Sand mine intensification of use and infrastructure associated with proposed offshore sand loading facility
Anderson Bay, Bridport

Mr Richard Sattler
Environmental Assessment Report

<table>
<thead>
<tr>
<th>Proponent</th>
<th>Mr Richard Sattler</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proposal</td>
<td>Sand mine intensification of use and infrastructure associated with proposed offshore sand loading facility</td>
</tr>
<tr>
<td>Location</td>
<td>Anderson Bay, Bridport</td>
</tr>
<tr>
<td>NELMS no.</td>
<td>PCE 9341</td>
</tr>
<tr>
<td>Permit application no.</td>
<td>2016-63 (Dorset Council)</td>
</tr>
<tr>
<td>Doc1 folder</td>
<td>EN-EM-EV-DE-244877</td>
</tr>
<tr>
<td>Doc1 no.</td>
<td>H745018</td>
</tr>
<tr>
<td>Class of Assessment</td>
<td>2B</td>
</tr>
</tbody>
</table>

Assessment process milestones

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>22 Sep 2015</td>
<td>Notice of Intent submitted</td>
</tr>
<tr>
<td>4 Nov 2015</td>
<td>DPEMP Guidelines issued</td>
</tr>
<tr>
<td>12 Jul 2016</td>
<td>Permit application submitted to Council</td>
</tr>
<tr>
<td>5 Aug 2016</td>
<td>Referral received by Board</td>
</tr>
<tr>
<td>13 Aug 2016</td>
<td>Start of public consultation period</td>
</tr>
<tr>
<td>10 Sep 2016</td>
<td>End of public consultation period</td>
</tr>
<tr>
<td>17 Aug 2017</td>
<td>Supplementary information submitted to Board</td>
</tr>
<tr>
<td>Acronyms</td>
<td>Definition</td>
</tr>
<tr>
<td>------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>AHD</td>
<td>Australian Height Datum</td>
</tr>
<tr>
<td>Board</td>
<td>Board of the Environment Protection Authority</td>
</tr>
<tr>
<td>DPEMP</td>
<td>Development Proposal and Environmental Management Plan</td>
</tr>
<tr>
<td>DPIPWE</td>
<td>Department of Primary Industries, Parks, Water and Environment</td>
</tr>
<tr>
<td>EIA</td>
<td>Environmental Impact Assessment</td>
</tr>
<tr>
<td>EMPC Act</td>
<td><em>Environmental Management and Pollution Control Act 1994</em></td>
</tr>
<tr>
<td>EMPCS</td>
<td>Environmental Management and Pollution Control System</td>
</tr>
<tr>
<td>EPBC Act</td>
<td><em>Environment Protection and Biodiversity Conservation Act 1999 (Cth)</em></td>
</tr>
<tr>
<td>EPN</td>
<td>Environment Protection Notice</td>
</tr>
<tr>
<td>LUPA Act</td>
<td><em>Land Use Planning and Approvals Act 1993</em></td>
</tr>
<tr>
<td>LWM</td>
<td>Low Water Mark</td>
</tr>
<tr>
<td>MRT</td>
<td>Mineral Resources Tasmania (Department of State Growth)</td>
</tr>
<tr>
<td>NC Act</td>
<td><em>Nature Conservation Act 2002</em></td>
</tr>
<tr>
<td>PCE</td>
<td>Permit Conditions – Environmental</td>
</tr>
<tr>
<td>PASS</td>
<td>Potential Acid Sulphate Soils</td>
</tr>
<tr>
<td>RMPS</td>
<td>Resource Management and Planning System</td>
</tr>
<tr>
<td>SD</td>
<td>Sustainable Development</td>
</tr>
<tr>
<td>TSP Act</td>
<td><em>Threatened Species Protection Act 1995</em></td>
</tr>
<tr>
<td>WM Act</td>
<td><em>Weed Management Act 1999</em></td>
</tr>
</tbody>
</table>
Report summary

This report provides an environmental assessment of Mr Richard Sattler’s proposal to intensify use of an existing sand mine at Anderson Bay, Bridport.

The proposal involves an increase in extraction and materials handling limit from 950,000 m$^3$ of sand extracted per annum up to 1,250,000 m$^3$ per annum, at the sand mine located within mining lease 1957P/M. The sand mine was originally approved by Dorset Council (with environmental conditions) in 2014 (2014/31); however production to these levels has not yet occurred.

Associated with the proposal is the development of infrastructure to support a future offshore sand loading facility, within proposed mining lease 2007P/M. The offshore component will be subject to a new, separate planning application and assessment process. At the time of writing, the proponent anticipates the offshore component will comprise a new wharf with conveyor, to transfer sand to barges and then to ship. This assessment is of the terrestrial component of the entire proposal only (i.e. intensification of use of the sand mine, and installation of the land-based loading facility infrastructure), as far as the low water mark (LWM).

This report has been prepared based on information provided by the proponent in the Development Proposal and Environmental Management Plan (DPEMP) and Supplement to the DPEMP. Relevant government agencies and the public have been consulted and their submissions and comments considered as part of this assessment.

On 30 September 2016, the Board requested that the proponent submit additional information to address government agency (including DPIPWE) comments on the DPEMP and to meet other information requirements. Satisfactory additional information was submitted by the proponent on 17 August 2017.

Further details of the assessment process are presented in Section 1 of this report. Section 2 describes the statutory objectives and principles underpinning the assessment. Details of the proposal are provided in Section 3. Section 4 reviews the need for the proposal and considers the proposal, site and design alternatives. Section 5 summarises the public and agency consultation process and the key issues raised in that process. The detailed evaluation of key issues is in Section 6, and other issues are evaluated in Section 7 and Appendix 1. The report conclusions are contained in Section 8.

Appendix 2 contains details of comments made and issues raised in the consultation process. Appendix 3 contains environmental permit conditions for the proposal. Attachment 2 of the permit conditions contains the table of commitments from the DPEMP. The environmental permit conditions in Appendix 3 are a new set of operating conditions for the entire, intensified activity that will supersede the existing permit conditions.

---

1 As per s(7)(c) of the Land Use Planning and Approvals Act 1993 (LUPA Act), Council has jurisdiction to exercise its powers concerning ‘all bridges, jetties, wharves, boat-houses and other structures partly within its municipal district and partly in or over the sea adjacent to its municipal district’.
# Table of Contents

1 Approvals process......................................................................................... 1  
2 SD objectives and EIA principles................................................................. 2  
3 The proposal .................................................................................................. 3  
4 Need for proposal and alternatives............................................................... 14  
5 Public and agency consultation................................................................. 16  
6 Evaluation of key issues................................................................................ 17  
   6.1 Noise ........................................................................................................ 17  
   6.2 Natural values............................................................................................ 21  
7 Other issues................................................................................................... 25  
8 Report conclusions....................................................................................... 26  
9 References..................................................................................................... 28  
10 Appendices .................................................................................................. 29  
   Appendix 1  Assessment of other issues ........................................................ 30  
   Appendix 2  Summary of public and agency submissions ............................... 43  
   Appendix 3  Permit Conditions - Environmental No. 9341 ............................ 59
1 Approvals process

A Notice of Intent in relation to the proposal was received by the Board of the Environment Protection Authority (the Board) on 22 September 2015.

An application for a permit under the *Land Use Planning and Approvals Act 1993* (LUPA Act) in relation to the proposal was submitted to Dorset Council on 12 July 2016.

The proposal is defined as a ‘level 2 activity’ under clause 6(a)(ii), Schedule 2 of the *Environmental Management and Pollution Control Act 1994* (EMPC Act), being a sand mine involving the processing of up to 1,250,000 m³ of sand per annum. Section 25(1) of the EMPC Act required Council to refer the application to the Board of the Environment Protection Authority (the Board) for assessment under the Act. The application was received by the Board on 5 August 2016.

The project is associated with the development of infrastructure to support a future offshore sand loading facility, within proposed mining lease 2007P/M. However, as indicated above, this assessment is of the terrestrial component of the entire proposal only (i.e. intensification of use of the sand mine, and installation of the land-based loading facility infrastructure), as far as the LWM. A new, separate planning application for and assessment of the seaward component of the proposal will be required and will be assessed by Council as a Level 1 development.

The Board required that information to support the proposal be provided in the form of a Development Proposal and Environmental Management Plan (DPEMP) prepared in accordance with guidelines issued by the Board and Dorset Council on 4 November 2015.

Several drafts of the DPEMP were submitted to EPA Tasmania for comment prior to its finalisation and acceptance on behalf of the Board. The final DPEMP was submitted to Council with the permit application. The DPEMP was released for public inspection for a 28-day period commencing on 13 August 2016. Advertisements were placed in *The Examiner* and on the EPA Tasmania website. The DPEMP was also referred at that time to relevant government agencies for comment. No public submissions were received.

On 30 September 2016, the Board requested that the proponent submit additional information to address government agency (including DPIPWE) comments on the DPEMP and to meet other information requirements. Satisfactory additional information was submitted by the proponent on 17 August 2017.
2 SD objectives and EIA principles

The proposal must be considered by the Board in the context of the objectives of the Resource Management and Planning System of Tasmania (RMPS), and in the context of the objectives of the Environmental Management and Pollution Control System (EMPCS) (both sets of objectives are specified in Schedule 1 the EMPC Act). The functions of the Board are to administer and enforce the provisions of the Act, and in particular to use its best endeavours to further the RMPS and EMPCS objectives.

The Board must undertake the assessment of the proposal in accordance with the Environmental Impact Assessment Principles defined in Section 74 of the EMPC Act.
3 The proposal

The main characteristics of the proposal are summarised in Table 1. A detailed description of the proposal is provided in Section 2 of the DPEMP.

The proposal involves the extraction and screening of coastal sand from mobile dunes on private property, inland of Waterhouse Beach. The pit will be established in the dunes, together with provision to operate mobile screening equipment. Other proposed land-based equipment and structures include sand conveyors (e.g. to convey sand from stockpiles, and then to the foreshore), radial stacker, office and staff amenities building and workshop.

The proponent proposes to extract and convey sand on a 24 hour, seven day basis. The periods of transport of sand on public roads is proposed to occur as per the acceptable standard (for noise) in the Tasmanian Quarry Code of Practice. The closest sensitive receptor in other ownership is located about 1.3 km south of the anticipated area of extraction.

The original, advertised proposal included onshore infrastructure to allow slurring and pumping of sand to an offshore loading facility. Infrastructure included up to two water supply dams, diesel-powered pumps, two HDPE pipelines and self-bunded diesel storage. During August 2017, the proponent amended the process by which sand would be transferred offshore, proposing a new wharf and conveyor system rather than pumps and pipelines. Subsequently the onshore components associated with sand slurring and pumping were removed from the proposal, replaced by conveyors and conveyor transfer station (refer Proposed infrastructure in Table 1 below). These changes were described in the Supplement to the DPEMP. This assessment considers potential impacts associated with the amended onshore sand transfer system and imposes conditions accordingly.

As stated previously, the proposed wharf and conveyor system will be subject to a separate planning application and environmental assessment.

Table 1: Summary of the proposal’s main characteristics

<table>
<thead>
<tr>
<th>Activity</th>
<th>Location and planning context</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extraction and screening of up to 1,250,000 m$^3$ of sand per annum.</td>
<td>Waterhouse Road, Bridport, approximately 7 km northeast of Bridport (Figure 1).</td>
</tr>
<tr>
<td>Location</td>
<td>Rural Resource; also a small area of Environmental Management on Waterhouse Beach (Dorset Interim Planning Scheme 2013).</td>
</tr>
<tr>
<td>Land zoning</td>
<td>Private freehold (parts of CT 242847/1, 244898/4 and 130153/2), with a small portion on Waterhouse Beach of Public Reserve (Crown Lands Act 1976). See Figure 2.</td>
</tr>
<tr>
<td>Mining leases</td>
<td>1957P/M (existing)</td>
</tr>
<tr>
<td>lease area</td>
<td>2007P/M (in application)</td>
</tr>
<tr>
<td>Lease area</td>
<td>243 ha (1957PM)</td>
</tr>
<tr>
<td>Bond</td>
<td>58 ha (2007P/M)</td>
</tr>
<tr>
<td>$21,000 (1957P/M)</td>
<td>Pending (2007P/M)</td>
</tr>
</tbody>
</table>
### Existing site

<table>
<thead>
<tr>
<th>Land Use</th>
<th>Sand dunes behind Waterhouse Beach. The Waterhouse Conservation Area (WCA) boundary is common to the mining leases for part of its length (Figure 3.2, DPEMP). The eastern extent of Lost Farm golf course is located about 650m from the western boundary of 1957P/M. The surrounding land use is largely agricultural.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topography</td>
<td>The proposed area of sand extraction is located on an unstable, mobile sand dune system of heights between 2m and greater than 20m AHD. The DPEMP states the dunes are not stabilised by vegetation and are actively migrating inland at a rate of about seven metres per annum, encroaching on to wetlands and farmland. The dune systems provide a contrasting relief to the relatively flat coastal plain topography in the region.</td>
</tr>
<tr>
<td>Geology</td>
<td>Part 3.2.2 of the DPEMP describes the basement geology as comprising medium to coarse grained Devonian to Carboniferous granodiorite underlying Quaternary sands, silts, clays, and organic matter. The older Pleistocene marine terrace deposits comprise shells, clay, silt, and organic matter deposits. The terrace deposits rise up to over 10m AHD inland and dip down towards the coast where they are locally buried beneath the Holocene dune sands. The Great Forrester River has eroded parts of the marine terrace deposits south of the site and laid down more recent stream, alluvium, and marsh deposits along the river course. These historical marsh deposits may be associated with acid sulfate soils in the area. The Holocene dune deposits at the site comprise of:</td>
</tr>
<tr>
<td></td>
<td>- modern calcareous transgressive dunefield ('Bowlers Lagoon' Sand);</td>
</tr>
<tr>
<td></td>
<td>- marine sand deposits along the coastline ('Barnbougle' Sand); and</td>
</tr>
<tr>
<td></td>
<td>- parabolic dunes which back the marine sand deposits ('Waterhouse' Sand).</td>
</tr>
<tr>
<td>Soils</td>
<td>No other soils exist on the sand dune systems where extraction of sand is proposed. Proposed infrastructure, including sand conveyors and radial stacker, will also be located on dune sands.</td>
</tr>
<tr>
<td>Hydrology</td>
<td>Surface waters: Part 3.2.3 of the DPEMP states the Great Forrester River is the major surface water in the region. The river, southwest of the site, supplies water to irrigate farmland and nearby golf course. Around the margins of the dune system and in other low-lying parts of the surrounding coastal plain, the water table extends above the ground surface, forming freshwater wetlands. Water levels in the wetlands tend to fluctuate no more than 0.5 m seasonally, with many of the shallow water bodies partially drying out in summer months. Small isolated wetlands on the southeastern margin of the transgressive dunes are partially fed by freshwater drainage from the dunes, but at the same time continue to be progressively choked by the advance of the dunes. Along the northwestern margins of the regressing dune system, the land surface has deflated to below the water table, resulting in the formation of wetlands in these low-lying areas. All rainfall in the extraction area infiltrates through the sand dunes.</td>
</tr>
<tr>
<td></td>
<td>Groundwater: Part 3.2.3.2 of the DPEMP notes the proposed extractive activity is located within the 820 km² Scottsdale groundwater catchment. Groundwater flows toward the coast, with discharge conditions occurring in the lower, coastal onshore and offshore parts of the catchment. Historic groundwater use in the catchment has been low, reflecting adequate surface water supplies. According to the DPEMP, a local-scale groundwater recharge system exists in the Quaternary dune systems, contributing water to the adjacent ephemeral wetlands.</td>
</tr>
</tbody>
</table>
### Fauna

A vegetation survey and fauna habitat assessment conducted by North Barker (DPEMP Appendix C and DPEMP Supplement Appendix B) noted habitat exists to support the following species:

- Green and gold frog (*Litoria raniformis*) (vulnerable TSP Act and EPBC Act);
- Striped marsh frog *Limnodynastes peroni* (endangered TSP Act); and
- Latham’s snipe *Gallinago hardwickii* (migratory EPBC Act).

The pied oystercatcher *Haematopus longirostris* was observed on the nearby beach, just outside the development footprint, where potential breeding areas exist.

### Flora

The vegetation survey and fauna habitat assessment conducted by North Barker details the flora present at the proposed site, including:

- Sand, mud (TASVEG 3.0 code: OSM)
- *Acacia longifolia* coastal scrub (SAL)
- Freshwater aquatic sedgeland and rushland (ASF)
- Coastal grass and herbfield (GHC)
- Dry *Eucalyptus amygdalina* coastal forest and woodland (DAC)

82 species of vascular plant were identified on the impact footprint; none are listed as threatened under the Tasmanian *Threatened Species Protection Act 1995* (TSP Act) or the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The slender thistle, *Carduus tenuiflorus*, a declared weed under the Tasmanian *Weed Management Act 1999* (WM Act), was observed on site.

---

### Local region

#### Climate

According to part 3.2.1 of the DPEMP, the area experiences a mild, but windy, coastal maritime climate. Prevailing winds are from the west, northwest and north, with easterlies also common in summer months. Average annual rainfall is generally less than 800 mm, relatively evenly spread throughout the year with a slight winter maximum. Maximum temperatures range between 14 and 21°C. Evaporation is likely to exceed rainfall from September through to April.

