

## Appendix M Contamination and waste statement

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*Prepared by JBS&G*

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Jane Fielding  
Architectus Sydney  
Via email: [jane.fielding@architectus.com.au](mailto:jane.fielding@architectus.com.au)

## **Response to NSW Environment Protection Authority Comments on SSD 7262 – Westmead Hospital – Multi Storey Car Park Environmental Impact Statement**

Dear Jane,

### **1. Introduction**

JBS&G Australia Pty Ltd (JBS&G) was engaged by Health Infrastructure NSW (HI, the client) care of Architectus, to prepare this letter response to the comments provided by the NSW Environment Protection Authority (EPA) regarding State Significant Development Application 15-7262, Westmead Hospital Multi Storey Car Park (MSCP, the site). Responses are provided for contamination, waste and dust management recommendations. A copy of the EPAs letter regarding the EIS for the site (document EF15/9530) is provided in **Attachment A**.

### **2. Responses**

#### **Section 2.1 Site Investigation and Remediation**

##### EPA Recommendation:

*The proponent be required to:*

- a) Engage a site auditor accredited under the Contaminated Land Management Act 1997; and*
- b) Provide a Section A site audit statement for the whole of the development site by an EPA accredited site auditor determining suitability for the proposed land uses prior to undertaking any construction.*

##### JBS&G response:

- a) HI have engaged Melissa Porter of Ramboll Environ Australia (Ramboll), EPA Accredited Site Auditor 0803, as the Site Auditor.
- b) The Site Auditor has been engaged to prepare an Interim Advice Letter (IAL) which will make conclusions on whether the site can be made suitable for the proposed land use, subject to suitable implementation of the Remedial Action Plan (RAP, JBS&G 2015a<sup>1</sup>). At the completion of remedial works and upon receipt of the required validation reports, the site auditor has been engaged to prepare a Site Audit Report and Section A Site Audit Statement.

It is noted that the Site Auditor has also been engaged as the Site Auditor for the Stage 1 Early Works (currently underway), Ronald McDonald House Redevelopment, future Acute Services Building Early Works Redevelopment by HI and for the Westmead Hospital Campus Wide Asbestos Management

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<sup>1</sup> Westmead Hospital Redevelopment Remedial Action Plan - Multi Storey Car Park (50369/101908), JBS&G Australia Pty Ltd, October 2015 (JBS&G 2015a).

Project by Western Sydney Local Health District (WSLHD), ensuring a consistent approach to asbestos management across the broader Westmead Health Precinct.

### **Section 2.1 Asbestos**

*EPA Recommendation: The proponent be required to address the uncertainty as to whether fill material from Lot 4 DP 1077852 will be imported onto Lot 100 DP 1119583 or vice versa.*

*JBS&G Response: It is noted that asbestos impacted materials are widespread across the majority of Lot 100 (i.e., Westmead Hospital Lot), however, only the south-eastern corner of Lot 4 (Ageing, Disability and Home Care Lot, ADHC Lot) has been observed to contain asbestos impacted materials. The south-eastern corner of Lot 4 does not fall within the MSCP site, and is being remediated as part of the Stage 1 Early Works project.*

It is also noted that the small triangular portion of Lot 4 that falls within the MSCP EIS boundary (as shown by the black hatching on Figure 2 of the RAP), the small triangular portion of land will be validated as part of the Stage 1 Early Works project.

At the current stage of planning it is not proposed to move material from Lot 4 to Lot 100 or vice versa.

All works will be undertaken in accordance with the *POEO Act* and *POEO (Waste) Regulations 2014*.

