UrbanGrowth NSW Development Corporation

Hazardous Materials Management Plan

The new Sydney Fish Market
1A to 1C Bridge Rd, Glebe and
Part 56-60 Pyrmont Bridge Road, Pyrmont NSW

8 April 2019

54162/114239 (Rev2)

JBS&G Australia Pty Ltd

www.jbsg.com.au

UrbanGrowth NSW Development Corporation

Hazardous Materials Management Plan

The new Sydney Fish Market
1A to 1C Bridge Rd, Glebe and
Part 56-60 Pyrmont Bridge Road, Pyrmont NSW

8 April 2019

54162/114239 (Rev2) (Rev 2)
JBS&G Australia Pty Ltd

Table of Contents

List of Figures

1. Introduction

1.1 Background

JBS&G Australia Pty Ltd (JBS&G) was engaged by UrbanGrowth NSW Development Corporation (UrbanGrowth NSW, the client) to prepare a hazardous materials removal management plan (HMRP) for the proposed decommissioning of the existing structures at the site of the proposed new Sydney Fish Market site at the head of Blackwattle Bay between the Pyrmont Peninsula and the foreshore of Glebe (the site). The site is legally identified as Lots 3-5 in DP 1064339, part Lot 107 in DP 1076596 and part Lot 1 in DP835794 as shown on **Figures 1** and **2**. The individual lots fall within City of Sydney (CoS) local government area.

The proposed new Sydney Fish Market site is situated at the southern portion of Blackwattle Bay, which is one portion of the Bays Precinct Urban Transformation Area (BPUT) that comprises approximately 80 Ha of land, in addition to 94 Ha of water that is the subject of a NSW Government urban transformation project that will have the potential to deliver additional residential, commercial, recreational and community developments over a 20-30 year timeframe.

To enable future construction of the proposed development, removal of the existing site improvements is required. The decommissioning/demolition activities will comprise all existing structures within the extent of Lots 3-5 in DP 1064339 and part Lot 107 in DP 1076596 and part Lot 1 in DP835794 including the Hanson concrete batching plant infrastructure, 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.

Given the age and historical/current use of the maritime facilities currently occupying the site, it has been assumed that a range of potentially hazardous building materials (HBM) inclusive of asbestos containing material (ACM), lead paint, polychlorinated biphenyl (PCB) containing fittings and/or synthetic mineral fibre (SMF) containing materials may currently be present at the site. Additionally, related issues including lead in dust and asbestos in dust may also require consideration within existing structures. Such materials will require during decommissioning of the facilities in conjunction with broader demolition works.

This advice has been prepared at the project development application documentation stage to assist with addressing the Secretary's Environmental Assessment Requirements (SEARs) as issued by the Department of Environment and Planning as the consent authority for the proposed state significant development application (SSDA).

As specific information on the occurrence and condition of such materials at the site is not currently available, this materials removal/management plan includes presentation of an appropriate framework to ensure appropriate procedures are implemented, inclusive of pre-demolition hazardous material surveys, to ensure compliance with SafeWork NSW Regulations, the Protection of the Environment Operations Act and associated regulations and industry Codes of Practice relevant to the management of hazardous materials.

1.2 Aims and Objectives

The aim of this HMRP is to identify management procedures required to mitigate the potential environmental impacts associated with hazardous materials during decommissioning/demolition activities proposed to be undertaken at the proposed new Sydney Fish Market site. Specifically, the objectives of this document are to document the procedures and standards to be followed in order to identify and remove hazardous materials associated with current infrastructure at the site, whilst ensuring the protection of human health and the surrounding environment.

1.3 Regulatory Guidance

Preparation of this report has been undertaken with consideration to and in generation accordance with the requirements of various regulations, legislation and guidelines, inclusive of:

- *Work Health and Safety Act (2011)*;
- *Work Health and Safety Regulation (2017)*;
- *SafeWork NSW Code of Practice How to Safely Remove Asbestos (2016)*;
- *SafeWork NSW Code of Practice How to Manage and Control Asbestos In The Workplace (2016)*
- AS4361.1 (2017) *Guide to Hazardous Paint Management. Part 1: Lead and Other Hazardous Metallic Pigments in Industrial Applications;*
- AS4361.2 (2017) *Guide to Hazardous Paint Management. Part 2: Lead Paint in Residential, Public and Commercial Buildings*;
- *National Standard for Synthetic Mineral Fibres* [NOHSC:1004 (1990)] and the *National Code of Practice for the Safe Use of Synthetic Mineral Fibres* [NOHSC:2006 (1990)];
- ANZECC (1997) *Identification of PCB-Containing Capacitors: An information booklet for Electricians and Electrical Contractors*.
- AS4874 (2000) *Guide to the Investigation of Potentially Contaminated Soil and Deposited Dust as a Source of Lead Available to Humans*.
- NSW *Protection of the Environment Operations Act 1997* and *Protection of the Environment (Waste) Regulation 2014.*
- *Waste Classification Guidelines*. NSW Environment Protection Agency, 2014 (EPA 2014).