#### Surrounding land zoning, tenure and uses

Extending north and northeast of the extractive area is the WCA, managed by Parks and Wildlife. It contains a diverse range of vegetation communities, and permanent deep-water lagoons. This area is zoned Environmental Management under the *Dorset Interim Planning Scheme 2013*. To the south, east, and southeast is privately owned, predominantly farming land located in the Rural Resource zone (some of which is owned by the proponent). An airstrip is located on land directly south of the southwestern extraction area, primarily used to bring visitors to the proponent’s golf courses (Lost Farm and Barnbougle) located to the west.

#### Species of conservation significance

The following species of conservation significance may occur on the proposed site:

- Green and gold frog (*Litoria raniformis*) (vulnerable TSP Act; EPBC Act);
- Striped marsh frog *Limnodynastes peroni* (endangered TSP Act); and
- Latham’s snipe *Gallinago hardwickii* (migratory EPBC Act).

The freshwater aquatic sedgeland and rushland (ASF) community identified on site is listed as threatened under the NC Act.

The Natural Values Atlas records observations of Spotted tailed quoll (*Dasyurus maculatus subs. maculatus*) (rare TSP Act; vulnerable EPBC Act) and Tasmanian devil (*Sarcophilus harrisii*) (endangered TSP Act and EPBC Act) in areas adjacent to the proposed extractive activity.

### Proposed infrastructure

#### Major equipment

Large rubber-tyred wheel loader(s) or excavators to win sand and deliver it to mobile screening plants.

Rubber-tyred articulated trucks to transport screened sand to stockpile areas. Alternatively, a modular conveyor system may be installed.

Conveyors (see Figure 4, this report).

Radial stacker to stockpile sands (see Figure 5, this report).

#### Other infrastructure

Staff amenities (office/amenities building).

Shipping containers, anticipated to contain a workshop, spare parts, service equipment, first aid, and emergency (fire) equipment.
### Inputs

| **Water** | Required for applications including washing equipment. Rainwater tanks will supply potable water to the office/amenities building. Should it be necessary, groundwater from a single bore may be abstracted and used to complement water imported by tanker.² Total annual water use estimated as 4 ML. |
| **Energy** | Diesel for screens, conveyors, plant and equipment. Diesel and/or solar panels to generate electricity for office/amenities building. |

### Wastes and emissions

| **Liquid** | Used oils from maintenance of machinery on site. Septic waste from the office/amenities building. |
| **Atmospheric** | Dust from earthmoving activities and from movement of traffic on unsealed surfaces. Screening, sand conveying and stockpiling activities may also generate dust. |
| **Solid** | General wastes from office/amenities building activities, and associated with maintenance of machinery. |
| **Controlled wastes** | Potentially associated with machinery maintenance (e.g. waste oil). |
| **Noise** | From construction activities (e.g. installation of conveyors). From operations, including excavators and other mobile plant, screening equipment and conveyors. |
| **Greenhouse gases** | Use of diesel-powered vehicles and equipment will contribute greenhouse gases to the atmosphere. |

---

² Permission to develop a bore (well) to extract water will be required from DPIPWE’s Water Management and Assessment Branch (WM&AB). If necessary, the WM&AB will also require the proponent to provide it with a detailed assessment of the aquifer and potential impacts from high rates/levels of abstraction.
## Construction and operations

| Proposal timetable                  | Sand extraction will commence in the northeastern portion of the lower (south-western) portion of mining lease 1957P/M and will move in a southwesterly direction in three stages (refer Figure 3, this report).
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Initially, annual production is expected to be in the order of 250,000 m$^3$ pa, increasing up to the maximum 1,250,000 m$^3$ pa, depending on market demand. At full production, extraction is expected to occur in the south western portion of 1957P/M for a minimum of ten years. The proponent estimates a further 20 years of product is available over the entire mining lease (subject to further assessment).</td>
</tr>
<tr>
<td>Operating hours (ongoing)</td>
<td>Proposed operating hours for sand extraction and screening, as well as sand transport via conveyors, are 24 hours/7 days per week.</td>
</tr>
</tbody>
</table>

## Other key characteristics

In 2014, Dorset Council granted the proponent approval to extract and screen up to 950,000 m$^3$ of sand pa. In the 2014 proposal, sand was to be transported to Bell Bay by truck to load onto ships.
Figure 1: General location, showing mining leases 1957P/M and 2007P/M (in application).  
(Source: Figure 3, page 2 of the DPEMP)
Figure 2: ‘The Land’ to which this assessment applies corresponds to the areas shown in blue and purple.
(Source: Provided by proponent with Development Application to Dorset Council – DEV 2016-63)
Figure 3: Proposed sand extraction area and stages of mining. Wetland buffer zones also illustrated.
(Source: Figure F, Supplement to the DPEMP)
Figure 4: Proposed arrangement of supply conveyors to transfer station. Consider in conjunction with Figure 5.
(Source: Figure C, Supplement to the DPEMP)
Figure 5: Proposed arrangement of radial stacker and stockpile area. Consider in conjunction with Figure 4. (Source: Figure D, Supplement to the DPEMP)
4 Need for proposal and alternatives

Proposal and assessment background

An assessment by the Board was completed in 2014 for the extraction and screening of up to 950,000 m$^3$ of sand from mining lease 1957P/M, and Dorset Council granted permit 2014/31 for the activity (with environmental conditions) 15 October 2014. Once extracted, sand was to be transported from the site by road to Bell Bay, then loaded to ships and taken to markets (mainly in Sydney). There has been no commercial-scale sand extraction at the site since permit 2014/31 was granted. The DPEMP states the high costs associated with road transport, road maintenance charges, and associated traffic amenity impacts on local residents have caused the proponent to consider developing an offshore sand loading facility in Anderson Bay. As part of this proposal, the proponent has also applied for an increase in the annual sand extraction and screening limit, and construction (onshore) of infrastructure associated with a proposed offshore loading facility.

This assessment considers the terrestrial component of the proposal only (inland from the low water mark), which takes into account the increase in annual production limit, and the construction of infrastructure associated with the proposed offshore loading facility.

Aside from the approximately 30% increase in annual production, the DPEMP states the only differences between the proposed activity and that permitted in 2014 will be the direction of extraction and the mode of transporting product from the site (necessitating construction of associated infrastructure). The DPEMP states the change in direction of extraction will result in fewer visual and other amenity (e.g. noise) issues. The proponent also notes removing the significant number trucks from public roads is also likely to reduce traffic-related issues, such as noise and dust.

Permit 2104/31 defined the Land as mining lease 1957P/M. The present proposal, however, confines the extractive activity to specific certificates of title corresponding to the south-western portion of 1957P/M that have been subject to environmental surveys and studies. In the event the proponent wishes at a later date to extend extractive activities into the north-eastern portion of 1957P/M, outside of the land defined by the application, a new development application and assessment will be required.

Need for the proposal

According to the DPEMP, Tasmania has annual demands for ‘sharp sand’ (sand free from clay and other contaminants) of about 600,000 tonnes, currently met primarily by beach sand deposits near Hobart and Launceston, and smaller sand pits in other regional areas. The coastal dune sands of northeast Tasmania have been recognised as a potential source of suitable sands for construction.

The proponent has entered into a joint venture agreement with North East Tasmania Sands Pty Ltd (NETS), which will deliver the sand into the Sydney market, through Metro Environmental Logistics Pty Ltd (Metro), which has a ‘Heads of Agreement’ to supply sand to one of Sydney’s largest ready-mix suppliers.4 The DPEMP also states Metro has in-principle agreements with other sand consumers in Sydney and Melbourne. Local demand will also be met as necessary.

Process and location alternatives

The DPEMP states a number of alternative locations for the extractive activity were considered as part of the assessment of planning application 2014/31, prior to selecting the given site. The option of an offshore loader was also considered early in project development, and has now become the preferred option to transport sand to market.

4 Not named.
The DPEMP states a number of possible transport routes were investigated to convey sand to the offshore loader. The chosen route avoids areas of conservation significance, by moving sand through the foreshore dunes where a disturbed area already exists (a ‘sand blow’ in the dunes).

According to the DPEMP, planning for sand extraction has been done to consider and incorporate protection of wetlands (as potential habitat for the listed Green and Gold Frog), protection of Aboriginal sites, and to minimise visible impacts.

**Economic matters**

The proponent anticipates a workforce of three to five people working on sand extraction in the dunes, and up to five people per 12-hour shift (with 24-hour operation) at the conveyor transfer station when ships are loading.

The project in its entirety (increase in production, and offshore loading facility) requires a capital investment of approximately $25 million to $28 million.

The proponent owns the land on which the dunes are located, as well as adjacent land, on which two golf courses have been developed. The proponent’s intention is to rehabilitate the sand extraction areas once extraction is complete, to create a third golf course.
5 Public and agency consultation

A summary of the government agency/body submissions is contained in Appendix 1 of this report. No public representations were received.

The DPEMP was referred to a number of government agencies/bodies with an interest in the proposal. A detailed response was received from Mineral Resources Tasmania (Department of State Growth).

The following Divisions/areas of the Department of Primary Industries, Parks, Water and Environment also provided comment on the DPEMP:

- Water specialist, EPA Tasmania;
- Noise specialist, EPA Tasmania;
- Aboriginal Heritage Tasmania, Natural and Cultural Heritage Division;
- Policy and Conservation Advice Branch, Natural and Cultural Heritage Division; and
- Water Management and Assessment Branch, Water & Marine Resources.

The Supplement to the DPEMP prepared by the proponent provides a response to each of the relevant environmental issues raised.

The DPEMP states the proponent and consultants have consulted with State and local government authorities, and local residents in proximity to the proposed sand extraction activity. The DPEMP also states that the proponent is well known in the area and regularly consults with adjoining landowners as fences require relocating due to sand movement.
6 Evaluation of key issues

The key environmental issues relevant to the proposal that were identified for detailed evaluation in this report were:

- Noise.
- Natural values.

Each of these issues is discussed in the following subsections.

6.1 Noise

Description

The proposal is located in a rural area, about 7 km northeast of Bridport. The nearest residence in other ownership is located about 1.3 km south-south-east of the proposed stockpile area, and approximately 900 m from the southeast edge of the extraction area. Two further residences are located 1.1 km and 1.8 km from the southeast extent of the extraction area. These locations are illustrated in Figure 4.1 of the DPEMP.

The DPEMP states noise will occur during the construction period when conveyors are built and shipping containers delivered and set up. This will be of short duration. During operations, noise will occur as sand is excavated and screened, then conveyed to and from stockpiles. Operation of the radial stacker will also contribute to noise from the site.

The extractive activity, including conveying of sand and ship loading, is proposed as a 24 hour/7 days per week operation. The DPEMP states these operating hours are necessary to accommodate flexibility in processing and then continuous loading when ships are docked at a proposed offshore buoy, a process expected to take between 17 and 24 hours to complete per shipload.

It is noted that planning permit 2014/31 imposes a number of conditions to limit potential noise impacts:

- Noise emission limits:
  - 45 dB(A) daytime (0700 to 1800);
  - 40 dB(A) evening (1800 to 2200); and
  - 35 dB(A) night time (2200 to 0700); or
  - When ambient noise exceeds the specified limits, noise emissions not to exceed 5 dB(A) above ambient noise levels.

- Operating hours – no night time operations (2200 hours to 0700 hours) can occur until the person responsible demonstrates the specified night time limits can be achieved.

- Noise survey requirements – a survey to be undertaken within 30 days of commencement of extraction, and at other times of changes to the activity and/or as required by the Director.
Predicted noise levels

Sound power levels were estimated for various activities associated with construction and operation of the extractive activity (Table 4.2 of the DPEMP). Noise associated with the original onshore infrastructure for sand slurrying and pumping was considered.

Noise levels at the nearest residence in other ownership were then modelled as follows:

<table>
<thead>
<tr>
<th>Source</th>
<th>Sound pressure level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loading facility – construction phase</td>
<td>27 dB(A)</td>
</tr>
<tr>
<td>Loading facility – pump house</td>
<td>29 dB(A)</td>
</tr>
<tr>
<td>Conveyor loading</td>
<td>34 dB(A)</td>
</tr>
<tr>
<td>Extraction</td>
<td>33 dB(A)</td>
</tr>
<tr>
<td>Combined</td>
<td>37 dB(A)</td>
</tr>
</tbody>
</table>

The DPEMP provides the following assumptions for the predictions in Table 1 above:

- Worst case meteorological conditions.
- Existing sand dunes (potentially providing some acoustic screening) not accounted for.
- Stockpiles were modelled as barriers between loaders and the nearest residence.
- Pumps were modelled as being placed in a corrugated, internally-lined shed.
- The ground was modelled as hard near the source and receiver, and relatively soft elsewhere.
- All equipment was assumed to run simultaneously and continuously.

The proponent assessed the modelled results against the noise emission limits in the existing permit conditions. Based on the night time limit of 35 dB(A), and the predicted noise levels, the proponent expects night time operations (all activities combined) to exceed the existing noise emission limit of 35 dB(A) at the nearest residence.

Background noise levels in the given rural area were assumed to be 30 dB(A) at night and 40 dB(A) during the day.

The proponent states the following points should be considered with respect to potential non-compliance with the existing night time noise limit:

- Noise emission levels are predictions, not actual noise levels.
- If the extraction plant is located on the northern side of the dune, then the dune will provide some screening effects.
- Equipment at the extraction plant and loading facility have been modelled as running at full power at all times; this is unlikely to occur in practice, so noise emissions could be expected to be 3 to 5 dB(A) lower than predicted.

The proponent concludes the existing permit’s noise criteria can be met with screening and noise attenuation measures in buildings, and by use of the dunes for shielding.
Management measures

Section 4.6.7 of the DPEMP lists a number of management measures designed to limit the potential for noise nuisance:

- Use of broadband reversing alarms instead of tonal alarms on all trucks and loaders.
- House diesel-driven equipment in sheds constructed from corrugated iron and a 9 mm cement sheet internal lining.
- Locate sand stockpiles south of the conveyor loading area (between residences and conveyor area).
- Undertake extraction operations on the northern side of the dunes (to maintain a topographical barrier between extractive activity and residences to the south).
- Undertake a noise survey once operations are occurring under typical conditions.

Commitments

Table 6.1 of the DPEMP provides the following commitments in relation to noise impacts:

2.1. Residential amenity - Maintain a complaints register to record all complaints from the public.
3.1 Noise Emissions - Maintain attenuation distances to neighbours.
3.2 Noise Emissions - Maintain site vegetation, buffer zones.
3.3 Noise Emissions - Maintain acoustic screen to east by retaining sand dunes, acoustic line the pump house building.
3.4 Noise Emissions - Maintain diesel motors and modify reverse beacons to minimise noise.
3.5 Noise Emissions - Monitor noise at initial production rate.

Public and agency comment and responses

No public or agency comments were received in relation to the potential noise impacts of the proposal.

The EPA’s Noise Specialist considered the proponent’s assessment of noise impacts adequate and that the conditions developed and imposed during the previous assessment (DA 2014/31) would be appropriate for the given proposal.

Evaluation

While the extractive and processing activities are beyond the recommended separation distances to sensitive uses for these activities specified in the Quarry Code of Practice (QCOP), the proposal to operate on a 24 hour basis has the potential to cause environmental nuisance during the night time period, as highlighted by the noise modelling results. All equipment operating at once and continuously is considered unlikely in practice, thus it is accepted noise levels may in reality be several decibels lower than predicted. Furthermore, the model considered noise emissions from equipment associated with sand slurrying and transport, such as diesel-driven pumps. This equipment no longer forms part of the proposal, a matter likely to lower the overall noise profile, including at night time.

Sand stockpiles and dunes are likely to provide a degree of topographical screening from noise emissions. However, the capacity of these barriers to attenuate noise will diminish as mining extends into southern parts of the dune (closer to residences) and reduces the dune height. It is therefore appropriate that the predictions of noise emission levels have not taken into account topographical screening effects of the sand dunes.
With reference to the proposed management measures, placing sand stockpiles between mining and sensitive receptors wherever practicable is an appropriate way to moderate noise emissions. Locating equipment involved in driving conveyors in a corrugated iron clad building lined with cement sheeting is also likely to mitigate against noise nuisance. The remaining management measures, expressed above as commitments 2.1 and 3.1 – 3.5 are also considered appropriate and supported.

The proposed noise level targets for day time, evening and night time reflect the default noise limits specified in the QCOP. These are appropriate criteria against which to assess possible noise impacts. Accordingly, standard condition N1 is imposed to specify the noise limits which apply for daytime, evening and night time periods.

Given the proposed 24 hour nature of operations, it is also prudent to confirm the specified noise levels are being met. Consequently, site-specific condition N3 is imposed to require the proponent to conduct a noise survey within three months of commissioning, in accordance with the methods prescribed in condition N4.

Standard conditions relating to recording and reporting of complaints relating to noise have been included (Condition G6 and N2).

