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Email: Melissa.Anderson@planning.nsw.gov.au

Attention: Melissa Anderson

EPA Submission on Planning Advice Request

Dear Ms Anderson

Thank you for the request for advice from Public Authority Consultation (PAE-30309990), requesting a review by the NSW Environment Protection Authority (EPA) of the Environmental Impact Statement (EIS) and the Proponents Response to Submissions for the proposed Sancrox Quarry Expansion Project (Application SSD-7293) at Sancrox Road, Wauchope, NSW

Please find the EPA's comments and recommendations in the attached submission.

If you have any questions about this request, please contact Emma Coombs on (02) 4908 6831 or via email at info@epa.nsw.gov.au.

Yours sincerely

SCOTT ENSBEY
Unit Head – Regulatory Operations Regional North
Environment Protection Authority

ATTACHMENT A:

NSW Environment Protection Authority (EPA) Submission on Response to Submissions Report for proposed Sancrox Quarry Expansion Project (Application SSD-7293) at Sancrox Rd, Wauchope, NSW

Public Authority Consultation (PAE-330309990)
16 November 2021

The EPA has reviewed the following documents:

- *Sancrox Quarry Expansion Project – Environmental Impact Statement*, dated October 2019. ERM reference 0418291.
- Letter subject *Sancrox Quarry Expansion: EPA Advice on Response to Submissions Report – Air Quality,* dated 7 October 2021 (the additional information).
- Technical Memorandum – *Noise and Vibration Impact Assessment: Sancrox Quarry Expansion Project – Response to EPA Noise Impacts Comments*, dated 6 October 2021, ERM, reference: 0418291 Sancrox – NVIA memo F01.docx (Memo).
- *Sancrox Quarry Expansion Response to Submissions Updated Noise and Vibration Impact Assessment*, dated 27 November 2020, ERM reference: Final Revision 10 (Updated NVIA).

The EPA has reviewed the documentation above and notes it has not addressed the EPA's submission on this project. The EPA has the following additional comments and recommendations:

1. Matters to be addressed prior to determination

a. Water Quality - sediment basins have not been adequately sized.

The Hydrology Assessment (EIS Appendix E) states that the design storm event used in the conceptual sediment basin design was the 80th percentile, 5 day storm event of 40.1mm (as recommended for a basin with an operational lifetime of 1 – 3 years, discharging to a standard sensitivity environment, Table 6.1 of *Managing Urban Stormwater: Soils and Construction - Vol 2E, Mines and Quarries* (DECC 2008)).

The site currently discharges to Fernbank Creek. The proposed expansion areas to the west and northwest will discharge to Haydon's Creek. The Hastings River is the final receiving watercourse for all run-off from the quarry catchment (including potential discharges/overflows).

The basin sizing proposed is consistent with the DECC (2008) recommendations for basins where the duration of disturbance is less than 3 years and with a 'standard' (non-sensitive) receiving waterway.

Should the project be determined by way of approval, the proposed quarry life will be 30 years. It is therefore considered acceptable to assume that the duration of disturbance from the proposed basins will exceed 3 years.

In addition, the site flows to mapped coastal wetlands protected under *State Environmental Planning Policy (Coastal Management) 2018* (*Coastal Management SEPP 2018*). Proposed basins S1NW, S2N, S4N and S4S flow to mapped Coastal Wetlands to the northwest of the site. Proposed basin NPPSA flows to a mapped Coastal Wetland to the east of the site.

The EPA notes that the Coastal Management SEPP 2018 was not considered in the Hydrology Assessment.

Recommendation: The EPA requests clarification and justification as to why the 80th percentile 5-day storm event (design storm event) was used to guide basin capacity. Consideration should be given to the proposed basin life, sensitivity of the receiving environment and the *Coastal Management SEPP 2018*.

b. Air Quality – predicted large project increments and additional exceedances at various receptors

In reviewing the Air Quality Assessment Report, dated December 2020 (the 2020 Air Quality Assessment). The EPA requested additional information on the additional exceedances predicted at various receptors and the predicted large increments. In particular, the EPA requested that additional information be provided on the implementation of proposed control strategies and a robust and transparent demonstration that no additional exceedances will occur at any of the existing and future sensitive receptors located in the vicinity of the premises.

The additional information provides revised dispersion modelling results addressing comments previously provided by the EPA, including provision of potential impacts at three additional receptors (R46, R47, R48). The revised dispersion modelling predicts additional exceedances of the PM_{10} (24-hour average) impact assessment criteria at receptors R13, R46, R47 and R48.

Receptors R46, R47 and R48 are locations along the boundary to represent potential impacts on future industrial receptors.

The additional information states that transfer of ownership of R13 to Hanson (the proponent) is to occur and hence predicted ground level concentrations at R13 has not been considered in further detail within the additional information.

