



DOC19/544951
SSI 7308

Mr Glenn Snow
Director Transport Assessments
Planning Services Division
Department of Planning and Environment
GPO Box 39
Sydney NSW 2001

27 June 2019

Dear Glenn,

EIS for St Marys Intermodal (St Mary's Freight Hub) - Request for EPA Comment

I refer to the request from the Department of Planning and Environment (DPE) to the NSW Environment Protection Authority (EPA) dated 28 May 2019 to undertake a review of the Environmental Impact Statement (EIS) for the proposed St Marys Intermodal project SSI 7308.

The EPA has reviewed the EIS and has a number of concerns in relation to the environmental assessment. The EPA notes that the project presented represents a concept design. The EIS defers the characterisation of environmental impacts to the detailed design stage and, instead, presents an assessment based on conceptual construction methodology and alignment. As a result, the EPA considers that the impacts of the project have not been fully quantified, and the EPA cannot determine whether the mitigation measures proposed are appropriate.

The EPA's detailed comments can be found in Attachment 1 and recommended conditions of consent in Attachment 2.

The EPA would appreciate the opportunity to review any draft conditions of consent proposed for the project.

If you have any questions regarding this letter, please contact George Orel, A/Unit Head Metropolitan Infrastructure on 9995 6849 or at george.orel@epa.nsw.gov.au

Yours sincerely

A handwritten signature in blue ink, appearing to read 'Jacinta Hanemann'.

JACINTA HANEMANN
Regional Manager Operations - Metropolitan Infrastructure
NSW Environment Protection Authority

Encl. Attachments 1 and 2 –The EPA's comments and recommendations regarding review of the Environmental Impact Statement for the proposed St Marys Intermodal project SSI 7308, St Marys, Penrith LGA Development.

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Attachment 1

Water

Construction phase erosion and sediment control

It is unclear whether the proposed construction phase stormwater management will be consistent with industry guidelines as limited detail is provided.

Operation stage stormwater management

The proposed operation phase stormwater management measures appear broadly appropriate to manage potential water pollution risks. The stormwater treatment train would include a sediment retention basin, gross pollutant traps and gully pit inserts to intercept and treat stormwater runoff from the hardstand area and access roads. Runoff from roofed areas will be captured in rainwater tanks for reuse in toilet flushing and in the wash bay. Wastewater from the wash bay will be discharged to sewer under a trade waste agreement.

To ensure the water management system is appropriately designed to contribute to waterway outcomes, ambient water quality targets for the receiving waters should be developed with reference to the NSW Water Quality Objectives and national water quality guidelines instead of adopting generic per cent load reductions. The EIS does not provide details of expected water quality outcomes but indicates that stormwater management measures would achieve generic per cent load reductions based on Penrith City Council's requirements (gross pollutants 90%, TSS 85%, TP 60%, TN 45%, 90% oil and grease). These generic targets do not relate to waterway outcomes and may not contribute to maintaining or restoring the environmental values of the receiving waterways.

The NSW Water Quality Objectives (WQOs) are the NSW Government endorsed environmental values and long-term goals for NSW's surface waters. Consistent with the guiding principles of the NSW WQOs, it is recommended that the stormwater management system is designed to:

- protect the environmental values of the receiving waterway where they are currently being achieved; and
- work towards achieving the environmental values of the receiving waterway where they are not currently being achieved.

Recommendation:

It is recommended that the proponent ensures that construction stage erosion and sediment controls are designed and operated consistent with the practices and principles in Managing Urban Stormwater, Soils and Construction Volumes 1 and 2.

Noise

Noise Monitoring

The following items require clarification regarding the unattended noise monitoring:

1. Fact Sheets A and B of the Noise Policy for Industry (NPfI) require at least one week of valid data to calculate rating background levels (RBL). All monitoring locations have either 3 or 4 days of valid daytime noise monitoring. The proponent should either justify that the

data presented in the report is representative of the long-term background noise levels in each Noise Catchment Area (NCA) or provide at least one week's worth of valid data.

