



# Dunmore Lakes Sand Project

Waste Management Plan v5.0

June 2021



## Document Control Sheet

### Version History

Version	Date	Author	Approved	Updates
1	June 2006	R.W Corkery & Co. Pty Ltd	J.Worden (Development Manager Boral Limited)	Original Document
2.0	06/08/2016	R. Lawton (Dunmore Environmental Coordinator)	B.Subotic (Quarry Manager Dunmore Sand and Soil)	Document Format update Internal edits Review and updates of fines management Measurement action updates
3.0	9/12/2016	R. Lawton (Dunmore Environmental Coordinator)	R. Lawton (Dunmore Environmental Coordinator)	Evidence of consultation with EPA provided in Appendix
4.0	23/04/2020	B. Williams (Dunmore Environmental Coordinator)	Shoanne Labowitch (Environment Manager NSW/ACT)	To satisfy condition from Modification 2 and 3 including: Additional references relating to the new Stage 5 area Addition of legislative requirements table Addition of procedures relating to processing/blending VENM. Minor edits to VENM Procedures Addition of review and incident procedures Branding and format changes
5.0	07/06/2021	B. Williams (Dunmore Environmental Coordinator)	B. Williams (Dunmore Environmental Coordinator)	Updated to satisfy comments from DPIE as detailed in Section 1.3. Minor Section reference changes

### Distribution

Distributed to	Date	Organisation/Agency
James Crawford		Environmental Protection Authority
Major Projects Planning Portal		Department of Planning Industry and Environment
Boral Dunmore Operations Website		Boral Limited

## Table of Contents

1.	Introduction and Scope.....	4
1.1.	Requirements of the Waste Management Plan .....	4
1.2.	Alignment with Other Plans.....	7
1.3.	Regulator Correspondence.....	7
2.	Project Description .....	9
2.1.	Project Staging and Layout .....	9
2.2.	Approved Project Modifications .....	10
3.	Waste Characterisation.....	12
4.	Waste Management Plan.....	13
4.1.	Construction Waste.....	13
4.2.	Domestic Waste .....	14
4.3.	Comingled Recycling .....	14
4.4.	Waste Oils.....	14
4.5.	Effluent Waste .....	14
5.	Operational Waste Management.....	15
5.1.	Stage 2, 3 and 4 Estimated Backfilling Volumes .....	15
5.2.	Stage 5A and 5B Estimated Backfilling Volumes.....	15
5.3.	VENM Verification, Acceptance and Disposal .....	16
5.3.1.	Procedures for VENM(a) Verification and Acceptance.....	17
5.3.2.	Procedures for VENM(b) PASS Verification and Acceptance .....	17
5.3.3.	Procedures for VENM Disposal .....	18
5.4.	Fines Management.....	19
5.4.1.	Procedures for Fines Management .....	19
5.5.	Oversized Material Management .....	20
5.6.	Acid Sulphate Soil Management.....	20
5.6.1.	ASS Contingency Measures.....	21
6.	Documentation and Reporting.....	22
7.	Site Personnel Roles and Responsibilities.....	22
8.	Incident and Exceedance Protocols.....	23
9.	Review of the Waste Management Plan.....	23
10.	Appendix A: Dunmore Sand & EPL No.11147 VENM (a) Validation and Acceptance Form .....	25
11.	Appendix B: Dunmore Sand & Soil EPL 11147 VENM (b) Pre-acceptance Validation Form .....	28

12.	Appendix C Dunmore Sand & Soil EPL 11147 VENM (b) Pre-acceptance Validation Checklist	33
13.	Appendix D: Dunmore Sand & Soil EPL 11147 VENM(b) Transport Verification Form	37
14.	Appendix E EPA Correspondence	39

## 1. Introduction and Scope

This Waste Management Plan has been prepared in accordance with Schedule 3 Conditions (64 to 69) of Development Consent No. 195-8-2004 Modification 2 and 3 for Stages 2, 3, 4 and 5 of the Dunmore Lakes Sand Project.

An additional objective of this document are to ensure that Virgin Excavated Natural Material (VENM) received for the project and fines from the processing plant are managed in accordance with the conditions of Environmental Protect Licence (EPL) No. 11147. The Waste Management Plan has also been developed to minimise the amount of waste from the project going to landfill and promote reuse and resource recovery wherever possible.

The procedures described in the Waste Management Plan applies to activities undertaken by Dunmore Sand and Soil (DSS) within the Dunmore Lakes Sand Project (DLSP).

### 1.1. Requirements of the Waste Management Plan

The requirements within DA 195-8-2004 and EPL 11147 are described in Table 1 below along with the section where each requirements is addressed.

*Table 1 Relevant Development Approval (DA 195-8-2004) and EPL (EPL 11147) Conditions*

Condition	Requirement	Section Addressed
<b>Development Consent DA 195-8-2004</b>		
S3.C64	The Applicant must a) manage on-site sewage treatment and disposal in accordance with the requirements of an applicable EPL, and to the satisfaction of EPA and Shellharbour Council; b) minimise the waste generated by the development; c) ensure that the waste generated by the development is appropriately stored, handled, and disposed of; and d) report on waste minimisation and management in the Annual Review.	Section 4.5  Section 4 Section 4  Section 6
S3.C65	The Applicant must use VENM for the purpose of void backfilling.	Section 5
S3.C65 Note	Note: The definition of VENM may include soil that has been assessed by a certified practicing soil scientist in accordance with the Acid Sulfate Soil Management Advisory Council guidelines and determined to be Potential Acid Sulfate Soil (PASS) and which satisfies all of the requirements for classification as VENM, except that it contains sulfidic soils, that has been approved by EPA for disposal on the site, and that is managed in accordance with the procedures in the EPL for the development	Section 5, Appendix A-D

S3.C66	Backfilling of the voids must be undertaken in a manner, and with material with suitable physical characteristics, so that it does not significantly affect the direction or rate of groundwater flow from the site.	Section 5, Appendix A-D
S3.C67	All fines separated from the dredged sand must be placed below the permanent water table within 12 hours of processing the dredged sand.	Section 5.4
S3.C67A	The applicant must not process and/or blend more than 120,000 tonnes of VENM per annum	Section 5.1
S3.C67B	Except as expressly permitted in an applicable EPL, specific resource recovery order or exemption under the <i>Protection of the Environment Operations (Waste) Regulation 2014</i> , the Applicant must not receive waste at the site for storage, treatment, processing or reprocessing	Section 5.1
S3.C68	Within 12 months of the date of this consent the Applicant must prepare and subsequently implement a Waste Management Plan for the development, in consultation with EPA, and to the satisfaction of the Secretary. The plan must include: a) VENM receipt and acceptance, processing and blending procedures; b) procedures for the management of fines from the processing plant; c) procedures for managing potential acid sulfate soils; and d) procedures for minimising and managing other wastes generated by the development.	Section 1.3, Appendix E  Section 5.1  Section 5.4  Section 5.3,5.6 Section 4
	The Applicant must implement the approved management plan as approved from time to time by the Secretary.	
S3.C68A	The Applicant must implement the Waste Management Plan as approved by the Planning Secretary.	
S5.C2	The Applicant must ensure that the Management Plans required under this consent are prepared in accordance with any relevant guidelines, and include: a) detailed baseline data; b) a description of: • the relevant statutory requirements (including any relevant approval, licence or lease conditions); • any relevant limits or performance measures/criteria; and • the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures; c) any relevant commitments or recommendations identified in the document/s listed in condition 2(c) of Schedule 2; c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria; d) a program to monitor and report on the: • impacts and environmental performance of the development; and • effectiveness of any management measures (see (c) above); e) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;	Section 3,4 Section 1.1  Section 4,5  Section 5, Appendix A-D Section 5.1.3.4  Section 6.1  Section 6.2  Section 6.1

