waste in accordance with NSW EPA 2014provided care is taken to minimise any potential for paint flakes to be dispersed onto ground surfaces and building and demolition waste is not proposed to be recycled.

Where building and demolition wastes are proposed to be recycled that are impacted by lead paints, the lead paints must be stripped prior to off-site disposal. The removed lead paint waste must be disposed of as restricted waste in accordance with NSW EPA 2014.

5.1.4 Polychlorinated Biphenyls

All old fluorescent light fittings throughout the site are to be treated as containing PCB capacitors unless further investigation confirms otherwise. These light fittings should be removed and disposed of as Scheduled Waste or re-inspected once safe access can be provided to confirm the presence or absence of PCB capacitors.

5.1.5 Synthetic Mineral Fibres

The synthetic mineral fibres encountered during this inspection were generally contained and deemed to be low risk. These SMF materials can be removed with the building and demolition waste with care taken not to generate fibres. Appropriate PPE is recommended including the use of P2 respirator as minimum and appropriate removal methodology as outlined in [NOHSC: 1004(1990)] and [NOHSC: 2006(1990)].

5.1.6 Ozone Depleting Substances

No ozone depleting substances were identified at the time of inspection.

5.1.7 Marine Timber Treatments

No timber treatments were identified to the timber piles to the wharf and pier areas on Lots 4 and 5 and are deemed suitable to be disposed of as general solid waste in accordance with NSW EPA 2014.

5.2 Inaccessible Areas

Areas inaccessible during the current HBMS should be inspected by a suitably qualified competent person prior to any works commencing. Suspected ACM should be sampled by a suitably qualified competent person prior to any works commencing.

5.3 Unexpected Finds

Any materials deemed to be consistent with those detailed in the Hazardous Materials Register that have not been previously identified should be assumed to have the same content and be treated accordingly.

Should any additional suspected hazardous materials be observed during or prior to demolition works, works should cease until a suitably qualified occupational hygienist can assess the suspected hazardous material and provide appropriate recommendations for management and/or removal.

6. Limitations

This report has been prepared for use by the client who has commissioned the works in accordance with the project brief only, and has been based in part on information obtained from the client and other parties.

The advice herein relates only to this project and all results conclusions and recommendations made should be reviewed by a competent person with experience in environmental investigations, before being used for any other purpose.

JBS&G accepts no liability for use or interpretation by any person or body other than the client who commissioned the works. This report should not be reproduced without prior approval by the client, or amended in any way without prior approval by JBS&G, and should not be relied upon by other parties, who should make their own enquiries.

Sampling and chemical analysis of environmental media is based on appropriate guidance documents made and approved by the relevant regulatory authorities. Conclusions arising from the review and assessment of environmental data are based on the sampling and analysis considered appropriate based on the regulatory requirements.

Limited sampling and laboratory analyses were undertaken as part of the investigations undertaken, as described herein. Ground conditions between sampling locations and media may vary, and this should be considered when extrapolating between sampling points. Chemical analytes are based on the information detailed in the site history. Further chemicals or categories of chemicals may exist at the site, which were not identified in the site history and which may not be expected at the site.

Changes to the subsurface conditions may occur subsequent to the investigations described herein, through natural processes or through the intentional or accidental addition of contaminants. The conclusions and recommendations reached in this report are based on the information obtained at the time of the investigations.

This report does not provide a complete assessment of the environmental status of the site, and it is limited to the scope defined herein. Should information become available regarding conditions at the site including previously unknown sources of contamination, JBS&G reserves the right to review the report in the context of the additional information.

Figures

Legend:

Approximate Site Boundary

Job No: 58317

Client: Infrastructure NSW

Version: R01 Rev 0	Date 14/05/2020
Drawn By: RH	Checked By: SL

Scale 1:10,000

0 130 260
metres

Coord. Sys. GDA 1994 MGA Zone 56

1A-1C Bridge Road,
Glebe, NSW

SITE LOCATION

FIGURE 1

File Name: N:\Projects\Infrastructure NSW\58317 New Sydney Fish Markets PreDemo Hazmat\GIS\Maps\58317_01_SiteLoc.mxd
Reference: NSW DFSI, 2019

Legend:

- Approximate Site Boundary
- Cadastre (NSW LPI, 2020)

JBS&G

Job No: 58317	
Client: Infrastructure NSW	
Version: R01 Rev 0	Date 14/05/2020
Drawn By: RH	Checked By: SL
Scale 1:1,500	

0 20 40
metres

Coord. Sys. GDA 1994 MGA Zone 56

**1A-1C Bridge Road,
Glebe, NSW**

SITE LAYOUT

FIGURE 2

File Name: N:\Projects\Infrastructure NSW\58317 New Sydney Fish Markets PreDemo Hazmat\GIS\Maps\58317_02_SiteLayout.mxd
Reference: Nearmap (www.nearmap.com.au) 18-04-2020

Appendix A Hazardous Materials Register

Hazardous Materials Register (Rev 0)
New Sydney Fish Markets Development
1A to 1C Bridge Road, Glebe, NSW
Lot 3
Date of Production – 18 May 2020

JBS&G SAMPLE NO.	LOCATION	MATERIAL DESCRIPTION	PHOTO NUMBER	ACCESSIBLE AREA?	FRIABILITY	ANALYTICAL RESULT	MATERIAL CONDITION	APPROX. QUANTITY	ACTION REQUIRED	DATE OF LAST INSPECTION (INCL. COMPANY NAME AND INITIALS)	DATE OF CONTROL ACTION &/OR REMOVAL
Asbestos Containing Materials (ACM)											
A-01	Top of brick wall adjacent shower room	Bituminous membrane	2	Yes	Non-Friable	**Chrysotile Asbestos**	Poor	< 1 m^2	Remove prior to demolition. Works to be completed under controlled conditions by Class A or B licensed removal contractor in accordance with SWNSW 2019a	30/4/2020 JBS&G SL	
A-02	Store Room, floor	Fibre cement conduit	3	Yes	Non-Friable	**Chrysotile and Amosite Asbestos**	Fair	< 1 m^2	Remove prior to demolition. Works to be completed under controlled conditions by Class A or B licensed removal contractor in accordance with SWNSW 2019a	30/4/2020 JBS&G SL	
~~58788-001-006 (Prensa 2018)~~	~~North, on ground, dumped electrical equipment~~	~~Bituminous backing board~~	~~-~~	~~Yes~~	~~Non-Friable~~	~~**Asbestos Detected**~~	~~Fair~~	~~1 m^2~~	~~Remove prior to demolition. Works to be completed under controlled conditions by Class A or B licensed removal contractor in accordance with SWNSW 2019a~~	~~Prensa 2018~~	Material unable to be located during JBS&G inspection and is assumed to have been removed. No documentation was made available to JBS&G.
No Asbestos Detected (NAD)											
AD-01	Shower Room, floor	Settled dust	-	Yes	-	No Asbestos Detected	-	-	No further action required	30/4/2020 JBS&G SL	
~~58788-001-005 (Prensa 2018)~~	~~North, on ground, dumped electrical equipment~~	~~Cable wrap~~	~~-~~	~~Yes~~	~~-~~	~~No Asbestos Detected~~	~~-~~	~~-~~	~~No further action required~~	~~Prensa 2018~~	Material unable to be located during JBS&G inspection. Assumed to have been removed
~~58788-001-007 (Prensa 2018)~~	~~North, on ground, dumped material, door~~	~~Caulking~~	~~-~~	~~Yes~~	~~-~~	~~No Asbestos Detected~~	~~-~~	~~-~~	~~No further action required~~	~~Prensa 2018~~	Material unable to be located during JBS&G inspection. Assumed to have been removed
Lead Containing Dust											
LD-01	Shower Room, floor	Settled dust	4	Yes	-	**2,000 mg/kg**	Poor	10 m^2	Remove prior to demolition by an experience hazardous materials removal contractor in accordance with AS4361.2-2017.	30/4/2020 JBS&G SL	

JBS&G SAMPLE NO.	LOCATION	MATERIAL DESCRIPTION	PHOTO NUMBER	ACCESSIBLE AREA?	FRIABILITY	ANALYTICAL RESULT	MATERIAL CONDITION	APPROX. QUANTITY	ACTION REQUIRED	DATE OF LAST INSPECTION (INCL. COMPANY NAME AND INITIALS)	DATE OF CONTROL ACTION &/OR REMOVAL
Lead Based Paints											
LP-01	Store Room, door, internal surface	Green paint	5	Yes	-	**28% w/w**	Poor	3 m^2	Remove loose and flaking paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017. Remaining paint well adhered to the building materials may be disposed as general solid waste if care is taken not to spread paint flakes to surrounding areas. Alternatively, remove all paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017.	30/4/2020 JBS&G SL	
58788-001-LP06 (Prensa 2018)	Store Room, door, external surface	Cream paint	-	Yes	-	**0.46% w/w**	Poor	2 m^2	Remove loose and flaking paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017. Remaining paint well adhered to the building materials may be disposed as general solid waste if care is taken not to spread paint flakes to surrounding areas. Alternatively, remove all paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017.	30/4/2020 JBS&G SL	
LP-02	Timber structure, columns and beams	Black paint	6	Yes	-	**26% w/w**	Poor	40 m^2	Remove loose and flaking paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017. Remaining paint well adhered to the building materials may be disposed as general solid waste if care is taken not to spread paint flakes to surrounding areas. Alternatively, remove all paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017.	30/4/2020 JBS&G SL	

JBS&G SAMPLE NO.	LOCATION	MATERIAL DESCRIPTION	PHOTO NUMBER	ACCESSIBLE AREA?	FRIABILITY	ANALYTICAL RESULT	MATERIAL CONDITION	APPROX. QUANTITY	ACTION REQUIRED	DATE OF LAST INSPECTION (INCL. COMPANY NAME AND INITIALS)	DATE OF CONTROL ACTION &/OR REMOVAL
LP-03	Timber structure, external timber doors and metal vents	Yellow paint	7	Yes	-	**2.3% w/w**	Poor	8 m^2	Remove loose and flaking paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017. Remaining paint well adhered to the building materials may be disposed as general solid waste if care is taken not to spread paint flakes to surrounding areas. Alternatively, remove all paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017.	30/4/2020 JBS&G SL	
-	Shower Room, walls	Blue/green paint	8	Yes	-	**Assumed Lead Paint (XRF > 1.00 mg/cm^2)**	Poor	20 m^2	Remove loose and flaking paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017. Remaining paint well adhered to the building materials may be disposed as general solid waste if care is taken not to spread paint flakes to surrounding areas. Alternatively, remove all paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017.	30/4/2020 JBS&G SL	
~~58788-001-LP07 (Prensa 2018)~~	~~North, on ground, dumped materials, door~~	~~White paint~~	~~-~~	~~Yes~~	~~-~~	~~**0.19% w/w**~~	~~Fair~~	~~Unknown~~	~~Remove under controlled conditions in accordance with AS/NZS 4361.2:2017 Guide to hazardous paint management prior to renovation or demolition works~~	~~Prensa 2018~~	Material unable to be located during JBS&G inspection and is assumed to have been removed. No documentation was made available to JBS&G.
Non-Lead Based Paints											
58788-001-LP03 (Prensa 2018)	Shower Room, ceiling	White paint	-	Yes	-	0.062% w/w	-	-	No further action required	30/4/2020 JBS&G SL	

JBS&G SAMPLE NO.	LOCATION	MATERIAL DESCRIPTION	PHOTO NUMBER	ACCESSIBLE AREA?	FRIABILITY	ANALYTICAL RESULT	MATERIAL CONDITION	APPROX. QUANTITY	ACTION REQUIRED	DATE OF LAST INSPECTION (INCL. COMPANY NAME AND INITIALS)	DATE OF CONTROL ACTION &/OR REMOVAL
Polychlorinated Biphenyls (PCBs)											
No Polychlorinated Biphenyl materials were identified at the time of inspection									-	30/4/2020 JBS&G SL	
Synthetic Mineral Fibres (SMF)											
No Synthetic Mineral Fibre materials were identified at the time of inspection									-	30/4/2020 JBS&G SL	
Ozone Depleting Substances (ODS)											
No Ozone Depleting Substances were identified at the time of inspection									-	30/4/2020 JBS&G SL	
Inaccessible Areas											
Substation S405 was locked and there was no access at the time of inspection											

Hazardous Materials Register (Rev 0)
New Sydney Fish Markets Development
1A to 1C Bridge Road, Glebe, NSW
Lot 4
Date of Production – 18 May 2020

JBS&G SAMPLE NO.	LOCATION	MATERIAL DESCRIPTION	PHOTO NUMBER	ACCESSIBLE AREA?	FRIABILITY	ANALYTICAL RESULT	MATERIAL CONDITION	APPROX. QUANTITY	ACTION REQUIRED	DATE OF LAST INSPECTION (INCL. COMPANY NAME AND INITIALS)	DATE OF CONTROL ACTION &/OR REMOVAL
General Site											
Asbestos Containing Materials (ACM)											
No Asbestos Containing Materials were identified within the general site area at the time of inspection									-	30/4/2020 JBS&G SL	
No Asbestos Detected (NAD)											
A-05	General site, southwest end, expansion joint - mastic	Mastic	-	Yes	-	No Asbestos Detected	-	-	No further action required	30/4/2020 JBS&G SL	
A-06	General site, length of lot, expansion joint	Mastic	10	Yes	-	No Asbestos Detected	-	-	No further action required	30/4/2020 JBS&G SL	
Lead Based Paints											
LP-06	General site, southwest end, timber and metal barrier	White paint	11	Yes	-	**Lead Based Paint (0.26% w/w)**	Poor	5 m^2	Remove loose and flaking paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017. Remaining paint well adhered to the building materials may be demolished if care is taken not to spread paint flakes to surrounding areas. Alternatively, remove all paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017.	30/4/2020 JBS&G SL	

JBS&G SAMPLE NO.	LOCATION	MATERIAL DESCRIPTION	PHOTO NUMBER	ACCESSIBLE AREA?	FRIABILITY	ANALYTICAL RESULT	MATERIAL CONDITION	APPROX. QUANTITY	ACTION REQUIRED	DATE OF LAST INSPECTION (INCL. COMPANY NAME AND INITIALS)	DATE OF CONTROL ACTION &/OR REMOVAL
General Site											
As per LP-06	Pier, timber beams	White paint	12	Yes	-	**Lead Based Paint (0.26% w/w)**	Poor	500 lin. m.	Remove loose and flaking paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017. Remaining paint well adhered to the building materials may be demolished if care is taken not to spread paint flakes to surrounding areas. Alternatively, remove all paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017.	30/4/2020 JBS&G SL	
Non-Lead Based Paints											
58788-001-LP02 (Prensa 2018)	Wharf, timber piles, top section	White paint	-	Yes	-	Non-Lead Based Paint (< 0.005% w/w)	-	-	No further action required	30/4/2020 JBS&G SL	
Polychlorinated Biphenyls (PCBs)											
No Polychlorinated Biphenyl materials were identified within the general site area at the time of inspection									-	30/4/2020 JBS&G SL	
Synthetic Mineral Fibres (SMF)											
No Synthetic Mineral Fibre materials were identified within the general site area at the time of inspection									-	30/4/2020 JBS&G SL	
Ozone Depleting Substances (ODS)											
No Ozone Depleting Substances were identified within the general site area at the time of inspection									-	30/4/2020 JBS&G SL	

JBS&G SAMPLE NO.	LOCATION	MATERIAL DESCRIPTION	PHOTO NUMBER	ACCESSIBLE AREA?	FRIABILITY	ANALYTICAL RESULT	MATERIAL CONDITION	APPROX. QUANTITY	ACTION REQUIRED	DATE OF LAST INSPECTION (INCL. COMPANY NAME AND INITIALS)	DATE OF CONTROL ACTION &/OR REMOVAL
Old Office Building											
Asbestos Containing Materials (ACM)											
A-07	Old Office Building, roof	Corrugated fibre cement sheeting	14	Yes	Non-Friable	**Chrysotile and Amosite Asbestos**	Poor	100 m^2	Remove prior to demolition. Works to be completed under controlled conditions by Class A or B licensed removal contractor in accordance with SWNSW 2019a	30/4/2020 JBS&G SL	
A-08	Old Office Building, roof, barge capping	Fibre cement sheeting	15	Yes	Non-Friable	**Chrysotile and Amosite Asbestos**	Fair	5 lin. m.	Remove prior to demolition. Works to be completed under controlled conditions by Class A or B licensed removal contractor in accordance with SWNSW 2019a	30/4/2020 JBS&G SL	
-	Old Office Building, roof, gutters	Moulded fibre cement	16	No	Non-Friable	**Assumed Asbestos**	Poor	25 lin. m.	Remove prior to demolition. Works to be completed under controlled conditions by Class A or B licensed removal contractor in accordance with SWNSW 2019a	30/4/2020 JBS&G SL	
-	Old Office Building, roof, SW downpipe	Fibre cement pipe	17	No	Non-Friable	**Assumed Asbestos**	Poor	2 lin. m.	Remove prior to demolition. Works to be completed under controlled conditions by Class A or B licensed removal contractor in accordance with SWNSW 2019a	30/4/2020 JBS&G SL	
-	Old Office Building, gutters and downpipes	Accumulated soil and debris	-	No	Friable	**Assumed Asbestos**	Poor	Unknown	Material assumed to be present due to degradation of the roof sheeting. Remove prior to demolition. Works to be completed under controlled conditions by Class A or B licensed removal contractor in accordance with SWNSW 2019a	30/4/2020 JBS&G SL	
As per A-07 & A-08	Old Office Building, on top of concrete roof of north store room	Mixed fibre cement fragments	18	Yes	Non-Friable	**Chrysotile and Amosite Asbestos**	Poor	1 m^2	Remove prior to demolition. Works to be completed under controlled conditions by Class A or B licensed removal contractor in accordance with SWNSW 2019a	30/4/2020 JBS&G SL	
A-10	Old Office Building, ground floor, main room, south wall	Fibre cement fragments on timber studs and behind nails	19	Yes	Non-Friable	**Chrysotile and Amosite Asbestos**	Poor	< 1 m^2	Remove prior to demolition. Works to be completed under controlled conditions by Class A or B licensed removal contractor in accordance with SWNSW 2019a	30/4/2020 JBS&G SL	