2. Photos of the monitoring equipment at Lockyer Avenue and Albert Street appear to show the microphones close to reflective surfaces. The proponent should provide more information and justification for the choice of monitoring locations adjacent to walls and if any adjustments have been made for the presence of the reflecting surfaces (other than the ground).
3. The noise logger graphs in Appendix B show a number of periods where the wind speed is greater than 5 m/s. The proponent should provide commentary in the report on how these periods have been considered in the calculation of RBLs.
4. The proponent should provide a justification for carrying out attended monitoring at NCA 1 and 2 and not at NCA 3 and 4 during the night period.
5. Noise report Figure 1 appears to show NCA 3 and NCA 4 in different locations to how they are described in the rest of the report.

Project Noise Trigger Levels

The EPA does not consider the use of the industrial interface to be appropriate for NCA 2. The proponent should review the amenity noise level applied to NCA 2 and use an appropriate amenity noise level to derive the project noise trigger levels.

The reasons that the EPA does not consider NCA2 to be an industrial interface are as follows:

1. Section 2.7 of the NPfI notes that the industrial interface is generally only applicable to existing residences affected by existing industries that are being modified or expanded. The proposed intermodal facility is considered a new development. Since more mitigation options are generally available for new developments, the industrial interface provisions are not appropriate in this instance.
2. The report states that NCA 2 is adjacent to the existing industrial area and the existing noise environment is significantly influenced by industrial noise. However, the report does not provide sufficient evidence that there is significant industrial noise above, or close to, the amenity levels at the receivers. An industrial interface generally only applies when existing industrial noise levels are at or above the amenity levels.
3. Noise monitoring results for NCA 2 in Appendix B of the noise report show that the Leq is consistently higher than the L10. This is indicative of the ambient noise environment being controlled by short noise events, such as train passbys as noted in the attended measurements. The large difference in measured Leq and L90s indicates that the constant noise sources such as road traffic noise are generally of a much lower level (low 40s and high 30s) than the transient ones, like train passbys. Table 4 notes during the night period a hydraulic whine and industrial hum, however during the day road traffic noise is the dominant constant source. Therefore, it does not appear that the noise environment is dominated by industrial noise at a noise level above the amenity levels and so the industrial interface provisions would not apply.

Operational noise mitigation

The container freight flow chart in Figure 9 of the EIS report shows that there will be multiple operating scenarios and activities to take place across the site. The EPA is concerned that using

only one scenario to assess all of these activities is not sufficient to identify and quantify potential noise impacts from all activities and operations occurring across the site. This also has limited the ability to evaluate all potential mitigation measures. The proponent should provide justification that the various activities that will take place on the site are sufficiently captured by the single assessed scenario and how mitigation has been assessed and designed using a single scenario. Alternatively, the proponent must assess all relevant scenarios and update their assessment.

There were a number of potential issues identified in the assumptions used for the noise modelling. In order for the EPA to assess the appropriateness of the noise modelling, the proponent should clarify the following assumptions:

1. Chapter 6.2.4 of the noise report states truck movement volumes were taken from the traffic report but does not outline the underlying assumptions. The report should state how many truck movements are considered.
2. Chapter 6.3.5 of the noise report states “most other industrial noise sources modelled on site are proportional in quantity to the number of truck movements.” The proponent should clarify what these assumptions are.
3. The report should state how many of each item of equipment has been assumed in the noise modelling and show their modelled locations on a map or drawing.
4. Further detail is requested on how different rail noise sources have been incorporated into the noise model. This should include any adjustments to Leq,15min or Lmax predictions for trains moving over discontinuities on the spur line (such as turnouts) and also bunching and stretching noise.
5. There are inconsistencies between the equipment listed in the EIS and the equipment used in the noise modelling. Chapter 5 of the EIS states that three reach stackers will be used to unload a train and forklifts will be used to move empty containers. The noise report has not included forklifts in the noise modelling. The activities and equipment modelled should be reviewed and updated as appropriate.
6. The noise modelling does not appear to include any consideration of light vehicles. The noise contour plots in Appendix E appear to show a noise source has been considered on the light vehicle access road, however the noise report does not describe what this is. The light vehicle car park and access road has the potential to cause a noise impact since it is the closest noise source to residential receivers on the southern boundary and shift changeovers are likely to generate the highest number of vehicle movements during the day and night periods. The proponent should assess the impact of light vehicle noise sources including vehicles entering and leaving the site, and car parking noise such as manoeuvring, engine starts and car door slams.
7. The proponent should confirm if assessment locations have been considered in accordance with NPfl Section 2.6 and are the reasonably most affected location on or within the property boundary. This is particularly important because the proponent has identified different mitigation outcomes for adjacent receivers. These outcomes are likely to be sensitive to small changes in noise levels and may significantly affect the assessment outcomes.
8. The potential for annoying characteristics has not been assessed in accordance with NPfl Fact Sheet C. This assessment should be included in the noise report.

