NSW EPA

Your reference SSD 7237
Our reference: EF13/5058, DOC16/243859-01
Contact: J Goodwin 9995 6838

Mr David Gibson
Department of Planning and Environment
GPO BOX 39
SYDNEY 2001

Dear Mr Gibson

SSD 7237 – PARRAMATTA SCHOOLS RE-DEVELOPMENT PROJECT – 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 requests that the following advice be considered together with its letter dated 8 September 2015 concerning the draft SEARs for the project.

The EPA notes –

(a) the development includes construction of a 17 storey 'vertical' high school on the northern side of Macquarie Street,

(b) the project involves demolition of existing school buildings, excluding 2 heritage buildings,

(c) the proximity of noise sensitive receivers, including residences in Charles Street and the Western Sydney University Parramatta City campus, and

(d) government policy to encourage community use of school facilities outside school hours.

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 the environmental management plans forming part of or referred to in the EIS.

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

(a) the need to undertake a detailed assessment of potential site contamination following demolition of existing buildings, and infrastructure, including information about groundwater;

(b) handling, transport and disposal of any asbestos waste and any lead-based paint waste encountered during demolition;

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(c) demolition, site preparation, construction and construction-related 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;

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

(e) demolition, site preparation and construction phase erosion and sediment control and management;

(f) operational noise impacts on noise sensitive receivers (especially surrounding residences) arising from operational activities such as waste collection, loading dock activities and mechanical services, (including commissioning of mechanical air handling plant and equipment);

(g) operational waste management within the context of the waste management hierarchy; and

(h) operational water and energy conservation and efficiency.

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

17.6.16

PETER MORRALL
A/Unit Head, Metropolitan Infrastructure
NSW Environment Protection Authority

ATTACHMENT

- ENVIRONMENT PROTECTION AUTHORITY COMMENTS –

REDEVELOPMENT OF ARTHUR PHILLIP HIGH SCHOOL AND PARRAMATTA PUBLIC SCHOOL

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 –

- Site investigation, remediation ,
- 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,
- runoff, erosion and sediment, and
- waste handling and management, particularly concrete waste and rinse water, and

2.1 Site investigation and remediation

EIS Appendix 15 comprises a letter prepared by Douglas Partners which provides a review of existing reports. Appendix 15 includes copies of the existing detailed site investigation report prepared by Alliance Geotechnical and dated 11 August 2015.

The EPA notes that Douglas Partners recommends further site investigation be undertaken following demolition of existing buildings and removal of existing bitumen and concrete paving. And, the Douglas Partners review indicates (p.7) that "… the extent of remediation required is currently unknown …"

2.1 Site investigation and remediation

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The EPA notes that Douglas Partners recommends further site investigation be undertaken following demolition of existing buildings and removal of existing bitumen and concrete paving. And, the Douglas Partners review indicates (p.7) that "… the extent of remediation required is currently unknown …"

The EPA understands that the part of the site on the northern side of Macquarie Street is likely to have been used for World War 2 defence purposes, including zig zag trenches. The EPA is unclear from section 4.2 of the detailed site investigation whether contaminants potentially associated with defence use of the northern part of the site were investigated.

The EPA further notes that that part of the site south of Macquarie Street is adjoined by an Australian Defence Force (ADF) establishment (Lancer Barracks). The EPA is unclear whether previous activities at the neighbouring ADF establishment may have included storage or handling of :

(a) chemicals of concern associated with defence use of that site, or
(b) PFOS or PFOA based fire-fighting foams.

The EPA considers that appropriate further investigation may be warranted to assess the risk of soil or groundwater contamination potentially associated with use of former and current defence use of the site and adjoining land.

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.

<u>asbestos material and lead-based paint</u>

Given the age of the existing structures, the EPA anticipates the presence of asbestos containing materials and lead-based paint in many of those structures.

Section 4.2.1 (p.7) of the Douglas Partners review letter (EIS Appendix 15) confirms that friable asbestos and asbestos cement fragments were observed in samples taken during the site investigation leading to the August 2015 detailed site investigation report.

The EPA is concerned that the presence of friable asbestos in soil samples may indicate the presence of de-commissioned boilers on the site. And, suggests that prior to any demolition, efforts be made to obtain drawings or other records that might disclose the previous location of any such boilers.