2. Hazardous Building Materials

Historically a range of construction materials used in Australia in industrial, commercial and resident buildings included materials now described as 'hazardous building materials'. Such construction materials generally include:

- Asbestos containing materials (ACM);
- Lead based paint (LP);
- Polychlorinated biphenyls (PCBs);
- Synthetic Mineral Fibres (SMFs); and
- Ozone depleting substances (ODS).

As a result of weathering and environmental migration of contaminants, consideration of the presence of hazardous building materials, typically also considers asbestos and lead containing dusts (ACD and LCD respectively).

Management and removal of such materials come under a range of regulatory instrument associated with worker health and safety issues and environmental concerns including environmental emissions and waste disposal as noted in **Section 1.3**.

A brief background on the general occurrence and characteristics of each material class is provided following.

2.1 Asbestos Containing Materials and Dust

Asbestos is the generic term for a group of fibrous silicate minerals that are characterised as having long thin separable fibre like crystals. There are three main types of asbestos minerals that were commercially produced in Australia, comprising the serpentine group (chrysotile or white asbestos) and the amphibole group (amosite or brown asbestos and crocidolite or blue asbestos). Asbestos is a naturally occurring material that was commonly used in construction materials during the period from the approximately the 1940s to the 1980s as a result of its easy workability and thermal/fire retardant properties.

Prohibition on use of asbestos containing materials came into force as a result of identification of the material as a hazard to human health when inhaled, increasing the risk of those exposed of suffering asbestosis, lung cancer and mesothelioma. As a result, where identified in buildings/ structures proposed to be demolished, such materials are required to be removed prior to commencement of general demolition works to minimise the risk of airborne asbestos fibre general during such works.

Non-friable asbestos material is any asbestos-containing material that is not considered to be friable asbestos, including material containing asbestos fibres reinforced with a bonding compound (Safe Work Australia 2016[1]), also previously called bonded asbestos/ACM.

Friable asbestos material is any material that is in fibrous or powder form or that can be crumbled, pulverized or reduced to a powder by hand pressure when dry and contains asbestos (Safe Work Australia 2016). Materials defined as fibrous asbestos (FA) and asbestos fines (AF) are friable asbestos.

Within commercial/industrial buildings and infrastructure built prior to 1990, there is a risk that asbestos containing material may be present as cladding material (Hardie board and other cement fibre boards), corrugated asbestos cement roofing, sprayed (limpet) coatings/loose fill insulation,

[1] *How to Safely Remove Asbestos: Code of Practice*. Safe Work Australia 2016 (Safe Work Australia 2016)

electrical backing boards, vinyl tiles and carpet underlays, mastic/waterproofing resins around windows/roofs, in expansion joints, etc, as lagging on pipe work, water heaters/boilers, etc, fibrous insulation, packers within and underlying temporary buildings, water/sewer/fire water pipework, gaskets, machinery break liners, etc.

Mechanical disturbance of friable and/or non-friable asbestos has the potential to result in the release of fibres and therefore, such activities should be managed to prevent any fibres becoming airborne. The health effects of asbestos are detailed in enHealth (2005) *Management of Asbestos in the Non-Occupational Environment*.

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.

2.2 Lead Paint and Lead Dust

Lead is a naturally occurring metals present in the Earth's crust. As a result of its widespread use including in paints and motor vehicle fuels, lead contamination of the environment and human exposure has resulted in significant public health problems in many parts of the world, including in Australia. Although the risks of lead are well known, lead is still present in many buildings today and is still in use in products including lead acid batteries and ammunition.

Lead paint (defined in Australia as 1 % lead by weight in a dry film) was used in residences in Australia up until 1970. In 1992, the maximum lead content of paint was reduced to 0.25 % and in 1997 with as further reduced for domestic paint to a threshold of 0.1 %. As a result, many older homes and commercial buildings are characterised as having lead based paint present.

Lead dust may also be present as a result of past and/or current activities including the accumulation of atmospheric depositions from lead based fuel additives and deterioration (flaking and powering) of lead based paints. In addition to lead paint and lead dust, lead has in the past been a common building material component used in lead flashing, lead solder, lead water pipes and sometimes gutters, plumbing fittings, PVC products, lead light windows and light bulb contacts.

2.3 PCBs

Polychlorinated biphenyls (PCBs) are a group of man-made chlorinated organic compounds used typically as additives to oils as a result of their very stable, high melting point characteristics. PCBs have typically been founds in transformer oils within electrical substations in addition to being included within transformers and electrical capacitors imported or manufactured prior to approximately 1975 including within fluorescent light starter units.