	<p>f) a program to investigate and implement ways to improve the environmental performance of the development over time;</p> <p>g) a protocol for managing and reporting any:</p> <ul style="list-style-type: none"> <li>• incidents;</li> <li>• complaints;</li> <li>• non-compliances with statutory requirements; and</li> <li>• exceedances of the impact assessment criteria and/or performance criteria; and</li> </ul> <p>h) a protocol for periodic review of the plan.</p>	Section 6.2
S5.C3	<p>Within 3 months of:</p> <p>a) the submission of an incident report under condition 7 below;</p> <p>b) the submission of an Annual Review under condition 9 below;</p> <p>c) the submission of an audit report under condition 10 below; and</p> <p>d) the approval of any modifications to this consent (unless the conditions require otherwise),</p> <p>the Applicant must review the suitability of existing strategies, plans, and programs required under this consent.</p>	Section 6.2
<b>Environmental Protection Licence 11147</b>		
L2.1	<p>The licensee must not cause, permit or allow any waste to be received at the premises, except the wastes expressly referred to in the column titled "Waste" and meeting the definition, if any, in the column titled "Description" in the table below.</p> <p>Any waste received at the premises must only be used for the activities referred to in relation to that waste in the column titled "Activity" in the table below.</p> <p>Any waste received at the premises is subject to those limits or conditions, if any, referred to in relation to that waste contained in the column titled "Other Limits" in the table below.</p> <p>This condition does not limit any other conditions in this licence.</p>	Section 3, 4, Appendix A-D
E1	<p>The licensee must prepare a "VENM" Verification Procedure" and ensure the Authority is provided with an up to date version of the Procedure.</p> <p>The "VENM Verification Procedure" prepared must be used for all material assessed as VENM. The licensee must retain a copy of all assessments made using the "VENM Verification Procedure".</p>	Section 4.1, Appendix A-D
E2	<p>Backfilling of the voids created by sand dredging with VENM must be undertaken in a manner, and with material of suitable physical characteristics, so that it does not change the direction or rate of groundwater flow from the site to Rocklow Creek</p>	Section 4.1 Appendix A-D

The currently approved consent is available from the major projects website:

[http://www.majorprojects.planning.nsw.gov.au/index.pl?action=view\\_job&job\\_id=9166](http://www.majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=9166)

The currently approved EPL (11147) is available on the EPA public register website:

<https://apps.epa.nsw.gov.au/prpoeoapp/SearchResult.aspx?SearchTag=licence&searchrange=licence&range=licence>

## 1.2. Alignment with Other Plans

Water monitoring requirements that will be implemented after the placement of the Potential Acid Sulphate Soil (PASS) material in Stage 2, 3 and 4 are detailed in the DLSP Water Management Plan. An Acid Sulphate Soil Management Plan (ASSMP) forms a subsection of the Stage 5 Soil and Water Management Plan. This details additional monitoring and procedures undertaken during Stage 5 dredging due to the presence of undisturbed PASS within Stage 5 at Riverside Dr. As a result, in Stage 5, PASS material will not be utilised during Stage 5 rehabilitation.

The required backfilling volumes are detailed within the DLSP Rehabilitation Plan in accordance with the final landform.

These management plans are available on the Dunmore Operations website on

<https://www.boral.com.au/locations/boral-dunmore-operations>

## 1.3. Regulator Correspondence

DPIE provided feedback in relation to the Waste Management Plan is detailed below in Table 2. The EPA were consulted in the Major Projects Portal and did not have additional comments. The EPA correspondence is included in Appendix E.

*Table 2 Waste Management Plan DPIE Feedback*

<b>Waste Management Plan – DA195-8-2004 Schedule 3, Condition 68, Condition 68A,</b>	<b>Satisfactory (Yes/No/Partial)</b>	<b>Comment</b>	<b>Action Completed</b>
Within 12 months of the date of this consent the Applicant must prepare and subsequently implement a Waste Management Plan for the development, in consultation with EPA, and to the satisfaction of the Planning Secretary. The plan must include			
a) VENM receipt and acceptance, processing and blending procedures;	Yes	<ul style="list-style-type: none"> <li>Section 5.1, Section 5.3</li> </ul>	No
b) procedures for the management of fines from the processing plant;	Yes	<ul style="list-style-type: none"> <li>Section 5.4</li> </ul>	No

<p>c) procedures for managing potential acid sulfate soils; and</p>	<p>Partial</p>	<p>A reference is made to the Acid Sulfate Soil Management Plan in Section 1.2 (Alignment with Other Plans) however this is not adequate for addressing this condition in the Waste Management Plan.</p> <p>The Department considers that a dedicated section with procedures on acid soils management should be included in the Waste MP. This section could reference the relevant sections of the Acid Sulfate Soils Management Plan (ASSMP) under headings to align with the ASSMP Section 7 headings (as relevant) and could be consistent with the recommendations in Section 8 of that plan.</p>	<p>Section 5.6 has been added to reference this detail as requested. The ASSMP refers to the treatment of insitu PASS in Stage 5 and is reproduced in the Waste MP as requested.</p> <p>Please note that information relating to the treatment of imported PASS is still detailed in Section 5.4</p>
<p>d) procedures for minimising and managing other wastes generated by the development</p>	<p>Yes</p>	<p>Section 4</p>	<p>No</p>
<p>Consultation with the EPA</p>	<p>Partial</p>	<p>The Department notes that consultation with the EPA on a draft Waste Management Plan was undertaken in June 2020, and the evidence was attached in Appendix E (Section 14) as referenced in Table 1. However, there appears further consultation was undertaken with the EPA and the EPA provided a response on 03 May 2021 through the Major Projects portal. Can this consultation evidence be included in Appendix E (or another appendix) and referenced at appropriate locations in the main body of the document?</p> <p>The Department also notes that the EPA comments were incorporated into the document.</p> <p><u>Optional:</u> The company may consider including a dedicated section on consultation in the main body of the management plan, say after Section 1.2.</p>	<p>Appendix E has been updated to reflect that the EPA had no additional comments as detailed in the Major Projects Portal.</p>



## 2. Project Description

The Dunmore Lakes Sand Project (DLSP) is an established dredge sand extraction operation at Dunmore, in the Illawarra region of New South Wales. It is owned by Dunmore Sand & Soil Pty Ltd, which is a wholly owned subsidiary of Boral Resources (NSW) Pty Ltd (Boral).

The project is an integral part of the NSW construction industry, as it supplies high quality construction sand products to the Illawarra and Greater Sydney regions. The DLSP has a maximum approved production rate of up to 800,000 tonnes per annum and average historical production rate of 450,000 tonnes per annum. It has historically been capable of supplying around 7.5% of the sand required for Sydney's construction industry.

### 2.1. Project Staging and Layout

The project has operated since 2000 at Swamp Rd (Stage 1) after being granted Ministerial approval for its first stage by the then Minister for Urban Affairs and Planning under Part 4 of the Environmental Planning and Assessment Act 1979 (EP&A Act).

A separate Ministerial approval for further stages (2, 3 and 4) of the project at Tabbitta Rd was granted in 2005 by the then Minister for Infrastructure and Planning.

On 28 February 2018, Boral lodged an application to modify the development consent under Section 75W of the EP&A Act to include the Stage 5A and Stage 5B operations at Riverside Dr. After determination from the Independent Planning Commission this modification was approved in November 2020.

Details of the each stage of the Dunmore Lakes Sand Project is shown below in Figure 1

