

General Terms of Approval - Refused



Notice No:1584691

Department of Planning, Industry and Environment
GPO Box 39
SYDNEY NSW 2001

Attention: Mr Patrick Copas

Notice Number	1584691
File Number	DOC19/651697-8
Date	28-Aug-2019

Major Projects – Australian Bay Lobster Facility - Modification 4 - Soil treatment, bulk earthworks and administrative amendments (DA282-11-2004-I-Mod-4) (Tweed Shire)

Issued pursuant to Section 4.46 Environmental Planning and Assessment Act 1979

I refer to the development application and accompanying information provided for the proposed modification involving soil treatment, bulk earthworks and administrative amendments to DA282-11-2004-I-Mod-4, received by the Environment Protection Authority (EPA) on 31 July 2017.

EPA has reviewed the information provided and has determined that it will be unable to issue an environment protection licence for the proposal as currently presented for the following reasons:

1. The proposal is not consistent with section 4.55 (1A, b) of the EPA Act

We believe the proposed modification is not consistent with section 4.55 (1A, b) modification of consents under the *Environmental Planning and Assessment Act 1979* (**EPA Act**).

Section 4.55 (1A, b) of the EPA Act states that the development to which the consent as modified relates should substantially be the same development as the development for which the consent was originally granted.

The proposed modification consent is substantially different to the consent originally granted as the primary activity that will be licensed under Environment Protection Licence 12947 (**EPL 12947**) will vary from aquaculture and mariculture to waste processing (non-thermal treatment). These two activities are different in the way they operate and how they are regulated.

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2. Further information is required

Based on our review, we consider the DA 282-11-2004-I MOD 4 (**Application**) and the Acid Sulfate Soil Management Plan (**Plan**) dated October 2018 to be inadequate and further information is required from the applicant to assess and manage possible environmental impacts from the proposed activity.

The EPA provides the applicant with the following comments on the proposed consent modification:

Modification Component No.1

Modification Component No. 1 relates to the importation of Virgin Excavated Natural Material (**VENM**), resource recovery order and exemption for excavated natural material (**ENM**) and waste potential acid sulphate soils (**PASS**) or Acid Sulfate Soil (**ASS**) that will be non-thermally treated onsite, and land applied as fill at Australian Bay Lobster Producers (**ABLP**) premises located at 9484 Tweed Valley Way, Chinderah, NSW 2487, being Lot 1 DP1192506 (**Premises**).

1. Confirm if the proposal is for the treatment of PASS or ASS

It is unclear from the Application and Plan the type of waste is proposed to be imported and treated. The Application seeks consent to import waste PASS for processing and land application whilst the Plan is based on the importation, processing and land application of waste ASS.

EPA requests that the applicant confirm what type of waste material that they propose to import, treat and land apply at the Premises.

2. Importation of VENM

EPA understands that the applicant has a development consent to import VENM as fill.

The applicant must be able to demonstrate that any VENM used for filling at the Premises complies with the classification requirements details on the EPA website located at:

<https://www.epa.nsw.gov.au/your-environment/waste/classifying-waste/virgin-excavated-natural-material>.

3. Importation of ENM

EPA understands that the applicant proposes to import ENM to use as fill to raise the Premises. The applicant plans to land apply ENM without the need for it to be stockpiled.

The applicant must demonstrate that any recovered waste material used for filling at the Premises complies with all requirements of the relevant Resource Recovery Order and Exemption for that material. Resource Recovery Orders and Exemptions can be found on the EPA website located at:

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<https://www.epa.nsw.gov.au/your-environment/recycling-and-reuse/resource-recovery-framework/current-orders-and-exemption>.

4. Waste classification and licensing requirements to import and non-thermally treat PASS or ASS onsite

EPA understands that the applicant has described their proposal to receive and treat 500 000 m³ of ENM waste that contains sulfidic ores or soils (PASS or ASS) over a 4-year period.

ENM is not a waste classification type under the *Waste Classification Guidelines Part 1: Classifying waste*. It is a recovered waste material that is defined in the ENM order and exemption as excavated natural material that does not include ASS, PASS or sulfidic ores.

Untreated PASS or ASS would be classified under the *Waste Classification Guidelines Part 1: Classifying waste*, as a hazardous waste because of its oxidising and corrosive nature.

Under Schedule 1 of the *Protection of the Environment Operations Act 1997 (POEO Act)* the threshold for waste processing involves having 200 kilograms of hazardous waste on site at any one time.

To import and treat 500 000m³ of waste PASS or ASS the applicant will need to apply for and obtain EPA approval to include the schedule activity of resource recovery for PASS or ASS to EPL 12947.

