DOC18/403312-03 18/7/18
SSD 8755

Ms Eleanor Parry
Department of Planning and Environment
GPO BOX 39
SYDNEY NSW 2001

Dear Ms Parry

SSD 8755 – MACQUARIE UNIVERSITY CENTRAL COURTYARD PRECINCT RE-DEVELOPMENT – ENVIRONMENTAL IMPACT STATEMENT (EIS)

I am writing to you in reply to your invitation to the Environment Protection Authority (EPA) to make a submission concerning the above project EIS.

The EPA requests that this submission be read in conjunction with its letter dated 9 October 2017 in respect of the draft SEARs for the project.

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

The EPA notes that the development includes demolition of existing buildings C9A and C10A and adjacent paved areas.

The EPA notes the proximity of Mars Creek, which is a tributary of the nearby Lane Cove River and adjoins the western and north western boundaries of the development site. The EPA emphasises that it is an offence to cause or permit pollution of waters.

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

(a) the need for a detailed assessment of potential site contamination, including information about groundwater and a detailed assessment of the footprint and surrounds of existing buildings following their demolition;

(b) construction phase noise and vibration 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;

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(c) construction phase dust control and management,

(d) construction phase erosion and sediment control and management;

(e) operational noise impacts on noise sensitive receivers (especially surrounding residences and aged care facilities) arising from operational activities such as mechanical services (especially air conditioning plant);

(f) the need to identify and implement all such measures as may be necessary to prevent pollution of Mars Creek;

(g) practical opportunities to implement water sensitive urban design principles, including stormwater re-use; and

(h) practical opportunities to minimise consumption of energy generated from non-renewable sources and to implement effective energy efficiency measures.

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

Yours sincerely

SARAH THOMSON
Unit Head, Metropolitan Infrastructure
NSW Environment Protection Authority

Attachment A

Contact officer: JOHN GOODWIN
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ATTACHMENT A

- ENVIRONMENT PROTECTION AUTHORITY COMMENTS –

MACQUARIE UNIVERSITY CENTRAL COURTYARD PRECINCT RE-DEVELOPMENT

1. General

The EPA considers that the project comprises distinct phases of construction 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 site establishment, demolition, bulk earthworks, construction and construction-related activities will be undertaken in an environmentally responsible manner with 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 <u>Site contamination (incl. asbestos containing material</u>

The EPA supports the recommendation in Section 12 of EIS Appendix G that detailed assessment of the footprint of demolished structures should be undertaken.

The EPA understands that soil samples were only collected from 15 boreholes which is considered inadequate for proper assessment of the 35,000 square metre development site in respect of which the Sampling Design Guidelines (EPA, 1995) recommend a minimum of 45 sample locations.

The EPA anticipates that given the age of some of the structures on the development site, asbestos containing materials and lead-based paints are likely to be encountered during demolition. Section 12 of EIS Appendix G indicates the historical presence of asbestos containing materials on the University campus.

Since late 2015, clause 79 of the Waste Regulation has required transporters of loads of asbestos waste to provide certain details of the loads to the EPA using the “WasteLocate” system. These details include details of the source site, date of proposed transport, details of the proposed destination site

and the approximate weight of asbestos waste in the load. The information must be provided to the EPA before transportation of the load commences.

WasteLocate is an online tool that allows the EPA to track the transport of asbestos waste. Transporters are required to use WasteLocate to report the movement of more than 100 kilograms of asbestos waste or more than 10 square metres of asbestos sheeting within NSW. The details can be reported on WasteLocate by using an app on a mobile phone or tablet or by using a computer.

Recommendations

1. The proponent be required to undertake a hazardous materials survey of existing buildings proposed to be demolished as part of the re-development project.

2. The proponent be required prior to commencing any work on the development site to prepare and implement an appropriate procedure for identifying and dealing with unexpected finds of site contamination, including asbestos containing materials. Further, that procedure to include details of who will be responsible for implementing the unexpected finds procedure and the roles and responsibilities of all parties involved.

3. The proponent be required to ensure that following demolition of any existing structures, infrastructure and in ground utilities and prior to undertaking any earthworks (including tree removal) or construction, further investigation be undertaken of soil contamination (including within the footprint and immediate surrounds of those structures, infrastructure and utilities) to address any contamination with proper regard to the -

   (i) NSW EPA Sampling Design Guidelines,

   (ii) Guidelines for the NSW Site Auditor Scheme (3rd edition) 2017,

   (iii) Guidelines for Consultants Reporting on Contaminated Sites, 2011

   (iv) The National Environment Protection (Assessment of Site Contamination) Measure.

4. The proponent be required to comply with the processes outlined in *State Environmental Planning Policy 55 - Remediation of Land (SEPP55)* when assessing the suitability of the land and any remediation required in relation to the proposed sensitive use.

5. The proponent be required to ensure that:

   (a) the proposed development does not result in a change of risk in relation to any pre-existing contamination on the site so as to result in significant contamination; and

   (b) any contamination identified as meeting the trigger in the EPA '*Guidelines for the Duty to Report Contamination*', is notified to the EPA in accordance with requirements of section 60 of the Contaminated Land Management Act.

6. 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.

7. The proponent be required to consult with Safework NSW concerning the handling of any asbestos waste that may be encountered during the project.

2.2 Noise

The EPA notes the location of the development site towards the centre of the University campus and thus does not anticipate any vibration impacts on premises outside the campus.

