



Your reference: SSD 5356  
Our reference: DOC13/958  
Contact: J Goodwin 9995 6838

Ben Eveleigh  
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Department of Planning  
Received  
20 FEB 2013  
Scanning Room

Dear Mr Eveleigh

**SSD 5356 - HORNSBY KU-RING-GAI HOSPITAL REDEVELOPMENT (STAGE1)**

I am writing to you to reply to your invitation to the EPA to comment concerning the above proposal.

The EPA's main concerns are that any development consent ensures the proponent adequately addresses predicted environmental impacts and proposed mitigation measures, especially those associated with:

- (a) a more detailed assessment of potential site contamination following demolition of existing buildings, including information about groundwater and the de-commissioned underground storage tank ;
- (b) handling, transport and disposal of any asbestos waste;
- (c) construction related noise and vibration (including recommended standard construction hours and respite periods for high noise impact work), dust control and management, and erosion and sediment control; and
- (d) proper assessment of background noise levels and the potential noise and vibration impacts arising from operational activities such as waste collection, loading dock activities, mechanical services (especially air conditioning plant) operation and standby generator testing and operation.

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



**FRANK GAROFALOW**  
Manager, Metropolitan Infrastructure  
NSW Environment Protection Authority  
encl. Attachment A

**ATTACHMENT A**

**- ENVIRONMENT PROTECTION AUTHORITY COMMENTS -**

**HORNSBY KU-RING-GAI HOSPITAL REDEVELOPMENT (STAGE 1)**

**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 project Environmental Impact Statement (EIS) raises a number of environmental concerns about environmental impacts during the construction phase of the development which should be addressed by the conditions of any consent that may be forthcoming.

The EPA anticipates that construction and construction-related activities will be required to be undertaken in an environmentally responsible manner with particular emphasis on –

- detailed site contamination investigation and remediation,
- recommended standard construction hours,
- waste management consistent with the hierarchy of re-use, recycle and then disposal as the last resort,
- 'special waste' management,
- feasible and reasonable noise and vibration minimisation and mitigation,
- intra-day respite periods from high noise generating construction activities such as jack hammering, pile boring or driving and saw cutting,
- effective dust control and management, and
- effective erosion and sediment control.

**2.1 Site investigation and remediation**

The EPA does not consider that the EIS provides sufficient information on the contamination status of soils and groundwater to enable it to provide meaningful comments.

For instance, the EIS does not include detailed information about –

- (a) groundwater (example: depth and likely impact to groundwater),
- (b) fill material, or
- (b) potential impacts from the de-commissioned underground storage tank – see EIS section 6.14.

**Recommendation**

The proponent should be required to engage a site auditor accredited under the Contaminated Land Management Act 1997 to –

- (a) undertake a more detailed assessment of potential site contamination after the existing buildings have been demolished and removed from the site so as to enable the affected areas to be inspected and sampled, and



- (b) ultimately issue a site audit statement commenting on the suitability of the remediated site (if necessary) for the proposed use subject to such conditions as deemed appropriate by that site auditor.

## 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 be required to ensure that :

- (1) all waste generated during the project is assessed, classified and managed in accordance with the "Waste Classification Guidelines Part 1: Classifying Waste" (Department of Environment Climate Change and Water, December 2009);
- (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.

## 2.3 Special waste (asbestos sheeting)

The EIS identifies the likelihood of some asbestos containing material on the site comprising asbestos sheeting used in various buildings which the EPA understands are proposed to be demolished.

The proponent should apprise itself of the requirements of the Protection of the Environment Operations ('Waste Regulation) 2005 with particular reference to 'special wastes'. The EPA provides additional guidance material at its web-site <http://www.environment.nsw.gov.au/waste/asbestos/index.htm>.

The proponent should be required to consult with Workcover NSW.

## 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 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.

### **Recommendation**

The proponent should be required to:

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

## 2.5 Erosion and sediment control

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 considers that the project is likely to generate significant noise and vibration impacts on surrounding residences and other noise sensitive land uses during construction. Guidance material is available on the EPA web site including downloadable copies of –

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

EIS section 6.10 (p.60) indicates an intention to undertake construction outside the recommended standard construction hours in Table 1 (p.8) to the *Interim Construction Noise Guideline (ICNG), July 2009*.

### **Recommendation**

The proponent should be required to –

- (a) identify surrounding noise sensitive land uses, and
- (b) undertake a noise and vibration impact assessment of construction activities, especially any such activities -
  - (i) likely to generate noise with annoying characteristics, or



- (ii) proposed to be undertaken outside the recommended standard hours discussed in Interim Construction Noise Guideline

#### 2.6.1 *construction hours (including respite periods)*

Whilst ICNG recommended standard hours for construction (outside of which long experience shows increasing levels of community concern about construction noise impacts) 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.

