EF13/5547, DOC 17/148208
SSD 7417

7 April 2017

Mr Peter McManus
Department of Planning and Environment
GPO BOX 39
SYDNEY NSW 2001

Dear Mr McManus

SSD 7417 – UNIVERSITY OF SYDNEY REGIMENT MIXED USE RE-DEVELOPMENT - EIS

I am writing to you in reply to your invitation to the EPA to provide a submission in respect of the project EIS.

The EPA notes that proximity of the development to residences (including residential colleges not located on the University campus) and to the Darlington Public School.

The EPA emphasises that it does not review or endorse environmental management plans or the like for reasons of maintaining regulatory 'arms length'. And, has not reviewed any environmental management plan forming part of or referred to in the EIS.

The EPA has identified the following site specific concerns based on the information available on the Department of Planning and Environment major projects web site:

(a) handling, transport and disposal of any asbestos waste and lead-based paint encountered during demolition, site preparation and construction;

(b) demolition, site preparation, bulk earthworks, construction and construction-related noise impacts (including recommended standard construction hours and intra-day respite periods for highly intrusive noise generating work) on noise sensitive receivers such as surrounding residences;

(d) demolition, site preparation, bulk earthworks and construction phase dust control and management;

(e) demolition, site preparation, bulk earthworks and construction phase runoff control and management; and

(f) operational noise management

PO Box 668 Parramatta NSW 2124
Level 13, 10 Valentine Avenue Parramatta NSW 2150
Tel: (02) 9995 5000 Fax: (02) 9995 6900
ABN 43 692 285 758
www.epa.nsw.gov.au

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

MIKE SHARPIN
Acting Manager, Metropolitan Infrastructure
NSW Environment Protection Authority

Attachment A

ATTACHMENT A

- ENVIRONMENT PROTECTION AUTHORITY COMMENTS –

SYDNEY UNIVERSITY REGIMENT MIXED USE RE-DEVELOPMENT

1. General

The EPA considers that the project comprises distinct phases of construction (including demolition) and operation and has set out its comments on that basis.

The EPA notes the proximity of surrounding residences which may be adversely affected by noise impacts during demolition, site preparation, construction and operation phases of the project.

2. Construction phase

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

- the site contamination remediation action plan accompanying the EIS,
- compliance with recommended standard construction hours,
- intra-day respite periods from high noise generating construction activities (including jack hammering, rock breaking, pile boring or driving, saw cutting),
- feasible and reasonable noise and vibration minimisation and mitigation,
- effective dust control and management,
- erosion and sediment control, and
- waste handling and management, particularly concrete waste and rinse water.

2.1 Asbestos containing material and lead-based paint

The EPA notes the age of the complex and thus anticipates the likelihood that asbestos containing material and lead-based paint are likely to be encountered during the course of any demolition and construction activities.

The EPA notes that Appendix Lv ‘Remediation Action Plan’ includes procedures for identifying and dealing with unexpected finds of site contamination.

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: The EPA provides additional guidance material at 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 that may be encountered during the course of the project.

2.2 Noise and vibration

The EPA emphasises the importance of properly managing noise and vibration impacts during demolition, site preparation, construction and construction-related activities, especially in regard to high noise impact activities, such as grinding, jack hammering, pile driving, rock breaking and hammering, rock drilling and saw cutting.

The noise impact assessment did not provide the anticipated quantitative assessment of construction noise impacts, but referred instead to the likelihood of some activities exceeding noise management levels.

The hierarchy of controls suggested in the noise impact assessment is inconsistent with that suggested by the EPA as it considers path controls before source controls (silencers), before activity relocation. (example: Figure 2)

2.2.1 General construction hours

The EPA emphasises that in general demolition, site preparation, bulk earthworks, construction and construction-related activities should be undertaken during the recommended standard construction hours.

Recommendation

The proponent be required to ensure that as far as practicable all demolition, site preparation, construction and construction-related work likely to be audible at any noise sensitive receivers, including residences and residential colleges, is undertaken only during the standard construction hours, being -

(a) 7.00 am to 6.00 pm Monday t0 Friday,

(b) 8.00 am to 1.00 pm Saturday, and

(c) no work on Sundays or gazetted public holidays.

2.2.2 Intra-day respite periods

The EPA anticipates that those demolition, site preparation, bulk earthworks, construction and construction-related activities generating noise with particularly annoying or intrusive characteristics (such as those identified as particularly annoying in section 4.5 of the Interim Construction Noise Guideline) would be subject to a regime of intra-day respite periods where –

(a) they are only undertaken after 8.00 am,

(b) they are only undertaken over continuous periods not exceeding 3 hours with at least a 1 hour respite every three hours, and.