*EPA Recommendation: The proponent be required to satisfy the requirements of the Protection of the Environment Operations (Waste) Regulations 2014 with particular reference to Part 7 'asbestos waste'.*

*JBS&G Response: The EPAs recommendation is noted. This requirement is referenced in Sections 10.12 and 12.3 of the RAP. The recently released 'Notice of Exemption from Clause 79: Reporting on transportation of asbestos waste solely within New South Wales' is acknowledged and will be monitored by JBS&G with regards to the expiration date of the exemption.*

*EPA Recommendation: The proponent be required to consult with Safework NSW concerning the handling of asbestos waste.*

*JBS&G Response: Noted. Consultation with Safework NSW has been undertaken by JBS&G, Justin Woodcock (Senior Project Director, HI) and Belle Mangan (Executive Director Corporate Governance, WSLHD) whom presented to the Head of Asbestos Coordination Authorities (HACA) in August 2015 regarding the issue of asbestos in soils and building at Westmead Hospital, including discussion on the management of asbestos in soils during the Westmead Hospital Redevelopment. This meeting was arranged subsequent to recommendations provided by a representative of the EPA. See **Section 3** for further details.*

Ongoing consultation with Safework NSW and HACA will be undertaken throughout the duration of the project.

### **Section 2.3 Waste Control and Management (General)**

*EPA Recommendations: The proponent should commit to ensuring that:*

- a) all waste generated during the project is assessed, classified and managed in accordance with the "Waste Classification Guidelines Part 1: Classifying Waste" (EPA 2014);*
- b) the body of any vehicle or trailer, used to transport waste or excavation spoil from the premises, is covered before leaving the premises to prevent any spill or escape of any dust, waste, or spoil from the vehicle or trailer; and*
- c) mud, splatter, dust and other material likely to fall from or be cast off the wheels, underside or body of any vehicle, trailer or motorised plant leaving the site, is removed before the vehicle, trailer or motorised plant leaves the premises.*

JBS&G Response: Waste is to be assessed, classified and managed in accordance with EPA 2014 as noted in Section 12.4 of the RAP. The Construction Environmental Management Plan (CEMP) to be prepared by the Principal Contractor will address specific requirements regarding decontamination or cleaning of plant moving within and leaving the site. The CEMP be reviewed and ultimately endorsed by the client and relevant consultants. All vehicles used to transport waste or excavation spoil from the premises will be covered in accordance with requirements of the *POEO (Waste) Regulations 2014*.

The waste hierarchy is detailed and discussed within the Waste Management Strategy (WMS, JBS&G 2015b<sup>2</sup>).

### **Section 2.4 Dust Control and Management**

JBS&G Comments: Dust control measures are discussed within Section 10 and 11 of the RAP. The Principal Contractor is required to detail dust control measures in the CEMP. Airborne asbestos fibre air monitoring and real time dust tracking monitoring requirements are detailed in Section 10.9.1 of the RAP.

### **3. Other Information**

A meeting was convened between HI, WSLHD, JBS&G and representatives of the EPA in August 2015 on the subject of asbestos contamination at Westmead Hospital. Presentations were made to the EPA's representatives by all parties regarding the contamination status of the site, proposed redevelopment, existing asset and asbestos management. Subsequent to this meeting and recommendation by the EPAs representative's an additional presentation was undertaken with HACA (as detailed in **Section 2**) to make the relevant regulatory bodies aware of the asbestos legacy and proposed redevelopment at Westmead Hospital.

Ongoing consultation with EPA, Safework NSW and HACA will occur throughout the MSCP and other Westmead Redevelopment projects.

### **4. Closure**

Should you require clarification, please contact the undersigned on 08 8245 0300 or by email [mhodgins@jbsg.com.au](mailto:mhodgins@jbsg.com.au).

Yours sincerely:



Mitchell Hodgins  
Asbestos / Remediation Consultant  
**JBS&G Australia Pty Ltd**

Reviewed/Approved by:



Beatrice Gomez  
Principal, Contaminated Land  
**JBS&G Australia Pty Ltd**

### **Attachments**

#### **A) EPA Letter (EF15/9530)**

<sup>2</sup> Westmead Hospital Redevelopment Multi Storey Car Park – Waste Management Strategy, JBS&G Australia Pty Ltd, October 2015 (JBS&G 2015b).