A summary of the ground level concentrations where 24-hour average PM_{10} exceedances are predicted is tabulated below.

Receptor	Maximum Cumulative 24 hr PM_{10} (ug/m^3)	Increment contribution to maximum 24 hour PM_{10} (ug/m^3)	Number of additional exceedances
13	53.5	14.3	Not provided in additional information
46	63.5	54.8	8
47	70.2	62.8	8
48	64	39.4	5

The additional information outlines that the proponent proposes to develop a Trigger, Action, Response, Plan to inform reactive management measures to address the additional exceedances. The additional information provides high level information on the use of PM_{10} ambient air monitoring, and 1-hour average trigger levels to inform potential reactive management. However, the additional information does not:

- nominate specific trigger levels that could be implemented
- clearly specify the actions that would be taken when trigger levels are reached

- provide further analysis of dispersion modelling results (or revised modelling accounting for the actions that would be implemented) to transparently demonstrate that predicted additional exceedances can be mitigated through the implementation of actions at the specific trigger levels.
- Include information on source apportionment to the predicted exceedances, to identify if specific reactive management measures can resolve the predicted exceedances.

The EPA considers that reactive management measures that are linked to clear, specific trigger levels and actions could manage potential impacts. To provide a level of confidence that the proposed reactive management measures can resolve the predicted additional exceedances, the EPA considers that the proponent provide more robust, detailed information on the reactive management measures, and a demonstration that the reactive management measures can resolve the predicted additional exceedances. This could include further analysis of the time series of predicted exceedances (or revised modelling), accounting for the specific actions that would be implemented at specific trigger levels.

Recommendation: Further robust information is required to provide confidence that the additional exceedances can be managed through reactive management measures based on proposed ambient air monitoring. The EPA recommends that the proponent provide additional analysis or revised modelling results accounting for the proposed reactive management measures at specific trigger levels to demonstrate that predicted additional exceedances can be managed.

c. Air Quality - uncertainty in the emissions inventory estimations

The EPA requested further information on the emissions inventory and assumptions for estimating emissions and potential impacts. The EPA requested additional information on hours of operation for each activity as represented in the modelling, clarification on the maximum day assessment scenarios, and assumptions for assessing reasonable worse case impacts for haul road and wind erosion emissions.

The additional information presents revised dispersion modelling results for three scenarios. Two scenarios have been constructed to represent potential impacts based on maximum daily throughput. These scenarios are:

- Scenario 2: maximum daily quarry throughput per day for normal operating hour (5 am to 10 pm) for most activities, and maximum daily truck movements of 325 truck movements/day for final product to market; and
- Scenario 3: maximum daily quarry throughput per day for extended operations hours which is 24 hours per day for transport of product offsite. This include maximum daily truck movements of 325 truck movements/day and 37 additional truck movements overnight.

The hours of operation as modelled for individual activities for the two scenarios is provided in Table 1 of the additional information. Additionally, the revised modelling results are based on an increased area of wind erosion emissions.

Recommendation: The EPA considers that the issues around the modelling scenarios have been adequately addressed. However as advised above, further information is required on the implementation of management strategies to demonstrate that predicted impacts can be managed.

2. Matters to be addressed with conditions

a. Noise Impacts – background noise has not been adequately assessed.

The proponent has provided a Memo in response to the EPA's comments on the Response to Submissions. Whilst the Memo does not satisfactorily respond to all matters, the EPA is prepared to recommend conditions which have considered the potential risk arising from the potential influence from the existing quarry in the measurement of background noise levels.

The EPA did not consider the proponent's response satisfactory in responding to the EPA's request to demonstrate that the existing quarry did not influence the long-term background noise measurements. The reasons are as follows:

The assertion that noise from the Pacific Highway heavily influenced the background noise measurements does not preclude the existing quarry from influencing the background noise levels, particularly when the quarry was operational during the measurement period and was noted to be contributing to background noise levels at locations during attended measurements.

The proponent did not satisfactorily explain why if the predicted noise levels for the existing quarry are close to the measured background levels, that they are not present during the background noise measurements and therefore did not influence the background noise levels.

The argument that because the estimated noise level from the quarry was far below the measured level at locations A3 and A4 and therefore did not influence measurements does not support the assertion that long term background noise levels were not influenced because the estimated levels from the existing quarry are at a level which could influence the background noise levels (not just the attended measurement levels).

The EPA considers that requesting further information may not resolve the issue, given the repeated unsatisfactory nature of answers received to each request. Therefore, the EPA proposes that noise limits be placed on the premises that reflect the potential risk in the unresolved matter of background noise levels.