Recommendation

The proponent be required prior to commencing work –

(a) to prepare and implement an appropriate procedure for identifying and dealing with unexpected finds of site contamination, including –

  (i) asbestos containing materials,

  (ii) lead-based paint,

  (iii) PCBs associated with old light fittings and electrical equipment, and

  (iv) contamination associated with former use of that part of the site north of Macquarie Street for defence purposes; and

(b) to develop and implement site clean up and remediation as necessary.

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.

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The EPA considers that appropriate further investigation may be warranted to assess the risk of soil or groundwater contamination potentially associated with use of former and current defence use of the site and adjoining land.

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.

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Given the age of the existing structures, the EPA anticipates the presence of asbestos containing materials and lead-based paint in many of those structures.

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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 considers that the project is likely to generate significant noise impacts on surrounding noise sensitive receivers during demolition, site preparation, construction and construction-related activities. And, notes the proximity of noise sensitive receivers, including residences in Charles Street and the soon to be completed Western Sydney University Parramatta City (located opposite the existing high school).

The EPA understands that the proposal includes the demolition of all but 2 of the existing structures on both parts of the development site.

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, saw cutting, and vibratory rolling.

The EPA provides guidance material available on its web site including downloadable copies of –

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

2.2.1 general construction hours

EIS section 7.16 indicates "...proposed hours of construction ..." from 8.00 am to 5.00 pm on Saturdays which hours are inconsistent with the recommended standard Saturday construction hours of 8.00 am to 1.00 pm.

The EPA emphasises that demolition, site preparation, construction and construction-related activities should be undertaken during the recommended standard construction hours set out in Interim Construction Noise Guideline (ICNG) Table 1.

Recommendation

The proponent be required to ensure that demolition, site preparation, construction and construction-related work is undertaken only during the standard construction hours recommended in Table 1 Chapter 2 of the Interim Construction Noise Guideline, July 2009.

2.2.2 construction hours (intra-day respite periods)

ICNG section 4.5 identifies construction activities proven to be particularly annoying and intrusive to nearby residents. The EPA anticipates that those demolition, site preparation, construction and construction-related 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 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 work referred to in ICNG section 4.5

Recommendation

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

2.2.3 queuing and idling construction vehicles and vessels

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 construction and construction-related activities do not arrive at the project site or in surrounding residential precincts outside approved construction hours.

2.3 Dust control and management

The EPA considers dust control and management to be an important air quality issue during demolition, site preparation, 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 Erosion and sediment control

Managing Urban Stormwater Soils and Construction, 4th Edition published by Landcom (the so-called 'Blue Book') provides guidance material for achieving effective erosion and sediment control on construction sites. However, 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, earthmoving, construction and construction-related activities until appropriate and effective 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.

2.5 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.

2.6 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 not disposed of on the development site.

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; and

(c) energy efficiency and water conservation measures.

3.1 Noise and vibration impacts

The EPA anticipates the proposed development may have significant operational noise impacts (especially out of hours use by external parties) on nearby sensitive receivers, including residences. And, those noise impacts are likely to include noise emitted from amongst other things -

- mechanical ventilation plant and equipment,
- elevator plant,
- use of the 'movement complex/gymnasium' for school purposes (and for out of hours hire to external parties),
- use of outdoor 'game courts' for school purposes (and for out of hours hire to external parties), and
- truck movements (incl. reversing beepers) associated with waste collection services.

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, notes the proximity of surrounding noise sensitive receivers, including –

- nearby residences in residential flat buildings at 4 and 6 Charles Street,
- nearby residences in the 'Metropolis Apartments' building 22 Charles Street, and

- Western Sydney University Parramatta City campus nearing completion at the corner of Macquarie and Smith Streets.

The EPA is concerned that Figure 1 to EIS Appendix 10 (Noise and Vibration Planning report) indicates that the proponent appears to have disregarded the INP guidance material about noise monitoring required to establish the background noise levels for the project. The EPA is particularly concerned that :

(a) background noise monitoring was undertaken at 2 locations on school grounds rather than at the most affected noise sensitive receivers;

(b) background noise monitoring was undertaken during the first term of school rather than during a school holiday period when school activities would be unlikely to affect measurements;

(b) Appendix 10 does not include the daily graphs of noise logger measurements;

(c) attended monitoring was likely to have been undertaken at street level, whereas the most affected residences are located above street level; and

(d) the periods of adverse meteorological conditions referred to in section 3.2.1 (p.3) of EIS Appendix 10 have not been shown against the logger measurements.

The EPA notes that the legend to Figure 1 to EIS Appendix 10 appears to inaccurately portray the location of the development site.