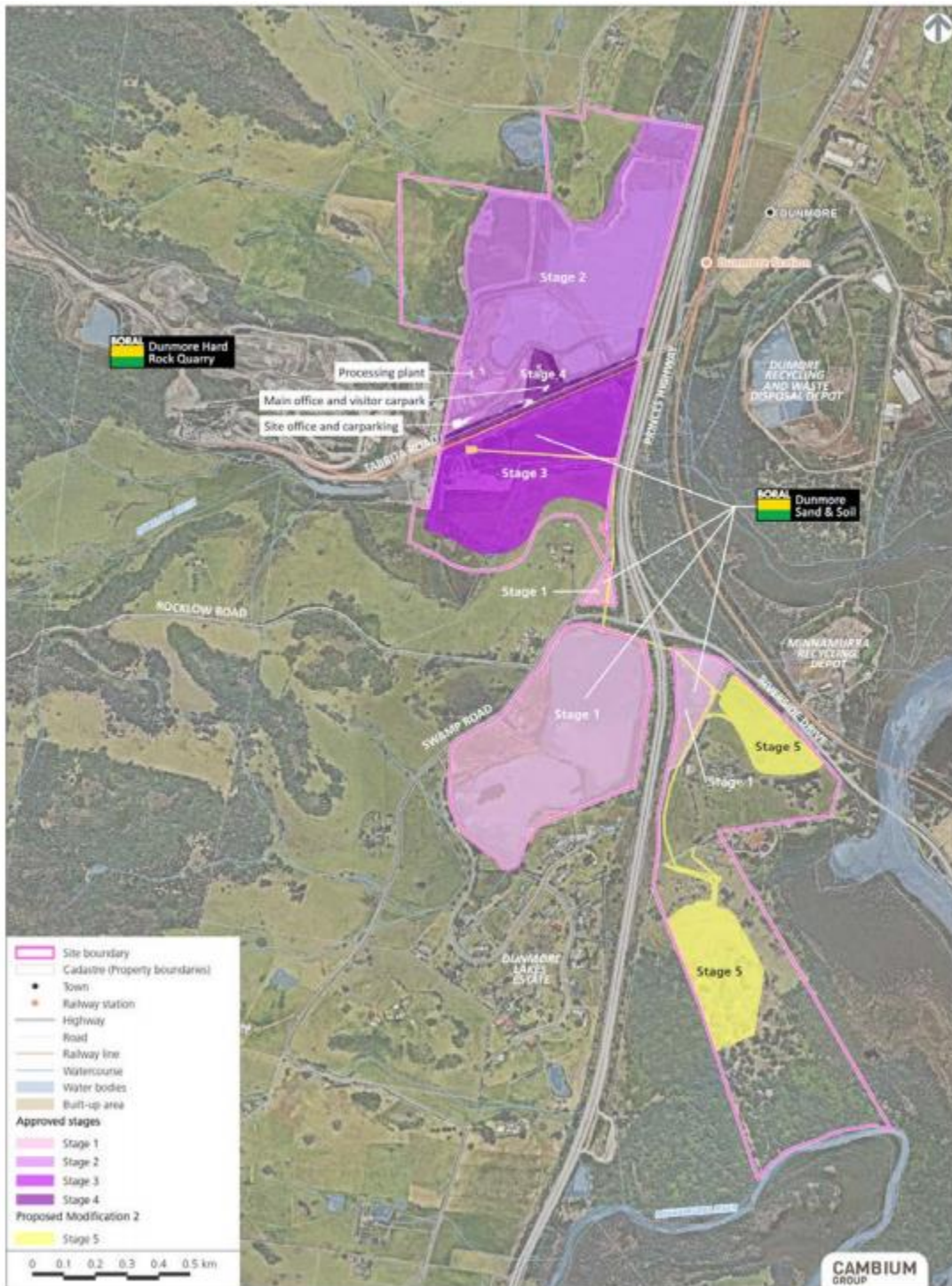


Figure 1 Dunmore Lakes Sand Project Site Layout

## 2.2. Approved Project Modifications

The project is currently operating under development consent DA 195-8-2004, which has been modified three times as summarised below, and allows Boral to carry out sand extraction and processing operations until 2030.

- Modification 1 (granted in June 2016) which involved modifying S3.C10 of the consent to remove the requirement for the creek realignment to occur prior to commencing Stage 3 extraction. This allowed realignment to be carried out a later date, concurrent with extraction operations as per the private landowners request;
- Modification 2 (granted in November 2020) which involved establishing two new extraction areas, known as Stages 5A and 5B, within the existing approved life of the operations. These proposed extraction areas are situated on a private property located between the Princes Highway, Riverside Drive and the Minnamurra River;
- Modification 3 (granted in March 2020) which involved permitting the processing, blending and sale of up to 120,000 tonnes per annum of sand based VENM (known as excavation sand) from ongoing building projects within the surrounding regions.

The development consent DA 195-8-2004 MOD 3 as it currently stands allows Boral to:

- extract, process and transport sand products, including through the:
  - extraction of up to 800,000 tonnes of sand per annum until 2030;
  - development of extraction areas for dredging in Stages 2 to 5;
  - processing of extracted sand and up to 120,000 tonnes per annum of suitable imported Virgin Excavated Natural Material (VENM) to produce construction sand products;
  - road and rail transport of product sand, primarily to the Illawarra and Greater Sydney regions;
- construct and operate a range of ancillary infrastructure at the site, including:
  - a processing plant;
  - product stockpiles;
  - access roads; and
  - supporting administrative infrastructure.
- Undertake progressive rehabilitation via the importation of VENM material for the purposes of void reclamation and revegetate as per the approved Rehabilitation Management Plan.

## 3. Waste Characterisation

It is anticipated that throughout the life of the Dunmore Lakes Sand Project (DLSP) very little non-operational waste will be generated with many materials being reused or recycled. The main waste materials associated with the project will come in the form of the VENM that has been received for backfilling of dredge ponds, and fines generated by the processing plant. The various waste streams associated with the project are characterised in Table 3.

*Table 3 Waste Streams Generated From DLSP*

Type	Description
Clearing waste	Materials that will be moved prior to dredging commencing such as fencing materials, building waste etc.
Domestic Waste	Consisting of putrescible items such food scraps and non-recyclable rubbish
Comingle Recycling	Paper and cardboard waste generated by office waste paper and cardboard packaging from deliveries etc.
Effluent	Effluent generated via operation of toilets/septics etc.
Processing Fines	Typically minus 75 micron material that the processing plant has been unable to capture and is sent to the fines pond for settling
VENM(a)	Virgin Excavated Natural Material (VENM) received from construction jobs etc. and used in backfilling dredge ponds. An estimated 5,432,000t is required for Stage 2-4 and 325,000t is required for Stage 5A and 5B. Suitable VENM products may be processed/blended up to 120,000tpa
VENM(b)/PASS	Potential Acid Sulphate Soils (PASS) that has been assessed by a Certified Practicing Soil Scientist (CPSS) in accordance with the ASSMAC guidelines and determined to be PASS and which satisfies all of the requirements for classification as VENM, except that it contains sulfidic soils. This material is used for backfilling disposed under water of the dredge ponds as per DA-195-8-2004 and EPL 11147.
Waste oils	Grease, motor and hydraulic oils that have been drained from on-site mobile equipment in the workshop

## 4. Waste Management Plan

The DLSP will manage waste according to the principles of the waste hierarchy described below and detailed in Figure 2:

- avoidance
- resource recovery (includes reuse, recycling, reduction, reprocessing and energy recovery)
- disposal

Some by-products and in-process waste materials may potentially be reused without further processing as part of other processes or operations. Before any reuse, the waste stream assessment should ensure that:

- there is no impact on finished products
- waste does not cause operational issues
- there are no other adverse impacts through its storage and/or transport
- relevant legislative requirements is adhered to

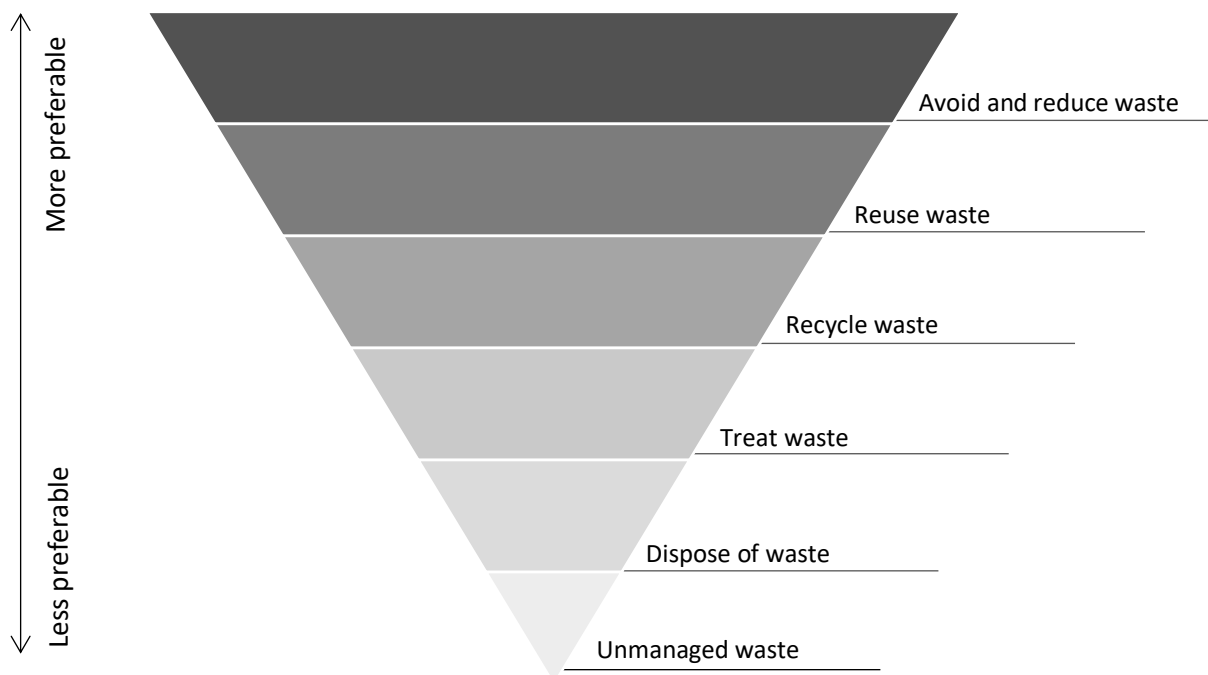


Figure 2 Project Waste Hierarchy

### 4.1. Construction Waste

Fencing materials removed for the expansion of the dredging ponds will be stored neatly on site and reused where possible for rehabilitation and revegetation works. All materials unable to be reused or recycled will be disposed of at a suitably licenced waste facility.