JBS&G SAMPLE NO.	LOCATION	MATERIAL DESCRIPTION	PHOTO NUMBER	ACCESSIBLE AREA?	FRIABILITY	ANALYTICAL RESULT	MATERIAL CONDITION	APPROX. QUANTITY	ACTION REQUIRED	DATE OF LAST INSPECTION (INCL. COMPANY NAME AND INITIALS)	DATE OF CONTROL ACTION &/OR REMOVAL
Old Office Building											
AD-05	Old Office Building, ground floor toilets, floor	Settled dust	20	Yes	Friable	**Chrysotile Asbestos detected in loose fibre bundles**	Poor	12 m^2	Remove prior to demolition. Works to be completed under controlled conditions by Class A licensed removal contractor in accordance with SWNSW 2019a	30/4/2020 JBS&G SL	
~~58788-001-009 (Prensa 2018)~~	~~Old Office Building, adjacent rear entrance, on ground~~	~~Corrugated fibre cement debris~~	~~-~~	~~Yes~~	~~Non-Friable~~	~~**Asbestos Detected**~~	~~Poor~~	~~< 1 m^2~~	~~Remove prior to demolition. Works to be completed under controlled conditions by Class A or B licensed removal contractor in accordance with SWNSW 2019a~~	~~Prensa 2018~~	Item removed as a sample during Prensa 2018.
No Asbestos Detected (NAD)											
58788-001-008 (Prensa 2018)	Old Office Building, external, electrical cabinet	Electrical backing board	-	Yes	-	No Asbestos Detected	-	-	No further action required	30/4/2020 JBS&G SL	
A-09	Old Office Building, roof void	Insulation	-	Yes	-	No Asbestos Detected	-	-	No further action required	30/4/2020 JBS&G SL	
AD-02	Old Office Building, roof void	Settled dust	-	Yes	-	No Asbestos Detected	-	-	No further action required	30/4/2020 JBS&G SL	
A-11	Old Office Building, redundant electrical wiring	Red cable sheath	21	Yes	-	No Asbestos Detected	-	-	No further action required	30/4/2020 JBS&G SL	
A-12	Old Office Building, redundant electrical wiring	Black cable sheath	21	Yes	-	No Asbestos Detected	-	-	No further action required	30/4/2020 JBS&G SL	
AD-04	Old Office Building, ground floor, floor	Settled dust	-	Yes	-	No Asbestos Detected	-	-	No further action required	30/4/2020 JBS&G SL	
Same as 58788-001-016 (Prensa 2018)	Old Office Building, ground floor, timber windows	Caulking	-	Yes	-	No Asbestos Detected	-	-	No further action required	30/4/2020 JBS&G SL	
58788-001-010A (Prensa 2018)	Old Office Building, ground floor, west end. floor	Black vinyl tiles	-	Yes	-	No Asbestos Detected	-	-	No further action required	30/4/2020 JBS&G SL	
58788-001-010B (Prensa 2018)	Old Office Building, ground floor, west end, floor	Woven backing to vinyl tiles	-	Yes	-	No Asbestos Detected	-	-	No further action required	30/4/2020 JBS&G SL	
58788-001-011 (Prensa 2018)	Old Office Building, ground floor, west end, floor	Paper backing to vinyl tiles	-	Yes	-	No Asbestos Detected	-	-	No further action required	30/4/2020 JBS&G SL	

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Old Office Building											
58788-001-012 (Prensa 2018)	Old Office Building, stairwell, walls	Bituminous backing to cement render	22	Yes	-	No Asbestos Detected	-	-	No further action required	30/4/2020 JBS&G SL	
58788-001-013 (Prensa 2018)	Old Office Building, stairwell, floor	Black vinyl tiles	-	Yes	-	No Asbestos Detected	-	-	No further action required	30/4/2020 JBS&G SL	
AD-03	Old Office Building, first floor, floor	Settled dust	-	Yes	-	No Asbestos Detected	-	-	No further action required	30/4/2020 JBS&G SL	
58788-001-014 (Prensa 2018)	Old Office Building, first floor, floor	Black vinyl tiles	23	Yes	-	No Asbestos Detected	-	-	No further action required	30/4/2020 JBS&G SL	
58788-001-015 (Prensa 2018)	Old Office Building, first floor, floor	Paper backing to vinyl tiles	23	Yes	-	No Asbestos Detected	-	-	No further action required	30/4/2020 JBS&G SL	
58788-001-016 (Prensa 2018)	Old Office Building, first floor, timber windows	Caulking	-	Yes	-	No Asbestos Detected	-	-	No further action required	30/4/2020 JBS&G SL	
Lead Containing Dust											
LD-02	Old Office Building, roof void	Settled dust	24	Yes	-	**1,500 mg/kg**	Poor	100 m^2	Remove prior to demolition by an experience hazardous materials removal contractor in accordance with AS4361.2-2017.	30/4/2020 JBS&G SL	
LD-04	Old Office Building, ground floor, floor	Settled dust	-	Yes	-	200 mg/kg	Poor	100 m^2	Remove prior to demolition by an experience hazardous materials removal contractor in accordance with AS4361.2-2017.	30/4/2020 JBS&G SL	
58788-001-LD02 (Prensa 2018)	Old Office Building, ground floor, floor	Settled dust	-	Yes	-	**320 mg/kg**					
LD-05	Old Office Building, ground floor toilets, floor	Settled dust	20	Yes	-	**1,800 mg/kg**	Poor	10 m^2	Remove prior to demolition by an experience hazardous materials removal contractor in accordance with AS4361.2-2017.	30/4/2020 JBS&G SL	
58788-001-LD01 (Prensa 2018)	Old Office Building, ground floor, window sills	Settled dust	25	Yes	-	**3,600 mg/kg**	Poor	20 m^2	Remove prior to demolition by an experience hazardous materials removal contractor in accordance with AS4361.2-2017.	30/4/2020 JBS&G SL	
58788-001-LD03 (Prensa 2018)	Old Office Building, ground floor, stairwell, floor	Settled dust	-	Yes	-	**2,100 mg/kg**	Poor	20 m^2	Remove prior to demolition by an experience hazardous materials removal contractor in accordance with AS4361.2-2017.	30/4/2020 JBS&G SL	

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Old Office Building											
LD-03	Old Office Building, first floor, floor	Settled dust	26	Yes	-	**4,800 mg/kg**	Poor	100 m^2	Remove prior to demolition by an experience hazardous materials removal contractor in accordance with AS4361.2-2017.	30/4/2020 JBS&G SL	
58788-001-LD04 (Prensa 2018)	Old Office Building, first floor, floor	Settled dust	-	Yes		**1,000 mg/kg**					
58788-001-LD05 (Prensa 2018)	Old Office Building, cavity between first floor and ground floor	Settled dust	-	Yes	-	**3,900 mg/kg**	Poor	100 m^2	Remove prior to demolition by an experience hazardous materials removal contractor in accordance with AS4361.2-2017.	30/4/2020 JBS&G SL	
Lead Based Paints											
58788-001-LP09 (Prensa 2018)	Old Office Building, external, north, timber windows	Cream paint	-	Yes	-	**Lead Based Paint (0.46% w/w)**	Poor	5 m^2	Remove loose and flaking paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017. Remaining paint well adhered to the building materials may be demolished if care is taken not to spread paint flakes to surrounding areas. Alternatively, remove all paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017.	30/4/2020 JBS&G SL	
58788-001-LP10 (Prensa 2018)	Old Office Building, external, north, walls	Cream paint	27	Yes	-	**Lead Based Paint (0.54% w/w)**	Poor	40 m^2	Remove loose and flaking paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017. Remaining paint well adhered to the building materials may be demolished if care is taken not to spread paint flakes to surrounding areas. Alternatively, remove all paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017.	30/4/2020 JBS&G SL	

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Old Office Building											
58788-001-LP11 (Prensa 2018)	Old Office Building, external, east, door and frame	Cream paint	-	Yes	-	**Lead Based Paint (8.8% w/w)**	Poor	4 m^2	Remove loose and flaking paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017. Remaining paint well adhered to the building materials may be demolished if care is taken not to spread paint flakes to surrounding areas. Alternatively, remove all paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017.	30/4/2020 JBS&G SL	
LP-07	Old Office Building, ground floor ceiling	White paint	28	Yes	-	**Lead Based Paint (0.12% w/w)**	Poor	100 m^2	Previously identified as non-lead based paint in Prensa 2018. Remove loose and flaking paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017. Remaining paint well adhered to the building materials may be demolished if care is taken not to spread paint flakes to surrounding areas. Alternatively, remove all paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017.	30/4/2020 JBS&G SL	
LP-08	Old Office Building, ground floor toilets, walls	Blue paint	29	Yes	-	**Lead Based Paint (0.72% w/w)**	Poor	30 m^2	Remove loose and flaking paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017. Remaining paint well adhered to the building materials may be demolished if care is taken not to spread paint flakes to surrounding areas. Alternatively, remove all paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017.	30/4/2020 JBS&G SL	

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Old Office Building											
LP-09	Old Office Building, ground floor toilets, timber doors and frames	Yellow/orange paint	30	Yes	-	**Lead Based Paint (14% w/w)**	Poor	10 m^2	Remove loose and flaking paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017. Remaining paint well adhered to the building materials may be demolished if care is taken not to spread paint flakes to surrounding areas. Alternatively, remove all paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017.	30/4/2020 JBS&G SL	
58788-001-LP12 (Prensa 2018)	Old Office Building, ground floor, throughout, brick walls	White paint	31	Yes	-	**Lead Based Paint (0.21% w/w)**	Poor	200 m^2	Remove loose and flaking paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017. Remaining paint well adhered to the building materials may be demolished if care is taken not to spread paint flakes to surrounding areas. Alternatively, remove all paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017.	30/4/2020 JBS&G SL	
58788-001-LP13 (Prensa 2018)	Old Office Building, ground floor, timber windows	Cream paint	-	Yes	-	**Lead Based Paint (4.2% w/w)**	Poor	20 m^2	Remove loose and flaking paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017. Remaining paint well adhered to the building materials may be demolished if care is taken not to spread paint flakes to surrounding areas. Alternatively, remove all paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017.	30/4/2020 JBS&G SL	

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Old Office Building											
Same as 58788-001-LP13 (Prensa 2018)	Old Office Building, ground floor, east end, timber work	Cream paint	-	Yes	-	**Lead Based Paint (4.2% w/w)**	Poor	5 m^2	Remove loose and flaking paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017. Remaining paint well adhered to the building materials may be demolished if care is taken not to spread paint flakes to surrounding areas. Alternatively, remove all paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017.	30/4/2020 JBS&G SL	
Same as 58788-001-LP12 (Prensa 2018)	Old Office Building, ground floor, throughout, paint debris on floor	White paint	-	Yes	-	**Lead Based Paint (0.21% w/w)**	Poor	10 m^2	Remove loose and flaking paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017. Remaining paint well adhered to the building materials may be demolished if care is taken not to spread paint flakes to surrounding areas. Alternatively, remove all paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017.	30/4/2020 JBS&G SL	
58788-001-LP15 (Prensa 2018)	Old Office Building, ground floor, stairwell, roller door and frame	Brown paint	-	Yes	-	**Lead Based Paint (0.52% w/w)**	Poor	6 m^2	Remove loose and flaking paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017. Remaining paint well adhered to the building materials may be demolished if care is taken not to spread paint flakes to surrounding areas. Alternatively, remove all paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017.	30/4/2020 JBS&G SL	

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Old Office Building											
58788-001-LP16 (Prensa 2018)	Old Office Building, ground floor, stairwell, door frame	White paint	-	Yes	-	**Lead Based Paint (2.8% w/w)**	Poor	2 m^2	Remove loose and flaking paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017. Remaining paint well adhered to the building materials may be demolished if care is taken not to spread paint flakes to surrounding areas. Alternatively, remove all paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017.	30/4/2020 JBS&G SL	
58788-001-LP22 (Prensa 2018)	Old Office Building, ground floor, door to north store room	Brown paint	32	Yes	-	**Lead Based Paint (12% w/w)**	Poor	4 m^2	Remove loose and flaking paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017. Remaining paint well adhered to the building materials may be demolished if care is taken not to spread paint flakes to surrounding areas. Alternatively, remove all paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017.	30/4/2020 JBS&G SL	
58788-001-LP17 (Prensa 2018)	Old Office Building, first floor, east room, timber windows	Green paint	33	Yes	-	**Lead Based Paint (0.42% w/w)**	Poor	2 m^2	Remove loose and flaking paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017. Remaining paint well adhered to the building materials may be demolished if care is taken not to spread paint flakes to surrounding areas. Alternatively, remove all paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017.	30/4/2020 JBS&G SL	

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Old Office Building											
58788-001-LP18 (Prensa 2018)	Old Office Building, first floor, main room, timber windows	White paint	34	Yes	-	**Lead Based Paint (0.70% w/w)**	Poor	5 m^2	Remove loose and flaking paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017. Remaining paint well adhered to the building materials may be demolished if care is taken not to spread paint flakes to surrounding areas. Alternatively, remove all paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017.	30/4/2020 JBS&G SL	
58788-001-LP19 (Prensa 2018)	Old Office Building, first floor, main room, walls	Blue paint	35	Yes	-	**Lead Based Paint (0.57% w/w)**	Poor	60 m^2	Remove loose and flaking paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017. Remaining paint well adhered to the building materials may be demolished if care is taken not to spread paint flakes to surrounding areas. Alternatively, remove all paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017.	30/4/2020 JBS&G SL	
58788-001-LP20 (Prensa 2018)	Old Office Building, first floor, toilets, timber windows	Green paint	-	Yes	-	**Lead Based Paint (0.52% w/w)**	Poor	30 m^2	Remove loose and flaking paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017. Remaining paint well adhered to the building materials may be demolished if care is taken not to spread paint flakes to surrounding areas. Alternatively, remove all paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017.	30/4/2020 JBS&G SL	

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Old Office Building											
58788-001-LP21 (Prensa 2018)	Old Office Building, first floor, east room, walls	Cream paint	-	Yes	-	**Lead Based Paint (0.62% w/w)**	Poor	20 m²	Remove loose and flaking paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017. Remaining paint well adhered to the building materials may be demolished if care is taken not to spread paint flakes to surrounding areas. Alternatively, remove all paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017.	30/4/2020 JBS&G SL	
Polychlorinated Biphenyls (PCBs)											
Detailed inspection of light fittings could not be undertaken due to access restrictions. All light fittings should be assumed to contain PCBs.									Undertake detailed inspection once safe access provided, OR Handle in accordance with ANZECC 1997	30/4/2020 JBS&G SL	
Synthetic Mineral Fibres (SMF)											
A-09	Old Office Building, roof void	Insulation	24	Yes	-	**SMF Detected**	Good	100 m²	Remove in accordance with NOHSC:2006 (1990)	30/4/2020 JBS&G SL	
Ozone Depleting Substances (ODS)											
No Ozone Depleting Substances were identified at the time of inspection									-	30/4/2020 JBS&G SL	

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Site Office											
Asbestos Containing Materials (ACM)											
No Asbestos Containing Materials were identified at the time of inspection									-	30/4/2020 JBS&G SL	
No Asbestos Detected (NAD)											
58788-001-001 (Prensa 2018)	Site Office, external, walls	Fibre cement sheeting	37	Yes	-	No Asbestos Detected	-	-	No further action required	30/4/2020 JBS&G SL	
58788-001-003 (Prensa 2018)	Site Office, south and east, external metal walls	Mastic	38	Yes	-	No Asbestos Detected	-	-	No further action required	30/4/2020 JBS&G SL	
58788-001-004 (Prensa 2018)	Site Office, external, electrical cabinet	Electrical backing board	-	Yes	-	No Asbestos Detected	-	-	No further action required	30/4/2020 JBS&G SL	
58788-001-002 (Prensa 2018)	Site Office, old kitchenette, wall	Fibre cement sheeting	39	Yes	-	No Asbestos Detected	-	-	No further action required	30/4/2020 JBS&G SL	
Same as 58788-001-002 (Prensa 2018)	Site Office, toilets, walls	Fibre cement sheeting	-	Yes	-	No Asbestos Detected	-	-	No further action required	30/4/2020 JBS&G SL	
Lead Based Paints											
No Lead Based Paints were identified at the time of inspection									-	30/4/2020 JBS&G SL	
Non-Lead Based Paints											
58788-001-LP01 (Prensa 2018)	Site Office, external walls	Grey paint	-	Yes	-	Non-Lead Based Paint (< 0.005% w/w)	-	-	No further action required	30/4/2020 JBS&G SL	
Polychlorinated Biphenyls (PCBs)											
No Polychlorinated Biphenyl materials were identified at the time of inspection									-	30/4/2020 JBS&G SL	

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Site Office											
Synthetic Mineral Fibres (SMF)											
-	Site Office, external south aspect, hot water system	Internal insulation	40	Yes	Bonded	**Assumed SMF**	Good	2 m^2	Remove in accordance with NOHSC:2006 (1990)	30/4/2020 JBS&G SL	
-	Site Office, roof void	Insulation batts	41	Yes	Bonded	**Assumed SMF**	Good	85 m^2	Remove in accordance with NOHSC:2006 (1990)	30/4/2020 JBS&G SL	
-	Site Office, internal and external wall cavities	Insulation batts	-	Yes	Bonded	**Assumed SMF**	Good	150 m^2	Remove in accordance with NOHSC:2006 (1990)	30/4/2020 JBS&G SL	
Ozone Depleting Substances (ODS)											
No Ozone Depleting Substances were identified at the time of inspection									-	30/4/2020 JBS&G SL	

Hazardous Materials Register (Rev 0)
New Sydney Fish Markets Development
1A to 1C Bridge Road, Glebe, NSW
Lot 5
Date of Production – 18 May 2020

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Asbestos Containing Materials (ACM)											
No Asbestos Containing Materials were identified at the time of inspection									-	30/4/2020 JBS&G SL	
No Asbestos Detected (NAD)											
A-03	Northern portion, expansion joint	Mastic	43	Yes	-	No Asbestos Detected	-	-	No further action required	30/4/2020 JBS&G SL	
A-04	Central portion, expansion joint	Mastic	44	Yes	-	No Asbestos Detected	-	-	No further action required	30/4/2020 JBS&G SL	
Lead Based Paints											
No Lead Based Paints were identified at the time of inspection									-	30/4/2020 JBS&G SL	
Non-Lead Based Paints											
LP-04	Pier extending from northern portion of lot, steel framework	White paint	45	Yes	-	Non-Lead Based Paint (0.02% w/w)	-	-	No further action required	30/4/2020 JBS&G SL	
LP-05	Southern portion, bollards	Yellow paint	46	Yes	-	Non-Lead Based Paint (0.06% w/w)	-	-	No further action required	30/4/2020 JBS&G SL	
-	Throughout	Various coloured paints	-	Yes	-	Assumed Non-Lead Paint (XRF < 0.1 mg/cm^2)	-	-	No further action required	30/4/2020 JBS&G SL	
Polychlorinated Biphenyls (PCBs)											
Detailed inspection of light fittings could not be undertaken due to access restriction at the time of inspection. All light fittings should be assumed to contain PCBs.									Undertake detailed inspection once safe access is provided, OR Handle in accordance with ANZECC 1997	30/4/2020 JBS&G SL	