Maximum noise levels

Previous experience suggests container ports have significant potential to cause impacts and controlling maximum noise levels, especially during the night is critical to manage impacts. The following items require further information or clarification from the proponent:

1. Managing the Lmax noise trigger levels exceedances through soft landing technology should be described further and quantified to demonstrate its effectiveness. Other Lmax noise event sources such as containers striking the hardstand, containers striking other containers and train or other vehicle horn use on site should also be addressed.
2. Exceedances of the Lmax trigger level of up to 13 dB were predicted in NCA 2. The noise report should provide an investigation of feasible and reasonable mitigation measures which prioritise source and path measures, prior to investigating at-property treatments for maximum noise levels. If, after consideration of all reasonable and feasible mitigation, at-property treatment is recommended the proponent should ensure that any property treatment program would result in equitable outcomes. For example, a 13 dB exceedance of the Lmax trigger is predicted at 49 Kalang Avenue and is currently identified for at-property treatment. However, its next-door neighbour at 15 Camira Street is not proposed to be treated but is likely to receive similar levels of Lmax noise. This approach will result in significantly different mitigation outcomes for a relatively small difference in noise exposure and therefore may be perceived as an inequitable outcome. The proponent should review the mitigation approach and update it accordingly.
3. The noise report shows that the number of maximum noise levels events will increase compared with the current noise environment. It is acknowledged that there are existing maximum noise events already occurring due to the rail line. However, the proponent should still investigate reasonable and feasible mitigation measures to reduce the number and noise level of maximum noise events at all potentially affected receivers.
4. Reversing alarms have the potential to generate impacts, especially during the night period. The noise report should address the potential impact from reversing alarms and investigate feasible and reasonable mitigation including alternatives to reversing alarms.

Construction assessment

1. Maps in Appendix C of the noise report use highlighted buildings to identify impacted receivers. However, buildings are obscured by the road names. The maps should be updated so that individual buildings can be more easily identified.
2. Section 5.4.1 of the noise report gives a summary of the number affected above the NML, however it does not differentiate between residential and other receiver types. The report should provide a clear indication of the impacts in each NCA and the receiver types for each work package.
3. Construction must to be limited to standard hours:
7am to 6pm Monday to Fridays
8am to 1pm Saturdays
No work Sundays and Public Holidays
4. A construction noise and vibration management plan should be used to manage construction impacts in accordance with the Interim Construction Noise Guideline (DECCW, 2011)

Recommendation:

- Consider the EPA comments and recommendations to manage noise and vibration impacts from the project.

Air Quality

Assessment of Construction Phase Air Quality Impacts

The Air Quality Impact Assessment assesses construction phase impacts utilising a semi-quantitative approach based on the methodology described in the UK Guidance document, *Guidance on the assessment of dust from demolition and construction*. The assessment approach considers bulk earthworks, construction, and track out (i.e. vehicle movement) activities and determines a risk rating for each of these activities. The risk ratings are based on consideration of magnitude or scale of the activities coupled with a consideration of location and sensitivity of receptors within proximity to the premises. It is noted that bulk earth works were determined to have the highest potential for dust emissions.

The Air Quality Impact Assessment concludes that the outcomes of the semi-quantitative air quality risk assessment show that the unmitigated air emissions from the construction phase of the Project pose a low risk of both dust soiling and human health impacts. The Air Quality Impact Assessment recommends general mitigation measures for managing the construction phase of the project. It is also noted that a Construction Environmental Management Plan is proposed to be developed prior to commencement of operations (as per Table 11 of the Environmental Impact Statement). If the project proceeds the proponent will have a regulatory obligation to prevent and minimise air pollution.