The majority of noise predictions for the proposed operations (Stage 1 to 4) in Tables 7.3 to 7.6 of the Updated NVIA are equal to or below 35 dB(A) which is the minimum noise limit under the Industrial Noise Policy. Therefore where this is the case, the noise limits have been set at Leq,15min 35 dB(A). This approach is supported by the INP application notes which states:

> *Where the proponent predicts that noise levels from the industrial development would be below the PSNLs, then the noise limits specified in the licence/consent conditions should reflect the noise levels that the proponent states would be achieved (that is, the predicted noise levels, however a minimum intrusive criterion of 35 dB(A) still applies).*

In the case of 5 receivers (IDs 14, 16, 33, 34, 35), where the predicted noise level is more than 35 dBA during the evening and night under noise-enhancing meteorology, the noise limits during the day, evening and night are proposed to be set equal to the night level under noise-enhancing meteorology.

The EPA recommends this approach to avoid the uncertainty in having a day limit set below the evening and night period. Furthermore, if the evening and night limits are set higher than the day, under neutral meteorological conditions it still allows noise levels to be higher during the evening and night than the day, which is not considered an outcome consistent with the INP.

The EPA also notes that whilst the assessment used neutral meteorological conditions during the day, they also used ISO 9613-2 to predict noise levels which assumes propagation conditions with a 1 to 5 m/s wind which is within the consideration of noise-enhancing conditions for the day period. Consideration of using an approach consistent with the 5 special case receivers in

combination with the prediction method has led the EPA to conclude that it is appropriate to recommend day period limits under noise-enhancing conditions for all receivers.

The recommended conditions also include a provision for noise limits to apply where meteorological conditions are outside of the conditions specified. The noise limit + 5 dB is to apply in this instance. This is considered prudent to include as it improves certainty and transparency for the community, proponent and licensee about when and how noise limits apply.

The attached conditions provide recommended noise limits and meteorological conditions. TANU also recommends that time restrictions are placed on the licence to specify which activities may take place during which periods, reflecting the proposed activities in the application.

No changes to the blasting conditions in the current EPL are recommended.

Recommendation: Proposed noise conditions are included at Attachment B

3. Matters to be addressed post approval

a. Licence Variation Required

Hanson currently holds Environment Protection Licence (EPL) 5289 for the scheduled activities of extractive activities and crushing, grinding and separating for up to 500,000 tonnes per annum. The EPA notes that the proposal proposes significant amendments to the scheduled activities and monitoring currently being undertaken in accordance with EPL 5289.

Recommendation: The EPA recommends that upon determination of PAE-3030990, Hanson review the current licence and, if necessary, submit a licence variation application that clearly outlines each of the amendments required.

ATTACHMENT B:

NSW Environment Protection Authority (EPA) Recommended Conditions of Approval – Noise*

Public Authority Consultation (PAE-330309990)
16 November 2021

Noise Limit Conditions

L6.1 Noise generated at the premises must not exceed the noise limits at the times and locations in the table below. PROPONENT TO CONFIRM ADDRESSES AND LOT DPS *UPDATED NVIA* FIGURES 1.2 and 1.3 do not match receiver locations and Table 3.1 appears to have errors in the coordinate system.

Location	Noise Limits in dB(A)				
	Morning Shoulder	Day	Evening	Night	Night
	$L_{Aeq(15\ minute)}$	$L_{Aeq(15\ minute)}$	$L_{Aeq(15\ minute)}$	$L_{Aeq(15\ minute)}$	L_{AFmax}
Receiver 14 234 Bushland Drive Sancrox Lot 40 DP1191701	37	37	37	37	47
Receiver 16 220 Bushland Drive Sancrox Lot 28 DP255774	36	36	36	36	46
Receiver 33 498 Fernbank Creek Road Fernbank Creek Lot 1 DP200383	35	35	35	35	48
Receiver 34 706 Fernbank Creek Road Fernbank Creek Lot 1 DP318920	38	38	38	38	53
Receiver 35 733 Fernbank Creek Road Fernbank Creek Lot 2 DP805561	37	37	37	37	52
All other residential receivers	35	35	35	35	46

L6.2 For the purposes of condition L6.1:

a) Morning Shoulder means the period from 5am to 7am Monday to Saturday and the period from 5am to 8am Sunday and public holidays.
b) Day means the period from 7am to 6pm Monday to Saturday and the period from 8am to 6pm Sunday and public holidays.
c) Evening means the period from 6pm to 10pm.
d) Night means the period from 10pm to 5am Monday to Saturday and the period from 10pm to 5am Sunday and public holidays.