## 4.2. Domestic Waste

Putrescible waste from administration/office areas will be collected weekly in a 1.5m<sup>3</sup> garbage bin. The company will encourage employees to use reusable cups and spoons for tea and coffee making and will discourage the use of disposable cups and spoons. Where possible, cotton hand towels will be used in favour of paper.

## 4.3. Comingled Recycling

Paper and cardboard waste generated by the administration/office and workshop area will be placed in a paper/cardboard bin and picked up on an as needs basis by a waste recycling contractor. The reuse of office paper before being recycled will be encouraged.

## 4.4. Waste Oils

Waste oil and grease from fixed and mobile equipment will be stored in containers in a bunded storage area. These containers will be pumped out by a licensed waste oil recycling contractor on an as needs basis.

## 4.5. Effluent Waste

Effluent generated by the office is treated within the self-contained on-site wastewater treatment system, which complies with the requirements of the Environment and Health Protection Guidelines – On-site Sewage Management for Single Households (1998). This system is serviced quarterly by a licenced contractor. Effluent from the portable toilet on the dredge is collected by a licenced contractor on an as needs basis.

## 5. Operational Waste Management

Operational waste associated with the project includes Virgin Excavated Natural Materials (VENM) externally received from construction projects and production fines generated by the processing plant. Both of these materials will be used to progressively rehabilitate extracted areas to create wetlands and flood-free land for the final landform.

### 5.1. Stage 2, 3 and 4 Estimated Backfilling Volumes

DA 195-8-2004 does not denote annual limits towards the volume of VENM material imported for the purposes of void reclamation and rehabilitation. The use of VENM for backfilling completed extraction areas was part of the original approval and included in the 2004 EIS. Page 2-40 of the 2004 EIS includes in Table 2.9 a stage by stage breakdown of VENM estimates reproduced below in Table 4.

*Table 4 Estimated EIS VENM Requirements for Stage 2, 3 and 4*

Possible Sequence	Area Codes and reference	Minimum		Maximum	
		(m <sup>3</sup> )	(Tonnes)	(m <sup>3</sup> )	(Tonnes)
1	2E1, 2E2, 2E3 Hwy boundary part	15 000	26 000	222 000	400 000
2	2E1 south part	0	0	222 000	400 000
3	2D	0	0	468 000	842 000
4	2C 3	60 000	107 000	60 000	107 000
5	2C1/2	88 000	158 000	88 000	158 000
6	2C2b/2A/B	303 000	545 000	458 000	825 000
7	3B3/3C1	140 000	250 000	210 000	375 000
8	3B1/3B2	50 000	90 000	560 000	1 000 000
9	4A	180 000	325 000	180 000	325 000
10	4B	560 000	1 000 000	560 000	1 000 000
	<b>Total</b>	<b>1 396 000</b>	<b>2 501 000</b>	<b>3 028 000</b>	<b>5 432 000</b>

Note: 1 m<sup>3</sup> of fill space assumed to require 1.8 tonnes of VENM

These were then expressed as an average over the project life. As the terms of consent refers to the original EIS, the total imported VENM must be interpreted as presented in the EIS, that is, an estimated annual volume over the life of the project. In this regard, the total imported VENM need only be within a reasonable range of 250,000 tpa as assessed in the 2004 EIS, no matter what the purpose of the VENM is to be used for. The independent audit in 2020 confirmed this information as requested by the EPA in Section 2.5 of the audit. This audit is available on the Dunmore website under the public reporting tab.

<https://www.boral.com.au/locations/boral-dunmore-operations>

### 5.2. Stage 5A and 5B Estimated Backfilling Volumes

The DSS Mod 2 EA proposes two forms of rehabilitation for the two stages as follows:

- Stage 5A: Extraction area would be returned as grazing pasture by backfilling with VENM, spreading topsoil, and revegetating with ground cover to establish pasturing capabilities. This is in response to a request by the landowners that this area be returned to its original farming purpose.
- Stage 5B: Extraction area will remain as a freshwater pond, similar to the freshwater ponds rehabilitated for Stage 1 of the DSS operations. Rehabilitation will include planting additional vegetation along the bank's edge to promote habitat for native fauna and ensure bank stability. Bunds will be removed progressively over time, as the water level gradually lowers to AHD levels immediately surrounding the extraction area.

In order to complete the proposed rehabilitation of the site, Boral has identified that it would need to import around 325,000 tonnes of VENM to the site to backfill Stage 5A and to rehabilitate the regraded edges of the Stage 5B pond (subject to water quality testing). The delivery and inspection of this material would be distributed to the existing site entrances for Stages 2 to 4 as well as the proposed new access point for Stage 5 and would be used to rehabilitate previous extraction stages as well as the proposed Stage 5A and 5B areas. It is anticipated that the VENM importation campaign would take approximately two years.

In addition, Modification 3 permits the blending and processing of up to 120,000 tonnes of suitable VENM material per annum. Total dispatched product is currently limited to 800,000 tpa of which 120,000 tpa can be sourced from reprocessed sand VENM. A separate stockpile area is denoted for this material as described in Section 5.3.3.3.

### 5.3. VENM Verification, Acceptance and Disposal

EPL 11147 includes specific conditions relating to VENM verification and acceptance. VENM is classified as an 'inert' non-liquid waste. Schedule 1 Part 3 of the Protection of the Environment Operations Act 1997 defines VENM as:

*Virgin Excavated Natural Material means natural material (such as clay, gravel, sand, soil or rock fines)—*

*(a) that has been excavated or quarried from areas that are not contaminated with manufactured chemicals, or with process residues, as a result of industrial, commercial, mining or agricultural activities, and*

*(b) that does not contain any sulfidic ores or soils or any other waste,*

*and includes excavated natural material that meets such criteria for virgin excavated natural material as may be approved for the time being pursuant to an EPA Gazettal notice.*

Schedule 3 Condition 65 of DA 195-8-2004 and E1.1 of EPL 11147 details the provisions for which PASS may be used for backfilling of dredge ponds, provided they are placed below the permanent water table within 24 hours. These provisions are:

*Soil that has been assessed by a Certified Practicing Soil Scientist (CPSS) in accordance with the ASSMAC guidelines and determined to be PASS and which satisfies all of the*



requirements for classification as VENM, except that it contains sulfidic soils, and which is disposed of underwater according to this licence, may be classified as VENM in accordance with part (b) of the definition of VENM in the Appendix to Schedule 1 to the POEO Act 1997.

Separate procedures have been developed due to specific requirements related to verification, acceptance and disposal of VENM(a) material and VENM(b)/PASS.

### 5.3.1. Procedures for VENM(a) Verification and Acceptance

1. Dunmore Sand & Soil (DSS) is approached by a prospective VENM(a) client;
2. Client sends “**VENM(a) Pre-acceptance Validation Form**”. (See Appendix A) and completes the details on the first page along with the authorised person details on the second page.
3. DSS receives the completed form from client, and assesses and validates the material or rejects it on the basis of the assessment findings.
4. If approved, the DSS backfill supervisor signs the Pre-acceptance validation section on the first page of the form. If rejected, the load of material will be sent back to the supplier’s site.
5. Upon approval, the driver carrying the accepted material will be instructed as to the designated area for the tipping of the material, depending on the intended end use, by the DSS backfill supervisor according to the appropriate signposted tip site.
6. Information about each load of VENM(a) is tracked by the weighbridge system and filed.