Assessment of Operational Phase Air Quality Impacts

The Air Quality Impact Assessment assesses the operational phase of the project based on predictive dispersion modelling and comparison of predicted ground level concentrations (GLC) with impact assessment criteria contained in the *Approved Methods for Modelling and Assessment of Air Pollutants in NSW*. A single operational scenario that assumes road vehicles, locomotives and container handling equipment in operation has been assessed. The assessment predicts:

- Compliance with PM₁₀, NO₂, CO, and air toxic impact assessment criteria
- Exceedances of the PM_{2.5} impact assessment criteria for 24 hour and an annual averaging period on a cumulative basis (accounting for existing background air quality). The increment (project only) GLC predictions are:
 - PM_{2.5} (24 hour) of 2.2 ug/m³. The incremental prediction accounts for ~ 9 % of the cumulative prediction, as such the cumulative impacts are largely associated with existing background.
 - PM_{2.5} (annual) of 0.6 ug/m³. The incremental prediction accounts for ~8% of the cumulative prediction, as such the cumulative impacts are largely associated with existing background.

The EPA position on non-road diesel emissions

The intermodal project could result in a freight transport mode shift from a regulated mode (on-road vehicles) to an unregulated mode (locomotive). Emissions from freight movement utilising diesel fired engines can be a significant source of air emissions, including particulate matter (particularly PM_{2.5}) and air toxics (such as polycyclic aromatic hydrocarbons).

Emission standards for road vehicles are set within the Australia Design Rules (ADRs) administered by the Australian Government under the *Motor Vehicle Standards Act 1989*. There are currently no non-road diesel emission standards (including for locomotives) at state or national level in Australia.

Given the regulatory gap on emission standards for non-road diesel engines, the NSW EPA has been working towards improved emission performances for locomotives and other non-road diesel engines.

The EPA considers that new proposals involving transport of freight by rail should benchmark proposed emission performances against best practice. This should include, at a minimum:

- achieving (as minimum) Tier 0+ emission performances for existing locomotive fleet
- achieving (as minimum) Tier 3 emission performances for new locomotives; and
- benchmarking proposed emission standards for container handling equipment with consideration of Tier 4 emission performance standards or electrification

The above approach is consistent with commitments for controlling locomotive emissions for other recent intermodal projects in the Sydney region, such as the Moorebank Intermodal facility.

Additional information and commitments requested to enable recommended conditions of approval

The EPA advises that there are issues where additional information and assessment is required to enable recommended conditions of approval. Detailed comments relating to additional information and assessment requirements are provided in Attachment 2. The proponent should address all issues detailed in Attachment 2 as summarised below:

- Benchmark proposed locomotive emission performance standards with best practice, and provide specific commitment to achieve best practice locomotive emission performances standards
- Benchmark proposed container handling equipment performance standards with best practice and provide specific commitment to achieve best practice container handling emission performances (including consideration of electrification)
- Revise the Air Quality Impact Assessment to:
 - Assess potential impacts based on emission performances that reflect proposed commitments that have been benchmarked against best practice
 - Include VOC specification profiles for assessing speciated VOC impacts
 - Include more robust assessment of principal toxic air pollutants
 - Include a more robust assessment of PM_{2.5} emissions from non-road mobile emission sources.

Locomotive emission performance - The emission factors utilised as the basis for the assessment of air quality impacts indicate the proponent is committing to locomotives that achieve Tier 0+ emission standards

The AQIA estimates emissions from locomotives based on emission factors published in the *Diesel Locomotive Emission Upgrade Kit Demonstration Project – Fuel Efficiency Emissions & Noise Testing* report (ABMARC, 2015). Emission factors referenced for estimating air emissions are contained within Table 11 of the AQIA. The AQIA includes emission estimates for air pollutants for an idle locomotive and a locomotive moving under power at Notch 2. The AQIA does not discuss the emission standards that would be achieved with the locomotives proposed. The EPA has compared the emission factors from the AQIA with emission factors contained in ABMARC, 2015. Based on the comparison the assessed emissions within the AQIA appear to be based on locomotives that achieve emission performances consistent with Tier 0+ (see Table 1 below). It is noted that there is a discrepancy between the AQIA emission factor for NO_x with that contained in the ABMARC test report.