**Attachment A – EPA Letter (EF15/9530)**



Our reference: EF15/9530, DOC15/508402-01  
Contact: John Goodwin

Ms Megan Fu  
Department of Planning and Infrastructure  
GPO BOX 39  
SYDNEY 2001

Dear Ms Fu

**SSD 7262 – WESTMEAD HOSPITAL – MULTI-STOREY CARPARK EIS**

I am writing to you in reply to your invitation to the EPA to comment on the EIS for a new multi-storey parking structure and associated works, including demolition and road widening.

The EPA requests that these comments be read in conjunction with its letter and attachment dated 23 September 2015

The EPA has identified the following site specific concerns based on the information (including the draft SEARs) supplied to it by Department of Planning and Environment:

- (a) the need for remedial action and engagement of an accredited site auditor;
- (b) handling, transport and disposal of asbestos waste encountered on site;
- (c) bulk earthworks, construction and construction-related noise and vibration impacts (including recommended standard construction hours and intra-day respite periods for highly intrusive noise generating work);
- (d) bulk earthworks, construction and construction-related dust control and management;
- (e) bulk earthworks, construction and construction-related erosion and sediment control and management;
- (f) operational noise and vibration impacts on noise sensitive receivers (especially surrounding residences and schools) arising from operation of the carpark during day-time, evening and night-time;
- (g) minimisation of operational water quality impacts on Toongabbie Creek; and
- (h) identification and implementation of practical opportunities to conserve water and achieve energy efficiency and conservation.

The EPA expands on its concerns in Attachment A to this letter.

Should you require clarification of any of the above please contact John Goodwin on 9995 6838.

Yours sincerely



22-12-15

**MIKE SHARPIN**  
**A/Manager Metropolitan Infrastructure**  
**Environment Protection Authority**  
Encl. Attachment A

## ATTACHMENT A

### - ENVIRONMENT PROTECTION AUTHORITY COMMENTS –

#### MULTI-STOREY CARPARK

#### 1. General

The EPA considers that the project comprises two distinct phases (construction and operational) and has set out its comments on that basis.

#### 2. Construction phase

The EPA anticipates a range of environmental impacts during the construction phase of the development. And, notes the proximity of schools, residences and Westmead private hospital.

The EPA anticipates that site preparation, bulk earthworks, construction and construction-related, and demolition activities will be undertaken in an environmentally responsible manner with particular emphasis on –

- detailed site contamination investigation and remediation, especially in regard to asbestos contaminated fill,
- compliance with recommended standard construction hours,
- waste management consistent with the hierarchy of re-use, recycle and then disposal as the last resort,
- feasible and reasonable noise and vibration minimisation and mitigation,
- intra-day respite periods from high noise generating construction activities (including jack hammering, rock breaking, pile boring or driving, saw cutting and vibratory rolling),
- effective dust control and management, and
- effective erosion and sediment control.

The EPA notes that the EIS Appendix T comprises a preliminary construction management plan. The EPA emphasises that it does not review or endorse environmental management plans or the like for reasons of maintaining regulatory 'arms length'.

#### 2.1 Site investigation and remediation

EIS Appendix M (detailed site investigation) identified asbestos contamination of fill materials across the development site.

The Executive Summary to EIS Appendix N (JBSG, 23 October 2015) states on page vii "Upon completion of the remediation works, the Validation Report and LTEMP for materials retained beneath the marker and capping layer are required to be submitted by the Remediation Consultant to the Site Auditor for certification that the site is suitable for the proposed uses....".

#### **Recommendation**

The proponent be required to

- (a) engage a site auditor accredited under the Contaminated Land Management Act 1997; and
- (b) provide a Section A site audit statement for the whole of the development site by an EPA accredited site auditor determining site suitability for the proposed land uses prior to undertaking any construction.

### Asbestos

The EPA understands that the remediation strategy is to 'cap and contain' with the excavated material proposed to be re-buried on site.