### 5.3.2. Procedures for VENM(b) PASS Verification and Acceptance

1. Dunmore Sand & Soil (DSS) is approached by a prospective VENM(b) client.
2. Client sends “**Pre-acceptance Validation Form**”. (See Appendix B)
3. DSS receive completed “**Pre-Acceptance Validation Form**” from client in addition to relevant information such as an Acid Sulphate Soil Classification Report and Acid Sulphate Soil Management Plan completed by CPSS.
4. DSS completes the “**Pre-Acceptance Validation Checklist**” (See Appendix C).
5. If there are any “No” responses to questions on the checklist, action needs to be taken. Further actions may be to obtain relevant additional data from the client or seek professional advice in the form of a CPSS.
6. Once all the pre-approval issues are resolved completed by the DSS backfill supervisor or delegate “**Internal VENM Classification Form**” (attached to the checklist) to obtain internal VENM(b) classification.
7. Upon confirmation of approval by the DSS backfill supervisor to proceed with the transport and supply of the material “**Transportation Verification Form**” (See Appendix D), DSS staff are to comply with the need for verification of the material at the time of acceptance.
8. Visual inspections and an audit of material deliveries will be undertaken on each load as they arrive to satisfy the requirement for a statistically designed approach (in this case 100% of loads) and to ensure that the waste being transported to the site from the client is correctly classified as VENM(b). The DSS supervisor is to sign off that a visual assessment has been conducted and that the material on the truck is as per the description in the appropriate forms. Material that is obviously not VENM(b) will be rejected and sent back to the client as it does not meet the licence conditions for emplacement.

### 5.3.3. Procedures for VENM Disposal

Once the verification and acceptance procedure has determined that the material being received is VENM (a) or (b), it will be disposed of according to its classification and intended end use.

Volumes of VENM (a) and VENM (b) imported material will be tracked and reported in the DLSP Annual Review.

#### 5.3.3.1. VENM (a) Disposal for Backfilling

VENM (a) material will be tipped off in a designated backfill area and either pushed into the dredge pond by a front end loader, or stockpiled for use as landform material. A stockpile of VENM (a) material will be permanently left available as source material for capping of VENM (b) material.

#### 5.3.3.2. VENM (b) Disposal for Backfilling

Material verified as VENM (b) that has a pH of more than 5.5 will be tipped off to an area adjacent to a designated backfilling area within 24 hours of the material being excavated. This material will be placed at least 1 metre below the permanent water table providing the water has a pH of more than 6.5. After all of the VENM (b) material is placed under water, VENM (a) material sourced from the capping stockpile will be placed over the VENM (b) material as a capping layer to ensure the VENM (b) material will not be disturbed.

#### 5.3.3.3. VENM (a) Blending and Processing Procedures

VENM (a) material that is intended to be processed and blended will be tipped off at a designated tip spot next to a signposted storage area.

Only material that is suitable to be reprocessed (i.e. sand based material) will be sent to the designated storage area. At the time of document writing, this designated area is the stockpile area immediately adjacent to the wash plant. This area will be appropriately signposted.

Material is then loaded into the wash plant for washing and blending. A separate internal code will be used to track volumes of processed VENM (a) to ensure compliance with annual processing limits and to facilitate reporting in the DLSP Annual Review

#### 5.3.3.4. VENM (b) Operational Compliance Monitoring

The water monitoring program relating to backfilling with VENM (b) material is presented in Table 5. In the event of an exceedance of the water quality impact assessment criteria in Table 5, the site will initiate incident reporting as per S5.C7 which is reproduced in Section 8.

*Table 5: Water Monitoring Program VENM (b)*

Purpose	Location	Parameter	Impact Assessment Criteria	Frequency of Monitoring
Operational compliance – each load of VENM (b)	VENM (b) material	pH*	>5.5	<ul style="list-style-type: none"> <li>Immediately prior to placement under water</li> </ul>

Operational compliance – water quality	Backfill pond (grab sample)	pH	6.5 – 8.5	<ul style="list-style-type: none"> <li>• Immediately prior to placement under water</li> <li>• Daily during operational hours throughout period of placement and 30 days thereafter</li> <li>• Weekly during operational periods at all other times</li> </ul>
Operational compliance – groundwater quality	Up and down gradient in backfill pond	pH	6.5 – 8.5	<ul style="list-style-type: none"> <li>• Every 3 months for 1 year after the last load of VENM (b) is emplaced</li> </ul>
* NSW Acid Sulfate Soil Manual (Method 21A and/or Method 21Af).				
Source: EPL 11147 Condition E1.1 – E1.11				

## 5.4. Fines Management

Fines generated by the processing plant have been estimated to account for approximately 8% of the sand and 15% of the quarry fines processed for blending to make manufactured sand products. The fines material is generally comprised of silt, clay and latite fines of - 75 µm.

It is recognised that the sand resource extracted for all Stages of the DLSP have been identified as containing pyritic sands that occur below the water table, and have the potential to generate acid when exposed to air. Despite this, the environmental impact investigations undertaken by Environmental and Earth Sciences for Stages 2, 3 and 4 determined that there is no potential for significant acid production through oxidisation of soil or sediments on the site. This is also confirmed by 18 years of sand dredging at the Buckley Road Quarry and more recently at Swamp Road Quarry (Stage 1) where no significant issues relating to acid generation in sand products or water bodies has occurred.

Notwithstanding the above, the potential risk of acid generation from the pyritic sands will be avoided or prevented through:

- Thorough, vigorous washing of the sand material in the processing plant;
- Maintenance of water levels generally within naturally occurring levels; and
- Immediate placement of fines to the fines return pond to ensure all pyritic sulphides are unable to oxidise.

### 5.4.1. Procedures for Fines Management

Processed fines will be pumped from the processing area to the fines pond (separate from the dredge pond) to settle and remain under the permanent water table within 12 hours of processing to avoid exposure of the fines to the air. A bund to the height of 3.7 m AHD will be maintained around the perimeter of the fines pond to prevent inundation by flood waters during a 1:100 year flood event.

a) The fines pond will be inspected daily by the Quarry Manager or delegate to note any unusual turbidity before starting the fresh water pumping system.

b) The outflow point of the fines pipe into the pond will also be inspected to determine if action is required to remove the fines to deeper water if build up is likely to cause exposure

of the ponded fines to the air. The goal will be to have the fines more than 0.5m below the water surface. This depth restriction will be reviewed annually.

c) Water Monitoring of the fines pond will be conducted as part of the monthly surface water monitoring undertaken on site, as detailed in the DLSP Soil and Water Management Plan.

## 5.5. Oversized Material Management

Oversized material is believed to account for less than 1% of the total quantity of material processed. The material generally consists of shell, clay balls and sticks that are captured by the oversize screen and are kept in a separate stockpile. From there, the oversize material is transferred to the fines pond or the active backfilling area.

## 5.6. Acid Sulphate Soil Management

Procedures related to management of imported PASS material are detailed in Section 5.3. As recommended in the Acid Sulphate Management Plan.

Stage 5 has areas of in situ PASS in Stage 5A. As a result a Stage 5 ASSMP was prepared by Environmental Earth Sciences (EES).

Despite the necessity of a ASSMP, the likelihood of impacts from PASS or AASS handling on site is considered low. This is because:

- Stage 5A is to be backfilled within VENM whilst Stage 5B is to be left as a pond and rehabilitated to a wetland at the request of the landowner, in accordance with the approved Dunmore Sand and Soil Project Rehabilitation Management Plan (Arcadis, 2018);
- Only non-PASS VENM will be utilised for backfilling and construction of the flood bunds and in the Stage 5 area.
- Excavation activities on site, while encountering the water bearing zone, are considered unlikely to change the groundwater level;
- Current site dredging activities include the sieving of material, so that fines (materials finer than sand) are separated on site and immediately returned below the water table. This technique has been used across the adjacent sand quarries (Stage 2 – 4) with no adverse effects;
- Registered boreholes within a 1 km radius of site are used for monitoring purposes only, thereby minimising the likelihood of dewatering from an extraction well; and
- Current monitoring of adjacent sites (Stage 2-4) by Environmental Earth Sciences has not recorded indicators that acid generation is with current dredging activities. This is significant given that the Project Site is within a similar lithology and soil landscape as existing dredging areas.