They have been defined as potentially carcinogens as well as being of significant concern in the environment. The use and/or management of PCBs is defined by the *Polychlorinated Biphenyl (PCB) Chemical Control Order 1997* created under the *Environmentally Hazardous Chemicals Act 1985* (EHC Act).

2.4 SMFs

Synthetic mineral fibres (SMF) is a generic term that refers to a group of non-crystalline man-made vitreous fibres more commonly referred to as fibre glass/glass fibre/glass wool, rock wool/mineral wool, continuous glass filaments and refractory ceramic fibre (RCF). These products generally have construction related applications centred on their thermal and/or acoustic properties, and have often been used as replacements for asbestos containing products. SMFs are commonly used as insulation in plumbing, heating, acoustic, fire and electrical applications including as filling in portable building cavities and in water heaters.

There are two basic forms of SMF:

- Bonded – where adhesives or cements are applied in the manufacturing process and as such the material comprises a specific form;
- Unbonded form – where loose fibrous material has been packed into a void or similar. In some instances a minor proportion of the material may comprise cement, adhesives or similar that may have been added during either manufacture or before/during installation.

2.5 Ozone Depleting Substances

Ozone depleting substances typically comprise refrigerant gases used in air conditioners, cool rooms and other forms of refrigeration and fire fighting 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.

3. Pre-Demolition Survey Requirements

The properties forming the site are currently occupied by various companies operating commercial enterprises at/from the site. Whilst under NSW legislation, each occupant is required to maintain a Hazardous Materials Register at the site, these documents are not currently available for the purposes of preparation of this plan. As such, this plan has been prepared with consideration to the types of hazardous materials anticipated to be present at these types of premises.

As such, once the existing site occupants leave the premises and prior to the commencement of decommissioning/demolition activities, a full destructive survey of existing infrastructure is required to be completed to confirm the presence, extent and condition of hazardous building materials in the various areas of the site. It is anticipated that the works will include inspection of all accessible areas of the site by a suitability qualified and experienced occupational hygienist to identify:

- the occurrence, quantity and condition of ACM, lead paint, SMF, PCBs, asbestos containing dust (ACD) and lead containing dust (LD); and
- inaccessible areas at the time of the inspection that will require further assessment during decommissioning demolition works (areas inaccessible as a result of live/operational infrastructure, inaccessible wall/roof cavities, etc).

Representative laboratory analysis of samples (lead paint, ACM, dust samples, etc) will be collected during inspection of the infrastructure to enable positive confirmation of the hazardous materials in various areas of the site.

Based on the inspection outcomes an assessment of potential risks associated with the identified materials will be undertaken in preparing a pre-demolition hazardous materials register for the site and a report prepared documenting the outcomes of the survey, inclusive of updated management/removal recommendations as appropriate specific to site conditions.

The register should be sufficiently detailed, inclusive of floor plans/sketches and photographs as appropriate for hazardous removal contractors to locate and identify materials for removal during contract works.

4. Removal Works Management

Whilst many hazardous building materials do not represent a risk under everyday use conditions, given the existing buildings and infrastructure are proposed to be decommissioned and demolished, it is required that appropriate management of potential hazards is undertaken to address risks to the environment, worker health and safety and other stakeholders in proximity to the site.

4.1 Overall Scope of Works

The following general actions will be required to be implemented by the Principal Contractor, or the appointed specialist hazardous materials removal subcontractor during the hazardous materials removal program:

- Preparation of a hazardous materials removal plan and notification to SafeWork NSW as appropriate documenting the notice of intention to complete lead and asbestos removal works;
- Development of site specific of Safe Work Method Statement (SWMS) documentation;
- Completion of a pre-start risk workshop (client representatives, key contractor personnel and stakeholders as relevant);
- Site establishment activities including implementation of a hazardous materials removal works exclusion zone(s);
- Implementation of decontamination measures including those for personnel, equipment, waste packaging, etc;
- Notification of proposed commencement to key stakeholders;
- Services disconnection;
- Hazardous materials removal works implementation and off-site disposal of all hazardous materials to lawful facilities;
- Completion of hazardous materials removal clearance assessment(s) by suitably qualified independent occupational hygienist to confirm all issues have been closed out;
- Demobilisation, including removal of all exclusion zone and decontamination measures following issue of final clearance certificates; and
- Issue of a notice of completion of works to SafeWork NSW.

Requirements and procedures associated with the relevant activities are further discussed following as per the relevant hazardous materials.

4.2 Responsibilities

4.2.1 Appointment of Principal Contractor/Site Controller

In accordance with the provisions of the Work Health and Safety Regulation 2017, a Principal Contractor/Site Controller shall be appointed to complete the required hazardous materials (asbestos and lead paint) removal/management works.

