



Planning & Environment

Planning Services

Resource Assessments

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Mr Bob Lander
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Dear Mr Lander

Response to Submissions Bobs Farm Sand Mine Project (SSD 6395)

The public exhibition of the Environmental Impact Statement (EIS) for the Bobs Farm Sand Mine Project concluded on Friday 1 February 2019. All submissions received by the Department during exhibition of the project are available on the Department's website at http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=6395

The Secretary requests that you prepare and submit a report detailing your responses to the issues raised in submissions, at your earliest convenience. Please note that the Department is yet to receive comments from the Crown Lands and Water Division of the NSW Department of Industry. Once received, these will be forwarded to you for consideration and response.

In particular, the Department has identified a significant number of issues where further impact assessment or additional information is required (see **Attachment A**). Please address these issues carefully and comprehensively.

If you wish to discuss this matter further, please contact Colin Phillips on 9274 6483.

Yours sincerely

Howard Reed

Director

Resource Assessments

7.2.19

Attachment A

1. Noise

Background Noise Assessment

Reference is made to the graphical noise monitoring provided by Vipac on 19 December 2018 and the Noise Impact Assessment (NIA) in Annex J of the EIS.

- Table 4 of the NIA states that noise was monitored at site N1 for the period 02-06/09/2014. Please resolve this inconsistency with the graphical information which is provided from 1600 hours on 02 September 2014 until 2400 hours on 04 September 2014.
- Table 4 of the NIA states that noise was monitored at site N2 for the period 12-18 August 2014. Please resolve this inconsistency with the graphical information which is provided for the period 16-25 August 2014.
- Table 4 of the NIA states that noise was monitored at site N3 for the period 12-18 August 2014. Please resolve the inconsistency with the graphical information which is provided for the period 16-24 August 2014.
- Table 4 of the NIA states that noise was monitored at site N4 for the period 12-18 August 2014. Please resolve the inconsistency with the graphical information that is provided from 1600 hours on 02 September 2014 until 2400 hours on 04 September 2014.
- Table 5 of the NIA presents the outcome of background noise monitoring for sites N1 to N4. Please provide an explanation for the difference of 9dB(A) between sites N1 and 2 for Day time RBLs, when they are separated by only 125 metres. What influence did the Go Kart track at 75 metres from site N1 have on the background noise recorded? Similarly, what influence did the location of Nelson Bay Road at 85 metres from site N1 have on the background noise recorded?
- It is noted from Figure 5 of the NIA that road construction activities were being undertaken on Nelson Bay Road in 2015, and at a time prior to June. The possibility exists that background noise levels at site N1 were influenced by daytime road construction activities. Please describe whether construction activities were being undertaken during the September 2014 monitoring period for background noise. If construction was being undertaken, what effect did this have on the reported background noise levels?

Noise Assessment Model

- Please confirm that the NIA has correctly modelled the maximum proposed extraction rate of sand and has included all relevant noise sources within the noise model. The assumptions on which the NIA is based should be clearly stated within the NIA. Please consider the matters concerning the NIA raised by the EPA and the Say No to Sand Mining in Bobs Farm Community Action Group.
- Please ensure that the NIA considers the impacts of the proposed sand mine on the eco-cabins likely to be the closest occupied structures to the proposed sand mine (see Item 4).

Proposed noise attenuation

- Section 8.1 of the NIA proposes the use of noise attenuation barriers. It is not clear what are the specifications of the proposed barriers/bunds.
 - Please describe the 4-metre-high acoustic barrier proposed for either side of the exit road to Marsh Road. What will it be constructed of? What is its acoustic reduction performance?
 - Please describe the 6-metre-high acoustic bund proposed for the northern boundary of the Site that would join with the 4-metre-high acoustic barrier. What will it be constructed of? What is its acoustic reduction performance?
 - Please describe the 4-metre-high acoustic bund proposed to surround the processing area. What will it be constructed of? What is its acoustic reduction performance?
 - What is the difference between an "absorbent barrier" and a "noise bund"?