Table 1- Comparison of emission factors for locomotives

Pollutant	Idle Locomotive Emission Factor (g/kWhr)		Locomotive at Notch 2 Emission Factor (g/kWhr)	
	AQIA	ABMARC*	AQIA EF	ABMARC*
PM	1.21	1.21	0.328	0.328
NOx	95.7	95.7	8.85	9.85
THC	16.2	16.2	0.719	0.719

**Emission results from the tests undertaken for the 81 Class locomotive post Tier 0+ upgrade*

Given that the assessment is based on emission factors that are based on the implementation of engine upgrade kits that achieve Tier 0+, then the EPA considers that the proponent is committing to achieving emission performances that achieve emission performance consistent with Tier 0+ (or better). However, assessment information does not discuss proposed locomotive emission performances, assess proposed locomotive emission performances against best practice, or include specific commitments to emission performances.

Consistent with the EPA position on other locomotive projects, and the basis for the assessed air quality impacts, the EPA advises that the proponent should benchmark non-road diesel emission performance with best practice and, as a minimum commit to:

- achieving (as minimum) Tier 0+ emission performances for existing locomotive fleet
- achieving (as minimum) Tier 3 emission performances for new locomotives.

Recommendation: The proponent benchmark proposed locomotive emission performance against best practice and provide explicit commitment to locomotive emission performances consistent with best practice (including timelines for implementation). Clarification on the noted difference between assessed emission factor for NOx with that contained in ABMARC (2015) should also be provided.

Container handling emission performance - The emissions factors utilised as the basis for the assessment of air quality impacts indicate the proponent is committing to container handling equipment that achieves Euro Stage III emission standards

The AQIA estimates emissions from mobile container handling equipment based on Euro Stage III emission standards. Emission factors are contained within Table 12 of the AQIA. However, assessment information does not include specific commitments to emission performances for container handling equipment or benchmark proposed emission performances against best practice, with consideration to the implementation of electrification of container handling equipment.

Consistent with the EPA's position on other locomotive projects, the EPA advises that the proponent should benchmark non-road diesel emission performance with best practice, including consideration of Tier 4 emission standards or electrification of container handling equipment.

Recommendation: The proponent benchmark proposed container handling equipment emission performance against best practice (with consideration of Tier 4 standards / electrification) and provide explicit commitment to emission performances consistent with best practice.

The AQIA potentially under estimates emissions from locomotives and hence potentially under predicts ground level concentrations.

As discussed above the AQIA estimates emissions from locomotives based on emission information published in ABMARC, 2015. The EPA notes that the cycled weighted emission factors derived from the testing conducted incorporating the Tier 0+ upgrade kits performed better than the Tier 0+ emission standards for some pollutants. For example:

- Cycle weighted PM emissions from the ABMARC testing with Tier 0+ upgrade kits for 81 class locomotives was 0.153 g/kWhr which is lower than the Tier 0+ standard of 0.270 g/kWhr.

Hence, where emission estimates are based solely on the AMBARC testing data, then emissions maybe underestimated (for the purposes of assessing potential worst-case impacts) where the proponent is committing to achieve Tier 0+ emission standards.

Recommendation: The AQIA be revised to assess potential impacts based on emission performances that reflect proposed commitments that have been benchmarked against best practice.

Assessment of air toxics require further information and assessment

The AQIA estimates benzene emissions from locomotives based on information contained in the 2008 NSW EPA Air Emissions Inventory. However, the AQIA does not include the speciation profile for VOCs including benzene. The EPA also notes that the 2008 NSW EPA Air Emissions Inventory includes emission estimates for other principal air toxics (such as 1,3-Butadiene, and Polycyclic Aromatic Hydrocarbons) from non-road emission sources. The AQIA does not assess potential impacts from principal air toxics other than benzene. Additionally, the AQIA does not advise on the VOC emission estimates (including speciation profiles) from other non-road emission sources (i.e. container handling equipment).