<u>mechanical plant and equipment</u>

EIS Appendix 10 does not provide any assessment of noise impacts from mechanical plant and equipment. Instead, section 5.3.1 to EIS Appendix 10 states that the proposed buildings will be "... primarily naturally ventilated but will have some plant to provide cooling and heating ...". However, section 3.2 to EIS Appendix 12 (ESD Report) indicates that the schools would be provided with air conditioning that is activated by "... adoption of adaptive comfort criteria ..." rather than using traditional 'always on' settings.

The EPA also anticipates noise impacts associated with:

(a) plant required to serve proposed elevators required to meet accessibility requirements, particularly in the Arthur Phillip 'vertical' high school building;

(b) mechanical plant required to ventilate toilets and change rooms;

(c) mechanical plant required to ventilate science laboratories (example: fume cupboard extraction and filtration systems); and

(d) regular testing of science laboratory emergency extraction systems, if any, .

<u>external hire of school facilities</u>

Section 5.3.2 of EIS Appendix 10 states "the users of the school have advised that they are not expecting to hold large events for external bodies ...". However, the EPA is aware that it is government policy to maximise community use of school facilities outside school hours. And, that the Department has developed internal assessment policies for external hire of school facilities. The EPA is also aware from long experience that noise from external hire of school facilities (example: band practice, basketball, religious services) at other schools has been the source of considerable community concern.

EIS Appendix 10 does not provide any assessment of noise impacts from use of the school facilities, including indoor and outdoor sports courts, by external parties.

public address system (school bells and announcements)

The EPA recognises the importance of a school public address system for –

- the proper administration of both schools; and
- for the safety of students, visitors and staff.

However, the EPA is aware from long experience that school bell and music broadcast over school public address systems has been the source of considerable community concern.

EIS Appendix 10 does not provide any assessment of noise impacts from use of the school public address systems.

grounds maintenance

Grounds maintenance involving the use of power equipment, such as lawn mowers and leaf blowers, have been a source of community concern at other schools when that equipment used other than between 7.30 am and 6.00 pm on weekdays.

The EPA considers that the EIS should have included an indicative worst-case quantitative assessment of the likely noise impact of mechanical plant operation and rooftop terrace usage on nearby residential receivers, together with information on the noise mitigation measures required to achieve applicable worst-case criteria.

waste collection services

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

Recommendation

The proponent be required to:

(a) provide a worst-case quantitative assessment of the background noise level (day, evening and night time) in accordance with the guidance material provided in the New South Wales Industrial Noise Policy;

(b) undertake quantitative assessment of predicted noise impacts of the demolition, site preparation, construction and operational phases of the proposed development on surrounding noise sensitive receivers, especially nearby residences and the Western Sydney University Parramatta City campus,

(c) design, install and operate the public address system for both schools (including any shared facilities) to minimise noise impacts on surrounding noise sensitive receivers, including but not limited to –

  (i) installing a system with zoned broadcast capability,

  (ii) installing more lower power widely-distributed speaker horns (rather than a few high power speakers),

  (iii) orientating speaker horns to broadcast into the school premises and downwards at an appropriate angle,

  (iv) prohibiting the use of the system for the regular broadcast of music, and

(iv) restricting use of the system to the proper administration of the schools, including student, staff and visitor safety;

(d) ensure plant and equipment does not generate noise that exhibits tonal or other annoying characteristics;

(e) ensure grounds maintenance using powered equipment (such as leaf blowers, lawn mowers, edgers and trimmers) is not undertaken outside the hours of 7.30 am to 6.00 pm Monday to Friday; and

(f) ensure waste collection services are not undertaken outside the hours of 7.30 am to 6.00 pm Monday to Friday.

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 schools; 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.

3.2 Waste management

The development is proposed to serve up to 300 students plus staff.

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.

clinical and related waste

The EPA is unclear whether the schools would be likely to generate 'clinical and related waste'.

Clause 50 of Schedule 1 to the Protection of the Environment Operations Act 1997defines clinical and related waste.

Recommendation

The proponent be required to identify the nature and scope of any clinical and related waste likely to be generated during operation of the new schools and the measures proposed to handle, store, transport and dispose of those wastes, if any.

3.3 Water and energy conservation and efficiency

The EPA acknowledges that the Appendix 12 (ESD Report) sets out a clear statement of the sustainability measures to be integrated into the design of both schools to maximise water and energy conservation and efficiency.

The EPA suggests that the proponent adopt appropriate systems to quantify and compare the performance of the various water and energy conservation and efficiency measures against agreed performance benchmarks.