- Section 8.1 of the NIA states that the maximum number of trucks that could be dispatched from the Site to comply with noise criteria at R2 and R3 under '*worst-case weather conditions*' is 150 trucks. Is this maximum figure reflected in the EIS?
- How will the operator of the sand mine know when '*worst-case weather conditions*' are influencing the acoustic performance of the sand mine? Please describe these conditions in plain English and also describe the measures that would be applied so that the operator could take effective action.

2. Consistent Description of the Proposal

There are a great number of instances where the proposal is described inconsistently in the EIS. It is necessary that the proposal and its impacts are accurately and consistently described, so that an accurate assessment of the proposal can be undertaken by DPE.

Please fully review the EIS, including all Annexes containing specialist studies, to identify and correct all inconsistencies in the description of the proposal and its impacts. DPE has identified the following inconsistencies:

- The area of the Site and components
Page 83 of the EIS states that the Site comprises 47.52 ha.
Page 771 of the EIS states that the Site comprises 52.5 ha.
Page 1 of the Biodiversity Assessment Report (BAR) of Annex N states that the Site consists of four parcels of land, the areas of which when summed produce a Site area of 52.96 ha.
Table 8.2 of the EIS states that the Site area is "approximately 40 ha".

The size of the Site should be a matter of fact, with only negligible differences due to numerical rounding evident in the EIS. Please clarify.

Page 83 of the EIS states that the area of the mine is 39.07 ha.

Page 86 of the EIS states that the area of the mine is 39.26 ha.

Page 83 of EIS states that the area of rehabilitation batters to the final lake will be 11.74 ha. This is confirmed as 11.8 ha on page 759 of the EIS. However, *Table 23.1 – Proposed Rehabilitation Works* only provides for the rehabilitation of 7.83 ha for Stage 1 and 2.08 ha for Stage 2 (total of 9.91ha) and only "*topsoiling and seeding with native seed mix or grass will be undertaken*" for Stage 3. This area of proposed rehabilitation is therefore not consistent with the area set out above.

From page 83 of the EIS, if the mine area minus rehabilitation batters would produce the size of the final void lake, the lake would be 27.33ha. However, page 660 of the EIS states that the remaining 24.8 ha of the extraction area will become an artificial lake. What will be the final area and placement of the artificial lake?

- The extraction area as presented in figures
The figure on the cover of the EIS, the Proposed Mine Layout Plan presented in Annex T and Figures 14.4 and 23.1 on pages 460 and 770 of the EIS clearly identify the proposal does not include any sand extraction either within, or south of, the electricity powerline easement that crosses the south-western corner of the Site. Page 81 of the EIS contains the statement that "*An indicative layout is included as part of the plans in Annex T and is generally comprising the following.....*". DPE currently considers that the plans presented in Annex T represent the proposed layout of the Bobs Farm Sand Mine.

However, throughout the EIS and specialist studies, figures are included that indicate sand extraction would occur within and south of this electricity line easement. DPE has identified the following examples:

- Figure 2.2 on page 84 of the EIS showing the "Proposed Sand Mine with Aerial";
- Figure 2.3 on page 84 of the EIS showing the "Proposed Sand Mine";
- Figure 2.6 on page 87 of the EIS showing the "Proposed Mining Plan and Extraction Cell Arrangement" and figure 16.15 on page 717 Of the EIS, which clearly show the southwestern corner of the Site to be one of the earliest portions of the extraction sequence;