The EIS indicates:

- (a) asbestos contamination of fill material on the development site is widespread and extends across two lots, notably Lot 100 DP 1119583, and Lot 4 DP 1077852, both of which appear to be owned by NSW Health; and
- (b) the project is proposed to be undertaken on Lot 100 DP 1119583.

However, the EPA is unclear whether asbestos impacted fill materials from Lot 4 DP 1077852 are proposed to be imported onto Lot 100 DP 1119583, or vice versa. Accordingly, the EPA is unable to determine at this time whether waste regulatory requirements may be triggered by the proposed remedial action.

### **Recommendation**

The proponent be required to address the uncertainty as to whether fill material from Lot 4 DP 1077852 will be imported onto Lot 100 DP 1119583 or vice versa.

### **Recommendation**

The proponent be required to satisfy the requirements of the Protection of the Environment Operations (Waste) Regulation 2014 with particular reference to Part 7 'asbestos wastes'.

**Note:** EPA guidance material concerning the handling, transport and disposal of asbestos wastes is available via the following link to its web-site

<http://www.environment.nsw.gov.au/waste/asbestos/index.htm>.

### **Recommendation**

The proponent be required to consult with Safework NSW concerning the handling of any asbestos waste.

## 2.2 Waste control and management (general)

The proponent should manage waste in accordance with the waste management hierarchy. The waste hierarchy, established under the [Waste Avoidance and Resource Recovery Act 2001](#), is one that ensures that resource management options are considered against the following priorities:

**Avoidance** including action to reduce the amount of waste generated by households, industry and all levels of government

**Resource recovery** including reuse, recycling, reprocessing and energy recovery, consistent with the most efficient use of the recovered resources

**Disposal** including management of all disposal options in the most environmentally responsible manner.

All wastes generated during the project must be properly assessed, classified and managed in accordance with the EPA's guidelines to ensure proper treatment, transport and disposal at a landfill legally able to accept those wastes.

The EPA further anticipates that, without proper site controls and management, mud and waste may be tracked off the site during the course of the project.

### **Recommendation**

The proponent should commit to ensuring that:

- (1) all waste generated during the project is assessed, classified and managed in accordance with the "*Waste Classification Guidelines Part 1: Classifying Waste*" (EPA 2014);
- (2) the body of any vehicle or trailer, used to transport waste or excavation spoil from the premises, is covered before leaving the premises to prevent any spill or escape of any dust, waste, or spoil from the vehicle or trailer; and
- (3) mud, splatter, dust and other material likely to fall from or be cast off the wheels, underside or body of any vehicle, trailer or motorised plant leaving the site, is removed before the vehicle, trailer or motorised plant leaves the premises.

#### **2.4 Dust control and management**

The EPA considers dust control and management to be an important air quality issue during site preparation and subsequent construction. Bulk earthworks, demolition, construction and construction-related activities inevitably generate dust as a result of –

- (a) the excavation, processing and handling of excavation spoil,
- (b) wind action on spoil stock piles, and
- (c) wind action on and plant movement across areas bare of vegetation or other cover.

The proponent be required to take all such feasible and reasonable measures as may be necessary to:

- (a) minimise dust emissions on the site, and
- (b) prevent dust emissions from the site.

#### **2.5 Erosion and sediment control**

The EPA notes the proximity of Toongabbie Creek and considers that erosion and sediment controls should be designed and implemented to prevent pollution of the Creek during site preparation, bulk earthworks, construction and construction-related activities.

The Managing Urban Stormwater Soils and Construction, 4<sup>th</sup> Edition published by Landcom (the so-called 'Blue Book') provides guidance material for achieving effective erosion and sediment control on construction sites.

The EPA emphasises the importance of –

- (a) not commencing earthmoving or vegetation removal until appropriate erosion and sediment controls are in place, and
- (b) daily inspection of erosion and sediment controls which is fundamental to ensuring timely maintenance and repair of those controls.

