EF13/5547, DOC 17/318811-01
SSD 8126

Ms Michelle Niles
Department of Planning and Environment
GPO BOX 39
SYDNEY NSW 2001

Dear Ms Niles

SSD 8126 – UNSW CLIFFBROOK CAMPUS RE-DEVELOPMENT – ENVIRONMENTAL IMPACT STATEMENT (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 the close proximity of the development to surrounding residences especially those in Battery Street, Flood Street, Beach Street and Gordon Avenue.

The EPA emphasises that it does not review or endorse environmental management plans or the like for reasons of maintaining regulatory 'arms length' and therefore 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

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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

31/7/2017

JACINTA HANEMANN
Regional Manager Operations, Metropolitan Infrastructure
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9995 – 6838

Attachment A

ATTACHMENT A

- ENVIRONMENT PROTECTION AUTHORITY COMMENTS –

UNIVERSITY OF NEW SOUTH WALES CLIFFBROOK CAMPUS 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, site preparation, bulk earthworks 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

EIS Appendices T2 and T3 comprise preliminary and additional site investigation reports that have identified the presence of asbestos containing material that may be encountered during the course of any demolition and construction activities.

The EIS generally states that there is no evidence of historical activities resulting in gross or widespread contamination of the site.

The EPA notes that:

(a) a preliminary site contamination assessment (EIS Appendix T2) for the proposed redevelopment. with past and present potentially contaminating activities assessed across the site using historical evidence, including aerial photos, soil sampling, to prepare a preliminary conceptual site model;

(b) no groundwater sampling has been undertaken at the site;

(c) concentrations of heavy metals, TRH fractions (including BTEX), were reported below LOR and/or adopted health and ecological based assessment criteria (NEPM 2013), except for BaP at one location in fill material (BH03: 3.7 mg/kg);

(d) Asbestos was not detected above LOR, except for asbestos containing material (ACM) identified in fill material at one location (HA02: 0.0657 %w/w);

(e) A search of historical land titles for the site was undertaken. Lot 8 of DP8162, the residential property of the site, has had multiple residential ownerships since 1916 until UNSW took over in 2002. Lot 1 of DP8162 and Lot 1 of DP109530, the remainder of the site, has had multiple residential and commercial ownerships until UNSW took over in 1997;

(f) A review of current and historic land uses has identified fill material on the development site as the environmental concern due to the presence of asbestos containing material (ACM) fragments and asbestos fibres (AF); and

(g) section 2.2 to Appendix T2 indicates (5th para) that a petrol bowser was present on site at some point although not found during the preliminary site investigation.

Section 10.2 to Appendix T2 recommends that further intrusive investigation be undertaken prior to development to assess "... the extent and management requirements for identified asbestos in soil, and to confirm the suitability of the site with respect to soil contamination." Accordingly. EIS Appendix T3 reports that "additional investigation to assess the areas surrounding identified asbestos contamination to ascertain its extent" was undertaken. And, that additional investigation reports asbestos identified in the fill materials at the site do not pose a health risk provided the existing grass cover is maintained. Appendix T3 goes on to recommend in relation to the asbestos containing material, that –

(i) if in-situ management of the material is preferred, an Asbestos Management Plan must be prepared, or

(ii) if excavation and removal of the material is preferred, a Remedial Action Plan must be prepared.

The EPA further notes that more recent structures are likely to contain asbestos (example: eaves soffit lining) and anticipates various structures may contain lead-based paint.

Section 3.3 to Appendix T2 indicates that the site "... passed to the Australian Atomic Energy Commission (AEC) in 1959." however there does not appear to have been any investigation of whether there has been any radiological contamination of the site. The AEC as a Commonwealth body is not subject to the Radiation Control Act 1990 or any prior NSW Statutes. The EIS does not appear to include an assessment of the nature of the AEC occupation of the site or the risk of radiological contamination associated with that occupation.

Recommendation

the proponent be required to provide a detailed map outlining the area of the proposed redevelopment located within the site, identified as to Lot 1 of DP109530 and Lot 1 & 8 of DP8162, to ensure that the remediation strategy is appropriate.

Recommendation

The proponent be required to engage a site auditor, accredited under the *Contaminated Land Management Act* 1997, to undertake an audit to assess whether the site is suitable for the proposed development on the condition of the implementation of an Asbestos Management Plan or Remedial Action Plan addressing the asbestos contamination of the development site.

Recommendation

The proponent be required to develop (prior to any site preparation, demolition or excavation on the development site) procedures for identifying and dealing with unexpected finds of site contamination including –

(a) asbestos containing materials,

(b) lead-based paint, and

(c) potential contamination related to the defunct petrol bowser and any associated underground petroleum storage system.

Recommendation

The proponent be required to undertake further investigation to clarify whether any radiological contamination may have occurred during the tenure of the Australian Atomic Energy Commission and its successors, including advice from the Australian Nuclear Science and Technology Organisation (ANSTO) as to whether any radiological substances may have been handled on the development site.

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, bulk earthworks, 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, saw cutting and vibratory rolling.

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.