Hazardous Materials Register (Rev 0)
New Sydney Fish Markets Development
1A to 1C Bridge Road, Glebe, NSW
Lot 5
Date of Production – 18 May 2020

JBS&G SAMPLE NO.	LOCATION	MATERIAL DESCRIPTION	PHOTO NUMBER	ACCESSIBLE AREA?	FRIABILITY	ANALYTICAL RESULT	MATERIAL CONDITION	APPROX. QUANTITY	ACTION REQUIRED	DATE OF LAST INSPECTION (INCL. COMPANY NAME AND INITIALS)	DATE OF CONTROL ACTION &/OR REMOVAL
Synthetic Mineral Fibres (SMF)											
No Synthetic Mineral Fibre materials were identified at the time of inspection									-	30/4/2020 JBS&G SL	
Ozone Depleting Substances (ODS)											
No Ozone Depleting Substances were identified at the time of inspection									-	30/4/2020 JBS&G SL	
Inaccessible Areas											
Substation S1608 was locked and there was no access at the time of inspection											

Timber Treatment Materials Register (Rev 0)
New Sydney Fish Markets Development
1A to 1C Bridge Road, Glebe, NSW
Lot 4 & Lot 5 – Wharf and Piers
Date of Production – 18 May 2020

JBS&G SAMPLE NO.	LOCATION & MATERIAL	PHOTO NUMBER	ORGANOTINS TIMBER TREATMENT RESULTS			CREOSOTE TIMBER TREATMENT RESULTS						COPPER CHROME ARSENATE TREATMENT RESULTS		CLASSIFICATION	DATE OF LAST INSPECTION (INCL. COMPANY NAME AND INITIALS)
			MONOBUTYLTIN	DIBUTYLTIN	TRIBUTYLTIN	BENZO(A)PYRENE	TOTAL PAH	HALOGENATED PHENOLS	O-CRESOL	M&P-CRESOL	NON-HALOGENATED PHENOLS	CHROMIUM VI	ARSENIC		
T-01	Lot 5, northern portion of pier – timber pile	47/48	< 0.5 ng/g (Below LOR)	< 0.5 ng/g (Below LOR)	< 0.5 ng/g (Below LOR)	< 2.5 mg/kg (Below LOR)	< 2.5 mg/kg (Below LOR)	< 5 mg/kg (Below LOR)	< 2.5 mg/kg (Below LOR)	< 5 mg/kg (Below LOR)	< 75 mg/kg (Below LOR)	< 1 mg/kg (Below LOR)	< 2 mg/kg (Below LOR)	No timber treatments were identified and the timber is deemed suitable to be disposed of as general solid waste in accordance with NSW EPA 2014	1/5/2020 JBS&G SL
T-02	Lot 4, northern portion of pier – timber pile	49/50	< 0.5 ng/g (Below LOR)	< 0.5 ng/g (Below LOR)	< 0.5 ng/g (Below LOR)	< 2.5 mg/kg (Below LOR)	< 2.5 mg/kg (Below LOR)	< 5 mg/kg (Below LOR)	< 2.5 mg/kg (Below LOR)	< 5 mg/kg (Below LOR)	< 75 mg/kg (Below LOR)	< 1 mg/kg (Below LOR)	< 2 mg/kg (Below LOR)	No timber treatments were identified and the timber is deemed suitable to be disposed of as general solid waste in accordance with NSW EPA 2014	1/5/2020 JBS&G SL
T-03	Lot 4, eastern portion of wharf – timber pile	51/52	< 0.5 ng/g (Below LOR)	< 0.5 ng/g (Below LOR)	< 0.5 ng/g (Below LOR)	< 2.5 mg/kg (Below LOR)	< 2.5 mg/kg (Below LOR)	< 5 mg/kg (Below LOR)	< 2.5 mg/kg (Below LOR)	< 5 mg/kg (Below LOR)	< 75 mg/kg (Below LOR)	< 1 mg/kg (Below LOR)	< 2 mg/kg (Below LOR)	No timber treatments were identified and the timber is deemed suitable to be disposed of as general solid waste in accordance with NSW EPA 2014	1/5/2020 JBS&G SL

Appendix B Photographs

Photo 1: Overview of Lot 3

Photo 2: Lot 3, asbestos containing bituminous membrane on top of the brick wall adjacent the shower room

Photo 3: Lot 3, asbestos containing fibre cement conduit penetrating the floor of the store room

Photo 4: Lot 3, lead containing dust to the floor of the shower room

Photo 5: Lot 3, lead based green paint to the store room door

Photo 6: Lot 3, lead based black paint to the columns and beams of the timber structure

Source:

Rev	Description	Drn.	Date
0	Original Issue -	SL	18/05/2020

JBS&G

Appendix B: Photographs

Client: Infrastructure NSW

Project: New Sydney Fish Markets Redevelopment HBMS

Job No: 58317 File Name: R01 App B - Photo Log

Photo 7: Lot 3, lead based yellow paint to the substation timber doors

Photo 8: Lot 3, lead based blue paint to the shower room walls

Photo 9: Overview of Lot 4

Photo 10: Lot 4, non-asbestos containing mastic to the concrete expansion joint

Photo 11: Lot 4, lead based white paint to the metal and timber barrier at the SW end of the lot

Photo 12: Lot 4, lead based white paint to the timber beams of the pier

Source:

Rev	Description	Drn.	Date
0	Original Issue -	SL	18/05/2020

Appendix B: Photographs

Client: Infrastructure NSW

Project: New Sydney Fish Markets Redevelopment HBMS

Job No: 58317 File Name: R01 App B - Photo Log

Photo 13: Lot 4, Overview of the Old Office Building

Photo 14: Lot 4, Old Office Building, asbestos containing corrugated fibre cement roof (internal surface)

Photo 15: Lot 4, Old Office Building, asbestos containing fibre cement roof barge capping

Photo 16: Lot 4, Old Office Building, assumed asbestos containing fibre cement gutters

Photo 17: Lot 4, Old Office Building, assumed asbestos containing fibre cement downpipe

Photo 18: Lot 4, Old Office Building, asbestos containing mixed fibre cement debris on top of the concrete roof to the north store room

Source:

Rev	Description	Drn.	Date
0	Original Issue -	SL	18/05/2020

JBS&G

Appendix B: Photographs

Client: Infrastructure NSW

Project: New Sydney Fish Markets Redevelopment HBMS

Job No: 58317 File Name: R01 App B - Photo Log

Photo 19: Lot 4, Old Office Building, asbestos containing fibre cement fragments to the timber studs and behind nails on the south wall of the main room (ground floor)

Photo 20: Lot 4, Old Office Building, asbestos containing and lead containing settled dust to the floor of the ground floor toilets

Photo 21: Lot 4, Old Office Building, non-asbestos containing red and black cable sheath to redundant electrical wiring

Photo 22: Lot 4, Old Office Building, non-asbestos containing bituminous backing to the cement rendered walls of the stairwell

Photo 23: Lot 4, Old Office Building, non-asbestos containing black vinyl tiles and paper backing to the floor covering on the first floor

Photo 24: Lot 4, Old Office Building, lead containing dust and SMF insulation throughout the roof void

Source:

Rev	Description	Drn.	Date
0	Original Issue -	SL	18/05/2020

JBS&G

Appendix B: Photographs

Client: Infrastructure NSW

Project: New Sydney Fish Markets Redevelopment HBMS

Job No: 58317 File Name: R01 App B - Photo Log

Photo 25: Lot 4, Old Office Building, lead containing dust to the ground floor window sills

Photo 26: Lot 4, Old Office Building, lead containing dust throughout the first floor

Photo 27: Lot 4, Old Office Building, lead based cream paint to the external north wall

Photo 28: Lot 4, Old Office Building, lead based white paint to the ground floor ceiling

Photo 29: Lot 4, Old Office Building, lead based blue paint to the ground floor toilet walls

Photo 30: Lot 4, Old Office Building, lead based yellow/orange paint to the ground floor toilet timber doors and frames

Source:

Rev	Description	Drn.	Date
0	Original Issue -	SL	18/05/2020

JBS&G

Appendix B: Photographs

Client: Infrastructure NSW

Project: New Sydney Fish Markets Redevelopment HBMS

Job No: 58317 File Name: R01 App B - Photo Log

Photo 31: Lot 4, Old Office Building, lead based white paint to the ground floor internal brick walls

Photo 32: Lot 4, Old Office Building, lead based brown paint to the north store room door

Photo 33: Lot 4, Old Office Building, lead based green paint for the first floor east room windows

Photo 34: Lot 4, Old Office Building, lead based white paint to the first floor main room windows

Photo 35: Lot 4, Old Office Building, lead based blue paint to the first floor main room walls

Photo 36: Lot 4, Overview of Site Office

Source:

Rev	Description	Drn.	Date
0	Original Issue -	SL	18/05/2020

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Appendix B: Photographs

Client: Infrastructure NSW

Project: New Sydney Fish Markets Redevelopment HBMS

Job No: 58317 File Name: R01 App B - Photo Log

Photo 37: Lot 4, Site Office, non-asbestos containing fibre cement sheeting to the external walls

Photo 38: Lot 4, Site Office, non-asbestos containing mastic to the external metal walls

Photo 39: Lot 4, Site Office, non-asbestos containing fibre cement sheeting to the former kitchenette

Photo 40: Lot 4, Site Office, assumed SMF insulation to the hot water system

Photo 41: Lot 4, Site Office, assumed SMF insulation throughout the roof void

Photo 42: Overview of Lot 5

Source:

Rev	Description	Drn.	Date
0	Original Issue -	SL	18/05/2020

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Appendix B: Photographs

Client: Infrastructure NSW

Project: New Sydney Fish Markets Redevelopment HBMS

Job No: 58317 File Name: R01 App B - Photo Log

Photo 43: Lot 5, non-asbestos containing mastic to the expansion joint in the northern portion

Photo 44: Lot 5, non-asbestos containing mastic to the expansion joint in the central portion

Photo 45: Lot 5, non-lead based white paint to the pier extending from the northern portion of the lot

Photo 46: Lot 5, non-lead based yellow paint to the bollards in the southern portion

Photo 47: Lot 5, Overview of the pier

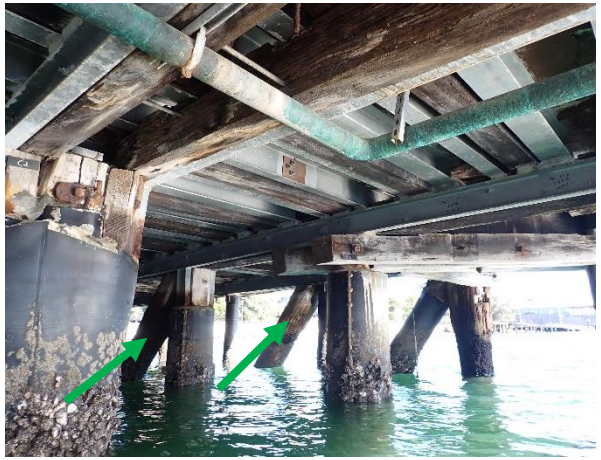

Photo 48: Lot 5 pier, no timber treatments were identified to the timber piles

Source:

Rev	Description	Drn.	Date
0	Original Issue -	SL	18/05/2020

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Appendix B: Photographs

Client: Infrastructure NSW

Project: New Sydney Fish Markets Redevelopment HBMS

Job No: 58317 File Name: R01 App B - Photo Log

Photo 49: Lot 4, Overview of the pier

Photo 50: Lot 4 pier, no timber treatments were identified to the timber piles

Photo 51: Lot 4, Overview of the wharf

Photo 52: Lot 4 wharf, no timber treatments were identified to the timber piles

Source:

Rev	Description	Drn.	Date
0	Original Issue -	SL	18/05/2020

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Appendix B: Photographs

Client: Infrastructure NSW

Project: New Sydney Fish Markets Redevelopment HBMS

Job No: 58317 File Name: R01 App B - Photo Log

Appendix C Laboratory Analysis Reports and Chain of Custody Documentation

Certificate of Analysis

Environment Testing

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025–Testing
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

JBS & G Australia (NSW) P/L
Level 1, 50 Margaret St
Sydney
NSW 2000

Attention:	Stuart Lumsden
Report	717276-AID
Project Name	FISH MARKETS
Project ID	58317
Received Date	May 04, 2020
Date Reported	May 15, 2020

Methodology:

Asbestos Fibre Identification	Conducted in accordance with the Australian Standard AS 4964 – 2004: Method for the Qualitative Identification of Asbestos in Bulk Samples and in-house Method LTM-ASB-8020 by polarised light microscopy (PLM) and dispersion staining (DS) techniques. *NOTE: Positive Trace Analysis results indicate the sample contains detectable respirable fibres.*
Unknown Mineral Fibres	Mineral fibres of unknown type, as determined by PLM with DS, may require another analytical technique, such as Electron Microscopy, to confirm unequivocal identity. *NOTE: While Actinolite, Anthophyllite and Tremolite asbestos may be detected by PLM with DS, due to variability in the optical properties of these materials, AS4964 requires that these are reported as UMF unless confirmed by an independent technique.*
Subsampling Soil Samples	The whole sample submitted is first dried and then passed through a 10mm sieve followed by a 2mm sieve. All fibrous matter greater than 10mm, greater than 2mm as well as the material passing through the 2mm sieve are retained and analysed for the presence of asbestos. If the sub 2mm fraction is greater than approximately 30 to 60g then a sub-sampling routine based on ISO 3082:2009(E) is employed. *NOTE: Depending on the nature and size of the soil sample, the sub-2 mm residue material may need to be sub-sampled for trace analysis, in accordance with AS 4964-2004.*
Bonded asbestos-containing material (ACM)	The material is first examined and any fibres isolated for identification by PLM and DS. Where required, interfering matrices may be removed by disintegration using a range of heat, chemical or physical treatments, possibly in combination.The resultant material is then further examined in accordance with AS 4964 - 2004. *NOTE: Even after disintegration it may be difficult to detect the presence of asbestos in some asbestos-containing bulk materials using PLM and DS. This is due to the low grade or small length or diameter of the asbestos fibres present in the material, or to the fact that very fine fibres have been distributed intimately throughout the materials. Vinyl/asbestos floor tiles, some asbestos-containing sealants and mastics, asbestos-containing epoxy resins and some ore samples are examples of these types of material, which are difficult to analyse.*
Limit of Reporting	The performance limitation of the AS 4964 (2004) method for non-homogeneous samples is around 0.1 g/kg (equivalent to 0.01% (w/w)). Where no asbestos is found by PLM and DS, including Trace Analysis, this is considered to be at the nominal reporting limit of 0.01% (w/w). The NEPM screening level of 0.001% (w/w) is intended as an on-site determination, not a laboratory Limit of Reporting (LOR), per se. Examination of a large sample size (e.g. 500 mL) may improve the likelihood of detecting asbestos, particularly AF, to aid assessment against the NEPM criteria. Gravimetric determinations to this level of accuracy are outside of AS 4964 and hence NATA Accreditation does not cover the performance of this service (non-NATA results shown with an asterisk). *NOTE: NATA News March 2014, p.7, states in relation to AS 4964: "This is a qualitative method with a nominal reporting limit of 0.01 % " and that currently in Australia "there is no validated method available for the quantification of asbestos".This report is consistent with the analytical procedures and reporting recommendations in the NEPM and the WA DoH.*

Project Name FISH MARKETS
Project ID 58317
Date Sampled May 04, 2020
Report 717276-AID

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
A-01	20-My03540	May 04, 2020	Approximate Sample 6g / 50x30x3mm Sample consisted of: Black fibrous bituminous material	Chrysotile asbestos detected. Organic fibre detected.
A-02	20-My03541	May 04, 2020	Approximate Sample 24g / 70x30x5mm Sample consisted of: Grey compressed fibre cement fragment	Chrysotile and amosite asbestos detected.
A-03	20-My03542	May 04, 2020	Approximate Sample 10g / 90x20x3mm Sample consisted of: Creamy-white soft rubber-like material	No asbestos detected. No trace asbestos detected.
A-04	20-My03543	May 04, 2020	Approximate Sample 9g / 60x10x5mm Sample consisted of: Grey hard brittle plastic-like material with creamy-white soft rubber-like material	No asbestos detected. No trace asbestos detected.
A-05	20-My03544	May 04, 2020	Approximate Sample 8g Sample consisted of: Brown coarse-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
A-06	20-My03545	May 04, 2020	Approximate Sample 4g / 30x15x5mm Sample consisted of: Creamy-white soft rubber-like material	No asbestos detected. No trace asbestos detected.
A-07	20-My03546	May 04, 2020	Approximate Sample 27g / 90x40x4mm Sample consisted of: Grey compressed fibre cement fragment	Chrysotile and amosite asbestos detected.
A-08	20-My03547	May 04, 2020	Approximate Sample 27g / 80x50x5mm Sample consisted of: Grey compressed fibre cement fragment	Chrysotile and amosite asbestos detected.

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
A-09	20-My03548	May 04, 2020	Approximate Sample 4g / 40x30x3mm Sample consisted of: White-yellow soft fluffy insulation-like material	No asbestos detected. Synthetic mineral fibre detected. No trace asbestos detected.
A-10	20-My03549	May 04, 2020	Approximate Sample 9g / 65x30x4mm Sample consisted of: White compressed fibre cement fragment	Chrysotile and amosite asbestos detected.
A-11	20-My03550	May 04, 2020	Approximate Sample 2g / 90x3x3mm Sample consisted of: Metalic wire coated with black-brown red mastic and red woven-like fibrous material	No asbestos detected. Organic fibre detected. No trace asbestos detected.
A-12	20-My03551	May 04, 2020	Approximate Sample 2g / 80x3x3mm Sample consisted of: Metalic wire coated with black-brown red mastic and white woven-like fibrous material	No asbestos detected. Organic fibre detected. No trace asbestos detected.
AD-01	20-My03552	May 04, 2020	Approximate Sample 9g / 40x30x3mm Sample consisted of: Brown dust, debris, corroded material, cement and plaster material and glass fragments	No asbestos detected at the reporting limit of 0.01% w/w. Synthetic mineral fibre detected. Organic fibre detected. No trace asbestos detected.
AD-02	20-My03553	May 04, 2020	Approximate Sample 6g / 50x40x3mm Sample consisted of: Brown dust, debris and fibrous material	No asbestos detected at the reporting limit of 0.01% w/w. Synthetic mineral fibre detected. Organic fibre detected. No trace asbestos detected.
AD-03	20-My03554	May 04, 2020	Approximate Sample 6g / 60x40x3mm Sample consisted of: Brown dust, debris and fibrous material	No asbestos detected at the reporting limit of 0.01% w/w. Synthetic mineral fibre detected. Organic fibre detected. No trace asbestos detected.
AD-04	20-My03555	May 04, 2020	Approximate Sample 3g / 50x40x3mm Sample consisted of: Brown wood dust, wood chips and fibrous material	No asbestos detected. Organic fibre detected. No trace asbestos detected.
AD-05	20-My03556	May 04, 2020	Approximate Sample 8.2g / 50x30x4mm Sample consisted of: Brown dust, debris, plaster, cement and paint flack-like material	Chrysotile asbestos detected in the form of loose fibre bundles. Approximate raw weight of asbestos = 0.0016g* Total estimated asbestos content in the sample = 0.0015g* Total estimated asbestos concentration = 0.019% w/w* Organic fibre detected. No trace asbestos detected.