## 2.6 Noise and vibration

The EPA notes the proximity of residences in Mons Road, Westmead private hospital and schools including Catherine McAuley Westmead.

The EPA considers that the project is likely to generate significant noise and potential vibration impacts on surrounding residences and other noise sensitive land uses during site preparation, bulk earthworks, construction and demolition.

The EPA provides the following guidance material for the assessment of noise and vibration impacts -

- Interim Construction Noise Guideline (2009) (ICNG), and
- Assessing Vibration: a technical guideline (2006).

The proponent may download a copy of the above mentioned guidance material via the following link –

<http://www.epa.nsw.gov.au/noise/>

### 2.6.1 *construction hours (general)*

The EIS Noise Impact Assessment does not:

- (a) appear to assess construction noise impacts on either the private hospital or residences in Mons Street; and
- (b) indicate proposed construction hours.

Site preparation, bulk earthworks, demolition, construction and construction-related activities should be undertaken during the recommended standard construction hours set out in ICNG Table 1.

The EPA accepts that certain emergency work may need to be undertaken urgently (other than during the standard recommended hours) in order to avoid –

- loss of life,
- damage to property, or
- environmental harm.

## Recommendation

The proponent be required to comply with the standard construction hours as recommended in Table 1 Chapter 2 of the Interim Construction Noise Guideline, July 2009.

### 2.6.2 construction hours (intra-day respite periods)

The EPA notes the proximity of the project to various noise sensitive receivers as outlined above. The proponent should consult closely with residents and the management of other noise sensitive receivers (private hospital and schools) to appropriately schedule activities that generate highly intrusive noise.

ICNG section 4.5 specifies construction activities proven to be particularly annoying and intrusive to nearby residents and which are considered at least as annoying to the nearby private hospital and schools. The EPA anticipates that those activities generating noise with particularly annoying or intrusive characteristics would be subject to a regime of intra-day respite periods where –

- (a) they are only undertaken over continuous periods not exceeding 3 hours with at least a 1 hour respite every three hours, and.
- (b) 'continuous' means any period during which there is less than an uninterrupted 60 minute respite between temporarily halting and recommencing any of the work referred to in ICNG section 4.5

## Recommendation

The proponent be required (in consultation with residents and the management of other surrounding noise sensitive receivers) to schedule intra-day 'respite periods' for construction activities identified in the Interim Construction Noise Guideline as being particularly annoying to surrounding residents and other noise sensitive receivers.

### 2.6.3 reversing and movement alarms

The EPA has identified the noise from 'beeper' type plant movement alarms to be particularly intrusive and is aware of feasible and reasonable alternatives. Transport for NSW, Barangaroo Delivery Authority/Lend Lease and Leighton Contractors (M2 Upgrade project) have undertaken safety risk assessments of alternatives to the traditional 'beeper' alarms. Each determined that adoption of 'quacker' type movement/reversing alarms instead of traditional beepers on all plant and vehicles would not only maintain a safe workplace but also deliver improved outcomes of reduced noise impacts on surrounding residents.

Interim Construction Noise Guideline Appendix C provides additional background material on this issue.

The proponent should commit to undertaking a safety risk assessment of construction activities to determine whether it is practicable to use audible movement alarms of a type that would minimise the noise impact on surrounding noise sensitive receivers, without compromising safety.

## 3. Operational phase

The Carpark will represent a significant long-term infrastructure investment with concomitantly long-term environmental impacts.

The EPA considers that environmental impacts that arise once the carpark commences operation can largely be averted by responsible environmental management practices, particularly with regard to:

- (a) feasible and reasonable noise avoidance and minimisation; and
- (b) water quality (Toongabbie Creek); and
- (c) energy and water conservation (including stormwater collection, treatment and re-use).

### 3.1 Noise and vibration impacts

The EPA anticipates that the proposed facilities are likely to change the nature and intensity of noise impacts on surrounding noise sensitive receivers (example: residences, private hospital and schools). The *NSW Industrial Noise Policy, January 2000* (INP) provides guidance material on noise impact assessment.