The EPA would like to advise that if resource recovery is added to EPL 12947, then the applicant will need to meet the following licensing requirement:

a) Financial assurance

If waste processing is added to EPL 12947, the EPA may require a financial assurance in the form of an unconditional and irrevocable bank guarantee. The financial assurance is held by the EPA to ensure the carrying out of all works and programs required by the EPL.

Further, it is noted that the application lacks any detail on the statutory approvals that would be needed in order for the treated PASS or ASS to be land applied.

5. Proposal does not meet the ASS Guideline

From our review of the Application and Plan, the proposal does not meet the requirements of the *Waste Classification Guidelines Part 4: Acid sulfate soils (ASS Guideline)*. The proposal does not meet the ASS Guideline because:

The Application states that waste PASS will be transported to the Premises within 16 hours of being excavated, allowed to drain on the treatment pad and then treated with AgLime without the need for it to be stockpiled. Following treatment, the PASS will be classified in accordance with Step 5 in *Waste Classification Guidelines Part 1: Classifying waste*. Any excess or unwanted PASS will be disposed of within 8 hours of receiving the PASS.

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The Plan states under section 6.2 that waste ASS that meets ENM sampling will be transported to the treatment area within 24 hours of exposure.

The ASS Guidelines requires PASS to be disposed of in water below the permanent water table at a landfill licensed to take that material, provided:

- This occurs before they have had a chance to oxidise, i.e. within 24 hours of excavation, and
- They meet the definition of VENM, even though they contain sulfidic ores or soils.

It is not clear how the Application and Plan meets the ASS Guideline requirement to dispose of PASS at a licenced landfill within 24 hours.

The EPA requires the Plan to include the following information:

- The type of material the applicant plans to import and treat.
- More detail about the timing around transportation, storage, treatment and disposal of PASS and ASS.
- The Plan needs to identify where excess or unwanted PASS or ASS material will be lawfully disposed of. There are no landfills in the mid or north coast of NSW that can lawfully accept untreated PASS.

6. Tracking of waste material needs to be carefully controlled

Though the Plan appears to refer to the tracking of waste material from the waste generator to the Premises, details of the tracking and management of waste received, processed and stored onsite (i.e. at which one of the treatment pads) required to ensure each batch of waste material is effectively and efficiently processed, are lacking.

7. Further information required on waste material to be imported

The Plan in Section 3.1 refers to investigation and sampling requirements pre-importation of waste material to the Premises to determine soil properties and if it is PASS or ASS.

The Plan and the Application does not clarify on what basis and how decisions will be made with respect to accepting waste materials to be imported to the Premises.

8. Lack of clarity with respect to the maximum amount of waste materials that will be received, stored, treated and disposed of each day

Impacts associated with the Application must be assessed for the maximum amount of waste materials to be received, stored, treated and placed. The maximum meaning the worst-case activity/operations scenario/s. In addition, the management and mitigation measures for the receipt, treatment, storage and placement of waste materials to be used at the Premises must be designed to handle the maximum amount of waste materials that may be received, or be required to be stored, treated and placed each day.

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It is unclear if the assessment of proposed modification impacts and the proposed management and mitigation measures have considered and been designed for the maximum volumes for each activity to be undertaken at the Premises.

The Application states in Section 6.5 (Table 2) the maximum daily 'material anticipated for the filling of the site' is 481m³ of PASS and 1922m³ total (sum of PASS, ENM and VENM). However, it is unclear what this maximum is referring to.

The EPA requests the applicant confirm:

- The maximum amount of waste material that may be used each day at the Premises for each activity to be undertaken.
- Impacts associated with worst case operational scenarios have been considered and assessed.
- Management and mitigation measures have been designed to address worst case operational scenarios with respect to the amount of waste material received, stored, treated and placed as a part of the proposed modification.

9. Further information required on management strategies to prevent or mitigate potential environmental impacts

The Application states the project will be 'equipped to treat and stabilised the material on site free of adverse environmental impacts on adjoining neighbours' however details are lacking in the Application on how this will be achieved.

Mitigation measures, referred to in the Acid Sulfate Soil Manual such as use of fine lime or limestone aprons as a precautionary measure when stockpiling PASS/ASS for an extended time, does not appear to be incorporated in the proposed modification.

Including a base layer of lime or other neutralising agent in the treatment pad and also under the area of the site to be raised as a buffer zone would enable any acid leachate generated that is not neutralised by lime mixed with ASS/PASS materials as a part of the treatment process, to be intercepted and neutralised.