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Asbestos - LTM-ASB-8020	Sydney	May 05, 2020	Indefinite
Asbestos - LTM-ASB-8020	Sydney	May 05, 2020	Indefinite

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Site # 1254 & 14271

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NATA # 1261 Site # 18217

Brisbane
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NATA # 1261 Site # 20794

Perth
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Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name: JBS & G Australia (NSW) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000

Project Name: FISH MARKETS
Project ID: 58317

Order No.:
Report #: 717276
Phone: 02 8245 0300
Fax:

Received: May 4, 2020 5:09 PM
Due: May 15, 2020
Priority: 5 Day
Contact Name: Stuart Lumsden

Eurofins Analytical Services Manager : Ursula Long

Sample Detail	Arsenic	Asbestos - AS4964	Asbestos Absence /Presence	Chromium (hexavalent)	Lead	Lead (% w/w)	Organotins (MBT, DBT, TBT)	Polycyclic Aromatic Hydrocarbons	USA Leaching Procedure	Phenols (IWRG 621)
Melbourne Laboratory - NATA Site # 1254 & 14271										
Sydney Laboratory - NATA Site # 18217	X	X	X	X	X	X		X	X	X
Brisbane Laboratory - NATA Site # 20794										
Perth Laboratory - NATA Site # 23736										
External Laboratory							X			

No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID									
1	A-01	May 04, 2020		Building Materials	S20-My03540			X						
2	A-02	May 04, 2020		Building Materials	S20-My03541			X						
3	A-03	May 04, 2020		Building Materials	S20-My03542			X						
4	A-04	May 04, 2020		Building Materials	S20-My03543			X						
5	A-05	May 04, 2020		Building Materials	S20-My03544			X						
6	A-06	May 04, 2020		Building Materials	S20-My03545			X						

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Melbourne Laboratory - NATA Site # 1254 & 14271															
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X		X	X	X
Brisbane Laboratory - NATA Site # 20794															
Perth Laboratory - NATA Site # 23736															
7	A-07	May 04, 2020		Building Materials	S20-My03546			X							
8	A-08	May 04, 2020		Building Materials	S20-My03547			X							
9	A-09	May 04, 2020		Building Materials	S20-My03548			X							
10	A-10	May 04, 2020		Building Materials	S20-My03549			X							
11	A-11	May 04, 2020		Building Materials	S20-My03550			X							
12	A-12	May 04, 2020		Building Materials	S20-My03551			X							
13	AD-01	May 04, 2020		Dust	S20-My03552		X								
14	AD-02	May 04, 2020		Dust	S20-My03553		X								
15	AD-03	May 04, 2020		Dust	S20-My03554		X								

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Melbourne Laboratory - NATA Site # 1254 & 14271															
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X		X	X	X
Brisbane Laboratory - NATA Site # 20794															
Perth Laboratory - NATA Site # 23736															
16	AD-04	May 04, 2020		Dust	S20-My03555		X								
17	AD-05	May 04, 2020		Dust	S20-My03556		X								
18	LD-01	May 04, 2020		Dust	S20-My03557					X					
19	LD-02	May 04, 2020		Dust	S20-My03558					X					
20	LD-03	May 04, 2020		Dust	S20-My03559					X					
21	LD-04	May 04, 2020		Dust	S20-My03560					X					
22	LD-05	May 04, 2020		Dust	S20-My03561					X					
23	LP-01	May 04, 2020		Paint	S20-My03562						X				
24	LP-02	May 04, 2020		Paint	S20-My03563						X				
25	LP-03	May 04, 2020		Paint	S20-My03564						X				
26	LP-04	May 04, 2020		Paint	S20-My03565						X				
27	LP-05	May 04, 2020		Paint	S20-My03566						X				
28	LP-06	May 04, 2020		Paint	S20-My03567						X				

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Rolleston, Christchurch 7675
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IANZ # 1290

Company Name: JBS & G Australia (NSW) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000

Project Name: FISH MARKETS
Project ID: 58317

Order No.:
Report #: 717276
Phone: 02 8245 0300
Fax:

Received: May 4, 2020 5:09 PM
Due: May 15, 2020
Priority: 5 Day
Contact Name: Stuart Lumsden

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Arsenic	Asbestos - AS4964	Asbestos Absence /Presence	Chromium (hexavalent)	Lead	Lead (% w/w)	Organotins (MBT, DBT, TBT)	Polycyclic Aromatic Hydrocarbons	USA Leaching Procedure	Phenols (IWRG 621)
Melbourne Laboratory - NATA Site # 1254 & 14271															
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X		X	X	X
Brisbane Laboratory - NATA Site # 20794															
Perth Laboratory - NATA Site # 23736															
29	LP-07	May 04, 2020		Paint	S20-My03568						X				
30	LP-08	May 04, 2020		Paint	S20-My03569						X				
31	LP-09	May 04, 2020		Paint	S20-My03570						X				
32	T-01	May 04, 2020		Woodchips	S20-My03572	X			X			X	X		X
33	T-02	May 04, 2020		Woodchips	S20-My03573	X			X			X	X		X
34	T-03	May 04, 2020		Woodchips	S20-My03574	X			X			X	X		X
35	T-01	May 04, 2020		US Leachate	S20-My03575	X			X				X	X	X
36	T-02	May 04, 2020		US Leachate	S20-My03576	X			X				X	X	X
37	T-03	May 04, 2020		US Leachate	S20-My03577	X			X				X	X	X
Test Counts						6	5	12	6	5	9	3	6	3	6

Internal Quality Control Review and Glossary

General

1. QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Samples were analysed on an 'as received' basis.
4. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
5. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Advice.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

Units

% w/w: weight for weight basis	grams per kilogram
Filter loading:	fibres/100 graticule areas
Reported Concentration:	fibres/mL
Flowrate:	L/min

Terms

Dry	Sample is dried by heating prior to analysis
LOR	Limit of Reporting
COC	Chain of Custody
SRA	Sample Receipt Advice
ISO	International Standards Organisation
AS	Australian Standards
WA DOH	Reference document for the NEPM. Government of Western Australia, Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia (2009), including supporting document Recommended Procedures for Laboratory Analysis of Asbestos in Soil (2011)
NEPM	National Environment Protection (Assessment of Site Contamination) Measure, 2013 (as amended)
ACM	Asbestos Containing Materials. Asbestos contained within a non-asbestos matrix, typically presented in bonded and/or sound condition. For the purposes of the NEPM, ACM is generally restricted to those materials that do not pass a 7mm x 7mm sieve.
AF	Asbestos Fines. Asbestos containing materials, including friable, weathered and bonded materials, able to pass a 7mm x 7mm sieve. Considered under the NEPM as equivalent to “non-bonded / friable”.
FA	Fibrous Asbestos. Asbestos containing materials in a friable and/or severely weathered condition. For the purposes of the NEPM, FA is generally restricted to those materials that do not pass a 7mm x 7mm sieve.
Friable	Asbestos-containing materials of any size that may be broken or crumbled by hand pressure. For the purposes of the NEPM, this includes both AF and FA. It is outside of the laboratory’s remit to assess degree of friability.
Trace Analysis	Analytical procedure used to detect the presence of respirable fibres in the matrix.

Comments

Organotins analysed by: National Measurement Institute, NATA Accreditation number 198, report reference RN1273728.

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	Yes

Qualifier Codes/Comments

Code	Description
N/A	Not applicable

Asbestos Counter/Identifier:

Sayeed Abu	Senior Analyst-Asbestos (NSW)

Authorised by:

Chamath JHM Annakkage	Senior Analyst-Asbestos (NSW)

Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

JBS & G Australia (NSW) P/L
Level 1, 50 Margaret St
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NSW 2000

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025 – Testing
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Attention: **Stuart Lumsden**

Report **717276-S**
Project name FISH MARKETS
Project ID 58317
Received Date May 04, 2020

Client Sample ID			**LD-01**	**LD-02**	**LD-03**	**LD-04**
Sample Matrix			**Dust**	**Dust**	**Dust**	**Dust**
Eurofins Sample No.			**S20-My03557**	**S20-My03558**	**S20-My03559**	**S20-My03560**
Date Sampled			**May 04, 2020**	**May 04, 2020**	**May 04, 2020**	**May 04, 2020**
Test/Reference	LOR	Unit				
Heavy Metals						
Lead	5	mg/kg	2000	1500	4800	200

Client Sample ID			**LD-05**	**LP-01**	**LP-02**	**LP-03**
Sample Matrix			**Dust**	**Paint**	**Paint**	**Paint**
Eurofins Sample No.			**S20-My03561**	**S20-My03562**	**S20-My03563**	**S20-My03564**
Date Sampled			**May 04, 2020**	**May 04, 2020**	**May 04, 2020**	**May 04, 2020**
Test/Reference	LOR	Unit				
Lead (% w/w)	0.01	%	-	28	26	2.3
Heavy Metals						
Lead	5	mg/kg	1800	-	-	-

Client Sample ID			**LP-04**	**LP-05**	**LP-06**	**LP-07**
Sample Matrix			**Paint**	**Paint**	**Paint**	**Paint**
Eurofins Sample No.			**S20-My03565**	**S20-My03566**	**S20-My03567**	**S20-My03568**
Date Sampled			**May 04, 2020**	**May 04, 2020**	**May 04, 2020**	**May 04, 2020**
Test/Reference	LOR	Unit				
Lead (% w/w)	0.01	%	0.02	0.06	0.26	0.12

Client Sample ID			**LP-08**	**LP-09**	[G01]**T-01**	[G01]**T-02**
Sample Matrix			**Paint**	**Paint**	**Woodchips**	**Woodchips**
Eurofins Sample No.			**S20-My03569**	**S20-My03570**	**S20-My03572**	**S20-My03573**
Date Sampled			**May 04, 2020**	**May 04, 2020**	**May 04, 2020**	**May 04, 2020**
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	< 2.5	< 2.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	3.0	3.0
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	6.1	6.1
Acenaphthene	0.5	mg/kg	-	-	< 2.5	< 2.5
Acenaphthylene	0.5	mg/kg	-	-	< 2.5	< 2.5

Client Sample ID			LP-08	LP-09	[G01]T-01	[G01]T-02
Sample Matrix			Paint	Paint	Woodchips	Woodchips
Eurofins Sample No.			S20-My03569	S20-My03570	S20-My03572	S20-My03573
Date Sampled			May 04, 2020	May 04, 2020	May 04, 2020	May 04, 2020
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Anthracene	0.5	mg/kg	-	-	< 2.5	< 2.5
Benz(a)anthracene	0.5	mg/kg	-	-	< 2.5	< 2.5
Benzo(a)pyrene	0.5	mg/kg	-	-	< 2.5	< 2.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	< 2.5	< 2.5
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	< 2.5	< 2.5
Benzo(k)fluoranthene	0.5	mg/kg	-	-	< 2.5	< 2.5
Chrysene	0.5	mg/kg	-	-	< 2.5	< 2.5
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	< 2.5	< 2.5
Fluoranthene	0.5	mg/kg	-	-	< 2.5	< 2.5
Fluorene	0.5	mg/kg	-	-	< 2.5	< 2.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	< 2.5	< 2.5
Naphthalene	0.5	mg/kg	-	-	< 2.5	< 2.5
Phenanthrene	0.5	mg/kg	-	-	< 2.5	< 2.5
Pyrene	0.5	mg/kg	-	-	< 2.5	< 2.5
Total PAH*	0.5	mg/kg	-	-	< 2.5	< 2.5
2-Fluorobiphenyl (surr.)	1	%	-	-	86	93
p-Terphenyl-d14 (surr.)	1	%	-	-	86	92
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	< 2.5	< 2.5
2.4-Dichlorophenol	0.5	mg/kg	-	-	< 2.5	< 2.5
2.4.5-Trichlorophenol	1	mg/kg	-	-	< 5	< 5
2.4.6-Trichlorophenol	1	mg/kg	-	-	< 5	< 5
2.6-Dichlorophenol	0.5	mg/kg	-	-	< 2.5	< 2.5
4-Chloro-3-methylphenol	1	mg/kg	-	-	< 5	< 5
Pentachlorophenol	1	mg/kg	-	-	< 5	< 5
Tetrachlorophenols - Total	10	mg/kg	-	-	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	-	-	< 5	< 5
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	< 75	< 75
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	< 25	< 25
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	< 2.5	< 2.5
2-Nitrophenol	1	mg/kg	-	-	< 5	< 5
2.4-Dimethylphenol	0.5	mg/kg	-	-	< 2.5	< 2.5
2.4-Dinitrophenol	5	mg/kg	-	-	< 25	< 25
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	< 5	< 5
4-Nitrophenol	5	mg/kg	-	-	< 25	< 25
Dinoseb	20	mg/kg	-	-	< 75	< 75
Phenol	0.5	mg/kg	-	-	< 2.5	< 2.5
Total Non-Halogenated Phenol*	20	mg/kg	-	-	< 75	< 75
Phenol-d6 (surr.)	1	%	-	-	100	107
Chromium (hexavalent)	1	mg/kg	-	-	< 1	< 1
Lead (% w/w)	0.01	%	0.72	14	-	-
Organotins (MBT, DBT, TBT)			-	-	See attached	See attached
Heavy Metals						
Arsenic	2	mg/kg	-	-	< 2	< 2

Client Sample ID			G01T-03
Sample Matrix			Woodchips
Eurofins Sample No.			S20-My03574
Date Sampled			May 04, 2020
Test/Reference	LOR	Unit	
Polycyclic Aromatic Hydrocarbons			
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 2.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	3.0
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	6.1
Acenaphthene	0.5	mg/kg	< 2.5
Acenaphthylene	0.5	mg/kg	< 2.5
Anthracene	0.5	mg/kg	< 2.5
Benz(a)anthracene	0.5	mg/kg	< 2.5
Benzo(a)pyrene	0.5	mg/kg	< 2.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 2.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 2.5
Benzo(k)fluoranthene	0.5	mg/kg	< 2.5
Chrysene	0.5	mg/kg	< 2.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 2.5
Fluoranthene	0.5	mg/kg	< 2.5
Fluorene	0.5	mg/kg	< 2.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 2.5
Naphthalene	0.5	mg/kg	< 2.5
Phenanthrene	0.5	mg/kg	< 2.5
Pyrene	0.5	mg/kg	< 2.5
Total PAH*	0.5	mg/kg	< 2.5
2-Fluorobiphenyl (surr.)	1	%	90
p-Terphenyl-d14 (surr.)	1	%	91
Phenols (Halogenated)			
2-Chlorophenol	0.5	mg/kg	< 2.5
2.4-Dichlorophenol	0.5	mg/kg	< 2.5
2.4.5-Trichlorophenol	1	mg/kg	< 5
2.4.6-Trichlorophenol	1	mg/kg	< 5
2.6-Dichlorophenol	0.5	mg/kg	< 2.5
4-Chloro-3-methylphenol	1	mg/kg	< 5
Pentachlorophenol	1	mg/kg	< 5
Tetrachlorophenols - Total	10	mg/kg	< 10
Total Halogenated Phenol*	1	mg/kg	< 5
Phenols (non-Halogenated)			
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 75
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 25
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 2.5
2-Nitrophenol	1	mg/kg	< 5
2.4-Dimethylphenol	0.5	mg/kg	< 2.5
2.4-Dinitrophenol	5	mg/kg	< 25
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 5
4-Nitrophenol	5	mg/kg	< 25
Dinoseb	20	mg/kg	< 75
Phenol	0.5	mg/kg	< 2.5
Total Non-Halogenated Phenol*	20	mg/kg	< 75
Phenol-d6 (surr.)	1	%	104
Chromium (hexavalent)	1	mg/kg	< 1
Organotins (MBT, DBT, TBT)			See attached
Heavy Metals			
Arsenic	2	mg/kg	< 2

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Polycyclic Aromatic Hydrocarbons	Sydney	May 06, 2020	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Chromium (hexavalent)	Sydney	May 06, 2020	28 Days
- Method: In-house method E057.2			
Lead (% w/w)	Sydney	May 05, 2020	6 Month
- Method: E022.5 - ACID EXTRACTABLE METALS IN PAINT IN LIQUID AND POWDERED FORM BY ICP-MS ANALYSIS			
Heavy Metals	Sydney	May 06, 2020	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Phenols (Halogenated)	Sydney	May 06, 2020	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (non-Halogenated)	Sydney	May 06, 2020	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			

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Project Name: FISH MARKETS
Project ID: 58317

Order No.:
Report #: 717276
Phone: 02 8245 0300
Fax:

Received: May 4, 2020 5:09 PM
Due: May 11, 2020
Priority: 5 Day
Contact Name: Stuart Lumsden

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Arsenic	Asbestos - AS4964	Asbestos Absence /Presence	Chromium (hexavalent)	Lead	Lead (% w/w)	Organotins (MBT, DBT, TBT)	Polycyclic Aromatic Hydrocarbons	USA Leaching Procedure	Phenols (IWRG 621)
Melbourne Laboratory - NATA Site # 1254 & 14271															
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X		X	X	X
Brisbane Laboratory - NATA Site # 20794															
Perth Laboratory - NATA Site # 23736															
External Laboratory												X			
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**										
1	A-01	May 04, 2020		Building Materials	S20-My03540			X							
2	A-02	May 04, 2020		Building Materials	S20-My03541			X							
3	A-03	May 04, 2020		Building Materials	S20-My03542			X							
4	A-04	May 04, 2020		Building Materials	S20-My03543			X							
5	A-05	May 04, 2020		Building Materials	S20-My03544			X							
6	A-06	May 04, 2020		Building Materials	S20-My03545			X							