**Conclusions**

The proponent will be required to comply with the following standard condition conditions:

- **G6** Complaints register
- **N1** Noise emission limits
- **N2** Noise complaints
- **N4** Noise Survey Method and Reporting

The proponent will also be required to comply with the following site-specific conditions:

- **N3** Noise survey requirements

The Commitments made in the DPEMP are included in Schedule 3 of the conditions as Other Information:

- **OI3** Commitments
6.2 Natural values

Description

According to the DPEMP and associated flora and fauna assessment (Appendix C of the DPEMP), five ecological communities occur within the proposed mining area:

- Sand, mud (TASVEG 3.0 code OSM);
- *Acacia longifolia* coastal scrub (SAL);
- Coastal grass and herbfield (GHC);
- *Dry Eucalyptus amygdalina* coastal forest and woodland (DAC); and
- Freshwater aquatic sedgelands and rushlands (ASF), a listed threatened community (‘wetland’) under the NC Act.

Figure 3.14 of the DPEMP shows the vegetation communities on site. Eighty-two species of vascular plant were identified on the proposed footprint*, while no threatened flora species were detected on site.

According to the *Flora and Fauna Report* (DPEMP, Appendix C), some of the wetlands in and around the proposed mining footprint are known to support the Green and Gold Frog *Litoria raniformis* (listed as vulnerable, TSP Act and Commonwealth EPBC Act). These wetlands also support the Striped Marsh Frog *Limnodynastes peroni* (endangered, TSP Act). The Latham’s snipe *Gallinago hardwickii* (migratory, EPBC Act) was observed on site but beyond the proposed area of disturbance, while the Pied oystercatcher *Haematopus longirostris* was sighted just beyond the proposed footprint area in potential beach breeding areas.

Calculations provided by the proponent suggest infrastructure and equipment are likely to disturb up to 5 ha of vegetated area. About 1.5 ha of this total is identified as grazing land and 3 ha *Acacia longifolia* coastal scrub. The estimate for the area of wetland likely to be disturbed is 0.5 ha. Affected vegetation includes all of the ecological communities described above.

Management measures

The DPEMP states the layout of infrastructure and equipment has been designed to confine most facilities to the area of *Acacia longifolia* scrub, to minimise potential impacts on wetlands.

Buffer zones around wetland areas will be maintained, marked with survey and boundary fencing. The proposed buffer zones are illustrated in Figure F of the Supplement to the DPEMP. A water management plan has been prepared and will be implemented to minimise potential impacts on water levels in wetlands.

The DPEMP states the proposed offshore loading facility will remove the need to transport product from the site using trucks, which will substantially reduce the risk of roadkill affecting species of conservation significance.

DPEMP Commitments

Table 6.1 of the DPEMP provides the following commitments in relation to flora and fauna:

5.1. Maintain a minimum 25m fenced buffer/exclusion zone around wetlands and native vegetation habitat.

5.2. Implement a weed and disease management plan.

5 Meidecke, J, email 10 August 2017.
5.3. Monitor and maintain exclusion fences.
5.4. Induct staff and contractors concerning the location and function of exclusion zones.
5.5. Routinely monitor and report on water level and quality.
5.6. Install culverts in wetland areas.
5.7. If any known or potential deleterious impacts are noted, investigate and take remedial action in consultation with the EPA and DPIPWE’s RMC Division and implement avoidance and/or mitigation measures to prevent further impacts.
5.8. Final rehabilitation plan to include establishment of artificial wetlands.

Public and agency comment and responses

No public comments concerning natural values were received.

With respect to the proposed increase to the annual extraction amount, the Policy and Conservation Advice Branch of DPIPWE (PCAB) advised there is unlikely to be any difference in potential impacts when compared to the previously approved activity under DA 2014/31. Therefore its comments provided in relation to that assessment still apply.

PCAB supported the proposal to extract groundwater from deep leads, which would avoid the risks of drainage of, or other impact on, local wetland areas.\(^6\)

PCAB requested the proponent clarify the following issues:

- Scale and location of the proposed infrastructure relating to the offshore loading facility, particularly in relation to clearance of dune vegetation.
- Whether or not wetlands will be directly affected, since the DPEMP states in some sections (e.g. page 4) up to 0.5 ha could be affected despite assertions elsewhere in the document that a buffer will be established around wetlands.
- Potential impact on shorebird breeding areas, particularly around the pipeline construction.

PCAB also stated the spread of the chytrid fungus is a major threat to threatened frog species in Tasmania and recommended the proponent develop measures to ensure potentially contaminated waters are not released into the environment on site. Furthermore, PCAB sought to clarify the arrangements for vehicle washdown, and how water associated with washdown would be managed. The location of washdown facilities was also a concern raised by Mineral Resources Tasmania (MRT).

PCAB noted that any impacts to wetlands which may directly affect listed frog species at any stage of their life cycle will require a permit-to-take under the Threatened Species Protection Act 1995.

MRT also asked the proponent to clarify the location of pumping infrastructure (including the pipeline construction location and methodology), and how it intended to define the buffer areas around wetlands.

Proponent responses in Supplement to the DPEMP

The proponent prepared a DPEMP Supplement to address matters raised during the public consultation period. The responses are summarised as follows:

1. The scale and location of infrastructure associated with the offshore loading facility, namely conveyors and conveyor transfer station, were illustrated and clarified.

\(^6\) No longer relevant given sand slurrying and pumping components removed from proposal.
2. Calculations were provided to clarify the scale and nature of the proposed areas of disturbance. The proponent confirmed up to 0.5 ha of wetland may be affected by the conveyor system alignment.

3. The proponent committed to developing a ‘hygiene control plan’ to DPIW’s satisfaction to limit the introduction and spread of harmful organisms such as the chytrid fungus. The arrangements for vehicle washdown will also be included in this plan.

4. Information was provided to illustrate and clarify the nature of wetland buffer zones. In essence, the proponent intends to provide each wetland area with a contiguous 25 m buffer around its entire boundary.

5. The proponent committed to scheduling construction works outside of the shorebird breeding season, and/or demonstrate via a pre-construction survey that breeding is not likely to be affected in the proposed construction area in the event construction is necessary during breeding periods.

**Evaluation**

Consistent with commitments 5.1, 5.3 and 5.4, to protect wetland areas from mining impacts, the proponent is required to establish and observe buffer zones around wetland areas, in accordance with site-specific condition OP2 (extraction areas). Strict compliance with buffer zones around wetland areas is necessary to avoid impacts to flora and fauna, including listed frog and bird species that may rely on these wetland areas. Buffer zones apply to all wetland areas identified in and consistent with Figure F of the Supplement to the DPEMP (Attachment 3 of the draft permit conditions).

Reflecting commitment 5.2, condition OP1 (weed and disease management plan) is imposed requiring the proponent to prepare and submit to the Director for approval a Weed and Disease Management Plan in accordance with DPIW’s *Weed and disease planning and hygiene guidelines*. Developing and implementing a Weed and Disease Management Plan is appropriate to control and limit potential impacts of harmful organisms, including the chytrid fungus. This plan must also include details concerning vehicle washdown location and methodology. It is noted a potential location for vehicle washdown is provided in the Supplement to the DPEMP as part of Figure F.

With respect to monitoring of wetlands water levels and quality, amending the application to remove the sand slurrying and pumping components removes the justification and need for such monitoring. As abstraction of significant volumes of groundwater is no longer proposed, monitoring of wetland water levels is not necessary. Furthermore, by applying and observing exclusion (buffer) zones as required by condition OP2, impacts to wetland species are not anticipated and therefore monitoring (as per commitment 5.5) is not considered necessary.

As stated in the Supplement to the DPEMP, alignment of the conveyor system may affect an area of wetland estimated at up to 0.5 ha. Artificial wetlands, proposed as part of the final (rehabilitated) landform (as per commitment 5.8), are likely to provide viable habitat to replace any areas of wetland disturbed or lost during construction activities. Their development is one appropriate way to minimise potential impacts to vulnerable fauna such as listed frog species during mining operations. In the event mining operations, such as alignment of the conveyor system, may impact on part of the wetlands, a permit to take may be required under the TSP Act.

Activities to construct and install mining infrastructure, such as conveyors, will disturb areas of native vegetation. The proponent’s intention to locate as much infrastructure as practicable, including features such as stockpiles, within areas identified as *Acacia longifolia* coastal scrub (as opposed to other vegetation types) is appropriate and supported. This vegetation community is well represented around Tasmania’s coastlines, so the forecast disturbance of about 3 ha of *Acacia longifolia* coastal scrub is not likely to measurably affect the ongoing viability of this community.
Two sand ‘blow outs’ within dunes on the land have been recognised as nesting habitat for the hooded plover. The adjacent beach has also been recognised as a nesting site for this species and pied oystercatchers. Given the prospect one of the blow outs may be used to align part of the conveyor system, it will be necessary to schedule construction works outside of the shorebird breeding season. Alternatively, the proponent will need to demonstrate via a pre-construction survey that breeding is not likely to be affected in the proposed construction area in the event construction is necessary during breeding periods. Site-specific condition FF2 (nest surveys for shore birds) is imposed to ensure construction activities occur outside of the known breeding season for shorebirds including the hooded plover and pied oystercatchers.

The remaining commitments 5.6 and 5.7 are considered appropriate and supported.

**Conclusions**

The proponent will be required to comply with the following standard conditions:

- **FF1** Washdown guidelines
- **OP1** Weed and Disease Management Plan

The proponent will also be required to comply with the following site-specific conditions:

- **FF2** Nest surveys for shore birds
- **OP2** Extraction areas

The Commitments made in the DPEMP are included in Schedule 3 of the conditions as Other Information:

- **OI3** Commitments
7 Other issues

In addition to the key issues, the following environmental issues are considered relevant to the proposal and have been evaluated in Appendix 1.

1. Weed and disease management.
2. Potential acid sulphate soils.
3. Air emissions.
4. Liquid effluent, stormwater, and surface waters.
5. Dangerous goods and environmentally hazardous materials.
6. Cultural heritage.
7. Geomorphological effects.
8. Decommissioning and rehabilitation.
8 Report conclusions

This assessment has been based upon the information provided by the proponent in the permit application, DPEMP, DPEMP Supplement and in correspondence and discussion between the EPA Tasmania and the proponent and the proponent’s representatives.

This assessment has incorporated specialist advice provided by EPA Tasmania scientific specialists and regulatory staff, other Divisions of DPIPWE, and other government agencies.

It is concluded that:

1. the RMPS and EMPCS objectives have been duly and properly pursued in the assessment of the proposal; and
2. the assessment of the proposal has been undertaken in accordance with the Environmental Impact Assessment Principles.

It is concluded that the proposal is capable of being managed in an environmentally acceptable manner such that it is unlikely that the RMPS and EMPCS objectives would be compromised, provided that the Permit Conditions - Environmental No. 9341 appended to this report are imposed and duly complied with.

The environmental conditions appended to this report are a new set of operating conditions for the entire, intensified activity that will supersede the existing permit conditions.

Longer term (ten years plus), the proponent may need to apply for a new permit to allow work in the northeastern section of lease 1957P/M.
Report approval

Environmental Assessment Report and conclusions, including permit conditions, adopted:

Warren Jones
CHAIRPERSON
Board of the Environment Protection Authority

Meeting date: 3rd October 2017
9 References


## Appendices

<table>
<thead>
<tr>
<th>Appendix 1</th>
<th>Assessment of other issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appendix 2</td>
<td>Summary of agency submissions</td>
</tr>
<tr>
<td>Appendix 3</td>
<td>Permit Conditions – Environmental No. 9341</td>
</tr>
</tbody>
</table>
### Appendix 1 Assessment of other issues

#### Issue 1: Weed and disease management

**Description of potential impacts**

The declared weed spear thistle (*Carduus tenuiflorus*) was observed within the proposed mining footprint and is likely to benefit from the proposed disturbance. While only one individual plant was observed on site, several individuals were observed within dispersal distance. The DPEMP states there has been a noticeable increase in individual plants occurring in disturbed areas.

The chytrid fungus is a threat to native amphibians, and spreads via water and mud on vehicles, equipment, boots, and in waters used for drinking, dust suppression, and firefighting. In Tasmania it is widely spread in habitats associated with human disturbance.

The plant pathogen *Phytophthora cinnamomi* (PC) can be introduced and spread through the movement of machinery to and from infected areas, and can cause disease and death in native vegetation. No evidence of *Phytophthora cinnamomi* was observed during surveys, however the DPEMP states the *Eucalyptus amygdalina* coastal forest and woodland (DAC) community identified on site is highly susceptible to the pathogen.

**Management measures proposed in DPEMP**

Table 6.1 of the DPEMP lists the following commitments in relation to weeds and diseases:

6.1 Implement a weed and disease management plan.
6.2 Annual weed surveys/control (spring).
6.3 Ensure all machinery is washed in accordance with the washdown guidelines.
6.4 Control lupins in revegetation/land use.

The DPEMP states protocols for appropriate (site) hygiene have been developed, including the following measures:

- Vehicle washdown prior to site entry.
- Avoiding pooling of water with work areas.
- Conducting periodic reconnaissance surveys by qualified persons for weeds and PC in development areas.

According to the DPEMP, a dedicated washdown facility for vehicles will be established. Operators/staff will have appropriate training and awareness of best practice for weed and PC management, as well as basic training in how to identify weeds.

The DPEMP Supplement illustrates a potential vehicle washdown location, outside the proposed extraction area (Figure F).

**Public and agency comment**

No comments received.

**Evaluation**

The proponent has an obligation to limit the introduction of and spread of weeds on (and from) The Land. The relative absence of weeds and diseases from the proposed mining area justifies regular surveillance for and, as necessary, control of them. This includes provisions to avoid or limit their introduction to the site, such as a dedicated vehicle washdown facility. Consistent with commitment 6.1, and as previously discussed at Issue 6.2 (natural values), site-specific condition OP1 (weed and disease management plan) is imposed to limit the potential to introduce and spread weeds and diseases across the Land, and to control any weeds and diseases already within the Land. The Plan must be prepared and submitted to the Director for approval within three months of the condition taking effect.

Conducting a survey of and control measures (e.g. spraying) for weeds on the proposed mining area on at least an annual basis (commitment 6.2) is considered appropriate and supported. Details concerning the nature of any survey and control measures must form part of the Plan required by OP1.

Establishing, or using an existing dedicated vehicle washdown facility, outside of the proposed mining area, is considered an appropriate way to limit the risk of introducing pathogens including PC and the chytrid fungus to the Land. A high standard of hygiene is necessary given the presence on and near the Land of a...
vegetation community, *Eucalyptus amygdalina* coastal forest and woodland (DAC), which is highly susceptible to PC. Standard condition FF1 (washdown guidelines) is imposed to require the washing of all machinery prior to entry to The Land, as per the Washdown Guidelines. Control of lupins in revegetated areas, as expressed in commitment 6.4, is appropriate and supported. Provided the proponent complies with conditions OP1 and FF1 the risk to natural values posed by weeds and diseases is considered low.

**Conclusion**

The proponent will be required to comply with the following standard conditions:

- **FF1** Washdown Guidelines

The proponent will be required to comply with the following site-specific condition:

- **OP1** Weed and Disease Management Plan

The relevant DPEMP commitments are included in Schedule 3 of the permit at Other Information:

- **OI3** Commitments

---

7 Washdown Guidelines means the document titled *Weed and Disease Planning and Hygiene Guidelines - Preventing the spread of weeds and diseases in Tasmania*, by the Department of Primary Industries, Parks, Water and Environment, dated March 2015, and any amendment to or substitution of this document.
**Issue 2: Potential acid sulphate soils**

**Description of potential impacts**

Disturbance through drainage and excavation of soils containing sulphides, which occur naturally in coastal areas, can produce large quantities of sulphuric acid once these soils are exposed to air. Acid may then be released into the surrounding environment, which can result in release of metals and other toxins into waterways. Acid discharges can cause fish kills, death of other aquatic ecosystems, decline in riparian and aquatic vegetation, and can also damage infrastructure.

In Tasmania, most of the non-tidal, coastal acid sulphate soils (ASS) occur along the north coast. The DPEMP notes historical marsh deposits in the area of the proposed extractive activity may be associated with ASS.

A Hydrogeological Investigations Report is included as Appendix B to the DPEMP. It notes PASS in the area is mostly in the extremely low to low range (in areas underlain by migrating Quaternary dunes and Tertiary sediments). The Report notes one small area in the high range near a monitoring bore (on Quaternary sediments). The Report also notes all PASS are currently buried and submerged, and that dissolved oxygen measurements in groundwater to depths of 3 m or so suggest the water is oxygenated, and any sulphide initially present is now likely to exist as sulphate.

**Management measures proposed in DPEMP**

Table 6.1 of the DPEMP lists the following commitment in relation to PASS:

<table>
<thead>
<tr>
<th>Number</th>
<th>Commitment</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.3</td>
<td>Maintain pit floor a minimum of 1 m above groundwater level.</td>
</tr>
</tbody>
</table>

The DPEMP also states the extractive activity will avoid PASS impacts by not lowering the water table through groundwater extraction. In addition, the Supplement to the DPEMP states components including water supply dams, and sand slurring and pumping equipment have been removed from the proposal.

**Public and agency comment**

EPA Tasmania’s Scientific Officer (Water) made the following comments:

- Confining mining to at least 1 m above the groundwater level at all times is supported.
- A condition to require a PASS Assessment, in accordance with the Acid Sulfate Soil Management Guidelines (DPIPWE, 2009), in the event mining intersects Pleistocene deposits, is recommended.