- Figure 7.14 on page 193 of the EIS showing the greatest predicted groundwater drawdown would occur in the southwestern portion of the Site;
- Figure 8.2 of page 201 of the EIS showing the "Proposed Development Layout" that differs from the layout shown in Annex T;
- Figure 9.3 on page 217 of the EIS showing the "Project Layout" including the southwestern corner of the Site as a sand extraction area;
- Figure 9.10 on page 246 of the EIS showing the "Topographic Context" including the southwestern corner of the Site as a sand extraction area;
- Figure 9.24 on page 315 of the EIS showing the "Impact Assessment" on a base plan that shows the southwestern corner of the Site as a sand extraction area;
- Figure 10.3 on page 328 of the EIS showing the "Proposed Layout" including the southwestern corner of the Site as a sand extraction area;
- Figure 10.12 on page 351 of the EIS showing the "Area of archaeological potential" on a base plan that shows the southwestern corner of the Site as a sand extraction area;
- Figure 11.1 on page 364 of the EIS showing the "Site location – Deposited Plans" that differs from the layout shown in Annex T;
- Figure 11.3 on page 367 of the EIS showing the "Proposed Mine Design and Configuration" that differs from the layout shown in Annex T;
- Figure 11.10 on page 397 of the EIS showing the "Proposed Noise Bund and Barrier Location" that differs from the layout shown in Annex T for the proposed extraction area;
- Figure 12.9 on page 429 of the EIS showing the "Location of Sources" on a base plan that shows the southwestern corner of the Site as a sand extraction area;
- Figure 16.9 on page 713 of the EIS showing the "Proposed Haul Roads on Site", which shows the southwestern corner of the Site as a sand extraction area;
- Figure 16.10 on page 714 of the EIS showing the "Overview of Extraction Envelope for Bobs Farm Site" that differs from the layout shown in Annex T;
- Figure 16.14 on page 716 of the EIS showing the "Active Extraction Cells" that differs from the layout shown in Annex T;
- The section on page 717 and Figure 16.16 on page 718 of the EIS set out the way sand extraction is proposed to occur to the south of the powerline easement, directly contradicting the other statements within the EIS, particularly in the BAR ecological assessment; that this would not be undertaken;
- Figures 22.1 and 22.2 on pages 765 and 766 of the EIS showing proposed/potential rehabilitation options for the Site that are based on sand having been extracted from the southwestern corner of the Site;

In general terms, most of the specialist studies seemed to be based on sand extraction of the Site including extraction being undertaken within, and south of, the powerline easement. An exception to this is the BAR ecological assessment, which indicates that protection of threatened orchids would be best served by exclusion of sand extraction from within, and south of, the powerline easement.

- Relocation of powerlines

Related to the above inconsistency about the proposed extraction area, is an inconsistency about whether the powerline would need to be relocated, or not. Page 64 of the EIS contains a description of the protection of the threatened species of orchid (*Diuris arenaria*) located within the cleared area of the powerline easement and the need to liaise with Ausgrid about the maintenance of its easements.

On page 76 of the EIS, in contrast to the maintenance of the easement, *'it is proposed that this transmission line be relocated into a new location in the rehabilitated batter of the final landform....'*

- The maximum number of laden trucks exiting the Site

- A maximum of 200 trucks / day is presented in pages 91, 388, 408, 672, 675, 682 and 795 of the EIS and in tables 11.28 and 11.34;
- A maximum of 180 trucks / day is presented on page 391 and Table 11.29 of the EIS;
- Table 11.26 presents a maximum of 180 trucks/ day under '*worst-case weather conditions*'; and
- A maximum of 150 trucks / day is recommended in the Executive Summary and page 33 of the NIA in Annex J in order that the proposal could comply with noise criteria for residences R2 and R3.

- Operations occurring between 6am and 7am

The Executive Summary and page 29 of the NIA in Annex J recommend that the sand mine not operate between 6am and 7am. This is at odds with other descriptions of the sand mine commencing operations at 6am. Please clarify.

In addition, the Executive Summary on page 412 describes operating hours as a single shift of 10 hours from 6am to 4pm with provision "*for an additional 10-hour shift if production and sales demands require it*". Please resolve this inconsistency with statements that the quarry would operate for a single shift.

3. Transport

Alternative Transport Routes

Section 2.13.1 of the EIS considers the option of both the entry and exit point for Site traffic to use Nelson Bay Road.