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Melbourne Laboratory - NATA Site # 1254 & 14271															
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X		X	X	X
Brisbane Laboratory - NATA Site # 20794															
Perth Laboratory - NATA Site # 23736															
7	A-07	May 04, 2020		Building Materials	S20-My03546			X							
8	A-08	May 04, 2020		Building Materials	S20-My03547			X							
9	A-09	May 04, 2020		Building Materials	S20-My03548			X							
10	A-10	May 04, 2020		Building Materials	S20-My03549			X							
11	A-11	May 04, 2020		Building Materials	S20-My03550			X							
12	A-12	May 04, 2020		Building Materials	S20-My03551			X							
13	AD-01	May 04, 2020		Dust	S20-My03552		X								
14	AD-02	May 04, 2020		Dust	S20-My03553		X								
15	AD-03	May 04, 2020		Dust	S20-My03554		X								

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Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Arsenic	Asbestos - AS4964	Asbestos Absence /Presence	Chromium (hexavalent)	Lead	Lead (% w/w)	Organotins (MBT, DBT, TBT)	Polycyclic Aromatic Hydrocarbons	USA Leaching Procedure	Phenols (IWRG 621)
Melbourne Laboratory - NATA Site # 1254 & 14271															
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X		X	X	X
Brisbane Laboratory - NATA Site # 20794															
Perth Laboratory - NATA Site # 23736															
16	AD-04	May 04, 2020		Dust	S20-My03555		X								
17	AD-05	May 04, 2020		Dust	S20-My03556		X								
18	LD-01	May 04, 2020		Dust	S20-My03557					X					
19	LD-02	May 04, 2020		Dust	S20-My03558					X					
20	LD-03	May 04, 2020		Dust	S20-My03559					X					
21	LD-04	May 04, 2020		Dust	S20-My03560					X					
22	LD-05	May 04, 2020		Dust	S20-My03561					X					
23	LP-01	May 04, 2020		Paint	S20-My03562						X				
24	LP-02	May 04, 2020		Paint	S20-My03563						X				
25	LP-03	May 04, 2020		Paint	S20-My03564						X				
26	LP-04	May 04, 2020		Paint	S20-My03565						X				
27	LP-05	May 04, 2020		Paint	S20-My03566						X				
28	LP-06	May 04, 2020		Paint	S20-My03567						X				

eurofins | Environment Testing

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Company Name: JBS & G Australia (NSW) P/L
Address: Level 1, 50 Margaret St
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NSW 2000

Project Name: FISH MARKETS
Project ID: 58317

Order No.:
Report #: 717276
Phone: 02 8245 0300
Fax:

Received: May 4, 2020 5:09 PM
Due: May 11, 2020
Priority: 5 Day
Contact Name: Stuart Lumsden

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Arsenic	Asbestos - AS4964	Asbestos Absence /Presence	Chromium (hexavalent)	Lead	Lead (% w/w)	Organotins (MBT, DBT, TBT)	Polycyclic Aromatic Hydrocarbons	USA Leaching Procedure	Phenols (IWRG 621)
Melbourne Laboratory - NATA Site # 1254 & 14271															
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X		X	X	X
Brisbane Laboratory - NATA Site # 20794															
Perth Laboratory - NATA Site # 23736															
29	LP-07	May 04, 2020		Paint	S20-My03568						X				
30	LP-08	May 04, 2020		Paint	S20-My03569						X				
31	LP-09	May 04, 2020		Paint	S20-My03570						X				
32	T-01	May 04, 2020		Woodchips	S20-My03572	X			X			X	X		X
33	T-02	May 04, 2020		Woodchips	S20-My03573	X			X			X	X		X
34	T-03	May 04, 2020		Woodchips	S20-My03574	X			X			X	X		X
35	T-01	May 04, 2020		US Leachate	S20-My03575	X			X			X	X	X	X
36	T-02	May 04, 2020		US Leachate	S20-My03576	X			X			X	X	X	X
37	T-03	May 04, 2020		US Leachate	S20-My03577	X			X			X	X	X	X
Test Counts						6	5	12	6	5	9	6	6	3	6

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****NOTE:** pH duplicates are reported as a range NOT as RPD

Units

mg/kg: milligrams per kilogram

mg/L: milligrams per litre

ug/L: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100mL: Organisms per 100 millilitres

NTU: Nephelometric Turbidity Units

MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4.5-Trichlorophenol	mg/kg	< 1			1	Pass	
2.4.6-Trichlorophenol	mg/kg	< 1			1	Pass	
2.6-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
4-Chloro-3-methylphenol	mg/kg	< 1			1	Pass	
Pentachlorophenol	mg/kg	< 1			1	Pass	
Tetrachlorophenols - Total	mg/kg	< 10			10	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/kg	< 20			20	Pass	
2-Methyl-4.6-dinitrophenol	mg/kg	< 5			5	Pass	
2-Methylphenol (o-Cresol)	mg/kg	< 0.2			0.2	Pass	
2-Nitrophenol	mg/kg	< 1			1	Pass	
2.4-Dimethylphenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dinitrophenol	mg/kg	< 5			5	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/kg	< 0.4			0.4	Pass	
4-Nitrophenol	mg/kg	< 5			5	Pass	
Dinoseb	mg/kg	< 20			20	Pass	
Phenol	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Chromium (hexavalent)	mg/kg	< 1			1	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	123			70-130	Pass	
Acenaphthylene	%	127			70-130	Pass	
Anthracene	%	124			70-130	Pass	
Benz(a)anthracene	%	120			70-130	Pass	
Benzo(a)pyrene	%	123			70-130	Pass	
Benzo(b&j)fluoranthene	%	122			70-130	Pass	
Benzo(g.h.i)perylene	%	123			70-130	Pass	
Benzo(k)fluoranthene	%	124			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Chrysene	%	112			70-130	Pass	
Dibenz(a.h)anthracene	%	129			70-130	Pass	
Fluoranthene	%	123			70-130	Pass	
Fluorene	%	121			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	124			70-130	Pass	
Naphthalene	%	120			70-130	Pass	
Phenanthrene	%	124			70-130	Pass	
Pyrene	%	120			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	96			30-130	Pass	
2.4-Dichlorophenol	%	97			30-130	Pass	
2.4.5-Trichlorophenol	%	120			30-130	Pass	
2.4.6-Trichlorophenol	%	94			30-130	Pass	
2.6-Dichlorophenol	%	102			30-130	Pass	
4-Chloro-3-methylphenol	%	94			30-130	Pass	
Pentachlorophenol	%	105			30-130	Pass	
Tetrachlorophenols - Total	%	105			30-130	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	%	108			30-130	Pass	
2-Methyl-4.6-dinitrophenol	%	111			30-130	Pass	
2-Methylphenol (o-Cresol)	%	98			30-130	Pass	
2-Nitrophenol	%	110			30-130	Pass	
2.4-Dimethylphenol	%	96			30-130	Pass	
2.4-Dinitrophenol	%	125			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)	%	99			30-130	Pass	
4-Nitrophenol	%	111			30-130	Pass	
Dinoseb	%	108			30-130	Pass	
Phenol	%	97			30-130	Pass	
LCS - % Recovery							
Chromium (hexavalent)	%	97			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Lead	S20-Ap45491	NCP	mg/kg	24	17	34	30%	Fail	Q15
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	S20-My12611	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	S20-My12611	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	S20-My12611	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	S20-My12611	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	S20-My12611	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	S20-My12611	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	S20-My12611	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	S20-My12611	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	S20-My12611	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	S20-My12611	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	S20-My12611	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	S20-My12611	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S20-My12611	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	S20-My12611	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	S20-My12611	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	S20-My12611	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
				Result 1	Result 2	RPD			
Chromium (hexavalent)	S20-My03572	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S20-My05901	NCP	mg/kg	< 2	< 2	<1	30%	Pass	

Comments

Organotins analysed by: National Measurement Institute, NATA Accreditation number 198, report reference RN1273728.

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	Yes

Qualifier Codes/Comments

Code	Description
G01	The LORs have been raised due to matrix interference
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised By

Ursula Long	Analytical Services Manager
Andrew Sullivan	Senior Analyst-Organic (NSW)
Gabriele Cordero	Senior Analyst-Inorganic (NSW)
Gabriele Cordero	Senior Analyst-Metal (NSW)
Nibha Vaidya	Senior Analyst-Asbestos (NSW)

Glenn Jackson
General Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

JBS & G Australia (NSW) P/L
Level 1, 50 Margaret St
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NSW 2000

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025 – Testing
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Attention: **Stuart Lumsden**

Report **717276-L**
Project name FISH MARKETS
Project ID 58317
Received Date May 04, 2020

Client Sample ID			G01 **T-01**	G01 **T-02**	G01 **T-03**
Sample Matrix			**US Leachate**	**US Leachate**	**US Leachate**
Eurofins Sample No.			**S20-My03575**	**S20-My03576**	**S20-My03577**
Date Sampled			**May 04, 2020**	**May 04, 2020**	**May 04, 2020**
Test/Reference	LOR	Unit			
Polycyclic Aromatic Hydrocarbons					
Acenaphthene	0.001	mg/L	< 0.001	< 0.001	< 0.001
Acenaphthylene	0.001	mg/L	< 0.001	< 0.001	< 0.001
Anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001
Benz(a)anthracene	0.001	mg/L	< 0.002	< 0.002	< 0.002
Benzo(a)pyrene	0.001	mg/L	< 0.002	< 0.002	< 0.002
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	< 0.002	< 0.002	< 0.002
Benzo(g.h.i)perylene	0.001	mg/L	< 0.002	< 0.002	< 0.002
Benzo(k)fluoranthene	0.001	mg/L	< 0.002	< 0.002	< 0.002
Chrysene	0.001	mg/L	< 0.002	< 0.002	< 0.002
Dibenz(a.h)anthracene	0.001	mg/L	< 0.002	< 0.002	< 0.002
Fluoranthene	0.001	mg/L	< 0.002	< 0.002	< 0.002
Fluorene	0.001	mg/L	< 0.001	< 0.001	< 0.001
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.002	< 0.002	< 0.002
Naphthalene	0.001	mg/L	< 0.001	< 0.001	< 0.001
Phenanthrene	0.001	mg/L	< 0.001	< 0.001	< 0.001
Pyrene	0.001	mg/L	< 0.002	< 0.002	< 0.002
Total PAH*	0.001	mg/L	< 0.002	< 0.002	< 0.002
2-Fluorobiphenyl (surr.)	1	%	68	86	58
p-Terphenyl-d14 (surr.)	1	%	INT	INT	INT
Phenols (Halogenated)					
2-Chlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003
2.4-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003
2.4.5-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01
2.4.6-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01
2.6-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003
4-Chloro-3-methylphenol	0.01	mg/L	< 0.01	< 0.01	< 0.01
Pentachlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01
Tetrachlorophenols - Total	0.03	mg/L	< 0.03	< 0.03	< 0.03
Total Halogenated Phenol*	0.01	mg/L	< 0.01	< 0.01	< 0.01
Phenols (non-Halogenated)					
2-Cyclohexyl-4.6-dinitrophenol	0.1	mg/L	< 0.1	< 0.1	< 0.1
2-Methyl-4.6-dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03
2-Methylphenol (o-Cresol)	0.003	mg/L	< 0.003	< 0.003	< 0.003
2-Nitrophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01
2.4-Dimethylphenol	0.003	mg/L	< 0.003	< 0.003	< 0.003

Client Sample ID			G01T-01	G01T-02	G01T-03
Sample Matrix			**US Leachate**	**US Leachate**	**US Leachate**
Eurofins Sample No.			**S20-My03575**	**S20-My03576**	**S20-My03577**
Date Sampled			**May 04, 2020**	**May 04, 2020**	**May 04, 2020**
Test/Reference	LOR	Unit			
Phenols (non-Halogenated)					
2.4-Dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	< 0.006	< 0.006	< 0.006
4-Nitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03
Dinoseb	0.1	mg/L	< 0.1	< 0.1	< 0.1
Phenol	0.003	mg/L	< 0.003	< 0.003	< 0.003
Total Non-Halogenated Phenol*	0.1	mg/L	< 0.1	< 0.1	< 0.1
Phenol-d6 (surr.)	1	%	INT	21	20
Chromium (hexavalent)	0.005	mg/L	< 0.005	< 0.005	< 0.005
Heavy Metals					
Arsenic	0.01	mg/L	< 0.01	< 0.01	< 0.01
USA Leaching Procedure					
Leachate Fluid[C01]		comment	1.0	1.0	1.0
pH (initial)	0.1	pH Units	2.9	3.3	3.1
pH (off)	0.1	pH Units	5.1	5.0	5.0
pH (USA HCl addition)	0.1	pH Units	1.6	1.6	1.6

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Polycyclic Aromatic Hydrocarbons	Sydney	May 06, 2020	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Chromium (hexavalent)	Sydney	May 06, 2020	28 Days
- Method: In-house method E057.2			
Heavy Metals	Sydney	May 06, 2020	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
USA Leaching Procedure	Sydney	May 06, 2020	14 Days
- Method: LTM-GEN-7010 Leaching Procedure for Soils & Solid Wastes			
Phenols (Halogenated)	Sydney	May 06, 2020	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (non-Halogenated)	Sydney	May 06, 2020	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			

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Company Name: JBS & G Australia (NSW) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000

Project Name: FISH MARKETS
Project ID: 58317

Order No.:
Report #: 717276
Phone: 02 8245 0300
Fax:

Received: May 4, 2020 5:09 PM
Due: May 11, 2020
Priority: 5 Day
Contact Name: Stuart Lumsden

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Arsenic	Asbestos - AS4964	Asbestos Absence /Presence	Chromium (hexavalent)	Lead	Lead (% w/w)	Organotins (MBT, DBT, TBT)	Polycyclic Aromatic Hydrocarbons	USA Leaching Procedure	Phenols (IWRG 621)
Melbourne Laboratory - NATA Site # 1254 & 14271															
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X		X	X	X
Brisbane Laboratory - NATA Site # 20794															
Perth Laboratory - NATA Site # 23736															
External Laboratory												X			
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**										
1	A-01	May 04, 2020		Building Materials	S20-My03540			X							
2	A-02	May 04, 2020		Building Materials	S20-My03541			X							
3	A-03	May 04, 2020		Building Materials	S20-My03542			X							
4	A-04	May 04, 2020		Building Materials	S20-My03543			X							
5	A-05	May 04, 2020		Building Materials	S20-My03544			X							
6	A-06	May 04, 2020		Building Materials	S20-My03545			X							

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Melbourne Laboratory - NATA Site # 1254 & 14271															
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X		X	X	X
Brisbane Laboratory - NATA Site # 20794															
Perth Laboratory - NATA Site # 23736															
7	A-07	May 04, 2020		Building Materials	S20-My03546			X							
8	A-08	May 04, 2020		Building Materials	S20-My03547			X							
9	A-09	May 04, 2020		Building Materials	S20-My03548			X							
10	A-10	May 04, 2020		Building Materials	S20-My03549			X							
11	A-11	May 04, 2020		Building Materials	S20-My03550			X							
12	A-12	May 04, 2020		Building Materials	S20-My03551			X							
13	AD-01	May 04, 2020		Dust	S20-My03552		X								
14	AD-02	May 04, 2020		Dust	S20-My03553		X								
15	AD-03	May 04, 2020		Dust	S20-My03554		X								

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Melbourne Laboratory - NATA Site # 1254 & 14271															
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X		X	X	X
Brisbane Laboratory - NATA Site # 20794															
Perth Laboratory - NATA Site # 23736															
16	AD-04	May 04, 2020		Dust	S20-My03555		X								
17	AD-05	May 04, 2020		Dust	S20-My03556		X								
18	LD-01	May 04, 2020		Dust	S20-My03557					X					
19	LD-02	May 04, 2020		Dust	S20-My03558					X					
20	LD-03	May 04, 2020		Dust	S20-My03559					X					
21	LD-04	May 04, 2020		Dust	S20-My03560					X					
22	LD-05	May 04, 2020		Dust	S20-My03561					X					
23	LP-01	May 04, 2020		Paint	S20-My03562						X				
24	LP-02	May 04, 2020		Paint	S20-My03563						X				
25	LP-03	May 04, 2020		Paint	S20-My03564						X				
26	LP-04	May 04, 2020		Paint	S20-My03565						X				
27	LP-05	May 04, 2020		Paint	S20-My03566						X				
28	LP-06	May 04, 2020		Paint	S20-My03567						X				

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Melbourne Laboratory - NATA Site # 1254 & 14271															
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X		X	X	X
Brisbane Laboratory - NATA Site # 20794															
Perth Laboratory - NATA Site # 23736															
29	LP-07	May 04, 2020		Paint	S20-My03568						X				
30	LP-08	May 04, 2020		Paint	S20-My03569						X				
31	LP-09	May 04, 2020		Paint	S20-My03570						X				
32	T-01	May 04, 2020		Woodchips	S20-My03572	X			X			X	X		X
33	T-02	May 04, 2020		Woodchips	S20-My03573	X			X			X	X		X
34	T-03	May 04, 2020		Woodchips	S20-My03574	X			X			X	X		X
35	T-01	May 04, 2020		US Leachate	S20-My03575	X			X			X	X	X	X
36	T-02	May 04, 2020		US Leachate	S20-My03576	X			X			X	X	X	X
37	T-03	May 04, 2020		US Leachate	S20-My03577	X			X			X	X	X	X
Test Counts						6	5	12	6	5	9	6	6	3	6

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****NOTE:** pH duplicates are reported as a range NOT as RPD

Units

mg/kg: milligrams per kilogram

mg/L: milligrams per litre

ug/L: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100mL: Organisms per 100 millilitres