The EPA anticipates that demolition, site preparation, bulk earthworks, construction and construction-related activities may have significant noise impacts on surrounding noise sensitive receiver locations, especially the Baptist aged care centre (off Balaclava Road) and high-rise residences in Saunders Close.

Section 2 to EIS Appendix C '*Acoustic Report'* incorrectly identifies residences along Culloden Road as the "... nearest sensitive receivers ...".

2.2.1 general construction hours

The EPA emphasises that 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, bulk earthworks, construction and construction-related activities likely to be audible at any noise sensitive receivers such as surrounding residences are only undertaken 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 –

(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, bulk earthworks, 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.

2.3 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.

2.4 Sediment control

The development site immediately adjoins Mars Creek at a relatively short distance from its confluence with the Lane Cover River.

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.

Recommendation

The proponent be required to ensure that -

(a) demolition, site preparation, bulk earthworks, construction and construction-related activities do not commence on the development site until appropriate and effective sediment controls are in place, and

(b) sediment controls are inspected at least daily to ensure timely maintenance and repair of those controls.

2.5 Fuel, lubricants and chemicals

The EPA emphasises the importance of implementing all such measures as may be necessary to ensure that any spill or leakage on the development site does not enter the adjoining Mars Creek.

Recommendation

1. The proponent be required to ensure that all deliveries to the development site are made under direct supervision by appropriately trained and equipped personnel -

   (a) to minimise the risk of any spill during a delivery, and

   (b) to expedite containment and clean up in the event of any spill.

2. The proponent be required to ensure that all fuel, lubricants and chemicals used on the development site are –

   (a) stored as far away as practicable from Mars Creek and natural paths of flow to Mars Creek, and

   (b) stored within a roofed and bunded storage compound secured against unauthorised entry.

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

The EPA anticipates that during 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.

2.7 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 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 EPA "*Waste Classification Guidelines Part 1: Classifying Waste*", November 2014 and the 2016 Addendum thereto;

(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.

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 impacts

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 NSW INP specifies that at least a 'week's worth' of monitoring data is required to establish background noise levels and that background noise is to be measured at the most or potentially most affected noise-sensitive locations.

The EPA considers the Baptist aged care facility (off Balaclava Road), the residences at 8 Saunders Close and potentially the nearest private residence in Culloden Road would be the most affected or potentially most-affected noise sensitive land uses.

sleep disturbance

Section 3.1 to the INP provides further guidance that requires background noise levels measurement "... *without the subject development operating. Hence, for the assessment of modifications to an existing development, the noise from existing development should be excluded from background noise measurements*."

However, section 5.1 to Appendix B to the EIS 'Acoustic Report' –

(a) identifies background measurement locations within the University campus, and

(b) states "The existing acoustic environment is dominated by a combination of existing plant and equipment ...".

The EPA considers it likely that the "... existing plant and equipment ..." referred to in the EIS 'Acoustic Report' includes the plant and equipment serving existing buildings C9A and C10A that are proposed to be demolished and replaced. And, notes with concern that the night assessment period Rating Background Level (RBL) [i.e. criterion for assessing potential sleep disturbance] shown in Table 13 to the EIS 'Acoustic Report' is between 6 and 12 dB higher than the night period RBLs measured for the nearby Arts Precinct re-development project (SSD 8388).

The EPA thus considers that background noise measurements have not been carried out in accordance with the guidance material provided in the INP.

Additionally, the EPA notes that –

- the background noise monitoring logger graphs referred to in section B2 to the EIS 'Acoustic Report' do not appear to have been included on the Department's Major Projects web site, and

- the EIS 'Acoustic Report' does not include a Table of Assessment Background Levels (ABLs) that might indicate background levels on days without people noise and noise from plant and equipment.

Accordingly, the EPA is unable to properly assess the rating background noise levels for the project and thus the extent of noise impacts on noise-sensitive receivers.

Recommendation

The proponent be required to undertake background noise measurements in accordance with the guidance material in the New South Wales Industrial Noise Policy and to report those measurements in a detailed noise impact assessment report that includes inter alia –

- daily logger graphs for each off-campus monitoring location (i.e. Baptist aged care, 8 Saunders Close, and nearest private residence in Culloden Road),

- assessment background levels, and

- rating background levels.

<u>mechanical plant and equipment</u>

Section 2.1.1 to EIS Appendix C states that building services equipment, including mechanical ventilation plant and equipment "... have not been fully detailed at this stage of design ...".

Recommendation

The proponent be required to:

(a) provide a comprehensive quantitative assessment of operational noise impacts on surrounding noise-sensitive receivers, especially the nearby Baptist aged care facility and high-rise residences in Saunders Close;

(b) ensure mechanical plant and equipment installed on the development site does not generate -

  (i) noise that exceeds 5 dBA above the rating background noise level (day, evening and night) measured at the most affected or potentially most affected noise-sensitive receivers, and

  (ii) noise that exhibits tonal or other annoying characteristics.

3.2 <u>Waste management</u>

The proponent should manage waste in accordance with the waste management hierarchy mentioned earlier.

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 and energy conservation and efficiency

The EPA acknowledges that EIS Appendix F comprises an environmentally sustainable development report that proposes –

(a) a range of water sensitive urban design measures, including –

(i) rainwater harvesting and re-use, and

(ii) water efficient fixtures; and

(b) a range of measures to maximise energy efficiency and minimise energy consumption, including installation of rooftop solar photovoltaic arrays

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