



DOC18/214202-02  
SSD 8707

Mr Andy Nixey  
Department of Planning and Environment  
GPO BOX 39  
SYDNEY NSW 2001

Dear Mr Nixey

**SSD 8797 – IVANHOE ESTATE REDEVELOPMENT CONCEPT PLAN – 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 12 September 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'. And, has not reviewed any environmental management plan forming part of or referred to in the EIS.

Shrimptons Creek

The EPA notes with concern the proximity of Shrimptons Creek which adjoins the development site to the east and over which a road bridge is proposed to be constructed. And, expects that the proponent would ensure that it does not cause or permit pollution of Shrimptons Creek, particularly during the course of development of the project.

The EPA anticipates potential water quality impacts on Shrimptons Creek can be avoided by implementing appropriate erosion and sediment controls and adopting water sensitive urban design principles during the project demolition/construction and operational phases respectively.

EPA guidance also applies to demolition

The Land and Housing Corporation is a 'public authority' within the meaning of the *Protection of the Environment Administration Act 1991*. And further, that the EPA has general responsibility under that Act for amongst other things:

- (a) ensuring that the best practicable measures are taken for environment protection in accordance with the environment protection legislation and other legislation, and
- (b) coordinating the activities of all public authorities in respect of those measures.

For instance, Table 1 to the EPA's Interim Construction Noise Guideline clearly identifies the best practicable measures in respect of standard hours of construction. Thus, the proponent should ensure that (in the absence of strong justification for undertaking activities outside standard hours) demolition activities as well as construction should only be undertaken during the standard hours.

The EPA understands that demolition of existing structures, roadways and infrastructure/utilities may be undertaken under a separate assessment process. The EPA further notes that if the consent authority for demolition is the local council, section 4.33 (1) (b) of the *Environmental Planning and Assessment Act 1979* prohibits council from imposing a condition on its consent "... except with the approval of the applicant ...".

The EPA emphasises that any council consent would not preclude the EPA from exercising its powers in the event that demolition activities for or on behalf of the proponent (or another public authority) results in the emission of noise that, by reason of its level, nature, character or quality, or the time at which it is made, or any other circumstances interferes unreasonably with (or is likely to interfere unreasonably with) the comfort or repose of a person who is outside the premises from which it is emitted.

Similarly, the EPA anticipates that although demolition of existing structures and infrastructure on the development site would be the subject of a separate assessment process, the proponent must ensure that that any demolition work is undertaken in a manner consistent with the recommendations in this submission concerning site preparation, bulk earthworks, construction and construction-related activities.

#### Seamless transition of environmental controls

The EPA acknowledges that the proponent may consider it useful to engage different contractors to undertake demolition, site preparation, bulk excavation, and construction stages of the project. The EPA thus expects the proponent to adopt all such means as may be necessary to ensure a seamless transition of environmental impact mitigation measures between demolition, site preparation, bulk excavation, and construction stages of the project, particularly if different contractors are to be engaged for some or stages of the project.

#### Proposed high school (community use)

The EPA understands that the concept plan includes a proposed mixed-use development that involves amongst other things a new high school on development block B2.

The EPA anticipates significant noise impacts on adjoining and nearby residences from high school activities, particularly from community use of school facilities outside normal school hours.

#### General

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 more detailed assessment of potential site contamination, including information about groundwater and a detailed assessment of the footprint and surrounds of existing buildings, roads and infrastructure following their demolition;
- (b) the need to identify and manage any hazardous materials (including asbestos containing material) in existing structures and infrastructure on the development site;
- (c) 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;
- (d) construction phase dust control and management,
- (e) construction phase erosion and sediment control and management;
- (f) operational noise impacts on noise sensitive receivers (especially surrounding residences on adjoining and adjacent holdings) arising from operational activities at the proposed high school such as public address/school bell systems, community use of school facilities, waste collection services and mechanical services (especially air conditioning plant);
- (g) the need to assess feasible and reasonable noise mitigation and management measures (including time restrictions on the use of the facilities proposed to be available for community use) to minimise operational noise impacts on surrounding residences;
- (h) the need to minimise demolition, construction and operational water quality impacts on surface waters, especially Shrimptons Creek (a tributary of the Lane Cove River);
- (h) practical opportunities to implement water sensitive urban design principles, including stormwater re-use; and
- (i) 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