Mineral Resources Tasmania (MRT) provided the following comment regarding PASS:

The DPEMP states (p 15, para 4) “Organic materials such as branches etc and other undesirable material removed by the screens will be returned to the pit and buried”. Given the existing conditions are that disturbance is not to occur lower than 1 metre above the base layer of the overlying sand dunes (due to risks associated with acid sulphate soils, and to Aboriginal heritage), more information is required as to where this exactly would occur.

The proponent provided additional information 19 October 2017 to outline a number of management options for organic materials removed by the screens. Options include:

- Burial in areas not suitable for sand extraction (e.g. areas containing high amounts of organic matter/ discolouration).
- Surface storage then used as rehabilitation material.
- Burning and then disposal to the existing gravel pit.

**Evaluation**

The floor of the extractive activity appears well below 20 m AHD, the trigger for a desktop assessment as per the Tasmanian Acid Sulfate Soil Management Guidelines (DPIPWE, 2009). While such an assessment has not been done, the Hydrogeological Investigations Report included as Appendix B of the DPEMP provides sufficient information for the purpose of assessing potential impacts arising from disturbance of

---

8 Recommendations contained in the Hydrogeological Investigations Report.

9 Pleistocene marine deposits do not inherently contain ASS conditions. However, in some landscapes pyritic material or other Holocene soil materials may have become incorporated into Pleistocene landforms to manifest as sporadic ASS deposits.
PASS. The observation that oxygenation of near surface groundwater has likely oxidised sulphides to sulphate, and therefore reduced the risk of PASS impacts, is accepted.

While removing certain infrastructure components, including supply dams and buried pipelines, has reduced the intensity of land disturbance, routine mining operations may encounter PASS. The ASS Management Plan outlined in the Hydrogeological Investigations Report, with its emphasis on avoiding the disturbance of PASS by maintaining mining operations above groundwater, is appropriate and made explicit in site-specific condition GW1 (maintenance of floor level). In practice, the operator can monitor compliance with this condition by observation (i.e. observing standing water in the pit will be a sign to stop and implement remedial action).

While GW1 is an appropriate regulatory control, the substantial scale of the mining operation, occurring over a large area means intersection of Pleistocene marine deposits may occur. Exposure of Pleistocene deposits may increase the risk of PASS impacts. Therefore site-specific condition G10 (potential acid sulphate soils assessment) is imposed to determine, in accordance with the Tasmanian Acid Sulfate Soil Management Guidelines (DPIPWE, 2009), the degree of risk posed by this material and what management measures may be necessary. The condition applies only in the event the extractive activity intersects Pleistocene deposits.

With reference to how organic matter removed during screening might be managed, it is accepted that the precise management method will depend on how the mine develops. Regardless, the options presented above are considered practical and provide a degree of operational flexibility.

Conclusion

The proponent will be required to comply with the following site-specific conditions:

GW1 Maintenance of floor level
G11 Potential Acid Sulphate Soils Assessment
### Issue 3: Air emissions

#### Description of potential impacts

Sand extraction will generate dust, mainly due to mechanical disturbances such as earthmoving and movement of traffic on unsealed surfaces. Screening and conveying processes may also generate dust. The DPEMP states that in dry and windy weather conditions, sand particles can be lifted from open and disturbed areas. The majority of these particles are larger than 10 µm and tend to settle back to the ground within a short distance of the source. According to the DPEMP, the main dust-generating activities will be located at sufficient distances so as not to affect residences, and prevailing wind directions in summer, when dust is more likely to be generated, are away from the nearest residences 75% of the time.

#### Management measures proposed in DPEMP

Table 6.1 of the DPEMP provides the following commitments in relation to air emissions:

<table>
<thead>
<tr>
<th>Commitment</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1</td>
<td>Maintain a complaints register to record all complaints from the public.</td>
</tr>
<tr>
<td>9.1</td>
<td>Watering of internal roads.</td>
</tr>
<tr>
<td>9.2</td>
<td>Use of water sprays on the screening plants.</td>
</tr>
<tr>
<td>9.3</td>
<td>Covering of conveyors.</td>
</tr>
<tr>
<td>10.1</td>
<td>Transport trucks will be tarpaulin covered if carrying dusty materials.</td>
</tr>
</tbody>
</table>

#### Public and agency comment

No comments were received concerning air emissions.

#### Evaluation

The nearest sensitive receptor in other ownership is situated about 1.3 km south-south-east of the proposed stockpile area, and approximately 900 m from the southeast edge of the extraction area. At this distance, and with the application of water to internal roads as necessary (commitment 9.1), use of water sprays on screening equipment (commitment 9.2), and covering of conveyors (commitment 9.3), the likelihood of dust nuisance at this residence is considered very low. Consistent with commitment 2.1, standard condition G7 (complaints register) is imposed to specify the person responsible maintain a complaints register to record public notifications of dust and other potential nuisance events (e.g. noise) and allow investigation and remedy of complaints. Standard conditions A1 (control of dust emissions) and A2 (covering of vehicles) for mitigation and control of dust are also imposed.

#### Conclusion

The proponent will be required to comply with the following standard conditions:

<table>
<thead>
<tr>
<th>Standard Condition</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>Control of dust emissions</td>
</tr>
<tr>
<td>A2</td>
<td>Covering of vehicles</td>
</tr>
</tbody>
</table>

The relevant DPEMP commitments are included in Schedule 3 of the permit at Other Information: OI3 Commitments
**Issue 4: Liquid effluent, stormwater and surface waters**

**Description of potential impacts**

Ground disturbance from sand mining may mobilise and transfer sediments to local waterways in stormwater flows. These flows may also cause erosion and scouring of local waterways.

According to the DPEMP, the mobile nature of the dunes continues to reshape the land surface and influence wetland distribution and surface drainage networks. Section 3.2.3.1 of the DPEMP contains further details about the dynamic interplay between sand dune formation and water body occurrence (refer also Issue 7 Geomorphological effects).

The proposed extraction is located entirely within the dune system. Rainfall permeates through the sand dunes, and as a result there is no surface water drainage. The closest major surface water is the Great Forester River, at least 1.5 km south of lease 1957P/M’s southern extent.

According to the DPEMP, rainwater tanks will be provided to capture and store water for potable use. Septic tanks will be provided to capture and treat blackwater from staff amenities.

Water for operations may be sourced from an existing dam, groundwater or the Great Forester River. Annual water use is estimated at less than 4ML, associated primarily with vehicle and machinery washdown.

**Management measures proposed in DPEMP**

Table 6.1 of the DPEMP did not contain any relevant commitments concerning surface waters. No additional measures concerning how liquid effluent, stormwater and surface waters will be managed were provided.

**Public and agency comment**

MRT provided the following comment regarding a potential washdown facility:

- Figure 2.3 of the DPEMP (“General Arrangement”) is a map that contains an area marked as “Washdown Bay”. No detail has been provided about the design of the washdown station, water sources, drainage, or water/sediment management.

All other comments about potential water sources (e.g. groundwater), use and management relate directly to the proposed sand slurrying and pumping arrangements, which are no longer a part of the proposal.

The proponent provided additional information 15 August 2017 outlining a number of options to limit the likelihood vehicles and other mining machinery act as vectors for weeds and diseases. A washdown bay outside The Land was confirmed as a possibility only, since most screened product would be dispatched via an offshore facility rather than by road. The proponent committed to developing and applying an appropriate hygiene control plan for the proposal in consultation with DPIPWE, prior to operation.

**Evaluation**

The proponent’s response to MRT’s comment regarding a possible washdown facility is accepted. While the proponent has not provided design and operating details of a potential washdown facility, or confirmed such a facility will be provided, it has acknowledged the need to control site hygiene. As discussed at Issue 1, a condition of site entry is that all machinery be washed in accordance with the (DPIPWE) Washdown Guidelines, as required by standard condition FF1.

The proponent’s commitment to develop and apply an appropriate hygiene control plan for the proposal is supported, and explicitly required by OP1 (weed and disease management plan; refer Issue 1).

Given the proposed extractive activity is contained within the dune system and that rainfall infiltrates the sand dunes, it is accepted that surface water drainage into the proposed footprint is likely to be minor. The relatively coarse size of the sand should negate the need for wetting (e.g. water sprays at transfer points), which also negates the need to capture and treat a wastewater stream. However, the proponent must ensure sediments are retained on The Land using all reasonable measures, which may, should circumstances demand, include the use of a sediment pond.

Therefore the proponent must also comply with standard conditions for water management E1 (perimeter drains), E2 (stormwater) and E3 (maintenance of settling ponds).

**Conclusion**

The proponent will be required to comply with the following standard conditions:

- **E1** Perimeter drains
- **E2** Stormwater
- **E3** Maintenance of settling ponds
### Issue 5: Dangerous goods and environmentally hazardous materials

#### Description of potential impacts

The potential exists for minor loss or spills of hazardous substances because of the proposal. Uncontrolled loss of hazardous substances such as hydrocarbons can infiltrate, contaminate and degrade surface and ground water and soil ecosystems.

The DPEMP states the only dangerous goods or hazardous materials present on site will be those associated with diesel powered equipment and mobile plant. The DPEMP provides no further details concerning dangerous goods and environmentally hazardous materials.

#### Management measures proposed in DPEMP

The DPEMP provides no formal management commitments related to dangerous goods and environmentally hazardous materials. The DPEMP states in the event an above ground diesel storage tank is required (estimated volume 40KL) it will be bunded and installed in accordance with the relevant Australian Standards. According to the DPEMP, all machinery will be serviced in a bunded area and all waste oils collected and sent off site for recycling.

#### Public and agency comment

No public or agency comment was received in relation to dangerous goods and environmentally hazardous materials.

#### Evaluation

It is noted the above ground diesel storage tank was associated with the proposal to fluidise and pump sand via pipelines for loading to ships. The proponent confirmed in correspondence dated 10 August 2017 that an above ground tank for diesel storage was no longer required given the removal from the proposal of components involved in mobilising and moving sand, such as pumps and motors. Notwithstanding, amounts of diesel will at times be located on the Land for the purposes of fuelling mobile plant and potentially a generator. In addition, it is noted the proponent intends to service machinery on the Land. Consequently there is a need to ensure diesel, and any other petroleum-based products such as oils, is appropriately stored and handled on the Land to limit the potential for spills/release to the environment. Standard conditions: **H1** (storage and handling of hazardous materials), **H2** (hazardous materials <250L) and **H3** (spill kits) are imposed to ensure appropriate bunding and handling procedures are in place and provision of an on-site hydrocarbon spill kit.

#### Conclusion

The proponent will be required to comply with the following standard conditions:

- **H1** Storage and handling of hazardous materials
- **H2** Hazardous materials <250L
- **H3** Spill kits
Appendix 1

**Issue 6: Aboriginal heritage**

**Description of potential impacts**

Mining operations have the potential to damage or degrade items of heritage value if poorly planned and executed.

An Aboriginal Heritage Survey (Survey) of the proposed extraction area and surrounds was conducted as part of the assessment of the previous application (DA 2014/31). This Survey was updated during January 2016 to include the additional area proposed to locate infrastructure for the offshore pumping operation. The Assessment describes 11 registered Aboriginal heritage sites within and in the general vicinity of the proposal area. Nine of these sites constitute artefact scatters, and the remaining two are classified as isolated artefacts. Seven of the sites are located within the immediate vicinity of the proposed extractive area; none are within the area proposed for the sand pumping infrastructure. Summary details for the registered Aboriginal sites located in the immediate vicinity of the proposal are listed in Table 5 of the Survey. The distribution of heritage sites across the proposed extractive area is illustrated in Figure 11 of the Survey.

The revised Survey includes an additional Aboriginal site (artefact scatter), identified during fieldwork in January 2016. Site AH13148 is classified as an artefact scatter comprising two stone artefacts that were identified within a 6 m radius of each other. It lies outside the boundary of lease 1957P/M, close to the proposed conveyor alignment. Site AH13148 has been allocated a rating of ‘significance’. Tables (ii) and (iii) of the Survey provide further details about the nature and location of the site.

**Management measures proposed in DPEMP**

Table 6.1 of the DPEMP provides the following commitments in relation to Aboriginal heritage:

8.1 Maintain buffer zones and fences.
8.2 Monitor every two years for new sites in pit area.
8.3 Retain a 1 m base residual of modern sand dune deposits.

With reference to 8.1, the DPEMP states the proponent will construct a fence line along the northern boundary of the sand extraction area to limit the likelihood of site encroachment by personnel and equipment. All personnel involved with the proposal will be made aware of relevant details about the known Aboriginal sites during induction, and that the sites must not be disturbed. The DPEMP also states an Aboriginal Heritage Officer will conduct periodic inspections of the working areas to monitor extraction progress and determine whether the activity has uncovered any new heritage sites. The locations of heritage sites will also be integrated with relevant figures and plans for the proposal.

**Public and agency comment**

Aboriginal Heritage Tasmania (AHT) provided the following comments:

- The recommendations made in 2013 concerning the original proposal still apply.\(^{10}\)
- A search of the Aboriginal Heritage Register (AHR) with respect to the proposed sand extraction production increase at Anderson Bay indicated there are no Aboriginal heritage sites recorded within the proposed extraction zones. A review of the Aboriginal Heritage Survey undertaken by Cultural Heritage Management Australia (February 2016) determined there would be no impacts to known Aboriginal heritage. All mitigation actions within the Survey should be followed, in addition to measures in the Unanticipated Discovery Plan, which should be on hand during ground disturbing works.
- Accordingly there is no requirement for further Aboriginal heritage investigations, and AHT has no objection to the proposal proceeding.

**Evaluation**

The presence of known Aboriginal heritage sites, including new site AH13148, within and in close proximity to lease 1957P/M and proposed lease 2007P/M, means construction activities and mining operations must be excluded from these areas. Ensuring these locations are integrated with or incorporated into the proposed activity’s relevant master figures and plans is appropriate and supported.

Aboriginal heritage values are protected under the *Aboriginal Heritage Act 1975* (AH Act). Imposing OP2 (refer Issue 6.2), which includes the provision of suitable on-ground visual markers, such as fences, to clearly delineate between the sand extraction area and wetlands, supports the legislative protection of

---

\(^{10}\) These have been captured by commitments 8.1, 8.2 and 8.3 and the remaining management measures described in this section.
Aboriginal heritage already afforded under the AH Act. All remaining commitments and management measures to limit the potential to disturb known and new sites are considered appropriate and supported. Provided the proponent complies with OP2 and implements its stated commitments, disturbance of and damage to Aboriginal heritage site is not considered likely.

### Conclusion

The proponent will be required to comply with the following site-specific condition:

<table>
<thead>
<tr>
<th>OP2</th>
<th>Extraction areas</th>
</tr>
</thead>
</table>

The relevant DPEMP commitments are included in Schedule 3 of the permit at Other Information:

| OI3 | Commitments |
Appendix 1

Issue 7: Geomorphological effects

Description of potential impacts

Mining operations have the potential to disturb and damage geomorphological features such as sand dunes if poorly planned and executed. The DPEMP includes a Geomorphological Assessment (February 2014) as Appendix D. The Assessment describes the proposed extractive site as occurring in an area of ‘modern day mobile and partially stabilised transgressive and parabolic dune forms’ (p 6). The Assessment states historical land practices have caused the denudation of the coastal dune vegetation and soils along the Anderson Bay coastline. Farming practices including heavy grazing and burning, combined with the impacts of rabbits, have caused significant degradation of the coastal dunes. According to the Assessment, transgressive dunefields in the area of the proposal site have been migrating at about 7 m per year and encroaching on viable farmland to the west and local wetlands.

The Assessment considered a number of geomorphological values related to the dune system, including intrinsic, ecological and anthropocentric. The conclusion reached in the Assessment stated, among other points:

- There is little intrinsic value in the transgressive dunefield since it is not representative of natural landforms in the area.
- The system is not representative of natural dune building processes in the area.
- There is value in protecting the ‘interdune slacks’ along the receding margins of the dunefield to ensure wetlands are sustained.

Management measures proposed in DPEMP

Table 6.1 of the DPEMP does not list any specific commitments concerning the preservation or management of geomorphological features in the area of the proposed extractive activity. No other management measures in relation to local geomorphology were provided in the DPEMP.

Public and agency comment

EPA Tasmania’s Water Specialist provided the following comment:

- Changes in the geomorphological setting at the site because of mining are considered a credible risk. In particular, wind erosion of north-south oriented extraction faces post-closure could retreat off the site into the Waterhouse Conservation Area.

The DPEMP Supplement included information to address this concern, reiterating that:

- Sand will be extracted from private land southwest of the Waterhouse Conservation Area (WCA), primarily in a southwesterly direction.
- The dunefields tend to migrate in a southeasterly direction, out of the WCA and into private land.

The proponent concludes that as the direction of mining will be to the southwest, this alignment of faces is unlikely to result in sand retreat into the WCA.

Evaluation

Historical land practices, such as grazing, combined with other actions, notably from rabbits, have denuded and degraded parts of the coastal dunes along the Anderson Bay coastline. The proposed sand mine is situated within such an affected area. The conclusions stated above concerning a variety of geomorphological values of the transgressive dunes, which include the area of the proposed sand mine, are accepted and supported.