NTU: Nephelometric Turbidity Units

MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Heavy Metals							
Arsenic	mg/L	< 0.01			0.01	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	113			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S20-My11582	NCP	%	114			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	S20-My03576	CP	%	99			70-130	Pass	
Acenaphthylene	S20-My03576	CP	%	92			70-130	Pass	
Anthracene	S20-My03576	CP	%	85			70-130	Pass	
Benz(a)anthracene	S20-My03576	CP	%	75			70-130	Pass	
Benzo(a)pyrene	S20-My03576	CP	%	77			70-130	Pass	
Benzo(b&j)fluoranthene	S20-My03576	CP	%	70			70-130	Pass	
Benzo(g.h.i)perylene	S20-My03576	CP	%	93			70-130	Pass	
Benzo(k)fluoranthene	S20-My03576	CP	%	74			70-130	Pass	
Chrysene	S20-My03576	CP	%	76			70-130	Pass	
Dibenz(a.h)anthracene	S20-My03576	CP	%	81			70-130	Pass	
Fluoranthene	S20-My03576	CP	%	77			70-130	Pass	
Fluorene	S20-My03576	CP	%	83			70-130	Pass	
Indeno(1.2.3-cd)pyrene	S20-My03576	CP	%	88			70-130	Pass	
Naphthalene	S20-My03576	CP	%	74			70-130	Pass	
Phenanthrene	S20-My03576	CP	%	89			70-130	Pass	
Pyrene	S20-My03576	CP	%	74			70-130	Pass	
Spike - % Recovery									
Phenols (Halogenated)				Result 1					
2-Chlorophenol	S20-My03576	CP	%	66			30-130	Pass	
2.4-Dichlorophenol	S20-My03576	CP	%	105			30-130	Pass	
2.6-Dichlorophenol	S20-My03576	CP	%	101			30-130	Pass	
4-Chloro-3-methylphenol	S20-My03576	CP	%	125			30-130	Pass	
Tetrachlorophenols - Total	S20-My03576	CP	%	114			30-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2-Cyclohexyl-4.6-dinitrophenol	S20-My03576	CP	%	62			30-130	Pass	
2-Methyl-4.6-dinitrophenol	S20-My03576	CP	%	85			30-130	Pass	
2-Methylphenol (o-Cresol)	S20-My03576	CP	%	70			30-130	Pass	
2-Nitrophenol	S20-My03576	CP	%	114			30-130	Pass	
2.4-Dimethylphenol	S20-My03576	CP	%	96			30-130	Pass	
2.4-Dinitrophenol	S20-My03576	CP	%	57			70-130	Fail	Q08
3&4-Methylphenol (m&p-Cresol)	S20-My03576	CP	%	64			30-130	Pass	
4-Nitrophenol	S20-My03576	CP	%	29			30-130	Fail	Q08
Dinoseb	S20-My03576	CP	%	89			30-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	S20-My03575	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Acenaphthylene	S20-My03575	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Anthracene	S20-My03575	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benz(a)anthracene	S20-My03575	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Benzo(a)pyrene	S20-My03575	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Benzo(b&j)fluoranthene	S20-My03575	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Benzo(g.h.i)perylene	S20-My03575	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Benzo(k)fluoranthene	S20-My03575	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Chrysene	S20-My03575	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Dibenz(a.h)anthracene	S20-My03575	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Fluoranthene	S20-My03575	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Fluorene	S20-My03575	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S20-My03575	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Naphthalene	S20-My03575	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Phenanthrene	S20-My03575	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Pyrene	S20-My03575	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	S20-My03575	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4-Dichlorophenol	S20-My03575	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4.5-Trichlorophenol	S20-My03575	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.4.6-Trichlorophenol	S20-My03575	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.6-Dichlorophenol	S20-My03575	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
4-Chloro-3-methylphenol	S20-My03575	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Pentachlorophenol	S20-My03575	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Tetrachlorophenols - Total	S20-My03575	CP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	S20-My03575	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	S20-My03575	CP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
2-Methylphenol (o-Cresol)	S20-My03575	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2-Nitrophenol	S20-My03575	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.4-Dimethylphenol	S20-My03575	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4-Dinitrophenol	S20-My03575	CP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	S20-My03575	CP	mg/L	< 0.006	< 0.006	<1	30%	Pass	
4-Nitrophenol	S20-My03575	CP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
Dinoseb	S20-My03575	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Phenol	S20-My03575	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S20-My12228	NCP	mg/L	0.02	0.02	11	30%	Pass	

Comments

Organotins analysed by: National Measurement Institute, NATA Accreditation number 198, report reference RN1273728.

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	Yes

Qualifier Codes/Comments

Code	Description
C01	Leachate Fluid Key: 1 - pH 5.0; 2 - pH 2.9; 3 - pH 9.2; 4 - Reagent (DI) water; 5 - Client sample, 6 - other
G01	The LORs have been raised due to matrix interference
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
Q08	The matrix spike recovery is outside of the recommended acceptance criteria. An acceptable recovery was obtained for the laboratory control sample indicating a sample matrix interference.

Authorised By

Ursula Long	Analytical Services Manager
Andrew Sullivan	Senior Analyst-Organic (NSW)
Gabriele Cordero	Senior Analyst-Inorganic (NSW)
Gabriele Cordero	Senior Analyst-Metal (NSW)

Glenn Jackson
General Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

REPORT OF ANALYSIS

Client	: EUROFINS MGT	**Job No.**	: EURO26/200506
	6 Monterey Road	**Quote No.**	: QT-02018
	Dandenong South VIC 3175	**Order No.**	: 19-434-897-717276
		Date Received	: 06-MAY-2020
Attention	: URSULA LONG	**Sampled By**	: CLIENT
Project Name	:		
Your Client Services Manager	: Tim Reddan	**Phone**	: 03 9644 4854

Lab Reg No.	Sample Ref	Sample Description
N20/010513	S20-MY03572	WOODCHIPS T-01
N20/010514	S20-MY03573	WOODCHIPS T-02
N20/010515	S20-MY03574	WOODCHIPS T-03

Lab Reg No.		N20/010513	N20/010514	N20/010515		
Date Sampled		04-MAY-2020	04-MAY-2020	04-MAY-2020		
Sample Reference	Units	S20-MY03572	S20-MY03573	S20-MY03574		Method
Organotins						
Monobutyltin as Sn	ng/g	<0.5	<0.5	<0.5		NR_35
Dibutyltin as Sn	ng/g	<0.5	<0.5	<0.5		NR_35
Tributyltin as Sn	ng/g	<0.5	<0.5	<0.5		NR_35
Surrogate: Tripropyltin	%REC	102	90	94		NR_35
Dates						
Date extracted		13-MAY-2020	13-MAY-2020	13-MAY-2020		
Date analysed		13-MAY-2020	13-MAY-2020	13-MAY-2020		

Danny Slee, Section Manager
Organic - NSW
Accreditation No. 198

15-MAY-2020

ACCREDITED FOR TECHNICAL COMPETENCE

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This report shall not be reproduced except in full.
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REPORT OF ANALYSIS

This Report supersedes reports: *RN1273716*

Measurement Uncertainty is available upon request.
Chemical Accreditation 198: 105 Delhi Road, North Ryde, NSW, 2113

Document Distribution

Rev No.	Copies	Recipient	Date
0	1 x Electronic	Jennifer Chang	18/5/2020

Document Status

Rev No.	Author	Reviewer	Approved for Issue		
		Name	Name	Signature	Date
0	Stuart Lumsden	Michael Samuel	Michael Samuel		18/5/2020

APPENDIX C – THIRD PARTY REVIEW OF HAZARDOUS MATERIALS MANAGEMENT PLAN

Summary of Review Recommendations for Liberty Industrial Hazardous Materials Management Plan for the Sydney Fish Markets.

No.	Title	Wording	Preferred wording / Comments	Page Number
Hazardous Materials Management Plan – Revision A, 29/7/2020.				
1	Requirements, Table 1-2, B28, a.	Ensure the development complies with the NSW Occupational Health and Safety Regulation 2001.	This is old legislation that is no longer in force.	Page 5
1	Requirements, Table 1-2, B28, b.	Be consistent with Safe Work Australia's codes of practice…….	These codes of practice have been updated. SafeWork NSW has the current codes on their website dated 2019.	Page 1
2	GLOSSARY AND ACRONYMS - PASS	Potential Acid Sulphate Soils (PASS): Are soils that contain iron sulphide…….	I believe this is meant to say they have the 'potential' to produce sulphuric acid.	Page 6
5	Key Legislation – dot point 2.	Work Health and Safety Regulation 2011.	This is now 2017.	Page 8
6.2	Asbestos	Asbestos is the generic term …… relates to the first 7 paragraphs.	Is the history of asbestos and its uses relevant in a site-specific document for managing hazardous materials?	Page 9

Summary of Review Recommendations for Liberty Industrial Hazardous Materials Management Plan for the Sydney Fish Markets.

No.	Title	Wording	Preferred wording / Comments	Page Number
6.3	Lead	Minimising the generation of lead dust and fumes.	How is this going to occur?	Page 11
6.3	Lead	Wearing the appropriate PPE such as gloves, and maintaining good personal hygiene.	What are the appropriate PPE and personal hygiene requirements?	Page 11
6.4	Polychlorinated Biphenyls	Title	Have PCB's been identified at the site? If so, include under here as a register same as asbestos and lead.	Page 12
6.5	Synthetic mineral Fibres	PPE such as P2 dust masks and coveralls if required ….	What type of P2 dust mask. disposable or non-disposable. Half face or full face. PAPR etc.	Page 12
6.5	Synthetic Mineral Fibres	Suspected SMF materials were identified in various forms throughout the site….	Include a register in this section same as asbestos and lead above.	Page 12

Summary of Review Recommendations for Liberty Industrial Hazardous Materials Management Plan for the Sydney Fish Markets.

No.	Title	Wording	Preferred wording / Comments	Page Number
6.6	Ozone Depleting Substances	Title	Are there ozone depleting substances? What types of plant are they used in.	Page 12
6.7	Acid Sulphate Soils	Title	Are ASS identified onsite? If so include in register. Is aglime going to be stored onsite in case of unexpected find? If so where, how etc.	Page 12
7	Offsite Disposal	Dot point 1 (see the waste that must be tracked fact sheet and the current list of exemptions)..	Would the specific waste for this project be better listed here instead of having to refer to a fact sheet.	Page 13
9.1	Storing Hazardous Substances	Title	What hazardous chemicals will be onsite and where, how stored. Should be specific to the site and not what one must consider.	Page 13

Summary of Review Recommendations for Liberty Industrial Hazardous Materials Management Plan for the Sydney Fish Markets.

No.	Title	Wording	Preferred wording / Comments	Page Number
9.2.2	Clean up the spill	Once the spill has been contained, retrieve as much of the spilled liquid as possible and place in an appropriate container (eg. 20L drum or 1000L pod)	Will drums and or containers be available onsite? Where, what size etc	Page 15
9.3	Spill response Kits	Clearly labelled Spill Response Kits containing the appropriate spill response equipment will be available at the appropriate locations.	Where located, what do they contain?	Page 15
11	Methodology of Handling Hazardous Materials	Title	Again, what hazardous materials will be onsite that will require handling?	Page 16
11.2	Treatment of ASS	Title	Same comment as for haz substances above.	Page 16

Summary of Review Recommendations for Liberty Industrial Hazardous Materials Management Plan for the Sydney Fish Markets.

No.	Title	Wording	Preferred wording / Comments	Page Number
11.3	Removal of lead	Dot point 3. Removal of paint systems in poor condition via soft water blasting..	Maybe rephrase the word blasting, as 'soft' and 'blasting' are opposite to each other.	Page 17
12.1.5	Asbestos Monitoring	National Occupational Health and Safety Commission (NOHSC) Asbestos Code of Practice and Guidance notes, including The Safe Removal of Asbestos (2nd Ed) ……..`	Out of date codes of practice.	Page 19
14	Training	Title	What about other chemicals other than asbestos training? Is there training required prior to entry to the site? Be specific. Course name etc. Or internal training course number.	

Summary of Review Recommendations for Liberty Industrial Hazardous Materials Management Plan for the Sydney Fish Markets.

No.	Title	Wording	Preferred wording / Comments	Page Number
Appendix A – Asbestos Removal Control Plan – Revision 0, 3/8/2020				
4.1	Notification	1st paragraph, Notice of intent will be provided 'by' SafeWork NSW…	Provided 'to' SafeWork NSW	Page 2
4.18	Health Monitoring	Title	What evidence is Liberty relying upon to ensure asbestos health monitoring has been completed?	Page 4
5	Scope of Works	Title	What evidence is Liberty relying upon to ensure asbestos health monitoring has been completed?	Page 4
5.1	Project Director	Title	Who is this and their contact details?	Page 4

Summary of Review Recommendations for Liberty Industrial Hazardous Materials Management Plan for the Sydney Fish Markets.

No.	Title	Wording	Preferred wording / Comments	Page Number
5.2	Project manager	Title	Who is this and their contact details?	Page 4
5.3	Asbestos Supervisor	Title	Who is/are the asbestos supervisor and their contact details?	Page 5
5.4	Project Team	Title	Who is this and their contact details?	Page 5
6.1	General	2nd paragraph, Health monitoring records will be stored and retained for 40 years by the company pursuant to management System manual, which prescribes the method for recording, storage and disposal.	How is workers health monitoring checked up to date prior to working on the site.	Page 6

Summary of Review Recommendations for Liberty Industrial Hazardous Materials Management Plan for the Sydney Fish Markets.

No.	Title	Wording	Preferred wording / Comments	Page Number
6.2	Defining the work area	Title	Generally defining the work area is defined with use of site drawings to assist with being specific.	Page 6
6.3	Notification	Title	Has this occurred? Keep with the ARCP.	Page 7
6.3	Notification	4th paragraph, Notification of asbestos fibre levels exceeding 0.02fibres/ml…	What about readings between 0.01 - 0.02fibres/mL?	Page 7
6.3	Notification	Dot point 7, Fax (02) 9281 7486 Email: adu@workcover.nsw.gov.au	change to adu@safework.nsw.gov.au. Faxes are no longer received.	Page 7

Summary of Review Recommendations for Liberty Industrial Hazardous Materials Management Plan for the Sydney Fish Markets.

No.	Title	Wording	Preferred wording / Comments	Page Number
6.3	Notification	Tile, Consultation	State all stakeholders that will be consulted.	Page 8
6.5	Asbestos Removal Procedure	Point 2, Site supervisor to review scope of works, ARCP & undertake toolbox talk..	Include workers involved in the review.	Page 8
6.5	Asbestos Removal Procedure	Point 7, Identify location of decontamination point.	Using decontamination unit. Identify location and install. Including wastewater management system.	Page 8
6.5	Asbestos Removal Procedure	Point 10, Ensure PP/RPE is appropriate for removal works, and fitted correctly……..	Define what RPE and PPE is required for the removal works.	Page 8
6.5	Asbestos Removal Procedure	Point 13, Waste trucks to be appropriately sealed prior to leaving site.	No mention of double lining trucks, skips, bins etc as per COP. Define what this means.	Page 8
6.6	Equipment	Dot point 1, Mobile decontamination unit and modular decon units.	Further down it refers to a 5 stage decon unit. If so list here as well.	Page 8

Summary of Review Recommendations for Liberty Industrial Hazardous Materials Management Plan for the Sydney Fish Markets.

No.	Title	Wording	Preferred wording / Comments	Page Number
6.6	Equipment	Dot point 6, H Type Vacuum Cleaners	Ensure DOP tested within last 12 months and in good working order. Double bagged in 200 micron waste bags during transport.	Page 9
6.6	Equipment	Dot point 10, Clean rags	If using rags will need buckets of water. Wet wipes are a good alternative.	Page 9
6.7	Monitoring of Fibres	Title	As defined by the Licensed Asbestos Assessor LAA.	Page 9
6.8	Decontamination Procedures	Personal Decontamination procedures ……..Decontamination ‘should’ be done within the asbestos removal work area	Decontamination 'must' be done	Page 10
6.8	Decontamination Procedures	Personal decontamination procedures …..third paragraph, RPE ‘should’ be used……	RPE ‘must be continued to be worn' …	Page 10
7	Emergencies	Title	List all trained first aid personnel and locations of first aid kits.	Page 12
7.2	Respiratory Protection	Title	List the RPE requirements for this site.	Page 13

Summary of Review Recommendations for Liberty Industrial Hazardous Materials Management Plan for the Sydney Fish Markets.

No.	Title	Wording	Preferred wording / Comments	Page Number
7.5	Waste Removal Disposal	7th paragraph, Hard and sharp asbestos waste such as AC sheet may not be suitable for disposal in a polythene bag. In this case, a solid waste bin with plastic is suitable.	Is a solid waste bin required for this site? How big, how many etc etc.	Page 15
7.5	Waste Removal Disposal	Dot point 2, removed from site by licensed carrier;	What are the transport requirements? Double lined trays in a leak proof vehicle. Signed off by LAA before leaving site.	Page 15

APPENDIX D – WASTE MANAGEMENT PLAN

Waste Management Plan

Prepared by
Liberty Industrial Pty Ltd
For
Hansen Yuncken Pty Ltd
1A, B, and C Bridge Road, Glebe NSW 2037

Revision No.	Revision Date	Authority	Changes
A	27.07.2020	SZ	First Review

PREPARED: *Sean Zhou* Date: 28 - 07 - 20

Site Engineer

ACCEPTED: *Antoine Delort* Date: ____ - ____ - ____

Project Manager

TABLE OF CONTENTS

1 PURPOSE

Liberty Industrial (the company) is committed to the promotion of waste avoidance and reduction, and resource recovery and efficiency actions. This aim is achieved through conserving the environment, recycling demolition waste and using recycled products on all of our projects where practicable, aiming to achieve over 90% recycling by weight.

The purpose of this Waste Management Plan is to:

- Identify the types and quantities of waste that would be generated during the undertaking, and the areas in which waste will be stored prior to removal;
- Outline standards and performance measures for dealing with this waste;
- Outline a detailed description of how this waste would be reused, recycled and, if necessary, appropriately treated and disposed of in accordance with New South Wales Environmental Protection Authority (NSW EPA) guidelines on the management of regulated wastes;
- Outline a description of how the effectiveness of these actions and measures would be monitored over time; and
- Outline a description of what procedures would be followed to ensure compliance if any non-compliance is detected;

2 SCOPE

To ensure that all site waste is managed in a lawful and responsible manner meeting Hansen Yuncken targets, objectives and contract requirements.

3 REFERENCES

- Contaminated Land Management Act 1997;
- Dangerous Goods (Road and Rail Transport) Act 2008;
- Environmentally Hazardous Chemicals Act 1985;
- Protection of the Environment Operations Act 1997;
- Ozone Protection Act 1989;
- Waste Avoidance and Resource Recovery Act 2001;
- Protection of the Environment Operations (Waste) Regulation 2014.
- Work, Health and Safety Act 2011 (NSW)
- Work, Health and Safety Regulation 2017 (NSW);
- How to safely remove asbestos: Code of practice
- Liberty Industrial Management System
- NSW EPA Waste Classification Guidelines (Part 1: Classifying waste)

4 WASTE TYPES AND QUANTITIES

Material	Estimated Quantity Produced / Used (t)	Recyclable (Y/N)	Estimated Quantity Recycled	% Recycled
Concrete	8612t	Y	8612t	100%
Brick	221t	Y	221t	100%
Bitumen	300t	Y	300t	100%
Steel	140t	Y	250t	100%
General rubbish/ Mixed Demolition	300t	N	0	0%
Asbestos	1t	N	0	0%

Notes: All above quantities are estimated figures only. Liberty Industrial will manage all types of waste on site complying with relevant guidelines and regulations listed in section 3 - Reference.

5 OTHER BUILDING WASTE

5.1 FLUOROCARBONS - AIR CONDITIONING UNITS

Depending on their age air conditioning units may contain CFCs, HCFCs or other fluorocarbon refrigerants. It is an offence to discharge fluorocarbon to the atmosphere as they may deplete the ozone layer. The Ozone Protection and Synthetic Greenhouse Gas Management Regulations 1995 require the recovery, return and safe disposal of ozone depleting and synthetic greenhouse gas refrigerants.