4.2.2 Responsibilities of the Principal Contractor/Site Controller

Responsibilities of the Principal Contractor/Site Controller include, but are not limited to the following:

- Be responsible for the proposed project work at all times until the work is completed;

- Ensure that all persons involved with proposed project work have undertaken occupational health and safety training;
- Keep records of induction training for site workers and any site specific training;
- Ensure that any subcontractors provide safe work method statements for the activities for which they are engaged;
- Monitor any subcontractors to ensure that they are complying with the safe work method statements; and
- Maintain a hazardous substances register for all hazardous substances used or present on site.

The Principal Contractor/Site Controller is responsible for co-ordinating health and safety activities for the project. Other responsibilities also include:

- Compliance with occupational health and safety and environmental legislation, regulations, standards, codes and the site-specific rules relating to safety contained in this management plan;
- Ensuring that sufficient funds are available to procure the necessary health and safety equipment such as personal protective equipment (PPE);
- Managing accident and emergency procedures; and
- Managing workplace injury management and rehabilitation.

The Principal Contractor/Site Controller has the authority to provide for the auditing of compliance with the provisions of this management plan, suspension or modification of work practices, and administration of disciplinary actions for individuals whose conduct does not meet the requirements set forth herein.

4.2.3 Hazardous Materials Consultant

An appropriately experienced and qualified Consultant (environmental and/or occupational hygienists) shall be engaged during removal/management of known hazardous materials and also to assess any suspected additional materials when encountered (unexpected finds). Given the potential for occurrence of friable asbestos at the site, the Consultant will be required to have a SafeWork NSW Licensed Asbestos Assessor (LAA) available for the project.

The Consultant shall:

- Complete static asbestos and lead in air monitoring as appropriate during and following removal works and display daily results for the information of site workers;
- Complete spot dust/airborne particulate matter (PM_{10}) monitoring during removal works as appropriate to assess the effectiveness of dust suppression measures;
- Provide on-site advice, if required, in relation to suspected hazardous material occurrence and the management of associated issues associated with the works;
- Be available, if required, for consultation with regards to the conditions and requirements of this management plan;
- Complete inspection activities during works in relation to completion of works as described in this plan such that at the completion of works an appropriate clearance/validation report may be prepared documenting the successful removal of hazardous materials from the site; and

- Shall provide upon satisfactory completion of works a final clearance certificate documenting the appropriate removal of all hazardous materials risks such that it is confirmed the site may be re-occupied without ongoing hazardous materials removal works exclusion zones.

4.2.4 Class A or Class B Licensed Asbestos Removal Contractor

Dependent upon the outcomes of the Pre-demolition hazardous materials survey, the need for either a Class A (friable) or Class B (non-friable) asbestos removal contractor will be decided as per the procedures nominated in SafeWork (2016).

The appointed contractor will be required to manage the asbestos containing materials to the extent nominated in the final management plan, followed by the implementation of suitable ongoing management measurements with regard to any residual materials as may be present upon completion of the works.

The licensed asbestos removal contractor will have the primary responsibility and be in charge for works on site involving ACM or asbestos contaminated material and may comprise either the Principal Contractor/Site Controller or an appointed specialist sub-contractor and its responsibility will include those as outlined in the following:

- Completion of required SafeWork NSW permits (asbestos and lead works);
- Preparation of a site specific Removal Control Plan (RCP) prior to any worksite management activities being commenced;
- Ensure compliance with relevant legislation and the conditions of the removal plan;
- Ensure appropriate environmental and safety controls are maintained for the duration of the works;
- Provision of assistance to all site sub-contractors where required in complying with relevant legislation and the procedures outlined in this removal plan; and
- Completion of a final site walkover and removal of all visible hazardous materials from the ground surface across the site upon completion of works.

4.3 Site Management and General Procedures

4.3.1 Hazardous Material Removal Plans

Following engagement of the specialist contractor, the contractor will be required to prepare a specific methodology plan documenting the proposed works and associated controls to be implemented during activities, specific to their works and with consideration specifically to site conditions at the time of works, regulations as may be in force and development consent conditions associated with the project.

This plan will include detailed Safe Work Method Statements (SWMS) completing the works, inclusive of all other aspects of the proposed works that may occur in conjunction with the hazardous materials removal works. The SWMS must:

- Describe how the work is to be carried out;
- Identify the safety risks;
- Describe the control measures that must be applied to the works;
- Describe the equipment to be used in the work;
- Describe any standards or codes applicable to the work; and
- Training and qualification required of persons undertaking the works.