For transparency, and validity of the assessment approach, the EPA considers that the proponent should revise the assessment to include assessment of other principal air toxics pollutants and include the VOC speciation profiles utilised for emission estimates.

Recommendation: The proponent revise the air quality impact assessment to:

- *Include speciation profile adopted for assessing individual VOCs, with justification; and*
- *Assess predicted impacts of other principal air toxics, including polycyclic aromatic hydrocarbons.*

Assumed 9% of PM₁₀ as PM_{2.5} from assessed mobile plant not appropriate

The AQIA includes emission estimates for mobile plant and equipment based on emission factors for Euro Stage III emission standards. Emission factors are contained within Table 12 of the AQIA. Table 12 of the AQIA states that PM_{2.5} emissions from mobile equipment are based on assuming that 9 % of PM₁₀ is PM_{2.5}. the EPA do not agree with this assumption.

The EPA considers that PM_{2.5} makes up a much large portion of PM₁₀ than 9 %. This is supported by the emission estimates contained in the 2008 NSW EPA Air Emissions Inventory, in which PM_{2.5} emission from locomotives and industrial off-road equipment accounts for approximately 97 % of PM₁₀ emission estimates.

Recommendation: The proponent revise the air quality impact assessment to include a more robust assessment of PM_{2.5} emissions from proposed emission sources.

Recommendations

- Consider the EPA's comments and the proponent address the issues described above.

Contamination

The methodology used to determine the risks associated with the areas of contamination and the contaminants

The Preliminary Site Contamination Assessment (Appendix 11 of the EIS) included a desktop study with field sampling of soil and groundwater (four boreholes to 10.5 m below ground surface (m bgs), 13 test pits to maximum 3.3 mbgs). The study identified that large portions of site were formerly owned by James Hardie and Coy Limited from 1969 to 1984 but there was no evidence of asbestos manufacture on site. The study reported that the site surface was stripped following JH&C's departure, and the material was placed in a stockpile on site (SP3). This study identified trace asbestos containing material (1 sample) on site surface and multiple stockpiles of waste materials on site. Copper, zinc and manganese were reported in groundwater above ecological screening levels. Historical reports reviewed indicated the presence of some traces of toluene and total recoverable hydrocarbon contamination at the site. The study recommended to conduct a further investigation to further investigate areas of concern including but not limited to former activities by JH&C (in particular stockpile SP3), fuel and chemical leaks and spills and stockpile areas.

The Groundwater Level Assessment (Appendix 17 of the EIS) is based on the installation and monitoring of five groundwater monitoring wells (four located on site). Wells were gauged with by installation of data-loggers and barometric loggers, and manual dip-level meters. The assessment concluded that groundwater would be encountered from approximately 3 m bgs across the site during the investigation (December 2018 to February 2019), and was generally consistent in variability. The report indicated that most proposed development is expected to occur above the local groundwater table.

The Supplementary Contamination Assessment (Appendix 12 of the EIS) comprised of more test pitting and surface soil sampling across the site and AECs including test pitting of the various stockpiles. The investigation confirmed the presence of anthropogenic materials across the site and buried as fill. Polycyclic Aromatic Hydrocarbons (principally benzo(a)pyrene), with Metals (Copper and Arsenic) contamination was encountered in a number test pits in excess of environmental screening levels. Asbestos was detected in 10L bulk samples collected from a northern area of the site (TP208 and TP205, and in TP205 at levels exceeding commercial/industrial health screening criteria) and pesticides were identified in Stockpile SP4 exceeding scheduled chemical waste criteria. The report concluded the suspected asbestos containing material or indicators of potential asbestos contamination, were not observed in the PAEC 3 stockpile test pits. The assessment concluded the site could be made suitable for the proposed development if the northern portion of the site was remediated. Isolated pockets of contamination to be present in untested areas of the site were proposed to be managed under an unexpected finds protocol.