EIS Appendix G proposes construction hours inconsistent with the recommended standard construction hours (i.e. extended construction hours on Saturdays). However, the Interim Construction Noise Guideline recommends that construction outside of the standard hours should only occur if there is strong justification, such as to sustain the operational integrity of road, rail and utility networks, which provide benefits to the greater community. However, the EIS does not provide strong justification for construction outside the standard 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 to 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 those activities are only undertaken –

(a) after 8.00 am, and

(b) over continuous periods not exceeding 3 hours with at least a 1 hour respite every three hours (where '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 those demolition, site preparation, bulk earthworks, construction and construction-related activities identified in section 4.5 of the Interim Construction Noise Guideline as being particularly annoying to noise sensitive receivers (i.e. surrounding residences).

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 (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.

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 during development of the site.

The EPA notes that the development site slopes down to Gordons Bay.

The EPA emphasises the importance of –

(a) not commencing demolition, bulk excavation, 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 in Battery Street, Flood Street, Beach Street and Gordons Avenue. Those noise impacts are likely to include noise emitted from amongst other things -

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

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. And that, the background noise monitoring undertaken provides at least a '... week's worth ...' of valid data.

monitoring period

Section 4.1.1 (p.11) to EIS Appendix G (Acoustic Report) indicates that unattended background noise monitoring was undertaken from Wednesday 3 February 2016 and Thursday 11 February 2016. However, Table 2 *Results of Long Term Monitoring* to the Acoustic Report and the logger graphs appended thereto indicate background noise monitoring was undertaken from 19 April 2016 to 27 April 2016.

data anomalies

The EPA notes that monitoring to establish background noise levels was not undertaken in accordance with the guidance material provided in the INP. Instead, the Project Specific Noise Levels nominated by the proponent in Table 4 to EIS Appendix G are based on monitoring data that appears to be affected by wind, rainfall, or an extraneous noise source.

The EPA notes that:

(a) logger graphs in Appendix B to the Acoustics Report display characteristics suggesting that wind, rain, or a nearby noise source, such as an air conditioner has affected the monitoring results such that the background (LA90) levels are around 50 decibels (dBA) throughout both Saturday 23 and Sunday 24 April 2016;

(b) the meteorological data (subsequently provided at the EPA's request) excludes the meteorological data for both Saturday 23 April and Sunday 24 April;

(c) the background and average (Leq) levels are almost the same throughout most nights, which is indicative of a constant noise source nearby the monitoring location;

(d) the EIS does not include contemporaneous notes, or other explanatory text, to satisfactorily explain the unusual results outlined in paragraphs (a) and (c) above.

Accordingly, the EPA does not consider that the unattended background noise monitoring data is valid unless a satisfactory explanation is provided for the relatively high background levels and the closeness of the background and average noise levels.

Recommendation

The proponent be required to clarify when unattended background noise monitoring was undertaken.

Recommendation

The proponent be required to provide either –

(a) a satisfactory explanation for the background noise monitoring data anomalies, or

(b) data that is confirmed to be not affected by wind, rain or an extraneous noise source,

as required by Chapter 3 to the Industrial Noise Policy.

quantitative noise impact assessment

The Secretary's Environmental Assessment Requirements (SEARs) require the proponent to undertake a quantitative noise impact assessment.

The EPA notes that Appendix G Executive Summary states that –

(a) construction noise and vibration predictions are provided in accordance with the relevant policy documents listed in the SEARs, and

(b) operational noise predictions are provided in accordance with the relevant policy documents listed in the SEARs.

However, the EIS 'Acoustic Report' (i.e. Appendix G) does not appear to include noise and vibration impact predictions.

Accordingly, the EPA is unable to properly assess predicted noise impacts of the proposed development or to determine whether proposed noise mitigation and measures would be effective.

mechanical plant and equipment

The EPA notes that the development includes lift plant as well as mechanical ventilation plant.

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 residences in Battery, Beach and Flood Streets, and Gordon Avenue which are likely to be the most affected mechanical plant and equipment noise, especially ventilation/air-conditioning plant and equipment noise; and

(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.

outdoor areas (associated with dining room and cocktail bar)

The EPA notes that the development includes a dining room and cocktail lounge with sliding doors connecting to balcony areas and anticipates significant noise impacts arising from use of those areas on surrounding residences, particularly those residences in Gordon Avenue, Beach Street and Battery Street that adjoin the development site.

Recommendation

That the proponent be required to ensure that:

(a) amplified sound not be used at any time on balcony or other outdoor areas; and

(b) the hours of use of the balcony or other outdoor areas associated with the dining room and cocktail lounge be limited to –

(i) 8.00 am to 8.00 pm Monday to Saturday, and

(ii) 9.00 am to 6.00 pm on Sundays and Public holidays.

waste collection services

The EPA notes the location of the 'waste' room near the corner of Battery and Beach Streets and the residences opposite.

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 O comprises an ESD Report which indicates that water conservation and efficiency would be addressed in conformity with the University's Sustainable Objectives Framework.

The EPA further notes specific proposals to reduce consumption of potable water, including a rainwater harvesting and re-use for toilet flushing and other non-potable uses.

3.4 Energy conservation and efficiency

The EPA notes that EIS Appendix O comprises an ESD Report which proposes a range of passive and active energy conservation and efficiency measures, including-

- A large thermal mass design, and
- roof top solar cells.