4.3.2 Site Safety Inductions

Site specific inductions are to be completed by all workers undertaking hazardous materials works and will involve specific discussion of the details presented in the Removal Plans as discussed above. The induction will be undertaken as a standard presentation addressing, as a minimum:

- Identification of specific hazards and risk control measures in relation to the hazardous material removal works;
- Regulatory requirements or codes of practice relevant to the identified site specific hazards;
- Directions on what to do if a worker is unsure of the potential occurrence and/or extent of the hazardous material;
- Site orientation on the hazardous materials register contents, site access/egress points, amenities within and external to exclusion zones, first aid access point(s) and waste disposal facilities;
- Site specific safety rules as established by Principal Contractor and/or specialist removal contractor.

At the completion of the induction presentation, each 'inducted person' shall be required to acknowledge that they have understood the requirements for the site works and health, safety and environmental obligations by completion of a Site Induction Form. In addition, where subsequent tool box talks and/or works procedures result in amendment of the SWMS, a written record of such changes and notification to workers will be required to be maintained by the Principal Contractor.

4.3.3 Training and Certification

The Principal Contractor must not allow persons to carry out hazardous material removal works unless it is satisfied that the person has undergone appropriate training as required by the WHS Regulation, as follows:

- General occupational health and safety training for construction work;
- Work activity based health and safety training (job specific training); and
- Site – specific health and safety induction training.

In addition, where workers are undertaking lead and/or asbestos removal works, appropriate pre-commencement health surveillance appointments will be required to have been made as per the WHS Regulation. The Principal Contractor will be required to keep written records of these actions as per the Regulation requirements.

4.4 Site Access Controls

Relevant portions of the site where removal works are to be completed will be required to be nominated as a restricted access construction zone and securely fenced/gates to control access to only those appropriately inducted with respect to the controlled removal works until such time as final clearance has been documented.

As per relevant health and safety provisions, access to the restricted works area should be appropriately limited via the use of delineated site access/egress point(s) that are visibly identified by site fencing/barricading/secured doors. Decontamination facilities will be required at each access/egress point to enable removal of personal protective equipment (PPE) and disposal of contaminated materials.

4.4.1 Personal Protective Equipment

The ensure that workers are not exposed to unacceptable levels of lead during the lead removal works, in addition to the proposed work methods, workers will be required to adopt at all times, the following PPE, as a minimum within the hazardous materials removal areas:

- Respirator suitable for lead particulates, asbestos fibres and/or SMF (Class L or M as per AS/NZS 1715) as appropriate for the works activities in the applicable area – Approved respirators shall be worn in works areas at all times to provide respiratory protection. The minimum protection will be an approved properly fitting disposable respirator or half faced respiratory fitted with relevant cartridge. Non-disposable respirators will be required to be cleaned within the decontamination unit prior to exit from the removal works zone;
- Disposably 'tyvek' coverall suits of suitable rating for asbestos fibres and/or lead particulates as appropriate for the removal zone in addition to gumboots or boot covers to prevent the accumulation of fibres/dust/particulates on clothing and footwear beyond the removal works area;
- Use of either disposable nitrile or similar work gloves, or non-disposable work gloves that must remain within the removal work area/decontamination zone until the completion of removal works, at which time they may be discarded, or alternatively laundered at a facility able to process contaminated clothing; and
- Safety glasses/goggles.

All persons entering the removal works zone should receive appropriate instruction in the correct use of respirators and other PPE prior to entering the removal zone to ensure the PPE is used appropriately.

5. Asbestos Removal

5.1 SafeWork NSW Notifications

Prior to commencement of works, the appointed licensed contractor will submit notifications as required to SafeWork NSW as per the requirements of the WH&S Regulation 2017. This notification is (currently) required to be submitted a minimum of 5 working days prior to the commencement of any disturbance/ removal works of hazardous materials.

5.2 Removal Works Procedures

Completion of the pre-demolition HBM survey will identify the nature (non-friable/friable) extent, and condition of all accessible asbestos containing materials within the demolition area. The appointed Principal Contractor will in preparation of the Asbestos Removal Plan, develop a preferred methodology for appropriate removal of the asbestos, with consideration to site specific issues, including access arrangements, exposure conditions, staging, etc.