A Restricted Refrigerant Recovery License holder shall degas all of the air conditioning units across the site prior to their removal and disposal.

5.2 SYNTHETIC MINERAL FIBRES - INSULATION

Insulation used in the buildings across the site will likely contain Synthetic Mineral Fibres (SMFs). SMFs are amorphous (non-crystalline) fibrous material. Dust generated from SMFs may cause:

- Discomfort, tickling and dryness of the nose, throat and respiratory tract, especially for those who suffer hay fever, asthma or bronchitis;
- Temporary skin irritation, particularly where there is rubbing from clothing such as cuffs and collars; and
- Severe irritation to eyes.

All workers in contact with SMFs are to wear appropriate PPE including safety glasses, P2 disposable respirators, and disposable coveralls as required. A mist spray is to be applied to the SMF wherever practicable to do so.

SMF is mixed with general waste and disposed of as mixed demolition waste.

5.3 CAPACITORS

Capacitors will be tested for PCB's. Capacitors found to contain PCB's will be stored separately from other wastes, identified and disposed of as regulated waste.

Capacitors not containing PCB's will be disposed of as general waste.

5.4 FLUORESCENT TUBES

Fluorescent tubes will be segregated from other waste onsite.

Fluorescent tubes will be disposed of with a specialist recycler.

5.5 CONTAMINATED SOIL

All contaminated soil will be tested, classified and disposed of as per the determined waste classification.

Potential contaminated soil will be segregated and signposted until results of testing are known.

6 STANDARDS AND PERFORMANCE MEASURES

In order to achieve the waste avoidance and minimisation objectives (90%) recycle rate, Liberty Industrial follows the following hierarchy of waste management principles in all aspects of operations:

Avoid	unnecessary resource consumption
Reduce	waste generation and disposal
Re-use	waste resources without further manufacturing
Recycle	waste resources to make the same or different products
Recover	waste resources, including the recovery of energy
Treat	waste before disposal, including reducing the hazardous nature of waste
Dispose	of waste only if there is no viable alternative

6.1 WASTE TRACKING

The company uses a Waste Tracking System (FRM-123 Waste Register) to record waste types, quantities and disposal methods for all waste streams in the form of a waste register spreadsheet. This spreadsheet records the disposals and contains the following information:

- Tracking of each waste stream;
- Dates of waste disposal;

- Transport information (contractor, rego, truck etc.);
- Licensed facility accepting the waste;
- Records of Waste Transport Certificates;
- Disposal weights of all waste streams, including cumulative total of each waste stream;
- Percentage Recycling Rate;
- Monthly, Quarterly and Yearly analysis of waste quantities and movements;
- Provide corrective actions to rectify any accidental spillage of waste;

This record keeping demonstrates a step towards better waste management, as it allows for the establishment of standard waste levels. Records of waste quantities allow the Project Manager to assess the performance of the undertaking in line with the above waste management principles to avoid and minimise waste to landfill.

6.1.1 Waste Documentation

Liberty Industrial uses FRM-350 Transport/Tipping Form to track daily waste transportation and disposal activities. FRM-350 Transport/Tipping Form is a docket for all waste contractor drivers to sign off when they are transporting the waste off site. FRM-350 records landfill location, vehicle rego, time in/out and weight of the waste.

Records from FRM-350 will directly reflected in FRM-123 Waste Register.

Ref*:** ***FRM-123 Waste Register

FRM-350 Transport/Tipping Form

7 WASTE MANAGEMENT

All Asbestos will be managed in accordance with the Asbestos Removal Control Plan.

7.1 MONITORING AND MEASUREMENT

The company will monitor the site waste and record all waste movements from site utilising the waste register as the tracking medium. Waste tracking audits will be undertaken to ensure that the licensed waste removalist take the waste to a lawful facility.

7.2 REPORTING REQUIREMENTS

Waste Register Reports will be produced monthly and include the following details:

- audits and inspections;
- corrective actions;
- training and awareness;

- water use data;
- waste disposal;
- recycled materials;

7.3 WASTE TRACKING SYSTEM PROCEDURE

7.3.1 Objective

The objective of the Waste Tracking System (WTS) is to account for the relocation and/or disposal of all waste material, in addition to any recyclable material removed from site. Asbestos containing materials will be managed separately and removed from site packaged pursuant to the "How to Safely Remove Asbestos Code of Practice".

The responsibility for recording, maintaining and reporting of this rests with the site Project Manager.

7.3.2 Controls

The Waste Tracking System (WTS) will be used to manage and monitor the movement of waste.

The WTS will:

- Record and document the transfer of each waste load using a waste tracking dockets;
- Retain dockets to validate the final destination of all hazardous and nonhazardous waste;
- Document the off-site disposal of waste material using the docket system and the appropriate environmental permits for removal of controlled waste from the site pursuant to the Protection of the Environment Operations (Waste) Regulation 2005.

7.3.3 Actions

The following actions will be used to effectively manage the movement of waste material across and out of the site:

- An initial site induction for all worker(s) involved with the movement and relocation of the waste. They will be informed of the site/location of waste and transport routes to be used;
- A General Waste Register will be used to identify the description of the waste, docket number, transport company, vehicle registration, disposal facility and quantity of the waste;
- A NSW EPA permit must be obtained prior to removal for wastes classified as trackable. The form will be in duplicate with the original retained by the landfill operator and the duplicate retained by the transport driver, once signed as received by the landfill operator;

7.4 INTERNAL WASTE HANDLING PROCEDURE

7.4.1 Objective

As part of the demolition works, site waste will be sorted into waste streams to avoid contamination of the various waste.

Soil and possibly some waste material will be excavated, transported across the site and either temporarily stockpiled, or taken directly off-site for disposal. The objective of this procedure is to ensure the transportation and handling of all waste material within the project area is undertaken in a safe and lawful manner.

7.4.2 Controls

This procedure will be used to control the following tasks and items:

- Regulate the transfer of waste within the project area;
- Identify location of stockpiles; and
- Rate of placement of waste based on compliance to air quality, noise, vibration criteria, stockpile height and any safety concerns.
- Hazardous waste will be separated and segregated, sign posted and clearly marked up. Hazardous waste will be stored in designated skip bins as required.
- Areas to be cleaned up as practically as possible.
- Waste will be segregated and locally stockpiled in the most commercially viable option and housekeeping standard will be upheld at all times.
- Waste management procedures to be emphasised and discussed to the workforce on a regular basis in team meetings such as toolbox talks and monitored by site supervision throughout.

7.4.3 Actions

The following actions are to be used for managing the excavation, transfer, and stockpiling of waste fill including the placement of the final cover.

Excavation

In the event that work has to be undertaken below grade the follow shall apply:

- Penetration and Break-in Permit must be issued before a surface penetration occurs;
- All waste material is to be removed in a damp condition to reduce the potential for dust generation and adverse air quality as per the requirements of the Environmental Management Plan;
- Waste material is to be placed directly into trucks for immediate transfer to the temporary stockpile;

Ref: LI-FRM-014 Work Permit

LI-FRM-036 Excavation, Penetration and Break-in Permit

Transportation

- All loads are to be wet down with a fine water spray to prevent dust emissions prior to leaving the exclusion zone;
- Trucks loading scrap out are to follow the route identified on the Traffic Management Plan and is to be clearly defined with signage where required and kept damp to prevent nuisance dust;
- The body of any vehicle or trailer used to transport waste or excavation spoil from site to be covered before leaving the site.
- Spill kits will be located in designated work areas close to haulage routes; and

Stockpiles

- Stockpile locations for waste material will be streamed as identified by the Project Manager in consultation with the client representative;
- Height of Stockpile does not exceed 4 metres.
- Waste material may only be temporarily stockpiled on top of existing waste fill material or on top of compacted material if on natural ground;
- All temporary stockpile locations are to be inspected daily by the Site Supervisor and at regular intervals by the Project Manager; stockpiles of material are constructed and maintained to prevent cross contamination;
- Dust suppression techniques are to be used on the temporary stockpiles in accordance with the Environmental Management Plan.

7.4.4 Monitoring and reporting

Monitoring and reporting will include:

- Accidents involving the spillage of waste material from trucks and the corrective action undertaken using an Incident Report form;
- Earthmoving and traffic accidents are to be reported verbally (radio communication) and in writing directly to the Site Supervisor immediately following the incident; and
- Routine random checks will be undertaken by the Project Manager of waste handling practices to ensure conformance to this procedure;

Ref: FRM-031 Incident Report

7.4.5 Domestic Waste

Domestic waste generated on site will mainly consist of general rubbish from the demolition zones. This rubbish will be located in skips, and recycled or disposed of by a licensed contractor.

7.5 OFF-SITE WASTE DISPOSAL PROCEDURE

7.5.1 Objective

Waste material excavated during the demolition work will only be stockpiled on-site temporarily. These stockpiles will be transported to an approved landfill or recycling facility.

The objective of this procedure is to ensure that all waste material is transported off-site to a lawful appropriate class of landfill in a safe and environmentally responsible and lawful manner.

7.5.2 Controls

This procedure will be used to control the following tasks and items:

- Characterisation of the material for class of landfill;
- Movement of material off-site; and
- Transport route to landfill;
- Waste tracking by Liberty Industrial Transport / Tipping Docket
- Waste Register to be kept: record of information from Transport / Tipping Docket

  Ref: FORM 123 – Waste Register

  Ref: Liberty Industrial Transport / Tipping Docket

7.5.3 Actions

The following actions will be followed for managing the off-site disposal of any waste material:

- Stockpiles of material for off-site disposal will be characterised in accordance with the Waste Tracking Guidelines (NSW EPA). If necessary, stockpile samples will be tested for heavy metals including the leachable fraction;
- Material will be transported off-site to approved EPA landfill sites by certified waste transport contractor

  If required, application for a waste transport certificate to be approved by the NSW EPA;
- All movement of material offsite is to be recorded using the General Waste Register;
- Trucks are to be roadworthy and operated in accordance with transport regulations;
- Two-way radios or mobile phone to be provided in all trucks in case of emergency;
- Truck loads are to be covered with tarpaulins prior to leaving the site to prevent dust emissions whilst in transit (excluding scrap metal loads);
- Trucks to exit site utilising the Traffic Management Plan;
- Off-site transport routes will be decided upon prior to any loads being removed from site; and
- The road condition at the entrance/exit to the work site will be monitored continuously and swept/washed as necessary;

Ref: Traffic Management Plan

7.5.4 Monitoring and reporting

Monitoring and reporting will include:

- Accidents involving the spillage of material from trucks and the corrective action undertaken is to be reported in an Incident Report form;
- Traffic accidents are to be reported to the Police, and verbally to the Project Manager immediately following the incident; and
- Routine random checks will be undertaken by the company Supervisor to ensure the loads are secure and conform to this procedure;

7.5.5 Asbestos transport NSW

In NSW the transport of more than 10 square meters of asbestos sheeting, or 100 kilograms of asbestos waste must be reported to the EPA. Asbestos transporters and facilities receiving asbestos waste must report the movement of this waste to the EPA using WasteLocate. Each load of asbestos waste needs to have a unique EPA consignment ID, which the transport company must generate using WasteLocate. The unique EPA consignment ID will allow each load to be monitored from the place of generation to the site of disposal.

The following actions will be followed for managing the off-site disposal of Asbestos in NSW:

- Quantity and description of asbestos waste will be advised to transport company when engaged.
- The unique EPA consignment ID will be sited before the Asbestos waste is allowed to leave site.
- The transport company will supply Liberty Industrial with a copy of the WasteLocate consignment after delivery to designated waste facility.
- A copy of the WasteLocate consignment note will be saved by Liberty Industrial.

7.6 SURFACE RUNOFF MANAGEMENT PROCEDURE

7.6.1 Objective

The objective of this procedure is to prevent soil erosion of disturbed ground surfaces and potentially waste runoff from entering waterways.

7.6.2 Actions

- The following actions are to be followed for managing surface runoff from waste material.
- All stormwater inlets servicing the project area are to be protected with sediment controls as per the Environmental Management Plan and stormwater sediment control plan drawing;

- Stockpiles of waste will be stored only on exposed surfaces of waste to prevent contaminating clean ground as per the Environmental Management Plan and stormwater sediment control plan drawing, and will also form part of the weekly inspections;
- If required, a dust suppressant will be applied over the clean soil cover following placement to stabilise the ground surface.

7.6.3 Monitoring and reporting

Monitoring and reporting will include:

- Routine random checks will be undertaken by the Site Supervisor of the stormwater system and any bunding to ensure conformance to this procedure; and
- Should there be any uncontrolled surface runoff or uncontained erosion of waste, the incident and any corrective action undertaken is to be reported and recorded in QSE.

Ref: Erosion and Sediment Control Plan

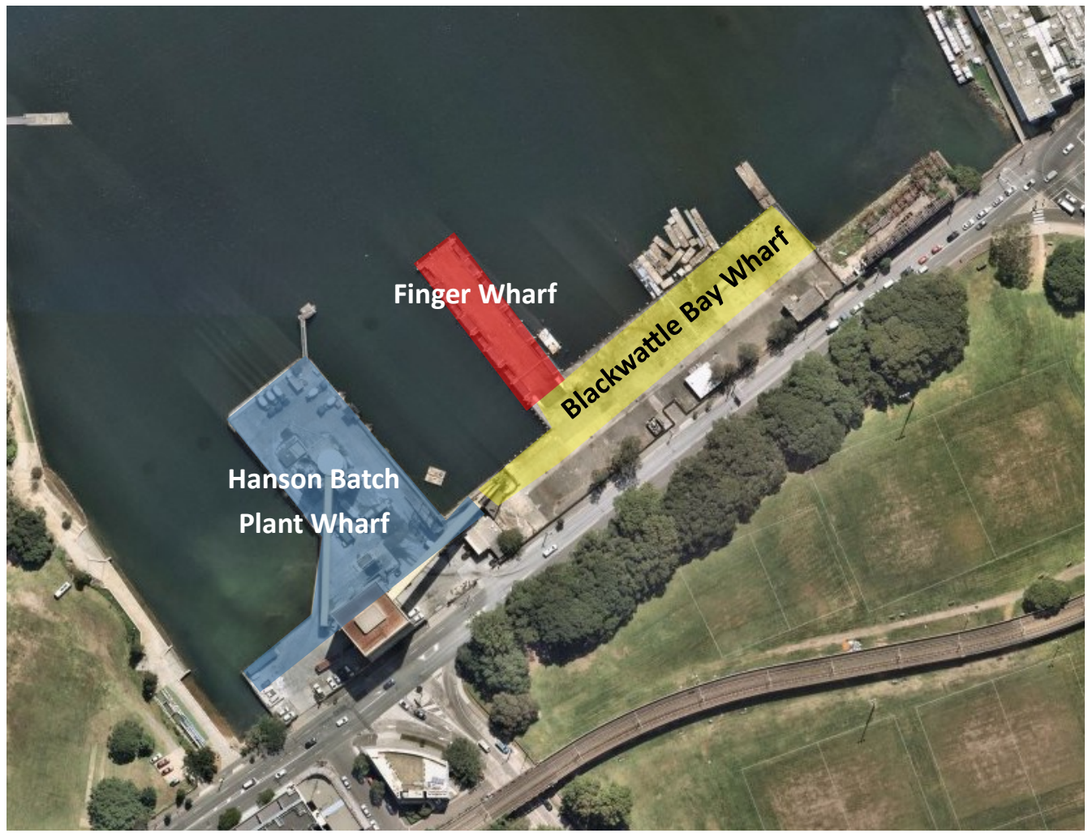
Appendix A - Erosion and Sediment Control Plan

APPENDIX A – EROSION AND SEDIMENT CONTROL PLAN

LIBERTY INDUSTRIAL

NEW SYDNEY FISH MARKET EARLY WORKS PROJECT

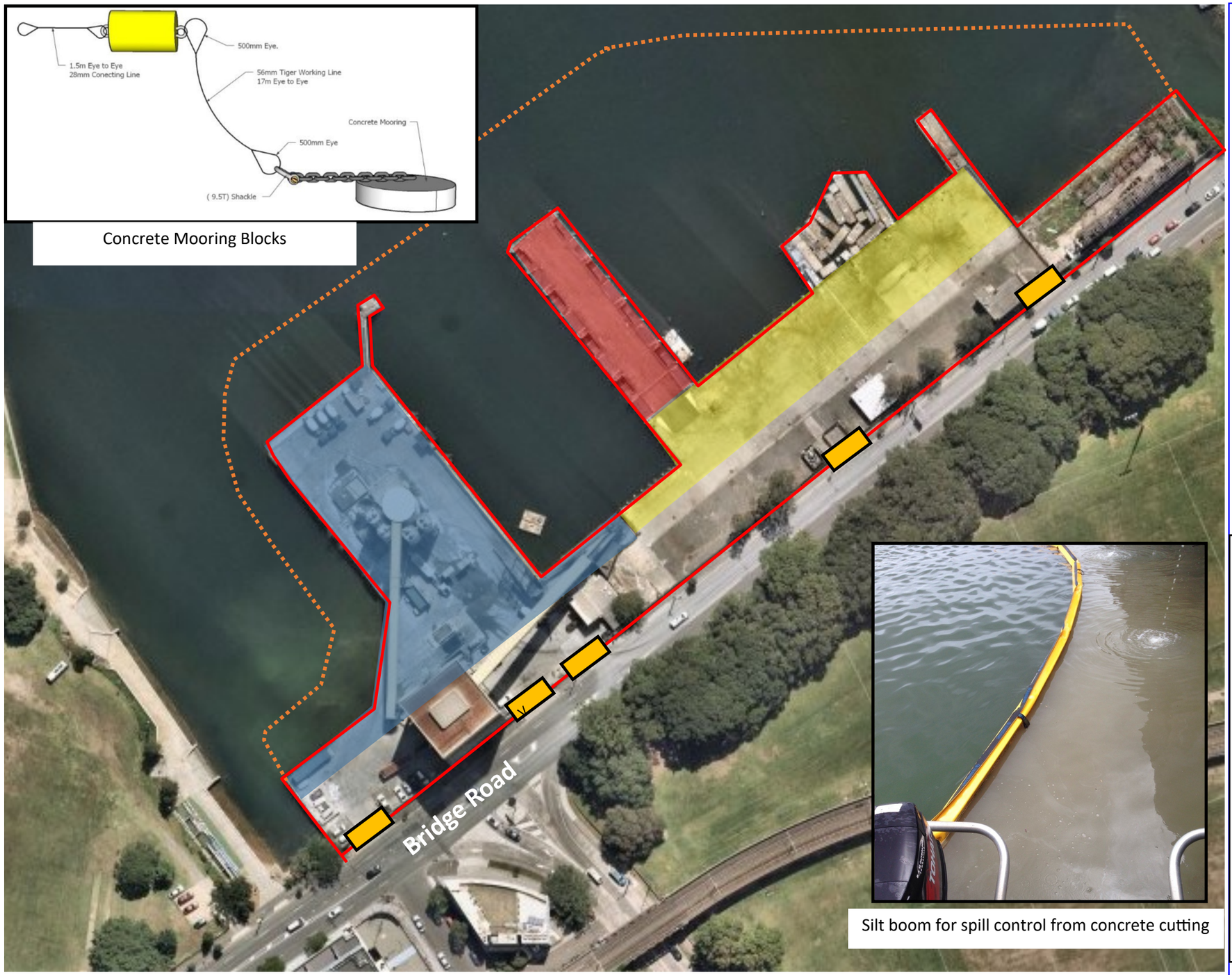
Erosion and Sediment Control Plan (ESCP)



DRAWING SCHEDULE

- 2020.01 FIG 1— Site Layout + Silt Curtain
- 2020.01 FIG 2— Site Flow Paths + Drainage
- 2020.01 FIG 3— Stockpile Management
- 2020.01 FIG 4—Drainage Management
- 2020.01 FIG 5—Water Quality Monitoring and Testing
- 2020.01 FIG 6—Additional Controls

Concrete Mooring Blocks



Silt boom for spill control from concrete cutting

Site Layout + Silt Curtain

- Liberty Industrial will use the site office and amenities set up by client.
- Silt Boom for spill control will be installed as indicated for marine works.
- Silt booms trap and contain sediment and silt, preventing it from contaminating parts of the waterway.
- Silt curtains are designed to control the settling of silt suspended in water by providing a controlled area of containment. The boom allows water to flow freely, while acting as a barrier against sediments and other materials
- The silt curtain is anchored by concrete mooring blocks depending on skirt depth and expected loads.
- The Mooring blocks are deployed incrementally with the silt curtain

Legend

- Hanson Batch Plant Deck Work Area
- Blackwattle Deck Work Area
- Finger Deck Work Area
- Silt Boom (Suggestion only)
- Site Boundary
- Entrance/Exit Gates

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No. Revisions	Approved	Date

LIBERTY INDUSTRIAL

Drawn	Mohamad Darwish	**New Sydney Fish Market Early Works**	
Designed	Mohamad Darwish		
Draft Check	John Stevanoni	**2020.01 FIG 1—Site Layout + Silt Boom**	
Design Check	John Stevanoni	Rev: **01**	
Approved		A3	Scale: **NOT TO SCALE**

Site Flow Paths + Drainage

- Ground surface of the northern portion of the site is situated on piers overlying the surface waters of Black-wattle Bay.
- Site surface water is anticipated to drain directly into Blackwattle Bay.