It is agreed interdune slacks (hollows) merit protection in order to sustain wetlands. Site-specific condition OP2 (extraction areas; refer Issue 6.2), imposed to provide a protective buffer between mining operations and wetlands on and near The Land, is also expected to provide a degree of protection for interdune hollows. In addition, maintaining the floor level of the pit at least 1 m above groundwater in accordance with site-specific condition GW1 (maintenance of floor level) is likely to further limit impacts to the interdune slacks and therefore the wetlands.

With reference to EPA Tasmania’s comment concerning the alignment of faces post-closure and potential for sand to be deposited into the WCA; there is no clear or concise evidence to suggest one orientation of faces post-closure may lead to more wind erosion toward the WCA than another. While the proponent’s conclusion presented in the Supplement, that the southwest direction of mining is unlikely to result in sand retreat into the WCA, cannot be verified, it is noted the historical migration of sand tends to occur from the WCA inland. Rehabilitation planning, via the Mining and Rehabilitation Plan required by site-specific
condition DC5 (refer Issue 8), and implementation in accordance with standard condition DC6 (refer Issue 8), is considered to be an appropriate mechanism to limit the potential for wind to cause uncontrolled deposit of sand into the WCA. No specific conditions relating to geomorphology are considered necessary.

<table>
<thead>
<tr>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>No specific conditions relating to geomorphology are considered necessary.</td>
</tr>
</tbody>
</table>
Issue 8: Decommissioning and rehabilitation

Description of potential impacts

Unchecked or abandoned mining activities have potential to cause ongoing impacts, such as contamination of surface and ground waters.

The DPEMP states the sand mine will be developed in the southwest section of lease 1957P/M. The anticipated direction of mining is to the southwest, toward the Lost Farm golf course. According to the DPEMP, the intended end use of the Land is a golf course, incorporating a number of artificial wetlands. The intent is to recover sand and leave in place at least 1 m of sand above the pit floor. The DPEMP indicates it may be difficult to establish the pit floor as part of the golf course until late in mining, since course design cannot occur until base contours are established. Further detail regarding the proposed end use (golf course) is provided in section 4.17.2 of the DPEMP.

Management measures proposed in DPEMP

Table 6.1 of the DPEMP provides the following commitments in relation to decommissioning and rehabilitation:

5.8 & 14.1 Final rehabilitation plan to include establishment of artificial wetlands.
15.1 Leave 1 m of sand above the natural surface. Rehabilitate to a golf course.

The DPEMP states any disturbance in the foredune area associated with construction activities including a stockpile area and conveyors will be rehabilitated following construction. The foredune will be reformed with sand to replicate the dune shape and revegetated with coastal wattle (Acacia longifolia).

Public and agency comment

No public or agency comment was received in relation to decommissioning and rehabilitation.

Evaluation

The extractive activity’s proposed end use as a golf course is consistent with existing and future anticipated land uses.

Ongoing or progressive rehabilitation of an operating extractive activity (to limit its disturbed area) is an expectation under the Tasmanian Quarry Code of Practice 2017. While it may not be possible to establish parts of the floor as a golf course until the latter stages of mining, opportunities to conduct progressive rehabilitation exist nonetheless. For example, rehabilitating foredune areas associated with construction activities, including a stockpile area and conveyors, following construction is appropriate progressive rehabilitation and supported. Condition DC2 is imposed to require progressive rehabilitation and defines a maximum allowable disturbed (or open) area at any one time of four hectares.

Maintaining at least one metre of sand above the dune natural surface (commitment 15.1) is appropriate to limit potential impacts to the water table and, by association, wetlands post operation of the activity. Site-specific condition GW1 (maintenance of floor level) was introduced and discussed at Issue 2 to reflect this measure.

Given the scale of the proposed activity, and the need to identify and act on opportunities to conduct progressive rehabilitation, it is appropriate to require a mining and rehabilitation plan within six months of the date on which the permit conditions take effect (DC5). It is anticipated details about the proposed end use (golf course), which will incorporate a number of artificial wetlands (commitments 5.8 & 14.1), will be included in this Plan. Condition DC6 (rehabilitation on cessation) is imposed to ensure the person responsible acts in accordance with the most recent approved mining and rehabilitation plan.

However limited, given the sparse nature of the (dune) landform, it is still considered appropriate to retain as much stripped material (e.g. soils and vegetation) as practicable for rehabilitation purposes. This requirement is imposed by standard condition DC1 (stockpiling of surface soil).

Other decommissioning and rehabilitation requirements considered necessary for this activity are standard conditions DC3 (Temporary suspension of activity) and DC4 (Notification of cessation).

Provided these conditions are complied with, the likelihood of enduring material environmental harm from closure of the sand mine is unlikely.

Conclusion

The proponent will be required to comply with the following standard (generic) conditions: DC1 Stockpiling of surface soil.
| DC2 | Progressive rehabilitation |
| DC3 | Temporary suspension of activity |
| DC4 | Notification of cessation |
| DC6 | Rehabilitation on cessation |

The proponent will be required to comply with the following site-specific condition:

**DC5**  Mining and Rehabilitation Plan

The relevant DPEMP commitments are included in Schedule 3 of the permit at Other Information:

**OI3**  Commitments
Appendix 2  Summary of public and agency submissions
Mr Richard Sattler – Increase in extraction limit at Anderson Bay sand mine, and infrastructure associated with offshore sand loading facility


**TABLE 1: ADDITIONAL INFORMATION REQUIRED BY THE EPA BOARD**

<table>
<thead>
<tr>
<th>Agency</th>
<th>DPEMP section/page no.</th>
<th>Comments and issues</th>
<th>Additional information required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Policy and Conservation Advice Branch, Natural and Cultural Heritage Division, DPIPWE (PCAB)</td>
<td></td>
<td>Increase in production is considered unlikely to alter the potential impacts of the sand extraction and therefore PCAB’s comments made previously on this proposal still apply. Comments provided below relate to extraction of groundwater and installation of additional infrastructure within mining lease 2007P/M.</td>
<td>n/a</td>
</tr>
<tr>
<td>PCAB</td>
<td>Section 2</td>
<td>Figures 2.3 and 2.8 of the DPEMP show a different scale/location of infrastructure.</td>
<td>Clarify where and how large this infrastructure will be, so that the scale of impact can be determined, particularly in relation to clearance of vegetation on the currently vegetated dune.</td>
</tr>
<tr>
<td>PCAB</td>
<td>Page 14</td>
<td>The potential impact on the most seaward wetland within the site is unclear. Figures in the DPEMP do not appear to correspond with those in Appendix C and page 14 of the DPEMP states that all wetlands will be protected by a buffer while elsewhere it is stated that 0.5 ha of wetland will be directly impacted.</td>
<td>Detail should be provided of the amount and type of direct impact to these wetland areas (including dust deposition from stockpiles and material handling). If it is confirmed that there will be impacts to wetlands, then the likelihood of the presence of threatened frog species should be discussed. A permit-to-take under the Threatened Species Protection Act 1995 will be required if the works are to directly impact on listed frog species at any stage of their life cycle (spawn, tadpoles, etc).</td>
</tr>
<tr>
<td>PCAB</td>
<td></td>
<td>PCAB supports the proposed management of water extraction to ensure that the draining of onsite wetlands is avoided; this is to be achieved by extracting</td>
<td>The proponent should consider/provide clarification as to whether the extraction of water from depth is likely to cause impacts at a subregional scale, and whether this will cause impacts on water quality/levels within the</td>
</tr>
<tr>
<td>Agency</td>
<td>DPEMP section/page no.</td>
<td>Comments and issues</td>
<td>Additional information required</td>
</tr>
<tr>
<td>--------------------------------------------</td>
<td>------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Groundwater from a depth that avoids impacts on the local scale.</td>
<td>Waterhouse Conservation Area and/or the RAMSAR wetland, Little Waterhouse Lagoon, to the north. [See further comments from the Water Management and Assessment Branch, relating to information about groundwater use]</td>
</tr>
<tr>
<td>PCAB</td>
<td></td>
<td>The DPEMP states that the red-capped plover is the only shorebird to have been observed within the footprint. However, other species including the pied oystercatcher and little tern are known to breed in this area, and individuals of these species are mobile. It is recommended that any works in the area above high tide (e.g. installation of the pipeline, vehicle movements) are avoided during the breeding season (spring/summer).</td>
<td>Planning for timing of the installation of the pipeline must consider impacts on shorebirds. Provide a clear assessment of the risks associated with this aspect of the proposal, and provide a description of management measures, such as restrictions to timing of installation works on the shore, in the DPEMP.</td>
</tr>
<tr>
<td>Mineral Resources Tasmania, Department of State Growth (MRT)</td>
<td>Fig. 2.3</td>
<td>Figure 2.3 “General Arrangement” is a map that contains an area marked as “Washdown Bay”. No detail has been provided around the design of the washdown station, water sources, drainage, or water/sediment management.</td>
<td>Provide detail on washdown station design, drainage, water source, etc.</td>
</tr>
<tr>
<td>MRT</td>
<td>Fig. 2.4</td>
<td>Between pages 11 and 12 is a map showing indicative extraction stages – Year 1, Years 3 – 5, etc. Where is Year 2? There is another undefined area on the map marked as “(+ year 1) Possible Extraction” – what does that mean?</td>
<td>Clarify the details around planned years of extraction and revise maps/plans accordingly.</td>
</tr>
<tr>
<td>MRT</td>
<td>Fig. 2.4</td>
<td>This figure shows protected wetlands. None of the buffer zones extend all the way around the wetlands defined in the map. This issue needs to be addressed in the context of where and how infrastructure will be located within the mining lease, and at the same time provide for sufficient buffer zones the entire way around each of these wetland areas.</td>
<td>Provide a map which clearly shows the appropriate buffer zones.</td>
</tr>
<tr>
<td>MRT</td>
<td>Page 15, paragraph 4</td>
<td>Paragraph 4 states “Organic materials such as branches etc and other undesirable material removed by the screens will be returned to the pit and buried”. Given</td>
<td>Provide details of where by-products of the screening process are proposed to be disposed/buried in the context</td>
</tr>
<tr>
<td>Agency</td>
<td>DPEMP section/page no.</td>
<td>Comments and issues</td>
<td>Additional information required</td>
</tr>
<tr>
<td>--------</td>
<td>------------------------</td>
<td>---------------------</td>
<td>--------------------------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td>that the existing conditions are that disturbance is not to occur lower than 1 metre above the base layer of the overlying sand dunes (due to risks associated with acid sulfate soils, and risks to Aboriginal heritage), more information is required as to where this exactly would occur.</td>
<td>of risks associated with burial, and acid sulfate soils/Aboriginal heritage disturbance.</td>
</tr>
<tr>
<td>MRT</td>
<td>Fig. 2.8</td>
<td>Pump House Area General Layout Plan – this plan is not final (marked “REVISION IN PROGRESS UNCONTROLLED DOCUMENT”) and therefore cannot be assessed. Further, page 16, paragraph 3 of the DPEMP states “The final level of the pump station (and other buildings and structures) are yet to be determined”.</td>
<td>Provide a finalised location and layout for the pump house infrastructure area. In order to be in a position to approve a mine plan, MRT requires a sufficient level of certainty and confidence around what is proposed. The information provided here is not sufficient for these purposes.</td>
</tr>
</tbody>
</table>
| MRT    | Section 2.2.4.2, Page 17, Paragraph 2 | Water sources to provide for the operation have not been acceptably defined. Successful assessment is contingent on knowing how much water is being sourced and from where each amount of water is being sourced from, as well as how it is to be delivered and pumped. | Provide details on:  
- Water sources;  
- Quantities of water from each source; and  
- How water is to be delivered and pumped. |
<p>| MRT    | Section 2.3, Construction Paragraph 2 | This paragraph states “The only other major construction work will be the installation of the HDPE pipelines. They could either be towed to the site in sections, or welded in situ on the beach and dragged to sea”. | Provide details on the environmental sensitivities which exist around the construction works, and details on what mitigation strategies will be in place. What machinery, trucks etc are needed, and how would they access the beach/port to provide for the delivery and construction of the pipes if this option is used? If the pipes are to be towed, where will pipes be towed from, and what issues may arise if this is the adopted process? |
| MRT    | Page 39                | Paragraph 1 near the bottom of page 39 states “Drilling records (held by Mineral Resources Tasmania: MRT) of drilling in the district, and the recent hydrogeological work by GES, demonstrate intermediate discharge conditions and local recharge conditions respectively beneath the project area.” | Please clarify what is meant by ‘intermediate’ discharge conditions. |</p>
<table>
<thead>
<tr>
<th>Agency</th>
<th>DPEMP section/ page no.</th>
<th>Comments and issues</th>
<th>Additional information required</th>
</tr>
</thead>
<tbody>
<tr>
<td>MRT</td>
<td>Page 40</td>
<td>Paragraph 1 of page 40 states “An estimate suggests that between about half and most of it could be groundwater flow beneath the coast. The proposed sand extraction operations require a net volume of about 0.5GL/yr.” This level of detail is acceptable if submitted as part of a Notice of Intent but fails to adequately satisfy the requirements for assessment purposes.</td>
<td>Provide a more accurate estimate of groundwater flows, based on data collected. See further comments below from DPIPWE Water Management and Assessment Branch.</td>
</tr>
<tr>
<td>MRT</td>
<td>Section 4.16</td>
<td>This section states “Mr Sattler will minimise impacts to the environment and manage relevant aspects of their operation through the implementation of measures, which may include…”. The word “may” is not acceptable for the purposes of assessment. MRT requires information that states what will be done if approved before the proposal can be assessed and approved.</td>
<td>Provide details of definitive management actions.</td>
</tr>
<tr>
<td>MRT</td>
<td>Section 4.17.1, Page 69</td>
<td>The third point states “Possible progressive rehabilitation of floor as a golf course. This may be difficult until later in the operation, as a course cannot be designed until base contours are established.”</td>
<td>To ensure adequate environmental compliance and management of the site throughout the life of the project, MRT requires more detail as to how this is to be managed in the short- to medium-term. The EPA requires information about plans for any progressive rehabilitation throughout the life of the mining operation.</td>
</tr>
<tr>
<td>MRT</td>
<td>4.17.3</td>
<td>Weed Management - 3rd paragraph states “During sand extraction operations, weed and pathogen management will include the wash down of earth moving machinery before leaving and entering the site in an approved area and an activities buffer around the DAC community. This will be as shown in Figure 2.3.” Figure 2.3 is insufficiently detailed for assessment purposes.</td>
<td>As per previous comment regarding washdown facilities on Figure 2.3, provide more detail on washdown facilities and procedures, sources of water, drainage/discharge of washdown waters, etc.</td>
</tr>
<tr>
<td>MRT</td>
<td>5.0</td>
<td>All environmental safeguards must be identified and captured in the DPEMP. 4th dot point states “A detailed water management plan will be prepared prior to operations detailing the results of ongoing monitoring and water supply investigations, with emphasis on protecting the wetlands.”</td>
<td>Provide detailed water supply information for the project so that an assessment may be made on the appropriateness of the proposed water supply and use for the offshore component of the project.</td>
</tr>
<tr>
<td>Agency</td>
<td>DPEMP section/page no.</td>
<td>Comments and issues</td>
<td>Additional information required</td>
</tr>
<tr>
<td>--------</td>
<td>------------------------</td>
<td>---------------------</td>
<td>--------------------------------</td>
</tr>
</tbody>
</table>
| Water Management and Assessment Branch, DPIPWE | Water budget | It is noted that the water budget presented in the DPEMP and Appendix B is based on a 2008 study\(^\text{11}\). A water budget from the subsequent report of 2009\(^\text{12}\) indicates that the required quantity of top-up water of 0.5 GL/annum would represent approximately 7% of the total coastal outflow (not 1% as reported in the DPEMP and Appendix B).
Based on the available information and conceptual understanding, somewhere between 7 and 20 GL of groundwater may be discharging along the coast and could potentially be available for extraction.
Given that both the aforementioned budgets are derived using limited information, particularly in the proposed development area, it is important that all recommendations in Section 5 (p46) of the Appendix B, relating to further groundwater assessment and protection/recovery of environmental values during and after sand mining, are fully implemented. | Provide updated information - See requirements for draft Water Management Plan in comments below. |
| Water Management and Assessment Branch, DPIPWE | More information is required before operational well permits can be issued and surface and groundwater water management/operational plans developed. | A hydrogeological report/draft Water Management Plan should be provided for review by the Water Management and Assessment Branch, with pump test results of the test production bore (referred to in Section 5, p46 of Appendix B Recommendations, and noting that a Well Works Permit is required), proposed final location, types of any additional groundwater extraction points (if required), and prediction of the impact of the groundwater extraction from proposed bores on identified environmental values.
Following on from this and once all production extraction points are created, final pump tests using all groundwater extraction infrastructure and surface water bodies may still be required and should be used for finalisation of the water management/operational plan. Water allocations |
<table>
<thead>
<tr>
<th>Agency</th>
<th>DPEMP section/ page no.</th>
<th>Comments and issues</th>
<th>Additional information required</th>
</tr>
</thead>
</table>
| Water Management and Assessment Branch, DPIWPE | Appendix B, Page 3, Page 8 | The DPEMP and Appendix B state: “Three potential sources of operational process water are available, and one or more of them might be employed in varying proportions depending on seasonal availability:  
Source A: the Great Forester River system  
Source B: unlined excavation(s) in Tertiary materials exposing the water table  
Source C: one or more extraction bores tapping groundwater in the Tertiary aquifer”  
A draft water management plan will need to better define which sources are going to be used, which will be the main source, which ones are supplementary, and where extraction points will be, etc.  
Based on the current policy and allocations, surface water allocations above the tidal influence are not available. Therefore, surface water is not available, which is contrary to the statement from page 8 of Appendix B:  
“It is understood that there is ample make-up water from the Great Forester River from May to November each year, but not necessarily over the warmer months because it is needed for agricultural use.”  
Therefore, Sources B and C are likely to be the main source (unless some of the surface water allocations expire in the future) and will need to be approved using processes described in the two points above (hydrogeological report, pump testing).  
If water supply is to come from a watercourse, then evidence must be provided that this is available to the | (surface and groundwater) should be linked to the lifetime of the mining operations but subject to the analysis of the monitoring results. |
<table>
<thead>
<tr>
<th>Agency</th>
<th>DPEMP section/page no.</th>
<th>Comments and issues</th>
<th>Additional information required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Management and Assessment Branch, DPIPWE</td>
<td>DPEMP Page 17</td>
<td>proponent, otherwise it appears that the project will be entirely dependent upon groundwater.</td>
<td></td>
</tr>
<tr>
<td>Water Management and Assessment Branch, DPIPWE</td>
<td>DPEMP Page 8, last sentence</td>
<td>Saltwater is mentioned as an unexplained source of water.</td>
<td>Confirm whether saltwater mentioned here is from the tidal zone, or seawater.</td>
</tr>
</tbody>
</table>
| Water Management and Assessment Branch, DPIPWE  | Appendix B             | The following comments were provided:                                                                                                           *The recommendations on page 46 of the report are supported.*  
*All groundwater physical and chemical data (e.g. data logger standing water level, pump test and groundwater quality data) should be recorded in an appropriate database, where possible in GIS format.*  
*The ecological health of the saline wetlands should be considered in the mining extraction plan.*  
*A combined surface/groundwater management plan for the site should be implemented to manage and monitor environmental/ecological risks.*  
*Changes in the geomorphological setting at the site as a result of mining are considered a credible risk. In particular, wind erosion of north-south oriented extraction faces post-closure could retreat off the site into the Waterhouse area.* | See previous comments from Water Management and Assessment Branch regarding the requirements in line with the recommendations provided on p46 of Appendix B.  
Provide comment on the long term geomorphological risks of mining the dunes, particularly with regards to successful rehabilitation of the site and to potential impacts to the adjacent Waterhouse Conservation Area. |
### TABLE 2: OTHER MATTERS RAISED DURING THE PUBLIC CONSULTATION PERIOD