The preferred strategy for management of PASS and/or AASS as part of the sand mining activities in Stage 5 is as follows:

1. Commence excavation works by mining the shallow sand material (above the water table) and work to depth;
  - a. This strategy will ensure excavation works commence away from areas of PASS and groundwater ingress, hence there will be no restrictions on the

- excavation process other than standard environmental management practices such as erosion and sediment controls;
2. Once the excavation extends in depth greater than 1-2m below the ground surface some groundwater ingress may commence;
    - a. Instigate a system of controlling groundwater discharges within the excavation area (e.g. creation of a bunded ponding area within the excavation). As per the site Environmental Approval (EA) it is proposed that the dredge and fine ponds areas are bunded to the nominal 100-year ARI flood level;
      - i. Bund levels in Stage 5A will be 3.7 m AHD; and
      - ii. Bund levels in Stage 5B will be: 4.12 m AHD.
  3. Manage the excavation of sand materials (containing PASS) by sieving the fines out of the excavated material and returning fines to the fines pond (under the water table) immediately;
    - a. If this material does not remain saturated or is to be stockpiled dry for more than 48 hours, it is recommended that lime be added at a rate of 30 kg CaCO<sub>3</sub>/T and validation occur at a rate of one sample analysed for the Chromium Reducible Sulfur (CRS) suite per 100 T of treated soil.
  4. The most important features of management of PASS in the proposed sand extraction area is as follows:
    - a. ensuring that acid leachate is not produced; and
    - b. ensuring the saturated nature of sediments beneath the site surface is maintained.

Long-term dewatering of these sediments should be avoided or minimised if possible, and a groundwater level monitoring program has been implemented as part of the approved Soil and Water Management Plan.

The operational monitoring of PASS after placement is described in Section 5.3.3.4 of the Waste Management Plan.

### **5.6.1. ASS Contingency Measures**

In the event that PASS material is excavated and cannot be reburied below the permanent water-table or permanent water level in the basin within the timeframes detailed in the ASSMP, treatment to prevent acid production due to oxidation will be required as per Section 7.2 of the ASSMP.

## 6. Documentation and Reporting

All non-operational waste is recorded in a waste register and reported in the Annual Review reporting documentation. This information will be used to track annual waste generation and inform future strategies to minimise waste.

Documentation relating to all loads of VENM received for backfilling will be kept on site for a minimum of four years. This includes results of VENM quality verification and water quality monitoring following VENM (b) emplacement. The volume of VENM received will be presented in the Annual Review.

## 7. Site Personnel Roles and Responsibilities

Table 6 details a summary of the personnel roles and responsibilities relating to procedures detailed in the WMP.

*Table 6 Site Personnel Roles and Responsibilities*

Position	Responsibility
<i>Employees and Contractors</i>	<p>Following the procedures outlined in the WMP and related documents</p> <p>Immediately alert Supervisor or Team Leader of any environmental hazards, near-misses or incidents.</p>
<i>Team Leaders / Front Line Supervisors</i>	<p>Following the procedures outlined in the WMP and related documents.</p> <p>Immediately alert Site Manager or, in case of their unavailability, Environmental Representative or Environment Manager of any potentially material environmental incidents or near-misses relating to procedures</p> <p>Assist in conducting incident investigations and regulatory correspondence</p>
<i>Site / Operations Manager and/or Site Environmental Coordinator</i>	<p>Ensuring the administration, education, maintenance and implementation of the WMP.</p> <p>In the case that an incident is identified, notify senior Boral Management Team and HSE Team via completion of Incident Notification Forms</p> <p>Co-ordinate incident response and corrective actions from a site level. Provide direction and advice on incident response as appropriate</p>
<i>HSE Regional Manager and/or Operations Manager</i>	<p>Formulate incident response with senior Boral Management Team. If required, engage</p>

	<p>specialist advice in relation to corrective actions.</p> <p>Ensure that investigations are undertaken to a level corresponding to the level of risk and impact.</p> <p>Direct any regulatory notifications and correspondence</p> <p>.</p> <p>Inform Executive General manager and Group management of notification to external agencies.</p> <p>If required, authorise notifications to public and/or media following GRP-HSEQ-2-02.</p>
--	--

## 8. Incident and Exceedance Protocols

Incident and exceedances of compliance criteria detailed in Section 4.1.3.4 will be reported to the DPIE and EPA as per S5.C7 of the consent reproduced below:

*The Applicant must notify, at the earliest opportunity, the Secretary and any other relevant agencies of any incident that has caused, or threatens to cause, material harm to the environment. For any other incident associated with the development, the Applicant must notify the Secretary and any other relevant agencies as soon as practicable after the Applicant becomes aware of the incident. Within 7 days of the date of the incident, the Applicant must provide the Secretary and any relevant agencies with a detailed report on the incident, and such further reports as may be requested.*

In the case of an incident, it will be logged into the site incident tracking system SEquence with corrective actions assigned. An incident notification form will also be completed by site personnel to inform senior Boral Management to ensure regulatory notification processes detailed in S5.C7 are initiated and the incident investigation process is completed.

If required, specialist advice will be obtained to determine suitable corrective actions are assigned to ensure that any unpredicted or ongoing impacts and their consequences reduce to levels below relevant impact assessment criteria as quickly as possible as per S5.C2.

## 9. Review of the Waste Management Plan

This management will be periodically reviewed and as necessary updated in accordance to S5.C4 of DA 195-8-2004 reproduced below:

Within 3 months of the submission of an:

- An incident report under condition 7;
- Annual Review under condition 9;
- After and Independent Environmental Audit under condition 10; and
- any modifications to the consent,



The Applicant must review, and if necessary revise, the strategies, plans, and programs required under this consent, to the satisfaction of the Secretary.





**10. Appendix A: Dunmore Sand & EPL No.11147 VENM (a)  
Validation and Acceptance Form**



Date:

Job number:

**Details of Customer/Supplier**

<b>Company name:</b>		<b>Phone No:</b>	
<b>Contact name:</b>			
<b>Position:</b>			
<b>Address:</b>	<i>Street</i>	<i>Suburb</i>	
<b>Signature:</b>	(Must be authorised to sign on behalf of the supplier)		

**Details of the materials nature and origin**

<b>Address:</b>	<i>Street</i>	<i>Suburb</i>	
<b>Estimated job quantity (tonnes):</b>			
<b>Physical nature of material:</b>	Could be more than one <input type="checkbox"/> clay <input type="checkbox"/> sand <input type="checkbox"/> mud <input type="checkbox"/> soil <input type="checkbox"/> rock <input type="checkbox"/> silt <input type="checkbox"/> other - specify		
<b>Site Description:</b>	<input type="checkbox"/> new house block <input type="checkbox"/> water pipeline <input type="checkbox"/> old factory site <input type="checkbox"/> old house block <input type="checkbox"/> gas pipeline <input type="checkbox"/> other <input type="checkbox"/> new housing estate <input type="checkbox"/> new factory site Description of <u>other</u> :		
<b>Site Improvements:</b>	<input type="checkbox"/> none <input type="checkbox"/> footpaths <input type="checkbox"/> sub-division <input type="checkbox"/> house <input type="checkbox"/> factory <input type="checkbox"/> other <input type="checkbox"/> roads <input type="checkbox"/> buildings Description of <u>other</u> :		
<b>Site History:</b>	<input type="checkbox"/> farm land <input type="checkbox"/> peanut factory <input type="checkbox"/> other <input type="checkbox"/> old farm <input type="checkbox"/> old petrol station <input type="checkbox"/> town area <input type="checkbox"/> dairy use Description of <u>other</u> :		
<b>Contaminated site investigations:</b>	Complete if source site is suspect. i.e. petrol station. <input type="checkbox"/> Yes <input type="checkbox"/> No	If "Yes", summarise the findings:	
<b>Pre-acceptance validation:</b> on the basis of the data supplied by the customer responsible for using our services and our investigations we confirm our validation of the supplied material as VENM(a).		x. Signed (DSS backfill supervisor)	



This register accompanies the validation and acceptance form which must have determined the material to be backfilled as VENM(a)

Date:

**Authorised person's details**

<b>Contact name:</b>	(authorised person on behalf of supplier)
<b>Position:</b>	
<b>Signature:</b>	(Must be authorised to sign on behalf of the supplier)

Ref	Truck Rego	Truck GVM	Docket No.	Tonnes	Drivers name	Checked & accepted by DSS
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						
11.						
12.						
13.						
14.						
15.						
<b>Number of estimate loads per carter</b>						



## 11. Appendix B: Dunmore Sand & Soil EPL 11147 VENM (b) Pre-acceptance Validation Form



(To be filled in by the material generator)

Please fill in the following pre acceptance validation form to allow timely acceptance of your virgin excavated natural material and email to DSS for processing.