**JENNIFER SAGE**  
**Unit Head, Metropolitan Infrastructure**  
**NSW Environment Protection Authority**

**Attachment A**

Contact officer: JOHN GOODWIN

## ATTACHMENT A

### - ENVIRONMENT PROTECTION AUTHORITY COMMENTS –

#### IVANHOE ESTATE REDEVELOPMENT – CONCEPT PLAN

#### 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 preparation, bulk earthworks, construction and construction-related activities will be undertaken in an environmentally responsible manner with emphasis on –

- the site contamination, including management of hazardous materials,
- 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 Site contamination (including hazardous materials)

The EIS does not appear to have adequately considered the following site contamination issues explicitly noted by the EPA in its SEARs input letter dated 12 September 2017 -

- potential site contamination, including contamination associated with those sections of existing estate roads that are proposed to be removed,
- potential contamination from the use of termiticides and other pesticides under and around buildings, and
- suitability of those parts of the development site to be allocated for high school and child care facilities.

EIS Appendix H refers to a Detailed Site Investigation report undertaken by the JBS&G and dated 30 September 2016 which in turn comprised in part a review of previous investigations.

However, the EIS is not accompanied by a copy of the Detailed Site Investigation (JBS&G) report;

### Summary letter

EIS Appendix H includes a DLA Environmental Services (DLA) letter dated 11 October 2016 concerning “Summary of In-Ground Contamination – Ivanhoe Estate” which the EPA notes that –

- (a) DLA indicates that the JBS&G Detailed Site Investigation (DSI) soil sampling was limited to 26 grid-based locations (depths ranging from 0.15 to 0.6m below ground surface (bgs);
- (b) DLA note that the sampling regime adopted in the DSI is less than the minimum sampling density specified in the Sampling Design Guidelines (NSW EPA, 1995), for the characterisation of the Site;
- (c) the DSI soil sampling regime is less than half the minimum sampling density of more than 55 sampling points anticipated by the EPA’s Sampling Design Guidelines,
- (d) the EIS does not include details/map of the DSI “grid-based sampling” design which prevents the EPA from determining whether DLA is justified in concluding that the “... number of sampling locations is however considered adequate for environmental assessment purposes ...”, and
- (c) the DLA summary does not reference any groundwater investigation or provide any rationale for not undertaking groundwater investigation;

Accordingly, the EPA is unable to support the ‘Concluding Remarks’ in the DLA letter that “... there is a low likelihood of unacceptable contamination to be present on the Site as a result of past and present land use activities.”

### *Lyons Road*

EIS Appendix H includes a July 2017 Supplementary Site Investigation report for which the area of investigation is part of 2 Lyon Park Road, Macquarie Park proposed for redevelopment as a road reserve.

The EPA notes that the section 8.0 to the Supplementary Site Investigation report concludes that that part 2 Lyon Road being the area shown bounded by a red line on Figure 2 (version 1.0) dated 10 July 2017 is “... considered suitable for redevelopment as a road reserve ...”

### *Ivanhoe Estate*

EIS Appendix H includes a February 2018 Supplementary Site Investigation report in respect of the development site

The EPA notes that section 8.0 the Supplementary Site Investigation report concludes:

- (a) the area of the development site “... in the vicinity of borehole BH8 is not currently considered suitable for the proposed redevelopment ...” due to the presence of Total Recoverable Hydrocarbons (TRH) in the soil, and
- (b) further investigation and remediation of the area would be needed to make the site suitable for the proposed land use.

## Recommendation

The proponent be required to undertake more detailed site assessment to address soil and groundwater contamination of those areas of the development site not adequately targeted by previous investigations (including the footprint of existing buildings, roads and utilities) in accordance with:

- (a) the processes outlined in *State Environmental Planning Policy 55 - Remediation of Land (SEPP55)* for assessing the suitability of the land and any remediation required in relation to the proposed use; and
- (b) having proper regard to the following guidance material –
  - NSW EPA Sampling Design Guidelines,
  - Guidelines for the NSW Site Auditor Scheme (3<sup>rd</sup> edition) 2017
  - Guidelines for Consultants Reporting on Contaminated Sites, 2011, and
  - The National Environment Protection (assessment of contamination) Measures 2013 as amended.