<table>
<thead>
<tr>
<th>Agency</th>
<th>DPEMP Section/page no.</th>
<th>Comments and issues</th>
<th>Further Info requested [yes/no]</th>
<th>EPA Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Policy and Conservation Advice Branch, DPIPWE</td>
<td></td>
<td>A major threat to threatened frog species in Tasmania is the spread of chytrid fungus. It is unclear whether this is a potential impact of this proposal (e.g. by the release of potentially contaminated water into the environment on site). PCAB supports the development of a water management plan, and recommends that measures are developed to ensure that spread of chytrid is not an issue (i.e. that no potentially infected groundwater from outside the catchment is released on site).</td>
<td>No</td>
<td>Measures to ensure the spread of chytrid is managed appropriately should be included in surface water management plans.</td>
</tr>
<tr>
<td>Aboriginal Heritage Tasmanian, DPIPWE</td>
<td>Appendix D - Aboriginal Heritage Survey</td>
<td>The recommendations made in 2013 in regards to the original proposal still apply. Aboriginal Heritage Tasmania (AHT) has completed a search of the Aboriginal Heritage Register (AHR) regarding the proposed sand extraction increase in production at Anderson Bay, and can advise that there are no Aboriginal heritage sites recorded within the proposed extraction zones. A review of the Aboriginal heritage assessment report undertaken by Cultural Heritage Management Australia (CHMA) in February 2016, determined that there would be no impacts to known Aboriginal heritage. All mitigation actions within the report should be followed and the Unanticipated Discovery Plan (UDP), which you should have on hand during ground disturbing works, to aid you in meeting your requirements under the Act. Accordingly there is no requirement for further Aboriginal heritage investigations, and AHT have no objection to the project proceeding.</td>
<td>No</td>
<td>Relevant conditions from the 2014 assessment will likely be carried over to newly imposed conditions.</td>
</tr>
<tr>
<td>Agency</td>
<td>DPEMP Section/page no.</td>
<td>Comments and issues</td>
<td>Further Info requested [yes/no]</td>
<td>EPA Comments</td>
</tr>
<tr>
<td>--------</td>
<td>------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Please be aware that all Aboriginal heritage is protected under the <em>Aboriginal Relics Act 1975</em>. If at any time during works you suspect Aboriginal heritage, cease works immediately and contact AHT for advice.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mineral Resources Tasmania, Department of State Growth (MRT)</td>
<td></td>
<td>Sufficient detail has not been provided in regards to how the sand is to be transported at the Sydney/mainland end of the shipping process. 1,218,750m³ of sand at full mining production equates to 40,625 trucking movements (assuming each truck holds 30m³ per truck &amp; trailer load). Given the traffic congestion issues that are already present in Sydney, there needs to be a detailed account of how sand supply to market will occur and how it will be managed. <em>Note: 1,218,750m³ is the total volume extracted after the domestic Tasmanian market has been provided for as per their existing 50,000 tonne per annum commitment through RNB Superfund Pty Ltd (signed and dated 21/2/2013).</em></td>
<td>MRT require further detail on how sand supply to market will occur, and how it will be managed.</td>
<td>This issue is beyond the scope of the EPA’s environmental assessment of the proposal; It is recommended that this information be provided in the DPEMP.</td>
</tr>
<tr>
<td>MRT</td>
<td></td>
<td>The proposal as it stands is to ship sand into Sydney’s Glebe Island. This has implications for understanding where the boundary of the mining lease needs to be situated. Only once MRT understand what capacity exists at the receiving port and its storage, and what the implications trucking to market creates on local traffic, can we understand how much sand is likely to be shipped. This impacts the size of ship and therefore how far from shore the ship(s) need to be in order to be in sufficiently deep water for safe loading purposes.</td>
<td>MRT require further detail in order to understand what lease area and its location is required to provide for the successful operation of the project.</td>
<td>See comment above. Any future EPA assessment of the offshore proposal will likely be based around the boundaries of the mining lease area.</td>
</tr>
<tr>
<td>MRT</td>
<td>1.1, page 72</td>
<td><em>Sand Transport Operations</em> – states in 2nd paragraph “Initially only two pipelines may be installed where the buoy may be located closer to shore during initial production” and further below.</td>
<td>Yes</td>
<td>This issue relates partly to this current proposal (i.e. the works above the low water mark) and partly to the proposed offshore buoy. Detailed information will be required by MRT for purposes of...</td>
</tr>
<tr>
<td>Agency</td>
<td>DPEEMP Section/page no.</td>
<td>Comments and issues</td>
<td>Further Info requested [yes/no]</td>
<td>EPA Comments</td>
</tr>
<tr>
<td>--------</td>
<td>--------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-------------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>MRT</td>
<td>1.2, page 73</td>
<td><em>Ship Loading and Shipping</em> – paragraph 1 states “Ships, of expected 30,000 to 45,000 tonnes capacity will be loaded from the SPM floating buoy. As discussed previously, the buoy may initially be closer to the coast when smaller ships are loaded”. This provides insufficient information for the assessment of the mining lease application to be completed.</td>
<td>Required by MRT for purposes of assessment of the new mining lease application.</td>
<td>This issue relates to the proposed offshore loading facility. Detailed information will likely be required by agencies such as MRT and Marine and Safety Tasmania (MaST) in relation to shipping plans and the buoy location. In the future assessment by the EPA of the offshore proposal, finalised locational details of the buoy and pipeline(s) must be provided.</td>
</tr>
<tr>
<td>MRT</td>
<td>Page 73</td>
<td>Bottom paragraph states “Detailed designs of the SPM system will be provided to MaST as part of their later approval process”. This has direct implications for the location of the HDPE pipelines and therefore the location of the mining lease boundary and this provides insufficient information for the mining lease assessment to be completed.</td>
<td>Required by MRT for purposes of assessment of the new mining lease application.</td>
<td>This issue relates to the proposed offshore loading facility. Detailed information will likely be required by agencies such as MRT and Marine and Safety Tasmania (MaST) in relation to shipping plans and the buoy location. In the future assessment by the EPA of the offshore proposal, finalised locational details of the buoy and pipeline(s) will need to be provided.</td>
</tr>
<tr>
<td>MRT</td>
<td>Page 74</td>
<td>Paragraph 1 states “The sea conditions in the area are benign with the area not exposed to swells…at this site these conditions are extremely rare”. Strict and explicit weather limits.</td>
<td>This information will be required for the future EPA.</td>
<td>This issue relates to the proposed offshore loading facility. Detailed information will likely be required by agencies such as MRT and Marine and Safety Tasmania.</td>
</tr>
<tr>
<td>Agency</td>
<td>DPEMP Section/page no.</td>
<td>Comments and issues</td>
<td>Further Info requested [yes/no]</td>
<td>EPA Comments</td>
</tr>
<tr>
<td>--------</td>
<td>------------------------</td>
<td>---------------------</td>
<td>---------------------------------</td>
<td>--------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td>for shipping operations must be identified as part of the safe management of the operation and should be provided as part of the DPEMP so that operational issues are understood with respect to potential environmental impacts.</td>
<td>assessment of the offshore loader.</td>
<td>(MaST) in relation to shipping plans and the buoy location. In the future assessment by the EPA of the offshore proposal, these details will be required.</td>
</tr>
<tr>
<td>MRT</td>
<td>Section 1.3, Page 74</td>
<td>Construction – regarding installation of HDPE pipelines – as per previous comments regarding methods of construction and environmental impacts and mitigation strategies.</td>
<td>Yes – details of onshore works for this EPA assessment. This information will be required for the future EPA assessment of the offshore loader. Required by MRT for purposes of assessment of the new mining lease application.</td>
<td>Confirm construction details of pipeline both onshore (for this proposal) and offshore (for future EPA assessment for offshore proposal), and provide details of environmental risks and proposed mitigation strategies.</td>
</tr>
<tr>
<td>MRT</td>
<td>Section 1.4, Page 75</td>
<td>Marine Infrastructure 1.4.1 Support Facilities – provides insufficient information for the assessment to be completed.</td>
<td>Required by MRT for purposes of assessment of the new mining lease application.</td>
<td></td>
</tr>
<tr>
<td>MRT</td>
<td>Section 1.8, Page 75</td>
<td><em>Operational protocols</em> – provides insufficient information for the assessment to be completed.</td>
<td>Required by MRT for purposes of assessment of the new mining lease application, and likely required by other agencies assessing/approving the offshore/shipping component of the proposal.</td>
<td></td>
</tr>
<tr>
<td>Agency</td>
<td>DPEMP Section/page no.</td>
<td>Comments and issues</td>
<td>Further Info requested [yes/no]</td>
<td>EPA Comments</td>
</tr>
<tr>
<td>--------</td>
<td>------------------------</td>
<td>---------------------</td>
<td>---------------------------------</td>
<td>--------------</td>
</tr>
<tr>
<td>MRT</td>
<td>Table 2.1, Page 80</td>
<td>Table is in draft form and therefore provides insufficient information for the assessment to be considered and completed.</td>
<td>Required by MRT for purposes of assessment of the new mining lease application, and likely required by other agencies assessing/approving the offshore/shipping component of the proposal.</td>
<td>Provide finalised data.</td>
</tr>
<tr>
<td>MRT</td>
<td>Section 2.2.2.3, Page 80</td>
<td><em>Contaminants</em> – the samples have not been tested which means there is no baseline data, and there is no knowledge of whether there is contamination or not. Despite the fact that the probability is low, this is an unknown until the testing is undertaken.</td>
<td>Required by MRT for purposes of assessment of the new mining lease application, and likely required by other agencies assessing/approving the offshore/shipping component of the proposal.</td>
<td>Results of testing for contamination of sediments should be provided. This will also be a requirement of the EPA’s offshore assessment.</td>
</tr>
<tr>
<td>MRT</td>
<td>Section 3.2.2</td>
<td>Section does not provide sufficient information for the MRT assessment to be completed, in light of Section 78A(f) of the <em>Mineral Resources Development Act 1995</em> which relates to sufficient information on the likely impact on the environment.</td>
<td>Required by MRT for purposes of assessment of the new mining lease application, and likely required by other agencies assessing/approving the offshore/shipping component of the proposal.</td>
<td>Detailed plans for emergency and oil spill response must be provided and will be a requirement of the EPA’s offshore assessment, and a likely requirement of other relevant agencies involved in the assessment/decision on the offshore facility. Reliance on generic shipping company plans is not sufficient – planning should be undertaken specifically for this proposal, in this location, in respect to the specific environment and conditions.</td>
</tr>
<tr>
<td>Agency</td>
<td>DPEMP Section/page no.</td>
<td>Comments and issues</td>
<td>Further Info requested [yes/no]</td>
<td>EPA Comments</td>
</tr>
<tr>
<td>--------</td>
<td>-----------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>MRT</td>
<td>Table 3.2, page 85</td>
<td>Under ‘Waste/potential for spills’, more information is required on how containment of waste at mooring and surrounds will be achieved.</td>
<td>Required by MRT for purposes of assessment of the new mining lease application, and likely required by other agencies assessing/approving the offshore/shipping component of the proposal.</td>
<td>Details on ‘contain waste at site of mooring and surrounds’ will be achieved will be a requirement of the EPA’s offshore assessment.</td>
</tr>
<tr>
<td>MRT</td>
<td>Table 3.2, page 85</td>
<td>Shading and sedimentation impacts to sea grass and other marine organisms require further investigation.</td>
<td>Required by MRT for purposes of assessment of the new mining lease application, and likely required by other agencies assessing/approving the offshore/shipping component of the proposal.</td>
<td>Consider shading and sedimentation impacts to sea grass and other marine organisms. This will be relevant to the EPA’s offshore assessment.</td>
</tr>
<tr>
<td>MRT</td>
<td>Table 3.2</td>
<td>Table does not include an assessment of the risk and consequences of ship capsize.</td>
<td>Include assessments of risk/consequences of ship capsize.</td>
<td>This should be included in any hazard analysis for the offshore aspect of the proposal, and will be relevant to the EPA’s offshore assessment in relation to the risks to the environment from such an occurrence.</td>
</tr>
<tr>
<td>MRT</td>
<td>Table 3.3</td>
<td>Risk assessment – ship detachment – provides insufficient information to assessment of mining lease application to be completed.</td>
<td>Required by MRT for purposes of assessment of the new mining lease application, and likely required by other agencies assessing/approving the offshore/shipping component of the proposal.</td>
<td>This should be included in any hazard analysis for the offshore aspect of the proposal, and will be relevant to the EPA’s offshore assessment in relation to the risks to the environment from such an occurrence.</td>
</tr>
<tr>
<td>Agency</td>
<td>DPEMP Section/page no.</td>
<td>Comments and issues</td>
<td>Further Info requested [yes/no]</td>
<td>EPA Comments</td>
</tr>
<tr>
<td>--------------------------------------------</td>
<td>------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>---------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Water Management and Assessment Branch, DPIPWE</td>
<td>DPEMP Page 16</td>
<td>Given that the proposed 5 – 10 ML dam(s) will be integral to the project, then Council must refer the dam works to the Minister (delegate in Water Management Branch) under s165 of the Water Management Act 1999. This limits consideration to dam safety/engineering aspects; however any response from the Minister is then taken to waive the requirements for a Division 3 Dam Works Permit. In order to consider the dam safety/engineering, design plans, specifications, and Consequence Category assessments are required under the Water Management (Safety of Dams) Regulations 2015. These have not been provided in the DPEMP. Should a formal referral arrive to the Water Management and Assessment Branch without this information, it is most likely that a Notice will be issued; this will delay the progression of the development application (s165F(5)).</td>
<td>Further information required by Water Management and Assessment Branch.</td>
<td>assessing/approving the offshore/shipping component of the proposal.</td>
</tr>
</tbody>
</table>
## Appendix 3 Permit Conditions - Environmental No. 9341
PERMIT PART B
PERMIT CONDITIONS - ENVIRONMENTAL No. 9341

Issued under the *Environmental Management and Pollution Control Act 1994*

Activity: The operation of a sand mine (ACTIVITY TYPE: Crushing, grinding, milling or separating into different sizes (rocks, ores or minerals))
ANDERSON BAY SAND MINE,
BRIDPORT TAS 7262

The above activity has been assessed as a level 2 activity under the *Environmental Management and Pollution Control Act 1994*.

Acting under Section 25(5)(a)(i) of the EMPCA, the Board of the Environment Protection Authority has required that this Permit Part B be included in any Permit granted under the *Land Use Planning and Approvals Act 1993* with respect to the above activity.