Removal procedures for friable and non-friable asbestos will be developed by the contractor compliant with the requirements of the *Code of Practice – How to Safely Remove Asbestos* (SafeWork NSW 2016), inclusive of the following considerations:

- appropriate site access controls and inductions are required to be implemented, inclusive of installation of appropriate signage identifying the occurrence of asbestos removal works and limiting access to only those with appropriate training and PPE;
- implementation of appropriate decontamination facilities to ensure that all plant and workers completed works within the removal area can be appropriately decontaminated prior to leaving the removal works area;
- adoption of wet methods to remove asbestos where reasonable practicable to minimise the risk of airborne asbestos dust/fibres;
- where friable asbestos has been identified as requiring removal, a suitable enclosure will be required for the removal area such that negative air pressure conditions may be provided for the removal works. Testing of the enclosure is required to confirm the tightness of the enclosure prior to the commencement of wet removal activities;
- tools used for the removal of asbestos containing materials include asbestos vacuum cleaners, manually operated hand tools and equipment. All hand operated tools should be fitted with HEPA filters on exhaust ventilators to reduce the potential for spread of asbestos fibres;
- No high speed abrasive power tools or pneumatic tools such as angle grinders, sanders, saws or high speed drills are to be used during asbestos removal activities. Further, no high pressure water/air sprays, may be used given the risk of generation of asbestos fibres during removal activities when such tools are employed.
- Appropriate wrapping, labelling, temporary storage and off-site disposal of asbestos containing waste, inclusive of used PPE as per the requirements of SafeWork NSW (2016) and the *Protection of the Environment (Waste) Regulation 2014*.

5.3 Monitoring During Removal Activities

During the management works, perimeter air monitoring will be conducted at the site to assist with:

- identification of failures in control measures;
- identification of poor work practices; and

- provision of proof of works as completed in accordance with this plan for stakeholders including regulatory authorities and to provide evidence of good work practices for both present and future needs.

5.3.1 Field Activities

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: 2002(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).

5.3.2 Assessment Criteria

Measurement of asbestos fibres in air will be undertaken in compliance with the *Guidance Note for the Estimation of Airborne Asbestos Dust* [NOHSC 3002:2005].

The National Occupational Health and Safety Commission (NOHSC) Asbestos Code of Practice and Guidance Notes require that a time-weighted average value of 0.1 fibres/millilitre not be breached.

With consideration to these levels the following trigger levels have been developed:

- If airborne fibre levels reach 0.01 fibres/mL the source of fibre release is to be found and rectified. Work in the affected area does not have to stop.
- If airborne fibre levels reach 0.02 fibres/mL work in the work area should stop and additional control measures employed. This will involve additional water spraying to suppress dust during works.

Air monitoring results will be obtained within 24 hours of sample collection on business days, or on the afternoon of the following business day. While this precludes 'real time' monitoring, observations will be made during all works and, if there is any visible dust, light water sprays will be used to wet the area and prevent the release of any airborne asbestos fibres.

5.3.3 Contingencies for Monitoring Exceedences

Any exceedance of the NOHSC airborne asbestos fibre monitoring level of 0.02 fibres/ml specified in **Section 5.3.2** will result in a stop work direction to the Principal Contractor/Site Controller until such time as a field assessment by an experienced consultant is undertaken to identify the potential source of fibres within the works zone and establish appropriate additional management procedures to appropriately manage the risk of worker exposure and/or asbestos fibre migration to other areas of the site.

Where concentrations exceed 0.02 fibre/ml, in accordance with SafeWork NSW (2016), the Principal Contractor will notify SafeWork NSW by phone, followed by written confirmation that work has ceased. Once additional measures are implemented, air monitoring will be required to demonstrate levels of asbestos fibres in air are less than 0.01 fibres/ml prior to recommencement of asbestos removal activities at the site.

Asbestos in air monitoring advice, including the post works monitoring event will be included in the final clearance reports to be issued by Asbestos Consultant upon completion of works.

5.4 Inspection/Validation Requirements

A clearance inspection will be required by the appointed Hazardous Materials Consultant, being either a competent person or Licensed Asbestos Assessor (LAA) as nominated by the Code of Practice (SafeWork NSW 2016) to confirm the successful removal of asbestos containing materials. The clearance inspection(s) may be completed in stages to provide for implementation of decommissioning/demolition works, necessary to enable removal of all ACM/hazardous materials.

The clearance certificate should clearly identify that they are satisfied that there is no visual asbestos within the removal area and immediate surrounds such that exposure controls may be removed and the area may be re-occupied. Where friable asbestos removal was completed, clearance air monitoring results will also require to be included in the clearance certificate.

6. Lead Paint and Dust Removal

Removal of lead containing material is anticipated to potentially comprise materials including lead paint, lead impacted render, flashing, lead containing dust, etc. Material identified as containing or being coated with lead will be identified in the pre-works HBM survey and the preferred management/removal measures evaluated and documented prior to the commencement of works.

The objective of the management/removal measures will be to stabilise, isolate and separate the lead containing material from the general demolition waste stream to ensure there is minimal impact to site construction/demolition works and the environment and enable consequent disposal of impacted material to a lawful waste facility.

6.1 Removal Works Procedures

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 blasting, 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.

6.2 Inspection/Validation Requirements

A final clearance assessment is required to be undertaken by the appointed Hazardous Materials Consultant to confirm the appropriate completion of the lead removal program. The assessment will occur following the final stage of cleaning for each stage(s) of lead removal works. The inspection will confirm the absence of visible dust, paint chips, debris or visible spills/stains from lead removal works.