The Remediation Action Plan (RAP) (Appendix 13 of the EIS) provided appears to be a high level or 'conceptual RAP' that deals solely with asbestos. There are several remedial options presented including excavation and off-site disposal, treatment and re-use on site, and use of a containment cell. None have been chosen as the preferred option. The RAP does not include consideration of several relevant points of information including:

- What is the anticipated volume of the asbestos contaminated material to be encountered or remediated?
- What about the other contaminated material such as the pesticide contaminated soil, and stockpiles of waste and rubbish on site?

One of the options considered is to treat asbestos contaminated soils by mixing with clean material on site, then reusing the soil at depth on site. The EPA does not support this option. All works dealing

with asbestos contaminated material require continuous air quality monitoring by appropriately qualified persons.

Adequacy of any mitigation measures proposed

The Preliminary Site Contamination Investigation is considered generally adequate for purpose, however the EPA notes that insufficient samples were collected to fully characterise areas of concern, and that the report recommended additional investigation be undertaken. The EPA notes the method of asbestos analyses undertaken for the preliminary investigation (presence versus absence) is a qualitative assessment and should be followed up by quantitative means to confirm results obtained.

The Groundwater Level Investigation did not provide any reasoning for the placement of the wells, but they appear to be located across the site. No discussion on the potential beneficial uses of the groundwater was provided, but the EPA notes that high connectivity with the groundwater associated with South Creek is expected due to the proximity of the site to the riparian corridor. The expected groundwater levels of ~3 m bgs should be taken as indicative only, as report and regional data indicates groundwater standing water levels could vary from 2.5 to 7 m bgs. The EPA agrees with the Groundwater Level Investigation report recommendations that consultations and approvals from Water NSW will be needed if the proposed works intercept the local aquifer (at whatever depth), and management of seepage water is needed.

The Supplementary Contamination Assessment reported on further soil testing across several areas of environmental concern. The test pit sampling undertaken at PAEC 3 (identified as the material that was in a stockpile, stripped off the site following James Hardie ownership) was at 30% of the minimum density recommended in the EPA (1995) Sampling Design Guidelines. As such there has been insufficient sampling to fully characterise and identify potential asbestos present in this stockpile. In addition, the surface of the soil which was previously tested for asbestos on a detect/non-detect basis should be confirmed through further quantitative testing. The EPA recommends further sampling be undertaken to confirm the presence and quantities of asbestos on site.

The RAP has several deficiencies, and the EPA recommends, subject to further sampling, that a detailed RAP be developed to calculate extent of contaminated material, and better identify the preferred remedial strategy.

Attachment 2

Recommended Conditions of Consent

Contamination

1. Further site assessments to confirm the presence/absence and concentrations of asbestos in soil and stockpiled materials, by use of approved gravimetric analytical methods described in The National Environment Protection (Assessment of Contamination) Measures Schedule B2 (based on the WA DoH guidelines (2009). Assessments must include re-sampling of site surface and further sampling of stockpile PAEC 3 to ensure it can be fully characterised. The EPA notes the wide range surface sampling conducted for the preliminary investigation was for screening purposes only and used qualitative methods only. The following guidance, as relevant, should be considered when assessing contamination at the site:
 - NSW EPA Sampling Design Guidelines
www.epa.nsw.gov.au/resources/clm/95059sampgdline.pdf
 - Guidelines for the NSW Site Auditor Scheme (3rd edition) 2017
<https://www.epa.nsw.gov.au/publications/contaminatedland/17p0269-guidelines-for-the-nsw-site-auditor-scheme-third-edition>
 - Guidelines for Consultants Reporting on Contaminated Sites, 2011
www.epa.nsw.gov.au/resources/clm/20110650consultantsglines.pdf
 - The National Environment Protection (Assessment of Contamination) Measures 2013 as amended.
2. Preparation of a detailed Remedial Action Plan be developed to calculate extent and volumes of contaminated material, better identify the preferred remedial strategy. The EPA does not support the re-use of asbestos contaminated material on site by treatment of asbestos contaminated soils as described in the EIS RAP Appendix 13. A detailed RAP should consider remediation of asbestos contaminated materials, and other waste materials known to be stockpiled on the site, and other contaminants of concern known to be present at the site at levels that may present a risk to human health (pesticides and historically, petroleum hydrocarbons).
3. The EIS has not found evidence of extensive asbestos on the site. However, the EPA considers there is a need for further investigations here, due to deficiencies in the methods used for the EIS assessments which puts uncertainty over contamination status of this site. Refinement of the Remedial Action Plan based on further investigations would also be required. Considering this and the fact that James Hardie and Coy historically operated from the site it would be prudent for the consent authority to require this further work, to confirm asbestos extents. Considering the uncertainties, the EPA also recommends the proponent be required to engage an NSW EPA accredited contaminated site auditor to provide a Section A site audit statement (SAS) and accompanying site audit report (SAR) certifying suitability of the land for the proposed land use. By engaging a site auditor to provide a Section A SAS, the site auditor will also review the adequacy of any required investigations, unexpected finds protocols, any remedial plans and works required, and confirm suitability of the land use.
4. The proponent be required to ensure that any scheduled waste material such as soils contaminated by compounds including but not limited to 4,4'-DDD (p,p'-DDD, DDD), 4,4'-DDE (p,p'-DDE, DDE), 4,4'-DDT (p,p'-DDT, DDT) or waste contaminated by these compounds, that is kept on the development site:
 - is managed in accordance with the Scheduled Chemical Wastes Chemical Control Order 2004, and
 - is assessed, classified and managed in accordance with the EPA "Waste Classification Guidelines Part 1: Classifying Waste" November 2014 and the 2016 Addendum thereto.