Municipality: DORSET
Permit Application Reference: 2016/63
EPA file reference: 244877

Date conditions approved: 03 OCT 2017

Signed: 
CHAIRPERSON, BOARD OF THE ENVIRONMENT PROTECTION AUTHORITY
DEFINITIONS

Unless the contrary appears, words and expressions used in this Permit Part B have the meaning given to them in Schedule 1 of this Permit and in the EMPCA. If there is any inconsistency between a definition in the EMPCA and a definition in this Permit Part B, the EMPCA prevails to the extent of the inconsistency.

ENVIRONMENTAL CONDITIONS

The person responsible for the activity must comply with the conditions contained in Schedule 2 of this Permit Part B.

INFORMATION

Attention is drawn to Schedule 3, which contains important additional information.
# Table Of Contents

Schedule 1: Definitions ......................................................................................................................... 5

Schedule 2: Conditions .......................................................................................................................... 7

**Maximum Quantities** ......................................................................................................................... 7
  Q1 Regulatory limits ............................................................................................................................. 7

**General** ................................................................................................................................................. 7
  G1 Access to and awareness of conditions and associated documents ............................................... 7
  G2 Incident response ............................................................................................................................ 7
  G3 No changes without approval ........................................................................................................ 7
  G4 Change of responsibility ............................................................................................................... 7
  G5 Notification prior to commencement .......................................................................................... 7
  G6 Complaints register ..................................................................................................................... 7
  G7 Annual Environmental Review ................................................................................................... 8
  G8 Environmental Management Plan and review thereof ................................................................. 9
  G9 Potential Acid Sulphate Soils Assessment .................................................................................... 9
  G10 Notification prior to commencement ......................................................................................... 9

**Atmospheric** ......................................................................................................................................... 9
  A1 Control of dust emissions ............................................................................................................... 9
  A2 Covering of vehicles ..................................................................................................................... 9

**Decommissioning And Rehabilitation** ............................................................................................. 10
  DC1 Stockpiling of surface soil .......................................................................................................... 10
  DC2 Progressive rehabilitation .......................................................................................................... 10
  DC3 Temporary suspension of activity .............................................................................................. 10
  DC4 Notification of cessation .......................................................................................................... 10
  DC5 Mining and Rehabilitation Plan .................................................................................................. 10
  DC6 Rehabilitation on cessation ....................................................................................................... 11

**Effluent Disposal** ................................................................................................................................ 11
  E1 Perimeter drains ............................................................................................................................ 11
  E2 Stormwater ..................................................................................................................................... 11
  E3 Maintenance of settling ponds ....................................................................................................... 11

**Flora And Fauna** ................................................................................................................................... 12
  FF1 Washdown Guidelines ................................................................................................................. 12
  FF2 Nest surveys for shore birds ....................................................................................................... 12

**Groundwater** ....................................................................................................................................... 12
  GW1 Maintenance of floor level ......................................................................................................... 12

**Hazardous Substances** ..................................................................................................................... 12
  H1 Storage and handling of hazardous materials .............................................................................. 12
  H2 Hazardous materials (< 250 litres) ............................................................................................... 13
  H3 Spill kits .......................................................................................................................................... 13

**Noise Control** ..................................................................................................................................... 13
  N1 Noise emission limits ................................................................................................................... 13
  N2 Noise complaints .......................................................................................................................... 14
  N3 Noise survey requirements ......................................................................................................... 14
  N4 Noise Survey Method and Reporting .......................................................................................... 14

**Operations** .......................................................................................................................................... 15
  OP1 Weed and Disease Management Plan ....................................................................................... 15
  OP2 Extraction areas .......................................................................................................................... 15

Schedule 3: Information .......................................................................................................................... 16

**Legal Obligations** .............................................................................................................................. 16
  LO1 EMPCA ......................................................................................................................................... 16
LO2 Storage and handling of dangerous goods, explosives and dangerous substances............................................................................................................. 16
LO3 Aboriginal relics requirements..................................................................................... 16
Other Information..................................................................................................................... 17
OI1 Waste management hierarchy............................................................................................. 17
OI2 Notification of incidents under section 32 of EMPCA ............................................................. 17
OI3 Commitments..................................................................................................................... 17

Attachments
Attachment 1: The Land (modified: 04/10/2017 13:03).............................................................. 1 page
Attachment 2: Sand Extraction Area (modified: 29/08/2017 10:31).............................................................. 1 page
Attachment 3: Wetland Buffer Areas (modified: 28/08/2017 17:30).............................................................. 1 page
Attachment 4: Commitments (modified: 25/09/2017 14:21).............................................................. 3 pages
Schedule 1: Definitions

In this Permit Part B:-

Aboriginal Relic has the meaning described in section 2(3) of the Aboriginal Heritage Act 1975.

Activity means any environmentally relevant activity (as defined in Section 3 of EMPCA) to which this document relates, and includes more than one such activity.

Authorized Officer means an authorized officer under section 20 of EMPCA.

Control Location (Noise) means a location chosen to represent the general ambient sound without contribution from noise sources at the activity.

Director means the Director, Environment Protection Authority holding office under Section 18 of EMPCA and includes a person authorised in writing by the Director to exercise a power or function on the Director's behalf.

DPEMP means the document titled Mr Richard Sattler - Anderson Bay Sand Extraction Increase in Production and Offshore Sand Loading Facility - Development Proposal and Environmental Management Plan - Final dated July 2016, prepared by John Miedecke and Partners Pty Ltd, as may be amended from time to time with written approval from the Director.


Environmental Harm and Material Environmental Harm and Serious Environmental Harm each have the meanings ascribed to them in Section 5 of EMPCA.

Environmental Nuisance and Pollutant each have the meanings ascribed to them in Section 3 of EMPCA.

Environmentally Hazardous Material means any substance or mixture of substances of a nature or held in quantities which present a reasonably foreseeable risk of causing serious or material environmental harm if released to the environment and includes fuels, oils, waste and chemicals but excludes sewage.

Noise Sensitive Premises means residences and residential zones (whether occupied or not), schools, hospitals, caravan parks and similar land uses involving the presence of individual people for extended periods, except in the course of their employment or for recreation.

Person Responsible is any person who is or was responsible for the environmentally relevant activity to which this document relates and includes the officers, employees, contractors, joint venture partners and agents of that person, and includes a body corporate.

Quarry Code Of Practice means the document of this title published by the Environment Protection Authority in May 2017, and includes any subsequent versions of this document.

Tasmanian Acid Sulfate Soil Management Guidelines means the document titled Tasmanian Acid Sulfate Soil Management Guidelines, by the Department of Primary Industries, Parks, Water and Environment, dated December 2009, and any amendment to or substitution of this document.

The Land means the land on which the activity to which this document relates may be carried out, and includes: buildings and other structures permanently fixed to the land, any part of the land covered with water, and any water covering the land. The Land falls within the area defined by:

1. A portion of Title Reference 242847/1 and 244898/4, which includes the south-western portion of the Mining Lease 1957P/M; and
2. The portion of Title References 242847/1 and 130153/2, and the Public Reserve Tenure ID 31870 extending to the Low Water Mark, which correspond to Mining Lease 2007P/M; and
3. As delineated at Attachment 1.

Washdown Guidelines means the document titled Weed and Disease Planning and Hygiene Guidelines - Preventing the spread of weeds and diseases in Tasmania, by the Department of Primary Industries, Parks, Water and Environment, dated March 2015, and any amendment to or substitution of this document.

Weed means a declared weed as defined in the Weed Management Act 1999.

Works has the meaning ascribed to it in Part 1(3) of the Land Use Planning and Approvals Act 1993.
Schedule 2: Conditions

Maximum Quantities

Q1 Regulatory limits
  1 The activity must not exceed the following limits:
     1.1 1,250,000 cubic metres per year of rocks, ores or minerals processed.

General

G1 Access to and awareness of conditions and associated documents
A copy of these conditions and any associated documents referred to in these conditions must
be held in a location that is known to and accessible to the person responsible for the activity.
The person responsible for the activity must ensure that all persons who are responsible for
undertaking work on The Land, including contractors and sub-contractors, are familiar with
these conditions to the extent relevant to their work.

G2 Incident response
If an incident causing or threatening environmental nuisance, serious environmental harm or
material environmental harm from pollution occurs in the course of the activity, then the
person responsible for the activity must immediately take all reasonable and practicable action
to minimise any adverse environmental effects from the incident.

G3 No changes without approval
  1 The following changes, if they may cause or increase the emission of a pollutant which
     may cause material or serious environmental harm or environmental nuisance, must
     only take place in relation to the activity if such changes have been approved in writing
     by the EPA Board following its assessment of an application for a permit under the
     Land Use Planning and Approvals Act 1993, or approved in writing by the Director:
        1.1 a change to a process used in the course of carrying out the activity; or
        1.2 the construction, installation, alteration or removal of any structure or equipment
            used in the course of carrying out the activity; or
        1.3 a change in the quantity or characteristics of materials used in the course of
            carrying out the activity.

G4 Change of responsibility
If the person responsible for the activity intends to cease to be responsible for the activity, that
person must notify the Director in writing of the full particulars of any person succeeding him
or her as the person responsible for the activity, before such cessation.

G5 Notification prior to commencement
The Director must be notified in writing of the commencement of operations at least 14 days
before that occurs.

G6 Complaints register
  1 A public complaints register must be maintained and made available for inspection by
     an Authorized Officer upon request. The public complaints register must, as a
     minimum, record the following detail in relation to each complaint received in which it
     is alleged that environmental harm (including an environmental nuisance) has been
     caused by the activity:
        1.1 the date and time at which the complaint was received;
1.2 contact details for the complainant (where provided);
1.3 the subject-matter of the complaint;
1.4 any investigations undertaken with regard to the complaint; and
1.5 the manner in which the complaint was resolved, including any mitigation measures implemented.

2 Complaint records must be maintained for a period of at least 3 years.

**G7 Annual Environmental Review**

1 Unless otherwise specified in writing by the Director, a publicly available Annual Environmental Review for the activity must be submitted to the Director each year within three months of the end of the reporting period. Without limitation, each Annual Environmental Review must include the following information:

1.1 a statement by the General Manager, Chief Executive Officer or equivalent for the activity acknowledging the contents of the Annual Environmental Review;
1.2 subject to the *Personal Information Protection Act 2004*, a list of all complaints received from the public during the reporting period concerning actual or potential environmental harm or environmental nuisance caused by the activity and a description of any actions taken as a result of those complaints;
1.3 details of environment-related procedural or process changes that have been implemented during the reporting period;
1.4 a summary of the amounts (tonnes or litres) of both solid and liquid wastes produced and treatment methods implemented during the reporting period. Initiatives or programs planned to avoid, minimise, re-use, or recycle such wastes over the next reporting period should be detailed;
1.5 details of all non-trivial environmental incidents and/or incidents of non-compliance with permit or environment protection notice conditions that occurred during the reporting period, and any mitigative or preventative actions that have resulted from such incidents;
1.6 a summary of the monitoring data and record keeping required by these conditions. This information should be presented in graphical form where possible, including comparison with the results of at least the preceding reporting period. Special causes and system changes that have impacted on the parameters monitored must be noted. Explanation of significant deviations between actual results and any predictions made in previous reports must be provided;
1.7 identification of breaches of limits specified in these conditions and significant variations from predicted results contained in any relevant DPEMP or EMP, an explanation of why each identified breach of specified limits or variation from predictions occurred and details of the actions taken in response to each identified breach of limits or variance from predictions;
1.8 a list of any issues, not discussed elsewhere in the report, that must be addressed to improve compliance with these conditions, and the actions that are proposed to address any such issues;
1.9 a summary of fulfilment of environmental commitments made for the reporting period. This summary must include indication of results of the actions implemented and explanation of any failures to achieve such commitments; and
1.10 a summary of any community consultation and communication undertaken during the reporting period.
G8 Environmental Management Plan and review thereof

1 Unless otherwise specified in writing by the Director, an Environmental Management Plan - Operations ('EMP Operations') for the activity must be submitted to the Director by whichever of the following dates occurs first and at five yearly intervals thereafter:
   1.1 In the case of the Director having approved a previous Environmental Management Plan, the fifth anniversary of the date of that approval;
   1.2 The fifth anniversary of the date on which these conditions take effect; or
   1.3 A date specified in writing by the Director.

2 The EMP Operations must include a statement by the General Manager, Chief Executive Officer or equivalent for the activity acknowledging the contents of the EMP Operations.

3 The EMP Operations must detail the potential environmental impacts arising from the ongoing operation of the activity over the next 5 years, including a strategic consideration of potential changes to the activity during that period and consideration of opportunities to implement continuous improvement.

4 The EMP Operations must separately identify specific commitments, with actions and timeframes, to mitigate or prevent the identified potential environmental impacts. In preparing the EMP Operations the person responsible must take into account the contents of any previous annual environmental reviews including complaints, incidents and monitoring data.

5 If the Director issues guidelines for preparation of the EMP Operations, the EMP Operations must address the matters listed in those guidelines.

G9 Potential Acid Sulphate Soils Assessment

1 Within three (3) months of the date on which Pleistocene marine deposits are intersected in the course of conduct of the activity, a Potential Acid Sulphate Soil Assessment Report must be submitted to the Director.

2 The Report must include details of the following:
   2.1 The results of sampling and analysis conducted in accordance Appendix B of the Tasmanian Acid Sulphate Soil Management Guidelines.
   2.2 A determination of the need for an Acid Sulphate Soil Management Plan in accordance with the action criteria specified in Table 2, Appendix B of the Guidelines.

G10 Notification prior to commencement

The Director must be notified in writing of the commencement of Works at least 14 days before that occurs.

Atmospheric

A1 Control of dust emissions
Dust emissions from The Land must be controlled to the extent necessary to prevent environmental nuisance beyond the boundary of The Land.

A2 Covering of vehicles
Vehicles carrying loads containing material which may blow or spill must be equipped with effective control measures to prevent the escape of the materials from the vehicles when they leave The Land or travel on public roads. Effective control measures may include tarpaulins or load dampening.
Decommissioning And Rehabilitation

DC1 Stockpiling of surface soil
Prior to commencement of extractive activities on any portion of The Land, surface soils must be removed in that portion of The Land to be disturbed by the conduct of the activity and stockpiled for later use in rehabilitation of The Land. Topsoil must be kept separate from other overburden and protected from erosion or other disturbance.

DC2 Progressive rehabilitation
Worked out or disused sections of The Land must be rehabilitated concurrently with extractive activities on other sections of The Land. Progressive rehabilitation must be carried out in accordance with the relevant provisions of the Quarry Code of Practice, unless otherwise approved in writing by the Director. The maximum disturbed area of land which may remain, at any time, without rehabilitation is four hectares.

DC3 Temporary suspension of activity
1 Within 30 days of becoming aware of any event or decision which is likely to give rise to the temporary suspension of the activity, the person responsible for the activity must notify the Director in writing of that event or decision. The notice must specify the date upon which the activity is expected to suspend or has suspended.
2 During temporary suspension of the activity:
   2.1 The Land must be managed and monitored by the person responsible for the activity to ensure that emissions from The Land do not cause serious environmental harm, material environmental harm or environmental nuisance; and
   2.2 If required by the Director a Care and Maintenance Plan for the activity must be submitted, by a date specified in writing by the Director, for approval. The person responsible must implement the approved Care and Maintenance Plan, as may be amended from time to time with written approval of the Director.
3 Unless otherwise approved in writing by the Director, if the activity on The Land has substantially ceased for 2 years or more, rehabilitation of The Land must be carried out in accordance with the requirements of these conditions as if the activity has permanently ceased.

DC4 Notification of cessation
Within 30 days of becoming aware of any event or decision which is likely to give rise to the permanent cessation of the activity, the person responsible for the activity must notify the Director in writing of that event or decision. The notice must specify the date upon which the activity is expected to cease or has ceased.

DC5 Mining and Rehabilitation Plan
1 Unless otherwise approved in writing by the Director, a Mining and Rehabilitation Plan (Plan) must be submitted for the Director's approval within six (6) months of the date on which these conditions take effect. The Plan must be consistent with the Acceptable Standards provisions of the Quarry Code of Practice and must include, but not necessarily be limited to:
   1.1 progressive extractive measures and procedures;
   1.2 details of rehabilitation resource management;
   1.3 progressive rehabilitation measures for worked out areas;
   1.4 details about rehabilitated landscape features, including artificial wetlands; and
   1.5 details of any revised maximum disturbed area of the land which may remain, at any time, without rehabilitation.

CHAIRPERSON, BOARD OF THE ENVIRONMENT PROTECTION AUTHORITY
2 The person responsible must implement the approved Plan.

3 In the event that the Director, by notice in writing to the person responsible, either approves a minor variation to the approved Plan or approves a new Plan in substitution for the plan originally approved, the person responsible must implement and act in accordance with the varied Plan or the new Plan, as the case may be.