## Recommendation

The proponent be required to:

- (a) engage a site auditor accredited under the *Contaminated Land Management Act 1997* to review the adequacy of the site investigations and required unexpected finds protocol, remedial works and management plans;
- (b) prepare a Remedial Action Plan (RAP), especially for the area of the development site identified as affected by petroleum hydrocarbons being the area in the vicinity of February 2018 Supplementary Site Investigation borehole 'BH8';
- (c) provide details of the proposed remediation and validation strategy to the accredited site auditor in a Works Plan and a Validation Sampling and Analysis Quality Plan (VSAQP) for review by the site auditor prior to remediation commencing;
- (d) implement the recommendations of the Remedial Action Plan as conditioned by the accredited site auditor;
- (e) provide a Section A site audit statement (SAS) and accompanying site audit report (SAR) prepared following completion of remediation and validation certifying suitability of the development site for the proposed use prior to undertaking any construction;
- (f) prepare an updated Asbestos Works Management Plan (AWMP) including stringent requirements for controlling dust emissions and to implement that plan following confirmation from the accredited site auditor that the updated plan is considered to be appropriate particularly with regard to existing sensitive uses on the development site and adjoining site;
- (g) ensure that an appropriate marker layer is installed above any emplaced contaminated fill material contained on the development site;

- (h) ensure all in-ground services are installed above the marker layer, referred to in (g) above, to minimise any risks to workers undertaking future maintenance work in service trenches;
- (i) develop a Long Term Environmental Management Plan (LTEMP) following remediation of the development site to document -
  - (i) the expected limitations on the development site use,
  - (ii) relevant environmental and health and safety processes and procedures,
  - (iii) management processes, procedures and responsibilities to be adopted by future site users within the development site, and
  - (iv) details on the location and extent of emplaced asbestos impacted soil and other contaminated soil to be contained on the site.
- (k) ensure that any contamination identified as meeting the trigger in the EPA '*Guidelines for the Duty to Report Contamination*') is notified in accordance with requirements of section 60 of the Contaminated Land Management Act; and
- (l) ensure 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.

## Recommendation

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

### 2.1.1 Asbestos containing materials and lead-based paints

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.

On 12 September 2017, the EPA noted that the EIS should address amongst other things, risks associated with hazardous materials in existing buildings and existing estate infrastructure networks (e.g. pipes and telecoms pits). The EIS does not appear to address those hazardous materials risks.

EIS Appendix H does not recommend preparation of a protocol for identifying and dealing with unexpected finds of contamination, including asbestos containing materials.

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.

## 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 project.

### 2.2 Noise and vibration

The EPA anticipates that site preparation (including tree clearing), bulk earthworks, construction and construction-related activities are likely to have significant noise and vibration impacts on surrounding residences, especially adjoining residences and public reserves.

The EPA notes that background noise levels reported in the acoustic assessment were not measured in accordance with the NSW Noise Policy for Industry, nor its predecessor Industrial Noise Policy. Specifically, the background noise levels were measured on the proposed development site, not at the potentially most affected noise sensitive receiver locations. Further, measurements were taken for less than seven days at three locations. In addition, the report does not present information on rainfall or windspeeds and therefore the results cannot be relied upon as presenting one week's worth of valid data.

The graphical presentations in Appendix 2 to the report indicate that noise measurements at Location 6 were dominated by an extraneous noise source, which is not discussed in the text of the document other than Table 9 which references the results as 'operational noise from neighbouring commercial sites'. The results of the measurements at Location 6 should not be relied on unless the proponent provides further information that satisfactorily demonstrates they are representative of background levels.

## Recommendation

The proponent be required to establish background noise levels in accordance with the NSW Noise Policy for Industry, in order to adequately assess potential construction and operational noise and vibration impacts on sensitive receivers and set appropriate performance objectives.

### 2.2.1 *General construction hours*

The EPA emphasises that 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 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 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 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, 4<sup>th</sup> 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, site preparation, bulk earthworks, 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 may have significant operational noise impacts on nearby sensitive receivers, especially adjoining residences.

#### Mechanical plant and equipment

The EPA anticipates that mechanical services, plant and equipment operated in conjunction with the proposed development is likely to have significant operational noise impacts on surrounding noise sensitive receiver locations, especially nearby residences.

#### **Recommendation**

The proponent be required to:

- (a) ensure mechanical plant and equipment installed on the development site does not generate noise that –
  - (i) exceeds 5 dBA above the rating background noise level (day, evening and night) properly established in accordance with the NSW Noise Policy for Industry, and
  - (ii) exhibits tonal or other annoying characteristics.

### 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 acknowledges that EIS section 3.11 proposes the application of water sensitive urban principles across the development site as well as the implementation of a range of water sensitive urban design measures, including –

- (i) rainwater harvesting and re-use, and
  - (ii) water efficient fixtures.
-