**1) Do you have an acid sulfate soil investigation report or management plan?**

- Tick as appropriate: Yes  Continue with sections 2 to 10.
- No  Engage a certified practicing soil scientist (CPSS – as decreed by the Australian Soil Science Society Inc. [ASSSI]) to provide an acid sulfate soil investigation and management plan.

**2) Location from which spoil will be generated**

Site Address:  Lot and DP:

**3) Description of material's origin and improvements to the site**

Please tick and make comment where appropriate:

<input type="checkbox"/> New House	<input type="checkbox"/> Water pipeline	<input type="checkbox"/> New factory site
<input type="checkbox"/> Old House Block	<input type="checkbox"/> Gas pipeline	<input type="checkbox"/> Other
<input type="checkbox"/> New housing estate	<input type="checkbox"/> Old factory site	_____

Further Comments: \_\_\_\_\_

**4a) Brief history of the site (land-uses and occupiers)**

Please tick and make comment where appropriate:

<input type="checkbox"/> Farm land	<input type="checkbox"/> Town area	<input type="checkbox"/> Dairy use
<input type="checkbox"/> Old home	<input type="checkbox"/> Old petrol station site	<input type="checkbox"/> Other

Further comments: \_\_\_\_\_





**10) Contact details and declaration**

Name:	<input type="text"/>	Telephone:	<input type="text"/>
Company:	<input type="text"/>	Facsimile:	<input type="text"/>
Position:	<input type="text"/>	Email:	<input type="text"/>
Postal Address:	<input type="text"/>	Mobile:	<input type="text"/>

I hereby declare that the information provided in this application is true in every respect and can be relied on to the best of my knowledge.

Name: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_\_\_



### Attachment A

Details of reports if relevant (produce more copies of form if required)

Author	Date	Title
<b>Summary of findings:</b>		

Author	Date	Title
<b>Summary of findings:</b>		



# Dunmore Lakes Sand Project Waste Management Plan

March 2020



## 12. Appendix C Dunmore Sand & Soil EPL 11147 VENM (b) Pre-acceptance Validation Checklist

# Appendix C Dunmore Sand & Soil Environmental Protection Licence No. 11147 VENM (b) Pre-acceptance Validation Checklist



(To be filled in by Dunmore Sand & Soil)

Project Number: \_\_\_\_\_ Client: \_\_\_\_\_ Date: \_\_\_\_\_

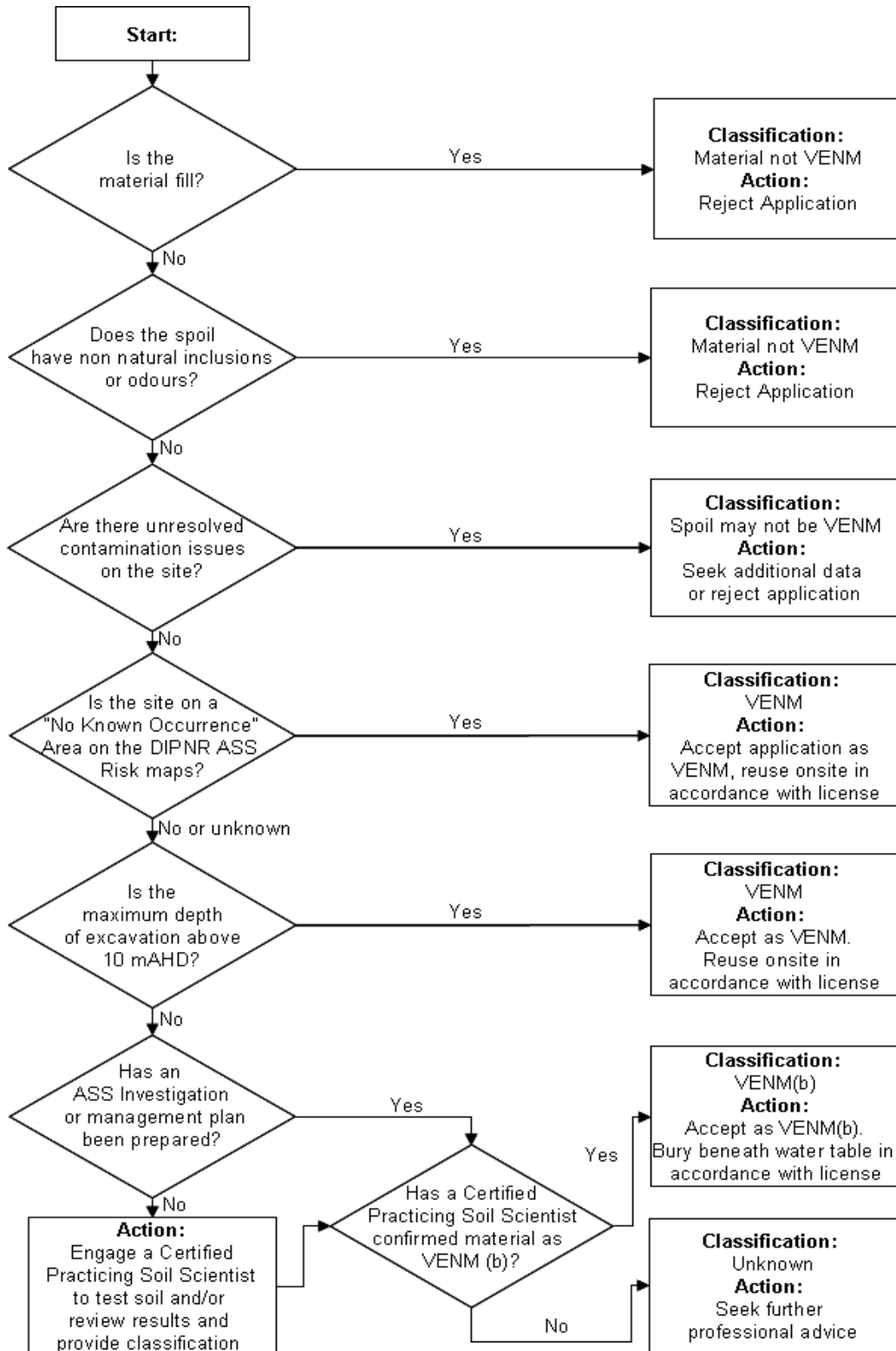
<b>Pre-Approval Item</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Follow up action required if "No" to any questions</b>	<b>Initial and date</b>	<b>Resolved?</b>
<b>1) VENM or VENM B application</b>						
Has the client specified desire for VENM or VENM B disposal	<input type="checkbox"/>	<input type="checkbox"/>		Request data from client		<input type="checkbox"/>
<b>2) Location</b>						
Has the location of the spoil generation site been provided	<input type="checkbox"/>	<input type="checkbox"/>		Request data from client		<input type="checkbox"/>
<b>3) Description of material's origin and improvements to the site</b>						
Is there adequate description of the materials origin?	<input type="checkbox"/>	<input type="checkbox"/>		Request data from client		<input type="checkbox"/>
<b>4a) Brief history of the site (land-uses and occupiers)</b>						
Have adequate details on the history, landuse and occupiers of the spoil generation site been supplied?	<input type="checkbox"/>	<input type="checkbox"/>		Request data from client		<input type="checkbox"/>
<b>4b) List the potential chemicals of concern</b>						
If 4a includes commercial or industrial land-use, has a list of potential chemicals of concern been provided?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Request data from client		<input type="checkbox"/>
<b>5) Previous contaminated site or acid sulfate soil investigations</b>						
If undertaken, have summary findings been supplied?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Request data from client		<input type="checkbox"/>
If supplied, do the details indicate any risk of contamination?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	If "yes" seek professional advice		<input type="checkbox"/>
Have the chemicals of concern in 4b been addressed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Request data from client		<input type="checkbox"/>
If supplied do the details indicate risk of AASS or PASS?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	If "yes" seek professional advice		<input type="checkbox"/>
<b>6a) Description of physical nature of material(s)</b>						
Have adequate descriptions of spoil been provided?	<input type="checkbox"/>	<input type="checkbox"/>		Request data from client		<input type="checkbox"/>
Is material free of non-natural odours (eg hydrocarbons)?	<input type="checkbox"/>	<input type="checkbox"/>		Reject application – Not VENM		<input type="checkbox"/>
Is material free of non-natural inclusions (eg brick, ash, bitumen, etc)	<input type="checkbox"/>	<input type="checkbox"/>		Reject application – Not VENM		<input type="checkbox"/>