DC6 Rehabilitation on cessation

1 Unless otherwise approved in writing by the Director, rehabilitation upon permanent cessation of the activity must be undertaken in accordance with the most recent approved Mining and Rehabilitation Plan and in accordance with the following:

1.1 rehabilitation earthworks must be substantially completed within 12 months of cessation of the activity; and

1.2 rehabilitated areas must be monitored and maintained for a period of at least three years after rehabilitation works have been substantially completed, after which time the person responsible may apply in writing to the Director for a written statement that rehabilitation has been successfully completed.

Effluent Disposal

E1 Perimeter drains

1 Perimeter cut-off drains must be constructed at strategic locations on The Land to prevent surface run-off from entering the area used or disturbed in carrying out the activity. All reasonable measures must be implemented to ensure that sediment transported along these drains remains on The Land. Such measures may include provision of strategically located sediment fences, appropriately sized and maintained sediment settling ponds, vegetated swales, detention basins and other measures designed and operated in accordance with the principles of Water Sensitive Urban Design.

2 Drains must have sufficient capacity to contain run-off that could reasonably be expected to arise during a 1 in 20 year rainfall event. Maintenance activities must be undertaken regularly to ensure that this capacity does not diminish.

E2 Stormwater

1 Polluted stormwater that will be discharged from The Land must be collected and treated prior to discharge to the extent necessary to prevent serious or material environmental harm, or environmental nuisance.

2 Notwithstanding the above, all stormwater that is discharged from The Land must not carry pollutants such as sediment, oil and grease in quantities or concentrations that are likely to degrade the visual quality of any receiving waters outside The Land.

3 All reasonable measures must be implemented to ensure that solids entrained in stormwater are retained on The Land. Such measures may include appropriately sized and maintained sediment settling ponds or detention basins.

E3 Maintenance of settling ponds

Sediment settling ponds must be periodically cleaned out to ensure that the pond design capacity is maintained. Sediment removed during this cleaning must be securely deposited such that sediment will not be transported off The Land by surface run-off.
Flora And Fauna

FF1 Washdown Guidelines
Prior to entering the land, machinery must be washed in accordance with the Washdown Guidelines, or any subsequent revisions of that document.

FF2 Nest surveys for shore birds
1 No more than 30 days prior to the commencement of any works on The Land, or by a date specified in writing by the Director, if the works are to occur between the breeding season months specified in Column 2 of Table 1 at Part 2 of this condition, a foot-based nest survey must be conducted.

2 Table 1 - Nest survey - species and breeding season

<table>
<thead>
<tr>
<th>Column 1: Species</th>
<th>Column 2: Breeding season</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hooded plover (Thinornis rubricollis)</td>
<td>August to March (inclusive)</td>
</tr>
<tr>
<td>Pied oystercatched (Haematopus longirostris)</td>
<td>August to March (inclusive)</td>
</tr>
<tr>
<td>Little tern (Sterna albifrons sinensis)</td>
<td>August to March (inclusive)</td>
</tr>
</tbody>
</table>

3 The survey(s) must be conducted by a person(s) appropriately qualified in the identification of these species and their habitats.

4 A report outlining the findings of the survey must be submitted to the Director.

5 The presence of nests identified during a foot-based nest survey must be brought to the attention of the Director immediately upon completion of the survey.

6 No vegetation clearance or construction activities, including foot and vehicular traffic, are to take place in the vicinity of nest(s) identified during a foot-based nest survey until outside of the breeding period specified in Column 2 of Table 2 of this condition, or until the nest(s) is(are) confirmed vacated.

Groundwater

GW1 Maintenance of floor level
1 Unless otherwise approved in writing by the Director:
   1.1 Sand must not be extracted within 1 metre of the winter maximum groundwater level.

   1.2 Notwithstanding 1.1, in the event standing water enters or is observed in the "Sand Extraction Area" as designated in Attachment 2, the following measures must be taken:
      1.2.1 machinery is not permitted to operate in the standing water; and
      1.2.2 the floor level of the extractive activity must be raised by the addition of sand to prevent the occurrence of the standing water.

Hazardous Substances

H1 Storage and handling of hazardous materials
1 Unless otherwise approved in writing by the Director, all environmentally hazardous materials, including all chemicals, fuels, and oils, stored on The Land in volumes exceeding 250 litres must be stored and handled in accordance with the following:

   1.1 Any storage facility must be contained within a spill collection bund with a net capacity of whichever is the greater of the following:
1.1.1 at least 110% of the combined volume of any interconnected vessels within that bund; or
1.1.2 at least 110% of the volume of the largest storage vessel; or
1.1.3 at least 25% of the total volume of all vessels stored in that spill collection bund; or
1.1.4 the capacity of the largest tank plus the output of any firewater system over a twenty minute period.

1.2 All activities that involve a significant risk of spillages, including the loading and unloading of bulk materials, must take place in a bunded containment area or on a transport vehicle loading apron.

1.3 Bunded containment areas and transport vehicle loading aprons must:
   1.3.1 be made of materials that are impervious to any environmentally hazardous material stored within the bund;
   1.3.2 be graded or drained to a sump to allow recovery of liquids;
   1.3.3 be chemically resistant to the chemicals stored or transferred;
   1.3.4 be designed and managed such that any leakage or spillage is contained within the bunded area (including where such leakage emanates vertically higher than the bund wall);
   1.3.5 be designed and managed such that the transfer of materials is adequately controlled by valves, pumps and meters and other equipment wherever practical. The equipment must be adequately protected (for example, with bollards) and contained in an area designed to permit recovery of any released chemicals;
   1.3.6 be designed such that chemicals which may react dangerously if they come into contact have measures in place to prevent mixing; and
   1.3.7 be managed such that the capacity of the bund is maintained at all times (for example, by regular inspections and removal of obstructions).

H2 Hazardous materials (< 250 litres)
   1 Unless otherwise approved in writing by the Director, each environmentally hazardous material, including chemicals, fuels and oils, stored on The Land in discrete volumes not exceeding 250 litres, but not including discrete volumes of 25 litres or less, must be stored within bunded containment areas or spill trays which are designed and maintained to contain at least 110% of the volume of the largest container.
   2 Bunded containment areas and spill trays must be made of materials that are impervious to any environmentally hazardous materials stored within the bund or spill tray.

H3 Spill kits
Spill kits appropriate for the types and volumes of materials handled on The Land must be kept in appropriate locations to assist with the containment of spilt environmentally hazardous materials.

Noise Control

N1 Noise emission limits
   1 Noise emissions from the activity when measured at any noise sensitive premises in other ownership and expressed as the equivalent continuous A-weighted sound pressure level must not exceed:
      1.1 45 dB(A) between 0700 hours and 1800 hours (Day time); and
      1.2 40 dB(A) between 1800 hours and 2200 hours (Evening time); and
1.3 35 dB(A) between 2200 hours and 0700 hours (Night time).

2 Where the combined level of noise from the activity and the normal ambient noise exceeds the noise levels stated above, this condition will not be considered to be breached unless the noise emissions from the activity are audible and exceed the ambient noise levels by at least 5 dB(A).

3 The time interval over which noise levels are averaged must be 10 minutes or an alternative time interval specified in writing by the Director.

4 Measured noise levels must be adjusted for tonality, impulsiveness, modulation and low frequency in accordance with the Tasmanian Noise Measurement Procedures Manual.

5 All methods of measurement must be in accordance with the Tasmanian Noise Measurement Procedures Manual.

N2 Noise complaints
In the event that a noise complaint is received in relation to the activity, the complaint must be reported to the Director within 24 hours.

N3 Noise survey requirements
1 Unless otherwise approved by the Director, a noise survey must be carried out and the results provided in writing to the Director:
1.1 within 60 days from the date on which sand extraction commences; and
1.2 within six (6) months of any change to the activity which is likely to substantially alter the character or increase the volume of noise emitted from The Land; and
1.3 at such other times as may reasonably be required by the Director by notice in writing.

N4 Noise Survey Method and Reporting
1 Prior to undertaking a noise survey as required by these conditions, a proposed noise survey method must be submitted to the Director for approval.

2 Without limitation, the survey method must address the following:
2.1 measurements must be carried out at day, evening and night times (where applicable) at each location; and
2.2 measurement locations, and the number thereof, must be specified, with one location established as a control location (noise).

3 Measurements and data recorded during the survey must include:
3.1 operational status of noise producing equipment and throughput of the activity;
3.2 subjective descriptions of the sound at each location;
3.3 details of meteorological conditions relevant to the propagation of noise; and
3.4 the equivalent continuous (L eq ) and L 1 , L 10 , L 50 , L 90 and L 99 A-weighted sound pressure levels measured over a period of 10 minutes or an alternative time interval specified by the Director.

4 A noise survey report must be forwarded to the Director within 30 days from the date on which the noise survey is completed.

5 The noise survey report must include the following:
5.1 the results and interpretation of the measurements required by these conditions;
5.2 a map of the area surrounding the activity with the boundary of The Land, measurement locations, and noise sensitive premises clearly marked on the map;
5.3 any other information that will assist with interpreting the results and whether the activity is in compliance with these conditions and EMPCA; and
5.4 recommendations of appropriate mitigation measures to manage any noise problems identified by the noise survey.

**Operations**

**OP1 Weed and Disease Management Plan**

1. Within three (3) months of the commencement of construction and/or extractive activities on The Land (whichever occurs first), or by a date otherwise specified in writing by the Director, a Weed and Disease Management Plan (Plan) must be submitted to the Director for approval. This requirement will be deemed to be satisfied only when the Director indicates in writing that the submitted document adequately addresses the requirements of this condition.

2. The Plan must be consistent with the Washdown Guidelines.

3. The person responsible must implement and act in accordance with the approved Plan.

4. In the event that the Director, by notice in writing to the person responsible, either approves a minor variation to the approved Plan or approves a new Plan in substitution for the Plan originally approved, the person responsible must implement and act in accordance with the varied Plan or the new Plan, as the case may be.

**OP2 Extraction areas**

1. Unless otherwise approved in writing by the Director, sand must only be mined from within the area delineated as "Sand Extraction Area" in Attachment 2.

2. Sand must not be mined and machinery operated within 25 metres from the water of the wetlands as designated at Attachment 3.

3. Unless otherwise approved in writing by the Director, within 60 days of the date on which these conditions take effect the person responsible must:

   3.1 delineate with a fence or other similar method approved in writing by the Director the interface between the "Sand Extraction Area" designated in Attachment 2 and wetlands as designated at Attachment 3; and

   3.2 there must be no disturbance of the areas beyond this fence.
Schedule 3: Information

Legal Obligations

LO1  EMPCA
The activity must be conducted in accordance with the requirements of the Environmental Management and Pollution Control Act 1994 and Regulations thereunder. The conditions of this document must not be construed as an exemption from any of those requirements.

LO2  Storage and handling of dangerous goods, explosives and dangerous substances
1 The storage, handling and transport of dangerous goods, explosives and dangerous substances must comply with the requirements of relevant State Acts and any regulations thereunder, including:
1.1  Work Health and Safety Act 2012 and subordinate regulations;
1.2  Explosives Act 2012 and subordinate regulations; and
1.3  Dangerous Goods (Road and Rail Transport) Act 2010 and subordinate regulations.

LO3  Aboriginal relics requirements
1 The Aboriginal Heritage Act 1975, provides legislative protection to Aboriginal heritage sites in Tasmania regardless of site type, condition, size or land tenure. Section 14(1) of the Act states that; Except as otherwise provided in this Act, no person shall, otherwise than in accordance with the terms of a permit granted by the Minister on the recommendation of the Director of National Parks and Wildlife:
1.1  destroy, damage, deface, conceal or otherwise interfere with a relic;
1.2  make a copy or replica of a carving or engraving that is a relic by rubbing, tracing, casting or other means that involve direct contact with the carving or engraving;
1.3  remove a relic from the place where it is found or abandoned;
1.4  sell or offer or expose for sale, exchange, or otherwise dispose of a relic or any other object that so nearly resembles a relic as to be likely to deceive or be capable of being mistaken for a relic;
1.5  take a relic, or permit a relic to be taken, out of this State; or
1.6  cause an excavation to be made or any other work to be carried out on Crown land for the purpose of searching for a relic.
2 If a relic is suspected and/or identified during works then works must cease immediately and the Tasmanian Aboriginal Land and Sea Council and the Aboriginal Heritage Tasmania be contacted for advice before work can continue. In the event that damage to an Aboriginal heritage site is unavoidable a permit under section 14 of the Aboriginal Heritage Act 1975 must be applied for. The Minister may refuse an application for a permit, where the characteristics of the relics are considered to warrant their preservation.
3 Anyone finding an Aboriginal relic is required under section 10 of the Act to report that finding as soon as practicable to the Director of National Parks and Wildlife or an authorized officer under the Aboriginal Heritage Act 1975. It is sufficient to report the finding of a relic to Aboriginal Heritage Tasmania to fulfil the requirements of section 10 of the Act.

CHAIRPERSON, BOARD OF THE ENVIRONMENT PROTECTION AUTHORITY

03 OCT 2017
Other Information

OI1 Waste management hierarchy
1 Wastes should be managed in accordance with the following hierarchy of waste management:
   1.1 waste should be minimised, that is, the generation of waste must be reduced to the maximum extent that is reasonable and practicable, having regard to best practice environmental management;
   1.2 waste should be re-used or recycled to the maximum extent that is practicable; and
   1.3 waste that cannot be re-used or recycled must be disposed of at a waste depot site or treatment facility that has been approved in writing by the relevant planning authority or the Director to receive such waste, or otherwise in a manner approved in writing by the Director.

OI2 Notification of incidents under section 32 of EMPCA
Where a person is required by section 32 of EMPCA to notify the Director of the release of a pollutant, the Director can be notified by telephoning 1800 005 171 (a 24-hour emergency telephone number).

OI3 Commitments
The person responsible for the activity has a general environmental duty to conduct the activity in accordance with the commitments contained in Attachment 4.
Attachment 1: The Land
Attachment 2: Sand Extraction Area
Attachment 3: Wetland Buffer Areas

Wetland buffer areas 25 metres

CHAIRPERSON, BOARD OF THE ENVIRONMENT PROTECTION AUTHORITY
03 OCT 2017
### TABLE OF COMMITMENTS BY APPLICANT – RICHARD SATTLER – SAND MINE AND OFFSHORE LOADING FACILITY, ANDERSON BAY, BRIDPORT

<table>
<thead>
<tr>
<th>Commitment type &amp; no.</th>
<th>Detail</th>
<th>When</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1. Maintain a complaints register to record all complaints from the public.</td>
<td>At all times.</td>
</tr>
<tr>
<td><strong>Air</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>1. Watering of internal roads.</td>
<td>As required.</td>
</tr>
<tr>
<td></td>
<td>2. Use of water sprays on the screening plants.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3. Covering of conveyors.</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>1. Transport trucks will be tarpaulin covered if carrying dusty materials.</td>
<td>As required.</td>
</tr>
<tr>
<td><strong>Hydrogeology</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>3. Maintain pit floor a minimum of 1m above groundwater level.</td>
<td>Ongoing.</td>
</tr>
<tr>
<td><strong>Noise</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>1. Maintain attenuation distances to neighbours.</td>
<td>Ongoing.</td>
</tr>
<tr>
<td></td>
<td>3. Maintain acoustic screen to east by retaining sand dunes, acoustic line the pump house building.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4. Maintain diesel motors and modify reverse beacons to minimise noise.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5. Monitor noise at initial production rate.</td>
<td></td>
</tr>
<tr>
<td><strong>Waste</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biodiversity and natural values</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>--------------------------------</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>1. Maintain a minimum 25m fenced buffer/exclusion zone around wetlands and native vegetation habitat.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Implement a weed and disease management plan.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Monitor and maintain exclusion fences.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Induction of staff and contractors re location and function of exclusion zones.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Install culverts in wetland areas.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Final rehabilitation plan to include establishment of artificial wetlands.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ongoing.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Weeds and diseases</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Implement a weed and disease management plan.</td>
<td></td>
</tr>
<tr>
<td>2. Annual weed surveys/control.</td>
<td></td>
</tr>
<tr>
<td>3. Ensure all machinery is washed in accordance with the wash down guidelines.</td>
<td></td>
</tr>
<tr>
<td>4. Control lupins in revegetation/land use.</td>
<td></td>
</tr>
<tr>
<td>Ongoing.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Marine and coastal</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Site investigations after first year of operation to monitor changes.</td>
<td></td>
</tr>
<tr>
<td>As required.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Heritage</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Maintain buffer zone and fences.</td>
<td></td>
</tr>
<tr>
<td>2. Monitor every two years for new sites in pit area.</td>
<td></td>
</tr>
<tr>
<td>3. Retain a 1 m base residual of modern sand dune deposits.</td>
<td></td>
</tr>
<tr>
<td>Ongoing.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Land use</th>
<th>14</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Final rehabilitation plan to include establishment of artificial wetlands.</td>
<td></td>
</tr>
<tr>
<td>At/ around rehabilitation.</td>
<td></td>
</tr>
</tbody>
</table>
| **Visual effects** | 11 | 1. Follow pit plan to minimise visibility.  
|-------------------|----|-----------------------------------------------------------------|---------|
| **Transport**     | 4  | 1. Hours of operations to permit conditions.  
2. Upgrade road intersection if required. | Continuous. |
| **Rehabilitation**| 15 | 1. Leave 1 m of sand above the natural surface and rehabilitate to golf course. | Ongoing; At around rehabilitation. |