(c) ‘continuous’ means any period during which there is less than an uninterrupted 60 minute respite between temporarily halting and recommencing any of the intrusive and annoying work referred to in Interim Construction Noise Guideline section 4.5

The EPA emphasises that intra-day respite periods are not proposed to apply to those demolition, site preparation, construction and construction-related activities that do not generate noise with particularly annoying or intrusive characteristics.

Recommendation

The proponent be required to schedule intra-day 'respite periods' for construction activities identified in section 4.5 of the Interim Construction Noise Guideline as being particularly annoying to noise sensitive receivers, including surrounding residents.

2.2.3 Idling and queuing construction vehicles

The EPA is aware from previous major infrastructure projects that community concerns are likely to arise from noise impacts associated with the early arrival and idling of construction vehicles (including concrete agitator trucks) at the development site and in the residential precincts surrounding that site.

Recommendation

The proponent be required to ensure construction vehicles (including concrete agitator trucks) involved in demolition, site preparation, bulk earthworks, construction and construction-related activities do not arrive at the project site or in surrounding residential precincts outside approved construction hours.

2.2.4 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.

Recommendation

The proponent be required to consider undertaking a safety risk assessment of site preparation, bulk earth works, construction and construction-related 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.

2.4 Dust control and management

The EPA considers dust control and management to be an important air quality issue during demolition, site preparation, bulk earthworks and subsequent construction.

Recommendation

The proponent be required to:

(a) minimise dust emissions on the site, and

(b) prevent dust emissions from the site.

2.5 Sediment control

Managing Urban Stormwater Soils and Construction, 4th Edition published by Landcom (the so-called 'Blue Book') provides guidance material for achieving effective sediment control on construction sites. The proponent should implement all such feasible and reasonable measures as may be necessary to prevent water pollution in the course of developing the site.

The EPA emphasises the importance of –

(a) not commencing demolition, construction and construction-related activities until appropriate and effective sediment controls are in place, and

(b) daily inspection of sediment controls which is fundamental to ensuring timely maintenance and repair of those controls.

2.6 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 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.

2.7 Waste control and management (concrete and concrete rinse water)

The EPA anticipates that during the course of the project concrete deliveries and pumping are likely to generate significant volumes of concrete waste and rinse water. The proponent should ensure that concrete waste and rinse water is not disposed of on the project site and instead that –

(a) waste concrete is either returned in the agitator trucks to the supplier or directed to a dedicated watertight skip protected from the entry of precipitation, and

(b) concrete rinse water is directed to a dedicated watertight skip protected from the entry of precipitation or a suitable water treatment plant.

Recommendation

The proponent be required to ensure that concrete waste and rinse water are

(a) not disposed of on the development site, and

(b) prevented from entering waters, including any natural or artificial watercourse.

3. Operational phase

The EPA considers that environmental impacts that arise once the development is operational should be able to be largely averted by responsible environmental management practices, particularly with regard to:

(a) feasible and reasonable noise mitigation measures;

(b) waste management in accordance with the waste management hierarchy;

(c) water sensitive urban design; and

(d) energy conservation and efficiency.

3.1 Noise and vibration impacts

The EPA anticipates the proposed development may have significant operational noise impacts on nearby sensitive receivers, including residences and residential colleges not under University control and management as well as the Darlington Public School. And, those noise impacts are likely to include noise emitted from amongst other things -

- mechanical ventilation plant and equipment,
- use of roof top terraces, and
- truck movements (incl. reversing beepers) associated with waste collection services.

EIS Appendix H comprises the Noise Impact Assessment (NIA) for the project. The NIA states that "existing L_{eq} noise levels are largely controlled by direct and latent traffic noise levels from City Road. In the absence of significant industrial sources, no additional adjustments to the amenity criterion are required."

The EPA notes that there do not seem to be significant industrial-type noise sources in the area, so it is likely that the existing industrial noise level is $L_{eq(night)}$ 40 dBA or less. Thus, the area would be defined in the Industrial Noise Policy as 'urban', with –

- the adopted night-time amenity criterion being $L_{eq(night)}$ 43 dBA, and
- the controlling project specific noise levels for plant on the building being $L_{eq(15min)}$ 48 dBA and $L_{eq(night)}$ 43 dBA measured at the nearest residential receiver.

Background noise measurement

The EPA emphasises that properly establishing background noise levels in accordance with guidance material in the New South Wales Industrial Noise Policy (INP) is fundamental to a consistent approach to the quantitative assessment of noise impacts of development.