# Appendix C Dunmore Sand & Soil Environmental Protection Licence No. 11147 VENM (b) Pre-acceptance Validation Checklist



<i>Pre- Approval Item</i>	<i>Yes</i>	<i>No</i>	<i>N/A</i>	<i>Follow up action</i>	<i>Initial and date</i>	<i>Resolved?</i>
<b>6b) Soil description borelogs</b>						
If available were they supplied?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Request data from client		<input type="checkbox"/>
Do the logs describe natural soil only?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>
If fill is described have details been supplied to indicate that has been removed elsewhere or will be handled separately?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Request data from client		<input type="checkbox"/>
Do the logs indicate a water table?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>
Do the natural sediments appear to be PASS (i.e. below the water table, dark coloured or grey coloured sand silt or clay, neutral pH)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>
<b>7) Elevation of the site (mAHD)</b>						
Has the elevation been supplied?	<input type="checkbox"/>	<input type="checkbox"/>		Request data from client		<input type="checkbox"/>
<b>8) Proposed depth of excavation</b>						
Has the intended depth of excavation been supplied?	<input type="checkbox"/>	<input type="checkbox"/>		Request data from client		<input type="checkbox"/>
If supplied is the intended floor above 10 mAHD?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>
<b>9) Estimated quantity to be removed (tonnes)</b>						
Has the estimated tonnage been supplied	<input type="checkbox"/>	<input type="checkbox"/>		Request data from client		<input type="checkbox"/>
<b>10) Contact details &amp; Declaration</b>						
Have all relevant contact details been supplied?	<input type="checkbox"/>	<input type="checkbox"/>		Request data from client		<input type="checkbox"/>
Has the declaration been signed by either the occupier, an authorised representative of the occupier or by an accredited consultant?	<input type="checkbox"/>	<input type="checkbox"/>		Request data from client		<input type="checkbox"/>

**Internal VENM (b) Classification for Job No. \_\_\_\_\_**



End Classification:

Name:  Signature:  Date:



## 13. Appendix D: Dunmore Sand & Soil EPL 11147 VENM(b) Transport Verification Form

**Dunmore Sand & Soil Environmental Protection Licence No. 11147  
VENM(b) Transport Verification Form**



**Dunmore Sand & Soil  
Environmental Protection Licence No. 11147  
VENM(b) Transport Verification Form  
(to be produced in triplicate)**

**Please Note:** if the material is not VENM(b) it will be returned to the site without processing.

Consignment Number: <Automatic numbering system>

**To be completed by Generator**

Truck Registration Number:	Trailer:
Driver's Name:	Driver's Signature:
Transport Company:	
Volume estimate:	Approval number:

Material From (site of origin):

Description of type of VENM material:

(Eg: topsoil or subsoil, sand, silt, clay etc, colours, inclusions, odours etc)

.....  
.....

pH at source: ..... Date: .../.../..... Time: ..... am/pm

Site supervisor at generating site: Name .....

Signature .....

**To be completed by Dunmore Sand & Soil**

Material To: ASS Sediments  
Dunmore Sand & Soil  
Dunmore, NSW

pH at destination: ..... Date: .../.../..... Time: ..... am/pm

Tonnage at destination: .....

**Material is:**

Accepted as VENM (b) .....

CPSS who classified VENM(b): Name: .....

Company: .....

Returned to the generator as it does not meet licence conditions for emplacement .....

Emplacement Easting (m): ..... Northing (m) .....

**DSS Supervisor: Name: ..... Signature: .....**

## 14. Appendix E EPA Correspondence



DOC20/466320-2

Ben Williams  
Boral Resources (NSW) Pty Ltd  
PO BOX 6041  
NORTH RYDE NSW 2113

Email: [ben.williams@boral.com.au](mailto:ben.williams@boral.com.au)

Dear Mr Williams,

### PAE-3636 – WASTE MANAGEMENT PLAN – BORAL LAKES QUARRY (DA195-8-2004-PA-3)

I am writing in reply to your invitation to the Environment Protection Authority (EPA) to provide comments on the Waste Management Plan v4.0 (the plan) for the Dunmore Lakes Sand Project. The EPA regulate the premises under Environment Protection Licence 11147 (EPL 11147) issued to Dunmore Sand & Soil Pty Limited (DSS).

The EPA emphasises that it does not review or endorse environmental management plans or similar. The EPA supports the development of Environmental Management Plans (EMPs) as part of good environmental management but does not generally approve specific EMPs for industry operations. The preparation and implementation of any EMP is ultimately the responsibility of the licensee. The EPA recommends that DSS have the Waste Management Plan audited to an industry standard or certified to the ISO 14001 Standard as part of an overall Environmental Management System.

However, the EPA has the following comments after reading the plan:

The EPA notes that the plan is dated March 2020. A licence variation for EPL 11147 was issued on 13 May 2020. The EPA notes that the wording in Condition L2 – Waste was changed in the recent licence variation. The plan refers to Condition L2.1 on page 5, quoting the old wording.

The EPA emphasises the importance of correctly handling Potential Acid Sulfate Soil (PASS) to minimise environmental harm. The plan adequately outlines the responsibilities of all parties involved in the generation, transport and disposal of PASS at the site. It is important that the Pre-acceptance Validation Forms are filled out correctly for each load, and it is recommended that they be included in any external audit for the Development Consent.

If you have questions regarding the above, please phone James Crawford on (02) 4224 4123.

Phone 131 555  
Phone 02 4224 4100  
(from outside NSW)

Fax 02 4224 4110  
TTY 131 677  
ABN 43 692 285 758

PO Box 513  
WOLLONGONG  
NSW 2520

Level 3  
84 Crown Street  
WOLLONGONG NSW  
2500 AUSTRALIA

[info@epa.nsw.gov.au](mailto:info@epa.nsw.gov.au)  
[www.epa.nsw.gov.au](http://www.epa.nsw.gov.au)

Yours sincerely,

*William Dove* 16.06.2020

WILLIAM DOVE

Unit Head Regulation - Illawarra

Environment Protection Authority





DOC21/321722-2

Mr Ben Williams  
Boral Resources (NSW) Pty Ltd  
PO Box 6041  
NORTH RYDE NSW 2113  
Via email: [ben.williams@boral.com.au](mailto:ben.williams@boral.com.au)

3 May 2021

Dear Mr Williams

**PAE-17921041 – Waste Management Plan – Dunmore Lakes Quarry (DA195-8-2004-PA-15)**

I am writing in reply to your invitation to the Environment Protection Authority (EPA) to provide comments on Waste Management Plan v4.0 April 2021 (Plan) for the Dunmore Lakes Sand Project. The EPA regulates the Premises under Environment Protection Licence No. 11147 (Licence), issued to Dunmore Sand & Soil Pty Limited (DSS). The Plan is required to be prepared and implemented as per Schedule 3 Condition 68 of DA 195-8-2004 MOD 3 (Consent).

On 16 June 2020, we provided you with comments on a version of the Plan dated March 2020. In this correspondence, we also advised that the EPA does not endorse Environmental Management Plans (EMP) or similar. I acknowledge that Schedule 3 Condition 68 of the Consent states that the Plan must be prepared "in consultation with" the EPA.

As such, the EPA has reviewed the Plan in accordance with Schedule 3 Condition 68 of the Consent and are satisfied that the previous comments on the Plan dated 16 June 2020 have been addressed and we have no additional comments.

If you have any questions about this matter, please contact Matthew Davidson on 02 4224 4104.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Lara Barrington'.

**LARA BARRINGTON**  
Unit Head  
Regulatory Operations Regional - South

Phone 131 555  
Phone +61 2 9995 5555  
(from outside NSW)

TTY 133 677  
ABN 43 692 285 758

Locked Bag 5022  
Parramatta  
NSW 2124 Australia

4 Parramatta Square  
12 Darcy St, Parramatta  
NSW 2150 Australia

[info@epa.nsw.gov.au](mailto:info@epa.nsw.gov.au)  
[www.epa.nsw.gov.au](http://www.epa.nsw.gov.au)