From the Department's consideration of the information in the EIS, there would appear to be advantages to a left in / left out intersection of the sand mine entrance and Nelson Bay Road. These advantages would include:

- with the provision of an acceleration lane of appropriate length, exiting traffic would be able to attain merge speed similar to that of through traffic on Nelson Bay Road. This would offer safety advantages compared to trucks exiting from a stationary position at Marsh Road seeking to build up speed to merge with through traffic on Nelson Bay Road;
- if trucks were to exit directly to Nelson Bay Road (either at the proposed entry or at a location further east) there would be reduced impact (noise, air quality and visual, such as the acoustic barriers proposed for the exit to Marsh Road) to The Bobs Farm Public School and properties to the north of the Site and Marsh Road;
- if the intersection with Nelson Bay Road was able to be used by all traffic to and from the Site, there would be a resultant nil traffic impact from the proposal to other users and residents of Marsh Road.

Please consider the use of a left in / left out intersection from the Site to Nelson Bay Road and if necessary, provide a detailed justification for the continued preference for the use of Marsh Road for access and egress from the Site.

The Traffic Impact Assessment (TIA) is dated 1 July 2016 and includes SIDRA intersection analysis based on 2014 data. Within the TIA at section 2.7 - *Other Proposed Developments* it is stated that "*there are no other major developments occurring in the immediate vicinity of the subject site*".

As indicated in Item 4, below there is an approved development for eco-cabins on land adjoining the proposed sand mine. Accordingly, the TIA needs to consider the traffic impacts likely to be generated by the approved eco-cabin development on predicted traffic movements on Marsh Road.

For the assessment of truck movements, the TIA must consider the impact of additional truck movements on the public road network until the project-based trucks reach a major highway. For the proposed Bobs Farm Sand Mine, DPE requires that traffic impacts are considered for single carriageway sections of the proposed haulage routes, the roundabout at Paul's Corner (Richardson and Nelson Bay Roads) and the roundabout at Cabbage Tree and Nelson Bay Roads.

In terms of cumulative traffic impacts, DPE considers that sand haulage traffic due to other sand extraction operations must also be considered including:

- Cabbage Tree Road Sand Quarry at Williamtown;
- Mackas Sands' operations at Salt Ash and Williamtown;
- ATB Morton's Salt Ash Sand Quarry; and
- Boral Resources' Stockton Bight Quarry at Fullerton Cove.

It is DPE's experience that the AM peak for traffic on Nelson Bay Road occurs earlier than the 7.45 to 8.45 am period provided in the TIA. Please provide details of how this peak period was determined or else amend to a more appropriate period.

4. Consideration of approved land uses

The Department has received a submission from Mr Andrew Tindale, a neighbouring landowner, who currently operates a Shark and Ray Tourist Centre.

Mr Tindale has provided a copy of his Council approval for a 20 Cabin Eco-Retreat and Miniature Animal Farm on this land. The impacts of the sand mine proposal on this approved development must be fully assessed. The Department considers that noise and air quality impacts would be particularly relevant, with the proposed eco-cabins likely to be the closest occupied structures to the sand mine proposal.

5. Biodiversity

You are referred to OEH's submission, dated 25 January 2019, and specifically to its recommendations on biodiversity contained in that submission's Attachment A and supported by the detailed comments in its Attachment B.

Basic to these recommendations is the need for the Applicant to clarify the development footprint of the proposal, re-run the BioBanking Calculation, provide field data sheets and GIS shape files and to clearly define the proposed biodiversity offset package.

It is DPE's expectation that the Applicant present a Biodiversity Offset Strategy that meets the requirements set out by OEH, prior to finalising assessment of this proposal.

Port Stephens Council has identified several instances where appropriate or adequate survey effort for threatened species has not been conducted. Please consider the matters raised by Council and by OEH to improve the quality of the fauna and flora impact assessment for this proposal.

6. Aboriginal and Cultural Heritage

You are referred to OEH's submission, dated 25 January 2019, and specifically to its recommendations on Aboriginal cultural heritage contained in its Attachment A and supported by the detailed comments in its Attachment B.

DPE supports OEH's recommendation that subsurface testing be undertaken in the relatively undisturbed soil profiles of Ridge 1 and near the previously recorded sites BF-SC4-14 and BF-SC5-14. A detailed report on this subsurface testing should be provided with your RTS.