5. The processes outlined in *State Environmental Planning Policy 55 - Remediation of Land (SEPP55)* be followed in order to assess the suitability of the land and any remediation required in relation to the proposed use.
6. The proponent must 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 [note that this would render the proponent the 'person responsible' for the contamination under section 6(2) of CLM Act].
7. The EPA must be notified under section 60 of the CLM Act for any contamination identified which meets the triggers in the *Guidelines for the Duty to Report Contamination* (www.epa.nsw.gov.au/resources/clm/150164-report-land-contamination-guidelines.pdf)
8. EPA recommends use of "*certified consultants*". Please note that the EPA's Contaminated Land Consultant Certification Policy (<http://www.epa.nsw.gov.au/-/media/epa/corporate-site/resources/clm/18520-contaminated-land-consultant-certification-policy.pdf?la=en>) supports the development and implementation of nationally consistent certification schemes in Australia, and encourages the use of certified consultants by the community and industry. Note that the EPA requires all reports submitted to the EPA to comply with the requirements of the *Contaminated Land Management Act 1997* (CLM Act) to be prepared, or reviewed and approved, by a certified consultant.

Waste

1. The proponent must prepare and implement a Construction Waste Management Plan (CWMP) for the Project that includes (at a minimum):
 - The quantities of each waste type generated during the Project;
 - The waste classification of each type of waste generated during the Project (in accordance with the EPA's Waste Classification Guidelines);
 - The source location(s) for all waste generated (recorded using latitude and longitude coordinates);
 - The destination location(s) for all waste generated (recycling, reuse and disposal);
 - Details of any waste that is subject to a Resource Recovery Order and/or Exemption, and demonstration that the waste has meet the requirements of the Order and/or Exemption;
 - Evidence demonstrating that all waste subject to a Resource Recovery Exemption has been transported to a place that can lawfully accept that waste type;
 - Disposal records for all waste disposed under the CWMP and evidence demonstrating each facility that lawfully accept that waste type.
2. The CWMP must be implemented for the duration of the Project, and must be updated as the Project progresses, at a minimum with comparisons showing the proposed waste quantities and waste types against the actual waste quantities and waste types; intended reuse or disposal locations against actual reuse and disposal locations.
3. The proponent must conduct monthly "spot checks" of the CWMP while it is in effect (being while the Project is being undertaken and not after) to ensure that all waste is being managed, transported, reused, recycled or disposed in a lawful manner. The spot checks can take the form of desktop investigations (such as contacting disposal facilities directly, reviewing waste disposal dockets, reviewing exemption requirements against particular loads of waste, reviewing environment protection licenses); or site inspections to reuse or recycling locations. All spot checks must be documented as part of the CWMP.