Legend

- Hanson Batch Plant Deck Work Area
- Blackwattle Deck Work Area
- Finger Deck Work Area
- Silt Boom (Suggestion only)
- Flow Direction
- Site Boundary

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No. Re-visions	Approved	Date

LIBERTY INDUSTRIAL

Drawn	Mohamad Darwish	**New Sydney Fish Market Early Works**	
Designed	Mohamad Darwish		
Draft Check	John Stevanoni	**2020.01 FIG 2—Site Flow Paths + Drainage**	
Design Check	John Stevanoni	Rev: **01**	
Approved		A3	Scale: **NOT TO SCALE**

Silt socks to be used around concrete and clean stockpiles to trap sediment and soluble particles.

Stockpile Management

- Ground surface of the northern portion of the site is situated on piers overlying the surface waters of Blackwattle Bay.
- Site surface water is anticipated to drain directly into Blackwattle Bay.
- Silt socks to be installed around stockpiles where required. Traps sediment and soluble particles by processing rainwater as it moves through several organic layers and enabling water to deposit the suspended solids behind the unit.
- Diverts the flow of water around the stockpile to prevent additional capture of sediment.
- Demolition works would not start until the installation of sediment control measures as outlined in this ESCP.
- In the case of a rain event, stockpiles may be covered when required to prevent transport of sediment.

Legend

- Hanson Batch Plant Deck Work Area
- Blackwattle Deck Work Area
- Finger Deck Work Area
- Silt Boom (Suggestion only)
- Silt Sock
- Stockpile Location
- Flow Direction
- Site Boundary

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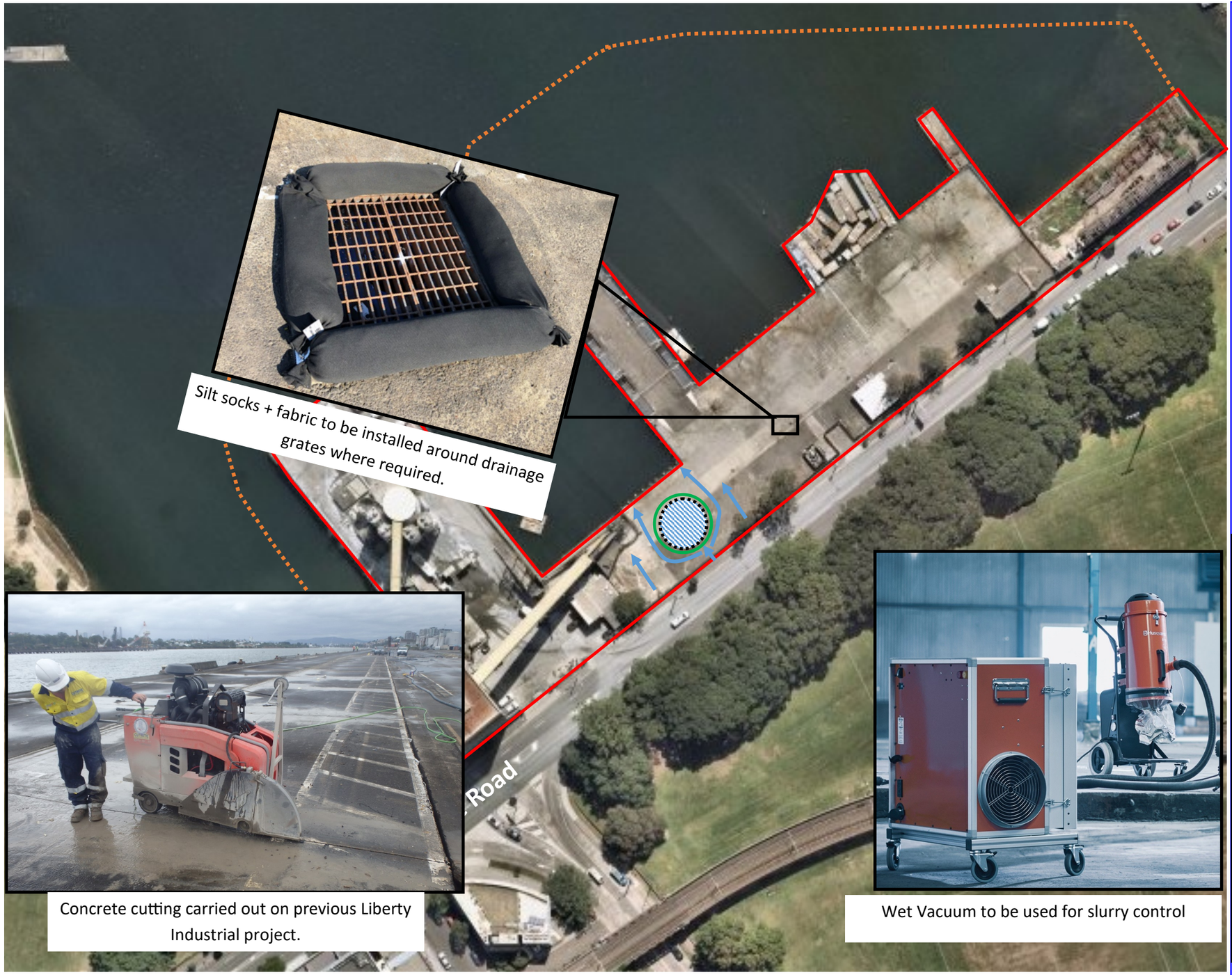
No. Revisions	Approved	Date

LIBERTY INDUSTRIAL

Drawn	Mohamad Darwish	**New Sydney Fish Market Early Works**	
Designed	Mohamad Darwish		
Draft Check	John Stevanoni	**2020.01 FIG 3—Stockpile Management**	
Design Check	John Stevanoni	Rev: **01**	
Approved		A3	Scale: **NOT TO SCALE**



Concrete cutting carried out on previous Liberty Industrial project.

Wet Vacuum to be used for slurry control

Drainage Management

- There are multiple stormwater grates that can be found along the Blackwattle Bay Wharf.
- To manage surface water entering the stormwater grates, a combination of silt socks and drainage fabric may be used.
- Also, when concrete cutting is undertaken, wet vacuums will be used to assist in slurry control to further assist in management of sediment entering the channel.
- The wet vacuum will be used at all times while cutting works are undertaken.

Legend

- Hanson Batch Plant Deck Work Area
- Blackwattle Deck Work Area
- Finger Deck Work Area
- Silt Boom (Suggestion only)
- Silt Sock
- Stockpile Location
- Flow Direction

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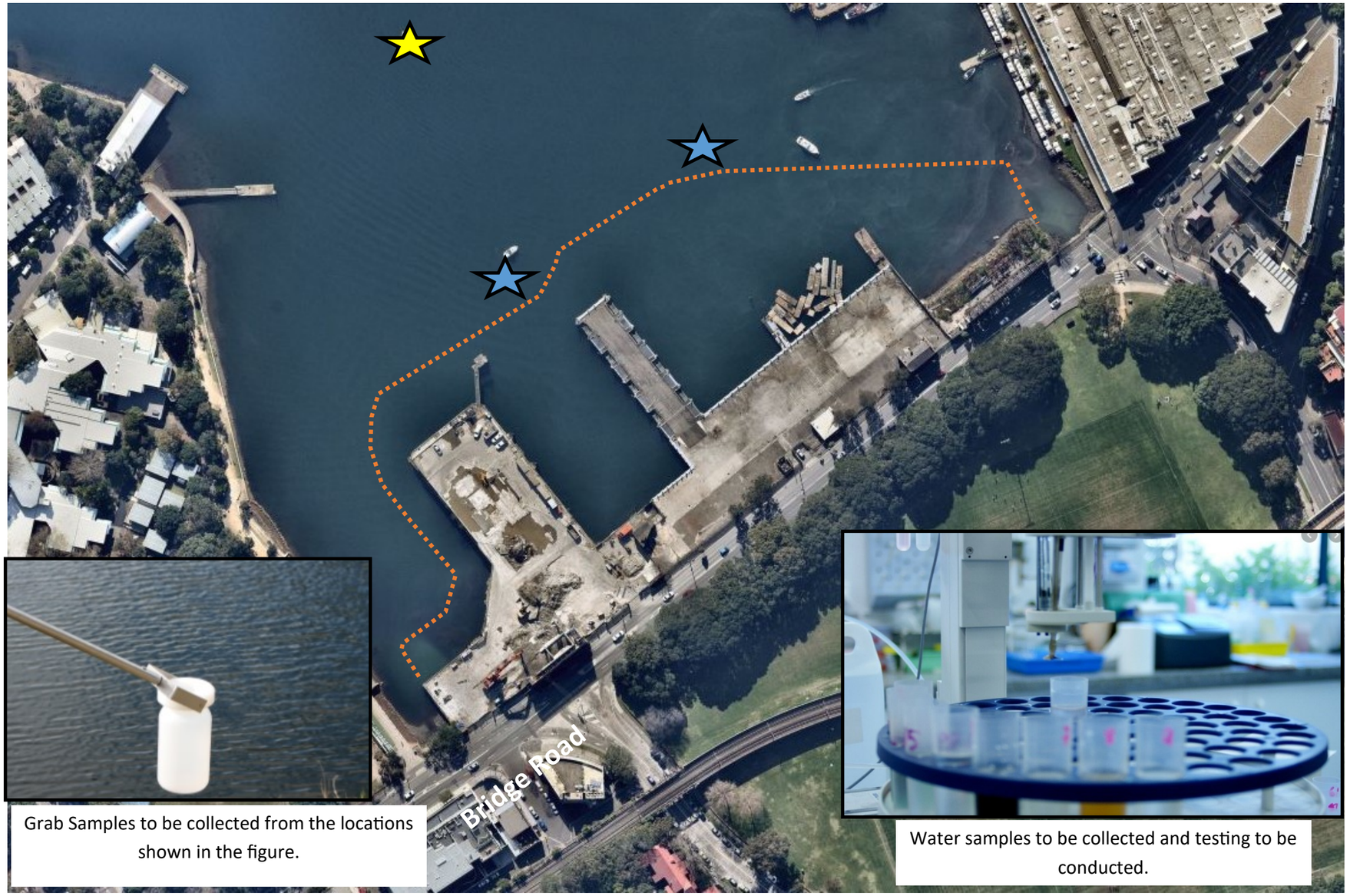
No. Revisions	Approved	Date

LIBERTY INDUSTRIAL

Drawn	Mohamad Darwish	**New Sydney Fish Market Early Works**	
Designed	Mohamad Darwish		
Draft Check	John Stevanoni	**2020.01 FIG 4—Drainage Management**	
Design Check	John Stevanoni	Rev: **01**	
Approved		A3	Scale: **NOT TO SCALE**



Grab Samples to be collected from the locations shown in the figure.

Water samples to be collected and testing to be conducted.

Water Quality Monitoring and Testing

- Throughout the duration of the project, water quality monitoring and testing will be carried out at 2 project specific locations and a background location as shown in the figure.
- Testing will be carried out for turbidity, pH and other contaminants of concern.
- Samples will be collected and sent to a NATA accredited laboratory for testing and analysis.
- Weekly reporting on the water quality testing and monitoring will be conducted and submitted to the client.

Legend

Silt Boom

Project Specific Testing Location

Background Testing Location

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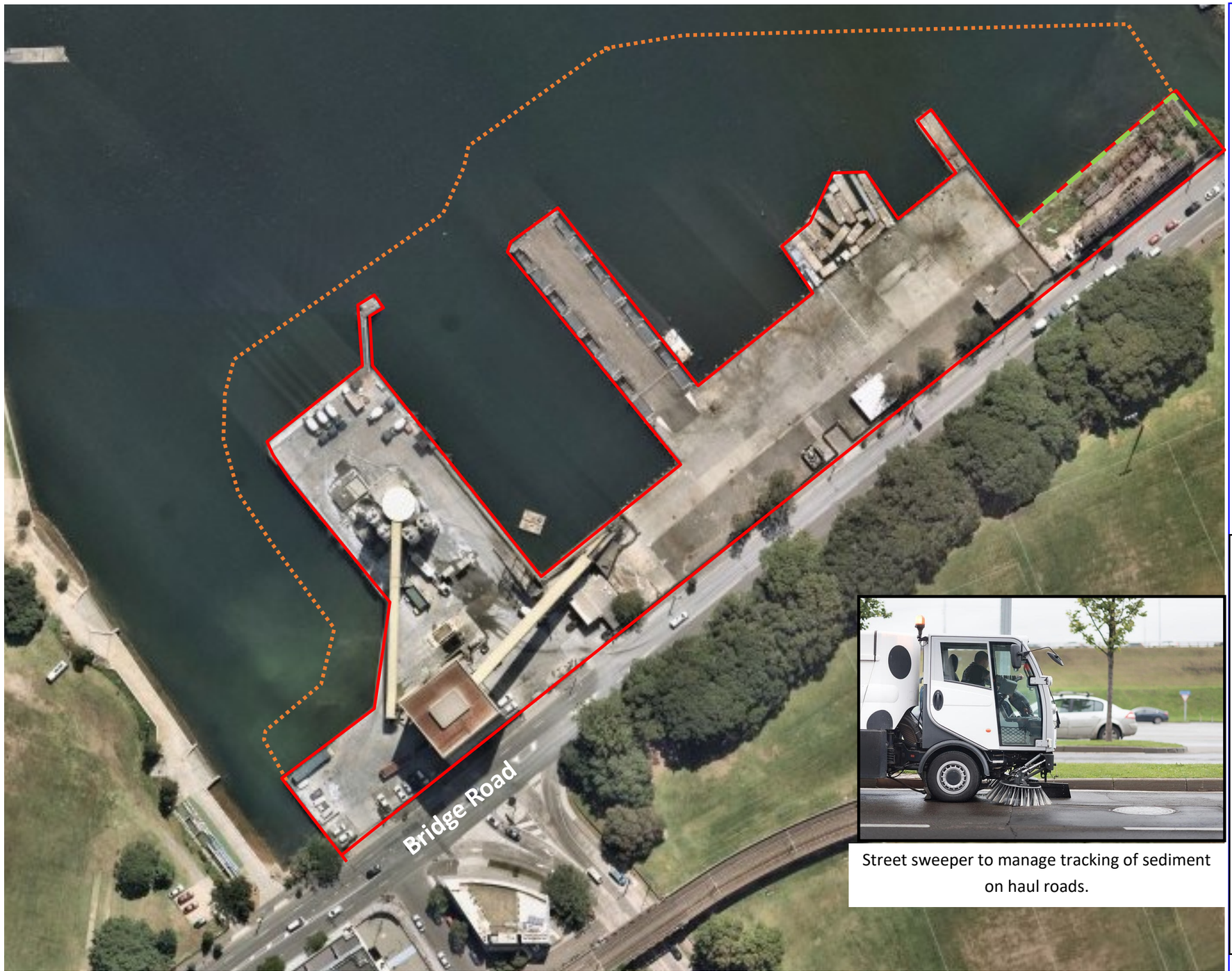
		/ /			Designed	Travis Sone	
		/ /			Draft Check	Travis Sone	**2020.01 FIG 5—Water Quality Montioring and Testing**
		/ /			Design Check	Travis Sone	Rev: **01**
No. Revisions	Approved	Date			Approved		A3 Scale: **NOT TO SCALE**



Street sweeper to manage tracking of sediment on haul roads.

Additional Controls

- To ensure the maintenance of both the internal site and the external surrounding roads, regular street sweepers will be engaged as required.
- Silt fencing will also be set up in the area shown when heritage retrieval works are being carried out and vegetation is stripped to prevent sediment entering the water.

Legend

Silt Boom (Suggestion only)

Silt Fence

Site Boundary

				LIBERTY INDUSTRIAL	Drawn	Mohamad Darwish	**New Sydney Fish Market Early Works**
	/ /				Designed	Mohamad Darwish	
	/ /				Draft Check	John Stevanoni	**2020.01 FIG 6—Additional Controls**
	/ /				Design Check	John Stevanoni	Rev: **01**
No. Revisions	Approved	Date			Approved		A3 Scale: **NOT TO SCALE**