10. Further information required on dust and odour impacts

The specific location of each activity to be performed and the storage and placement/disposal areas is not clearly defined in the Application or Plan. Material handling activities being performed closer to adjacent sensitive receptors will have an increased risk of offsite odour, dust and air impacts.

The mitigation measures that have been considered and will be implemented (provided in Section 6.12 of the Application), such as to prevent or minimise dust generation by 'scheduled water spraying activities', and how it will ensure 'no stockpiling of VENM, ENM or PASS in order to reduce airborne dust' (despite stockpiling being referred to in Section 6.5 and 6.8 of the Application), lack detail.

11. A contingency plan for the stockpiling of PASS or ASS before treatment is required

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The Application notes that PASS or ASS may be stockpiled at the Premises before treatment, and an 'artificial form of capping' will be used if storage is longer than a few weeks to minimise surface area exposure to oxidation. No further information is provided in the Application or Plan regarding this scenario.

The EPA notes the Application does not describe or refer to a contingency plan to address failures in management or mitigation processes, or to deal with unexpected or unlikely scenarios. The preparation of a site-specific contingency plan is also recommended in the Acid Sulfate Soil Manual in order to manage impacts where management measures are ineffective or fail.

12. Land application of PASS or ASS at the Premises

EPA understands from our review of the Application and Plan that the applicant proposes to land apply treated PASS or ASS at the Premises. As previously noted, the application lacks any detailed assessment on the proposed approvals needed to undertake land application.

13. Land raising impacts on site hydrology and potential for acid generation

It is unclear if potential impacts associated with land raising and with the operation of the treatment area, have been comprehensively considered and assessed with respect to the existing site conditions and any potential ASS problems.

Potential impacts associated with the change to surface water yields and flow which may result in a change in hydrology and groundwater levels may include drying of PASS, shrinkage, surface subsistence and sulfide oxidation. Despite these changes have the potential to impact on surrounding water resources, terrestrial and aquatic ecosystems and groundwater, they are not considered or discussed in detail in the Application.

Impacts may also be associated with leachate generated from the treated material that will exist across the Premises over the long term. Despite increasing the amount of lime used to treat ASS/PASS to allow for the slow reactivity of lime and non-homogeneous mixing, this scenario becomes more likely over time as metals tend to coat the surface area of the lime, reducing its effectiveness at neutralisation. Ongoing periodic replenishment or mixing of additional lime can mitigate long term acid generation, however due to the permanent nature of the material used to raise the site, such action will not be possible for the proposed modification.

14. Water assessment and management plan

The Application states that the proposal will not diminish the quality of water in surrounding streams, water courses or bodies. The Plan states that leachate from the PASS and ASS treatment area will be collected in the leachate sump and/or pond, treated and discharged into the Premises drainage line.

The Application or Plan does not consider the potential impact from the treatment of PASS and ASS and the generation of leachate to receiving waters at the Premises.

Environmental Guidelines: Solid Waste Landfill, Second edition 2016 (Solid Landfill Guidelines) was released by the EPA in 2016 and it provides a set of minimum standards for the design, construction and operation of leachate barrier and storage systems.

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In Section 2.2 of the Solid Landfill Guidelines it states that the off-site discharge of leachate into waters is generally not permitted, because leachate invariably contains a wide range of pollutants that potentially pose a risk of nontrivial harm to human health or the environment. It also provides a list of strategies to deal with stored leachate.

The EPA requests that the applicant provide an assessment of potential and likely water impacts that includes the following information:

- The background characteristics of the receiving waters at the Premises.
- Determine if discharge and monitoring points are required for the leachate sump and/or pond. If discharge and monitoring points are required identify what analytes, discharge limits will be required to detect and prevent water pollution.
- Demonstrate that the leachate treatment and disposal plan meet the requirements of Section 2.2 of the Solid Landfill Guidelines.
- The potential environmental impacts associated with discharge of leachate that has been treated with superfine lime and iron flocculant.
- Provide a summary of options explored to avoid a discharge, reduce its frequency or impact and rationale for selection of option to discharge (for example; placing a roof over the treatment area).

Following the completion of the water impact assessment, the applicant should consider and develop management measures for inclusion in the proposal and within a project water quality management plan.

15. Treatment area that includes the leachate capture sump and/or pond

The EPA understands that the applicant proposes to construct an impervious PASS or ASS treatment area using a 300mm compacted fine-grained material. The treatment area will be bunded and slope towards a leachate capture sump and/or pond (multiple leachate points). The sump or leachate pond will be designed to capture a 5 day 90th percentile rainfall event for a 2-year, 6-hour rainfall event.