The EPA is concerned that monitoring to establish background noise levels was undertaken inconsistent with the guidance material provided in the INP. The EPA note sin particular that:

(a) section 4.2.1 to EIS Appendix H *Noise Impact Assessment* (NIA) states that unattended noise monitoring was done using an Acoustic Research Labs noise logger, but is mute about the equipment model or whether each logger used had been NATA calibrated in the past two years;

(b) background noise monitoring was not undertaken at the most affected/nearest sensitive receiver location because the noise logger "… could not be installed directly at the receiver as it is private property", but does indicate whether the proponent requested owner/ occupier permission to install a logger at the residential receiver premises.

(c) The nearest residential sensitive receiver, at 120 Darlington Road, is about three quarters the distance from City Road as the monitoring location at 110 Darlington Road. The dominant source of noise at these locations appears to be traffic on City Road. The EPA thus anticipates that –

(i) the ambient and background noise levels at 120 Darlington Road are about 1 dB higher than at 110 Darlington Road, and

(ii) a night time ambient noise level of about $L_{eq(night)}$ 50 dBA, and a rating background level about 43 dBA, at 120 Darlington Road.

Mechanical plant and equipment

The EPA notes that the development includes lift plant (serving 3 elevators), a level 9 plant room (presumably ventilation), a bin lift facing Darlington Road and a lower ground floor pump room.

The EPA further notes that the EIS does not provide detailed noise impact assessment of any of the plant and proposes instead to prepare such an assessment pending detailed design becoming available.

Recommendation

The proponent be required to:

(a) provide a quantitative assessment of predicted operational noise impacts on surrounding noise sensitive receivers, especially the Darlington House and Land and Housing Corporation residences located on the corner of Golden Grove Street and Darlington Road;

(b) ensure plant and equipment does not generate noise that –

(i) exceeds 5 dBA above the night-time background noise level measured at the northern boundary of the development site, and

(ii) exhibits tonal or other annoying characteristics.

Recommendation

That consideration be given to requiring the proponent –

(a) to undertake noise compliance monitoring and assessment during commissioning of mechanical plant and equipment serving the development; and

(b) to report the results of the compliance assessment monitoring referred to in (a) to confirm that noise levels do not exceed levels predicted in the required noise impact assessment and acceptable noise criteria identified in the NSW Industrial Noise Policy, January 2000.

Roof top terraces

The EPA notes that the development includes rooftop terraces on levels 5, 6, 7 and 8.

The EPA further notes that section 7.1 to EIS Appendix H –

(a) canvasses noise impacts associated use of the roof terrace on level 5,

(b) does not appear to consider impacts associated with the use of roof terraces on levels 6, 7 and 8, and

(c) recommends restrictions on music and hours of use (i.e. between 10.00 pm and 7.00 am).

Recommendation

That the proponent be required to ensure that for all roof terraces –

(a) amplified sound not be used at any time, and

(b) the hours of use be limited to 8.00 am to 10.00 pm Monday to Saturday, and to 9.00 am to 6.00 pm on Sundays and Public holidays.

Waste collection services

The EPA notes that the lower ground floor 'garbage room' is to be served by a bin lift to Darlington Road street level and an associated 'loading zone' located opposite Darlington House (residential flat building) and the Land Housing Corporation residences on the corner of Darlington Road and Golden Grove Street.

Waste collection services have been a source of community concern at other universities when those services are rendered other than between 7.30 and 6.00 pm on weekdays.

Recommendation

The proponent be required ensure waste collection services are not undertaken outside the hours of 7.30 am to 6.00 pm Monday to Friday.

3.2 Waste management

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.

Recommendation

The proponent be required to identify and implement feasible and reasonable opportunities for the re-use and recycling of waste, including food waste.

3.3 Water sensitive urban design

The EPA anticipates that the proponent would adopt water sensitive urban design principles:

(a) to minimise water consumption for potable and grounds maintenance uses; and

(b) to protect receiving waters from gross pollutants and other pollutants typical of runoff from the proposed land use.

The EPA notes that EIS Appendix W comprises an ESD Report which indicates that water conservation and efficiency would be addressed in conformity with the University's Sustainable Design Framework.

The EPA further notes specific proposals to reduce consumption of potable water, including a rainwater re-use tank in the north eastern corner of the lower ground floor.

3.4 Energy conservation and efficiency

The EPA notes that EIS Appendix W comprises an ESD Report which indicates that energy conservation and efficiency would be addressed in conformity with the University's Sustainable Design Framework.

The EPA further notes specific proposals to reduce energy consumption by means of passive thermal design and other measures including installation of roof top solar cells.