ICNG section 4.5 specifies construction activities proven to be particularly annoying to nearby residents or otherwise likely to generate noise with impulsive, intermittent, low-frequency or tonal characteristics. The EPA anticipates that those activities generating noise with particularly annoying 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 should be required to address:

- (a) the issue of construction hours as recommended in Table 1 Chapter 2 of the Interim Construction Noise Guideline, July 2009; and
- (b) whether there are likely to be any special circumstances under which construction might need to be carried out outside the recommended standard hours
- (c) scheduled 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.

#### 2.6.2 *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 (nee Transport Construction Authority), 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 undertake 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 EPA anticipates that environmental impacts once the new hospital facilities commence operation can largely be averted by responsible environmental management practices, particularly with regard to:

- (a) management of hospital wastes, especially medical waste; and
- (b) feasible and reasonable noise avoidance and minimisation.

#### 3.1 Clinical and related waste

The EPA anticipates that the proposed facilities will generate 'clinical and related waste' which are defined under the Protection of the Environment Operations Act 1997. Clinical and related waste includes clinical waste; cytotoxic waste; pharmaceutical, drug or medicine waste; and sharps waste.

Clinical and related waste has been pre-classified as a 'special waste'. This allows the EPA to set more stringent and specific requirements for the transport and management of the waste to minimise the risk to the environment and human health. Clause 43 to the Protection of the Environment Operations (waste) Regulation 2005 prescribes requirements for managing certain clinical and related waste.

Waste managers/operators who transport, store, treat or dispose of clinical and related waste should check the details of the Protection of the Environment Operations Act and the Protection of the Environment Operations (Waste) Regulation 2005 for licensing and generic requirements in relation to clinical waste.

### Recommendation

The proponent should be required to review its arrangements for the proper assessment, handling, storage, transport, treatment and disposal of clinical and related waste arising from operation of the new facilities to ensure compliance with Protection of the Environment Operations Act 1997 and the Protection of the Environment Operations (Waste) Regulation 2005.

#### 3.2 Noise 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 and child care facilities). The *NSW Industrial Noise Policy, January 2000* (INP) provides guidance material. The proponent does not appear to have determined the background noise level on the basis of at least 7 days of valid monitoring data (see INP sections 3.4 and 3.5).

EPA is aware from long experience that significant risks of unacceptable noise impact arise from inadequate noise management and mitigation measures, including:-

- inadequate community consultation and liaison, exacerbated by difficulties in logging noise complaints and obtaining an active and timely response to those complaints;
- failure to adequately assess potential sleep disturbance impacts on surrounding residents and child care facilities;
- failure to assess the need to apply 'modifying factors' (see INP chapter 4) to noise monitoring data and associated noise impact assessment;
- failure to design loading docks and waste collection areas to –
  - (a) avoid or minimise the activation of vehicle reversing alarms during use of those facilities, or



- (b) adequately shield surrounding noise sensitive receivers, especially residences, from noise generated during activities associated with those facilities;
- inadequate design, selection and maintenance of noise generating mechanical services (especially air handling plant and equipment and automated valves) and associated rooms and enclosures;
- permitting loading dock and waste collection activities outside 'day-time' hours, being 7.00 am to 6.00 pm Monday to Saturday and 8.00 am to 6.00 pm Sundays and public holidays);
- testing of standby emergency generators outside 'day-time' hours or during programmed sleeping sessions at child care facilities.

Nevertheless, the proponent should be able to avert unacceptable noise impacts on surrounding noise sensitive receivers by –

- preparing a detailed operational noise impact statement that incorporates feasible and reasonable measures to avoid, minimise and manage noise and incorporating those noise avoidance and minimisation measures at the design stage of the project,
- establishing and fostering a good relationship with noise sensitive receivers, especially surrounding residents, and
- undertaking a noise monitoring program to 'ground truth' noise impact predictions at set periods following commencement of operation of the new facilities.

## **Recommendation**

The proponent should be required to:

- (a) prepare a detailed noise impact statement in accordance with guidance material in the NSW Industrial Noise Policy, January 2000 and to incorporate feasible and reasonable noise avoidance and minimisation measures into the detailed project design,
- (b) restrict loading dock, waste collection and standby emergency generator testing activities to 'day-time' as defined in the NSW Industrial Noise Policy, January 2000, and
- (c) undertake a noise monitoring program at say 60 days and then 1 year after commencement of operation of the various project elements to verify that measured noise levels do not exceed levels predicted in the required noise impact statement and acceptable noise levels identified in the NSW Industrial Noise Policy, January 2000.

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