L6.3 Meteorological conditions

a) The noise limits set out in condition L6.1 apply under the following meteorological conditions:

Assessment Period	Meteorological Conditions
Day	Stability Categories A, B, C and D with wind speeds up to and including 3m/s at 10m above ground level.
Evening	Stability Categories A, B, C and D with wind speeds up to and including 3m/s at 10m above ground level.
Night	Stability Categories A, B, C and D with wind speeds up to and including 3m/s at 10m above ground level; or Stability category E and F with wind speeds up to and including 2m/s at 10m above ground level.

b) For those meteorological conditions not referred to in condition L6.3(a), the noise limits that apply are the noise limits in condition L6.1 plus 5dB.

L6.4 For the purposes of condition L6.3:

a) The meteorological conditions are to be determined from meteorological data obtained from the meteorological weather station on the premises. (if no on-site weather station, the nearest appropriate BoM site is to be used)

b) Stability category shall be determined using the following method from Appendix E of the NSW *Industrial Noise Policy* (NSW EPA, 2000):

i. Pasquill-Gifford stability classification scheme.

L6.5 To assess compliance:

a) with the $L_{Aeq(15\ minutes)}$ or the L_{Amax} noise limits in condition L6.1 and L6.3, the noise measurement equipment must be located:

(i) approximately on the property boundary, where any residence is situated 30 metres or less from the property boundary closest to premises; or where applicable,

(ii) in an area within 30 metres of a residence façade, but not closer than 3 metres where any residence on the property is situated more than 30 metres from the property boundary closest to the premises; or, where applicable,

(iii) in an area within 50 metres of the boundary of a National Park or Nature Reserve,

(iv) at any other location identified in condition L6.1

b) with the $L_{Aeq(15\ minutes)}$ or the L_{Amax} noise limits in condition L6.1 and L6.3, the noise measurement equipment must be located:

(i) at the reasonably most affected point at a location where there is no residence at the location; or,

(ii) at the reasonably most affected point within an area at a location prescribed by condition L6.5 (a).

L6.6 A non-compliance of conditions L6.1 and L6.3 will still occur where noise generated from the premises is measured in excess of the noise limit at a point other than the reasonably most affected point at the locations referred to in condition L6.5 (a) or L6.5 (b).

NOTE to L6.5 and L6.6: The reasonably most affected point is a point at a location or within an area at a location experiencing or expected to experience the highest sound pressure level from the premises.

L6.7 For the purpose of determining the noise generated from the premises, the modifying factor corrections in Table C1 in Fact Sheet C of the *Noise Policy for Industry* (NSW EPA, 2017) may be applied, if appropriate, to the noise measurements by the noise monitoring equipment.

L6.8 Noise measurements must not be undertaken where rain or wind speed at microphone level will affect the acquisition of valid measurements.

M8 Requirement to Monitor Noise

M8.1 Attended noise monitoring must be undertaken in accordance with Condition L6.5 and must:

a) occur at each location specified in Condition L6.1;
b) occur quarterly in a reporting period;
c) occur during each day, evening, night and morning shoulder period as defined in Condition L6.2 for a minimum of:

- 1.5 hours during the day;
- 30 minutes during the evening;
- 1 hour during the night; and
- 30 minutes during the morning shoulder period.

d) occur for two consecutive operating days.

Reporting Conditions

R4 Noise Monitoring Report

A noise compliance assessment report must be submitted to the EPA within 30 days of the completion of the quarterly monitoring. The assessment must be prepared by a competent person and include:

a) an assessment of compliance with noise limits presented in Condition L6.1 and L6.3;
b) An assessment of modifying factors in accordance with Fact Sheet C of the *Noise Policy for Industry* (NSW EPA, 2017); and
c) an outline of any management actions taken within the monitoring period to address any exceedences of the limits contained in Condition L6.1 and L6.3.

Additions to Definition of Terms of the licence

- Noise Policy for Industry - the document entitled "*Noise Policy for Industry*" published by the NSW Environment Protection Authority in October 2017.

- Industrial Noise Policy - the document entitled "*NSW Industrial Noise Policy*" and application notes published by the NSW Environment Protection Authority.

- Noise – 'sound pressure levels' for the purposes of conditions L6.1 to L6.8.

  - $L_{Aeq\ (15\ minute)}$ - the value of the A-weighted sound pressure level of a continuous steady sound that, over a 15 minute time interval, has the same mean square sound pressure level as a sound under consideration with a level that varies with time (Australian Standard AS 1055:2018 *Acoustics: description and measurement of environmental noise*).

  - L_{AFmax} – the maximum sound pressure level of an event measured with a sound level meter satisfying Australian Standard AS IEC 61672.1-2013 *Electroacoustics - Sound level meters - Part 1: Specifications* set to 'A' frequency weighting and fast time weighting.

*Note: the EPA has outstanding assessment requirements relevant to air and water quality (see Attachment A). Recommended conditions of approval relevant to air and water will not be provided until such time as these issues have been adequately addressed by the applicant.

This concludes the EPA's submission on the proposal.

Emma Coombs
Operations Officer
Environment Protection Authority