In addition to the inspection, spot checks will be completed using a portable XRF unit, or lead swab kit to assess conditions on remaining surfaces. Where elevated levels of lead are identified, further works will be required to remove contaminated construction materials under the controlled environment. Alternatively, the absence of elevated lead conditions will result in issue of a written clearance documenting the works completed to enable demolition works to proceed.

7. SMF Removal

SMF is classed as an irritant and as such, during decommissioning/demolition of buildings/ infrastructure containing such materials, management is required to ensure the potential for generation of airborne fibres is minimised.

Particular care of exposure to eyes, skin and airways is required and as such, procedures consistent with removal works for asbestos should also be applied to SMF removal activities.

NOHSC (1990) presents a TWA exposure standard of 0.5 respirable fibres per millilitre of air (f/mL) for all forms of SMF, with the concentration to be determined via monitoring consistent with the procedures outlined for asbestos fibres in air, with minimal sampling event durations of 4 hours.

As per other hazardous materials, the Principal Contractor is required to provide a suitable work methodology and associated training to site workers to ensure that removal of SMF containing materials are completed in a manner such that airborne fibres generation rates are minimised.

In general, management of SMF during decommissioning/demolition should comprise the following:

- Use of water sprays to damp down identified SMF prior to disturbance;
- Adoption of removal methods which minimise the requirement for cutting and/or separation of materials to minimise disposal;
- For bonded SMF materials which can be removed without the need for cutting or other abrasive actions, this material can be removed in dry condition. However, where heating or applications of cement/adhesives have resulted in bonded material attaching to the substrate, material removal actions should be completed as per unbonded materials as discussed below;
- For unbonded-SMF materials, a suitable water spray should be applied to thoroughly wet down the material before any disturbance takes place (with due consideration to electrical or heat limitations) to minimise dust/fibre generation. Physical disturbance of the material should be minimised, with consideration to implementation of additional dust control measures as appropriate where large quantities of material, or highly exposed conditions occur;
- Where cutting is required, power tools should be fitted with exhaust extraction at the point of dust generation to minimise spread of fibres;
- Appropriate wrapping of SMF materials in plastic bags or with plastic wrap, placement in sealable bags/containers, or similar packaging of materials which prevent fibre/dust emissions is required prior to off-site disposal;
- Materials to be disposed of, including appropriately packaged SMF and used PPE are pre-classified in NSW EPA (2014) as General Solid Waste (non-putrescible) for the purposes of disposal to a lawful waste facility.
- Removal zones should be cleaned with vacuum or similar methods upon removal to collect fibre dust to the extent practicable, or if an industrial vacuum system is not available, via wet mopping and/or wiping of surfaces.

Workers are required to be provided with appropriate PPE and decontamination facilities as discussed in **Section 4.4.1**, particularly safety glasses/goggles to minimise the risk of eye irritation and/or injury as a result of loose fibre/dust exposure.

Visual inspections will be required to be completed by the appointed Hazardous Materials Consultant (**Section 4.2.3**) to verify the successful removal of all materials prior to commencement of other demolition activities.

8. 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/hygienist 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 enquires.