EIS Appendix Q indicates that the proposed car park will be 8 storeys high and operate 24 hours per day 7 days per week. The EPA notes the location of residences in Mons Road and the proximity of Westmead private hospital. However, the EIS does not appear to provide an assessment of the predicted operational noise impacts (especially sleep disturbance impacts) on the nearby residences in Mons Road or on Westmead private hospital.

Section 6.1.3 to EIS Appendix Q proposes a number of noise mitigation measures concerning surface finishes and drainage grates in the multi-storey carpark. The EPA considers that, given the proposed round the clock use of the carpark and its height relative to surrounding development, additional noise mitigation and management measures may be warranted.

#### **Recommendation**

The proponent be required to revise the noise impact assessment of operation of the multi-storey parking structure to include a detailed noise impact assessment of –

- (a) potential sleep disturbance impacts on surrounding residents, private hospital patients and child care facilities (if any);
- (b) the need to apply 'modifying factors' (see INP chapter 4) to noise monitoring data and associated noise impact assessment; and
- (c) the need to provide noise shielding to minimise noise impacts of noise sensitive receivers; and
- (d) the need to adopt management measures to minimise noise impacts, especially evening and night-time impacts on noise sensitive receivers.

#### **Recommendation**

The proponent should be required to commit to averting unacceptable noise impacts on surrounding noise sensitive receivers by undertaking a noise monitoring program to 'ground truth' noise impact predictions at set periods following commencement of operation of the new multi-storey parking structure.

### 3.2 Water Quality (Toongabbie Creek), Water Conservation and Energy Efficiency

The EPA considers the design stage of the project to be the optimum time to integrate measures to achieve -

- water conservation through stormwater collection, treatment and re-use for non potable purposes such as grounds maintenance, and
- water efficiency

The EPA notes the location of Toongabbie Creek along the western side of the hospital campus. And, emphasises the importance of preventing water pollution associated with runoff from the development.

EIS section 6.2.3 (3<sup>rd</sup> para.) states "Water quality treatment from stormwater will the requirements of Council and consider downstream impacts ...".

Appendix I *Hydraulic Services* indicates that the multi-storey carpark stormwater will be directed to an "On Site Detention Tank and stormwater treatment device ... " to be designed by others. However, Section 3.2 of EIS Appendix J *Civil Engineering Part 1* indicates that "OSD for the MSCP will be provided within the car park footprint, and as such will be designed and specified by the project's hydraulic engineer ..."

Section 3.1 of EIS Appendix J *Civil Engineering* acknowledges certain stormwater pollutant reduction targets. However, the EPA is unclear whether those targets will achieve water quality consistent with Sydney Harbour and Parramatta River Water Quality Objectives. Section 3.1 goes on to confirm that "...water quality modelling of the site has not been undertaken to confirm the specifications for the treatment device/s."

The EPA is unclear whether stormwater detained on site will be stored for re-use (examples: landscape and sports field irrigation, toilet flushing) as would be suggested by Water Sensitive Urban Design principles and objectives. The proponent does not appear to have investigated opportunities for stormwater re-use on the hospital campus.

#### **Recommendation**

The proponent be required to identify, evaluate and implement additional practical measures for the management of stormwater consistent with the principles and objectives of water sensitive urban design, including (where feasible) collection, treatment and re-use of stormwater for non-potable water uses on the hospital campus and nearby school and university campuses.

### 3.3 Energy Efficiency and Conservation

The EPA considers the design stage of the project to be the optimum time to integrate measures to achieve energy efficiency (with resultant running cost savings).

EIS section 6.23 indicates that all but the lower ground floor will be naturally ventilated whilst low energy lighting is to be installed throughout the multi-storey structure and at grade carparks.

However, the EIS does not assess practical opportunities to generate renewable energy to serve the energy demand of operating the carparks.

**Recommendation**

The proponent be required to identify, evaluate and implement additional practical measures for energy efficiency and conservation.

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