The EPA also understands that the treatment area for the ASS or PASS is located within a mapped flood planning area as indicated by the Tweed Shire Council flood risk mapping (LEP, 2014).

The leachate treatment area and capture sump and/or pond is required to prevent leachate polluting the subsoil, groundwater and surface water bodies. Therefore, the EPA requires the leachate barrier and storage system to meet the minimum design requirements outlined in section 1 and 2.1 of the Solid Landfill Guidelines. The applicant's current proposal does not meet these design requirements.

The EPA requests that the applicant review and update their Plan to include the following:

- Demonstrate that the treatment area for PASS or ASS can exclude a 100-year ARI flood event.
- Demonstrate that the quantity of PASS or ASS to be treated at any one time does not exceed the capacity of the treatment pads and treated stockpile area.

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- Demonstrate that the imported ASS material does not contaminate the treated ASS material located downslope during treatment or after a rainfall event.
- Clarify if there will be one or multiple leachate collection points.
- Demonstrate that the proposed leachate treatment area will have a leachate barrier system that will be designed and constructed to meet the requirements of a leachate barrier system outlined in Section 1 of the Solid Landfill Guidelines.
- Demonstrate that the proposed leachate capture sump and/or pond will be designed and constructed to have a freeboard that can accept rainfall directly from a 24-hour rainfall event with a 1-in-25-year average recurrence interval without overflowing.
- Demonstrate that the proposed leachate capture sump and/or pond will be designed and constructed to a standard that meets the requirements of leachate barrier system outlined in Section 1 of the Solid Landfill Guidelines.
- Demonstrate the treatment area, bunding, sump and/or pond will be designed to be chemically resistant to the acid that they will be in contact with. Aspects associated with acid sulfate (sulfuric acid) dissolution of clay, and the potential release of metals from the clay, should be considered.

16. Lime treatment and final pH

From the Plan, the EPA notes the addition of lime will not oxidise the soil, rather acts as a neutralising agent for any acid formed upon oxidation of sulfidic material in PASS/ASS. The process applied to address acid formation must consider the formation of acid over the long term due to slow and ongoing oxidation of iron sulphides present in PASS/ASS materials at the Premises (a process which can take many decades).

The Plan states the waste materials will be tipped and spread into a layer less than 900 mm thick, allowing the waste material to partially dry prior to mixing with the neutralising agent. An excavator or loader is proposed to be used to mix the waste material with lime a minimum 3 times, however it is unclear if this method of mixing will be enough to ensure a homogenous mix is obtained that will prevent acid leaching from the long-term oxidation of PASS/ASS. Use of a pugmill is noted as an option which will improve mixing performance however such mixing may also result in an increased potential for environmental impacts such as dust, odour and noise.

17. Storage and handling of substances (such as AgLime)

The EPA understands that the applicant proposes to use AgLime to treat the PASS or ASS. The Application or Plan does not contain details on the type of lime to be used, its storage and management.

The EPA requires the applicant to provide details on the storage and handling of substances that will be used to treat ASS and PASS at the Premises, including but not limited to quantities, storage location and management.

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18. Preventing asbestos from entering the Premises

The EPA understands that the applicant proposes to source waste PASS, VENM and ENM from various locations within the southern Gold Coast and northern NSW region.

The EPA is concerned that some of the waste material sourced to be processed could potentially contain asbestos.

The EPA requires the applicant to develop procedures to prevent asbestos contaminated material from entering the Premises. The Draft Protocol for managing asbestos released by the EPA in 2014 may assist the applicant in developing these procedures

(<https://www.epa.nsw.gov.au/-/media/epa/corporate-site/resources/waste/140345-asbestos-draft.pdf>).

Modification Component No.4

EPA has no specific concerns with the request by the proponent to amend the current consent's water collection limit of 160,000 litres of seawater to align with the ABLP water discharge limit of 5,497kL established in Environment Protection Licence (EPL) No. 12947. However, in considering this increase in seawater collection the proponent must be able to demonstrate that any recognised or potential environmental consequences from the proposed increase will be sustainably managed and any necessary mitigation measures implemented.

The EPA will not be providing comment in respect to Modification Component No. 2, 3, 5, 6, 7 and 8, given the EPA has no regulatory role in the matters detailed in these proposed consent modifications.

EPA would however be prepared to review its determination should the applicant provide the additional information specified above.

If you have any questions, or wish to discuss this matter further please contact Scott Hunter on 02 6659 8282.

Yours sincerely

A handwritten signature in blue ink, appearing to read 'Cate Woods', written over a light blue horizontal line.

CATE WOODS

Director Regional Waste Compliance

Environment Protection Authority

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