7. Groundwater

- The groundwater assessment needs to consider the following potential impacts to groundwater resources:
 - impacts to the Ride Water Park Company's proposed recreational water park at 781 Marsh Road, Bobs Farm. Please address the matters raised in the company's submission;
 - impacts to users of groundwater for agricultural and domestic use near the proposed sand mine;
 - impacts to the adjacent Hunter Water Corporation's *Special Area* for drinking water supply;
 - impacts to groundwater quality due to exposure of the sediment column to oxygen. Consideration must be given to the oxidation of Acid Sulfate Soils (ASS) and metals such as iron and arsenic that have been noted following mineral sand mining operations in the Port Stephens area. The impact of potential lowering pH and increase in metal concentrations on current and approved groundwater users must also be assessed; and
 - impacts of changed water quality on oyster farming in Tilligerry Creek must be assessed, including the matters set out in the submission of Joy-Lynn Redmayne.
- The EIS has identified the presence of ASS and Potential Acid Sulfate Soils (PASS) within the proposed sand extraction area. The EIS has not attempted to quantify the amount of ASS and PASS that would be encountered during sand extraction or the quantities of lime that would be utilised to treat ASS and PASS.
- DPE supports the matters raised in the EPA's submission on ASS and PASS treatment. Please provide the additional information requested by the EPA for a more comprehensive Acid Sulfate Soil Management Plan than provided in the EIS and the matters listed in the final dot point of the "Groundwater, Hydrology and Potential Acid Sulphate Soils".

8. Air Quality

- As identified in Item 4, air quality impacts to the approved Eco-Cabin Retreat have not been assessed. As these structures would be closer than any habitable structure assessed in the EIS, the AQIA must re-assess the impacts of the proposed sand mine on these habitations.
- The AQIA must assess potential impacts of air particulate emissions from the sand mine (including silica) to residents' tank drinking water supplies.
- A key issue raised in public submissions received relates to potential air quality impacts (in particular, dust and health) impacts. DPE requests the Air Quality Impact Assessment be expanded to address the issue of whether the Site poses a risk to human health, including through any emissions of respirable crystalline silica. The Department suggests that the Victorian EPA criterion for respirable crystalline silica be used in the absence of a relevant NSW criterion.
- In the production of this response the Applicant is requested to particularly consider the submission of Robert Goldsworthy, dated 7 December 2018, and incorporate Site-specific studies of the size distribution of the Site's silica sand resource in its RTS.
- The EPA has identified apparent inconsistency in the production of the Air Quality Impact Assessment (AQIA) that has predicted lower air quality emissions associated with increased production rates of sand. The matters identified by the EPA must be satisfactorily addressed.
- Please confirm that the AQIA has correctly modelled the maximum proposed extraction rate of sand and has included all relevant air emission sources within that model. Please consider the matters concerning the AQIA raised by the EPA and the Say No to Sand Mining in Bobs Farm Community Action Group.

9. Social Impact Assessment

The SIA proposes a Social Impact Monitoring Program. Please ensure that this is developed in accordance with section C5 of the Department's *Social impact assessment guideline for State significant mining, petroleum production and extractive industry development, September 2017*, and provide a detailed description of this program in your RTS.

10. Mineral Sands Component

Page 756 of the EIS states:

Whilst this material is a by-product of the processing, it is a very valuable. Part of the operations and processing of the sand will see the recovery of a very small quantity of heavy mineral sands resource in its own right and it is classified as a Crown Mineral. A separate Mining Lease Application under the Mining Act will be undertaken concurrently with this operation so that this by-product material can be appropriately reprocessed by regional operations that have the capacity to handle the material.

Please provide a detailed description in the RTS that sets out how mineral sands would be recovered, processed and waste streams managed. DPE's understanding of the application of section 4.42 of the *Environmental Planning and Assessment Act 1979* is that a Mining Lease would only be able to be issued if were consistent with a development consent for the proposal. Based on the current level of information in the EIS, it is not possible for a Mining Lease to be issued for the recovery of mineral sands.

Additionally, should a Mining Lease be able to be issued for the proposal, then the lease would contain conditions in respect of rehabilitation requirements and the Division of Resources and Geosciences would be responsible for the administration of the Rehabilitation Bond for the proposal.