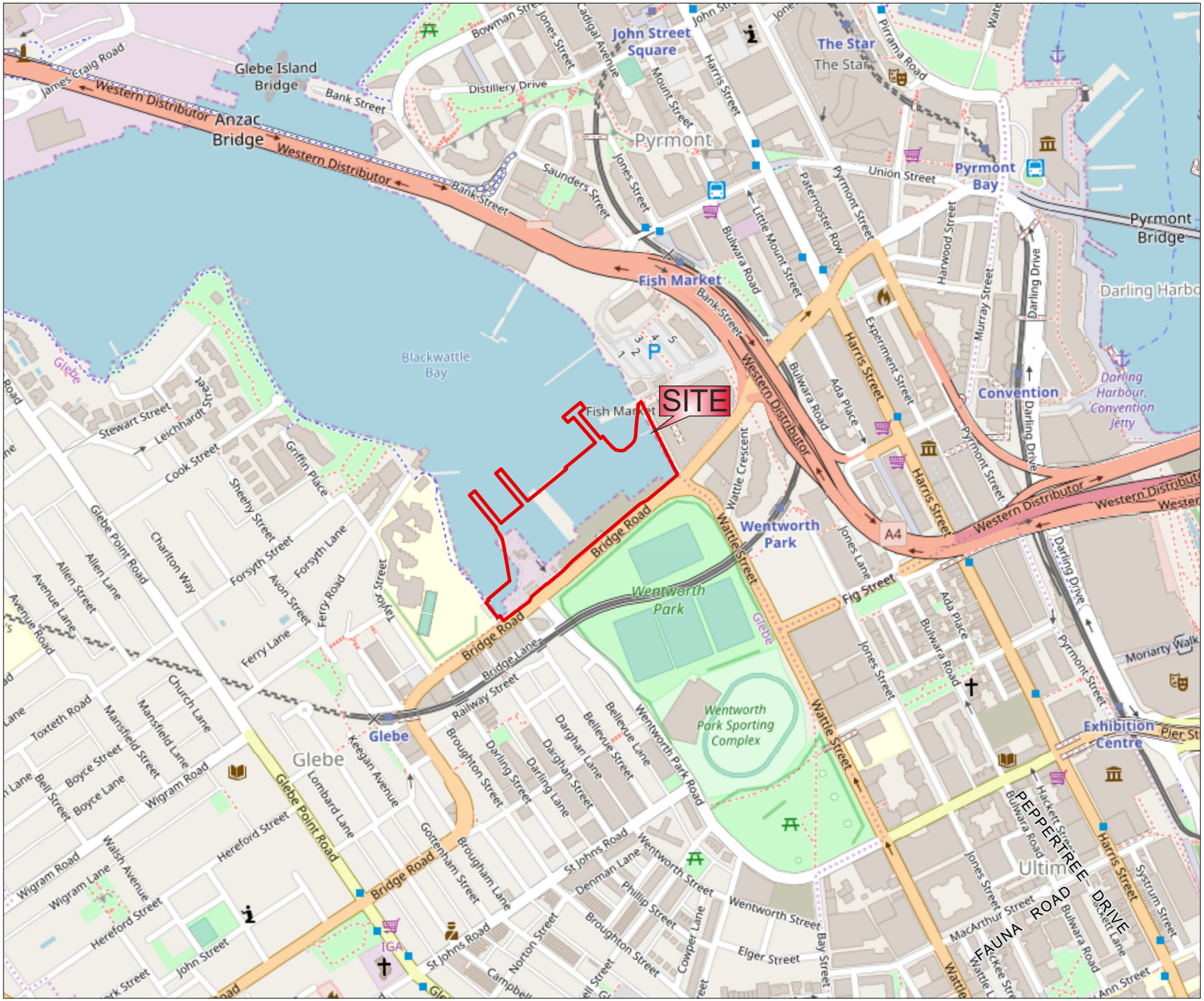
Sampling and chemical analysis of environmental/construction media is based on appropriate guidance documents made and approved by the relevant regulatory authorities. Conclusions arising from the review and assessment of data are based on the sampling and analysis considered appropriate based on the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

New Sydney Fish Market Development Footprint

JBS&G

Job No: 54578

Client: UrbanGrowth NSW

Version: R01 Rev 3	Date: 08-Apr-2019
Drawn By: RF	Checked By: JR

Scale 1:8,000

0 100 200

metres

Coor. Sys. GDA 1994 MGA Zone 56

1A-1C Bridge Road
Glebe, NSW

SITE LOCATION

FIGURE 1

File Name: 54578_01

Legend:

- New Sydney Fish Market Development Footprint
- Cadastral Boundary
- Approximate Land Area
- Approximate Seawall Extent

Proposed Landuse

- Fish Market Building Envelope
- Public Domain
- Approximate Fish Market Basement Footprint

JBS&G

Job No: 54578

Client: UrbanGrowth NSW

Version: R01 Rev 3	Date: 08-Apr-2019
Drawn By: RF	Checked By: JR

Scale 1:2,000

0 25 50
metres

Coor. Sys. GDA 1994 MGA Zone 56

1A-1C Bridge Road
Glebe, NSW

SITE LAYOUT

FIGURE 2

File Name: 54578_02
Reference: Near Map - http://www.nearmap.com.au/. Imagery - 18-01-2018.

Document Distribution

Rev No.	Copies	Recipient	Date
A	1 x electronic	Nick Bouziotis - UrbanGrowth NSW	05/03/2018
0	1 x electronic	Nick Bouziotis – UrbanGrowth NSW	03/09/2018
1	1 x electronic	Nick Bouziotis – UrbanGrowth NSW	01/11/2018
2	1 x electronic	Jennifer Chang – UrbanGrowth NSW	08/04/2019

Document Status

Rev No.	Author	Reviewer	Approved for Issue		
		Name	Name	Signature	Date
A	Chris Bielby	Joanne Rosner	Draft for review UrbanGrowth NSW		05/03/2018
0	Chris Bielby	Joanne Rosner	Joanne Rosner		03/09/2018
1	Chris Bielby	Joanne Rosner	Joanne Rosner		01/11/2018
2	Chris Bielby	Joanne Rosner	Joanne Rosner		08/04/2019

www.jbsg.com.au