

Stockton Quarry - Dry Sand Extraction Project

SSD - 52984213

BIODIVERSITY MANAGEMENT PLAN

October 2025



Source: Stockton Quarry Dry Sand Extraction Project (Boral, 2024)

Document Name	Boral Stockton Quarry Biodiversity Management Plan
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- Appendix A** – Consultation for this Management Plan
- Appendix B**– Disturbance Boundary Map (RTS, 2023)
- Appendix C**– Management Action Plan (Niche, 2023)

1 INTRODUCTION

1.1 BACKGROUND

Boral Resources (NSW) Pty Ltd owns and operates Stockton Sand Quarry, located on Cocks Lane, Fullerton Cove, a long-standing operation that extracts and transports sand for use in the building, landscaping and construction markets. The site has an area of approximately 246 hectares (ha) and has been used for the purposes of extractive industries (sand quarrying) since the 1970s. At present, there is an existing quarry located on the windblown (transgressive) sand dunes of Stockton Bight, which transports up to 500,000 tonnes per annum (tpa) of product (the existing windblown project).

SSD – 52984213 was approved by the Department of Planning, Housing and Infrastructure (DPHI) on 8 August 2024, relevant to this management plan is in the central portion of the quarry and covers an area of approximately 38 ha. The project site contains the proposed clearance area, which comprises all areas to be disturbed by vegetation clearing and sand extraction operations as well as new entry/exit roads, a two-way haul road, a laydown area, and a pad for a wash plant and water recycling and filter press. The regional site context is shown in **Figure 1** below.

The site is accessed via Cocks Road over an adjacent Crown Reserve (Lot 7300 DP1130730) under licence agreement with the DPHI Crown Lands. Land use surrounding the site is a mix of rural, residential, public recreation and environmental conservation areas. The local site context is shown in **Figure 2** and **Figure 3**.

1.2 PROJECT OVERVIEW

The sand would be extracted from five stages, starting in Stage 1. Due to the quality of sand anticipated to be found in Stage 1, this material would be dry screened before being dispatched. Sand extracted from Stages 2-5 (inclusive) would be processed through a wash plant and water recycling and filter press due to the higher volume of organics likely to be found. There are an estimated 3.1 million tonnes (Mt) of dry sand resource above the water table, within the project site.

Consistent with the originally proposed and exhibited dredge application, the project seeks a site-wide extraction and dispatch limit (i.e. the existing windblown project and the project combined) of no more than 750,000 tpa. Key infrastructure and operational hours approved via the consent for the site are outlined in **Table 1** and **Table 2** below. Biodiversity impacts in the EIS were assessed in accordance with DPHI's Biodiversity Assessment Method (BAM); to determine the impact the Site would have on biodiversity, to identify appropriate management and mitigation measures and to calculate the project's biodiversity offset requirement using the BAM Credit Calculator.

This comprised the following two stages:

Stage 1 – Biodiversity assessment, involving determination of:

- habitat value through assessment of landscape features;
- native vegetation; and
- threatened species and populations.

Stage 2 – Impact assessment, involving consideration of:

- how to avoid and minimise impacts on biodiversity values;
- impact and offset thresholds; and
- offset requirements.

Table 1: Hours of Operation

Activity	Hours of permissible Operation (as per Condition A12 of SSD-52984213)
Construction Work	7 am to 6 pm Monday to Friday 8 am to 1 pm Saturday At no time on Sundays or public holidays
Quarrying operations including loading and dispatch of laden trucks	6:15 am to 6 pm Monday to Friday 6:15 am to 3 pm Saturday At no time on Sundays or public holidays
Maintenance, security, office work, cleaning, etc	May be conducted at any time, provided that these activities are not audible at any residence on privately-owned land

Table 2: Project Summary

Project Element	Project Description
Location	Inland Dunes
Staff	Up to six full time and up to two casual
Total resource	3.1 million tonnes
Consent period	Quarrying operations may be carried out on the site, within the approved disturbance area, until 31 December 2034.
Production and transport limits	Up to 750,000 tpa (inclusive of the windblown sand operations) until either the current dredge application is approved and commenced or the windblown sand development consent lapses in 2028, after which production/transportation would reduce to up to 500,000 tpa
Extraction method and stages	Stages 1-5 dry extraction using front end loaders and excavators
Processing	Stage 1 - as needed dry screen prior to dispatch (dependent on quality) Stages 2-5 - dry extraction (sand of lower quality would be processed through a wash plant and water recycling and filter press prior to being stockpiled)
Vegetation clearing, offsets and rehabilitation	Clearing of 38.14 ha of vegetation with staged offsets to reflect extraction Stages Preliminary clearing/offset stage to allow for a site wide drilling program to commence prior to extraction Standalone rehabilitation strategy comprising progressive stabilisation and rehabilitation of disturbed areas with species endemic to coastal woodland
Site infrastructure and plant	Retain all existing improvements and augment/upgrade to include: • new prefabricated office building • relocation of onsite materials storage (currently in the footprint of proposed Stage 1) • replacement of roofing for the workshop • new water storage tank, able to accommodate 20,000 litres for fire water • new laydown area • new wash plant and water recycling and filter press

1.3 PURPOSE AND SCOPE

Boral Resources (NSW) Pty Ltd (Boral) owns and operates the Stockton Quarry (the quarry), a long-standing operation that extracts and transports sand for use in the building, landscaping and construction markets. Boral has obtained development consent (SSD-52984213) for the Stockton Quarry Dry Sand Extraction Project (the site), which would allow for the extraction of sand from above the water table within the former inland dunes extraction area. As part of the requirements outlined in Development Consent Condition B12, Niche (2023) completed an ecology due diligence assessment for undertaking the preliminary clearing of approximately 0.5 ha of vegetation which is proposed across the site prior to extraction to facilitate a widespread drilling program, enabling Boral to:

- monitor the level of the water table over the life of the project; and
- provide an accurate representation of the quality of the sand resource across the site.

Further details of the proposed drilling program, which includes a series of boreholes and associated access tracks, is provided in the environmental impact statement (EIS) by Arnold Planning (2023), and the vegetation/habitat impacts associated with the boreholes and associated access tracks were assessed within a Biodiversity Disturbance Assessment Report. The purpose of this Biodiversity Management Plan is to provide Boral and its subcontractors and consultants with biodiversity management measures to follow to ensure appropriate environmental management throughout the construction and operational phase of the project. The framework for controlling changes and revisions to this document can be found in **Section 12**.

1.3.1 Biodiversity Management Objectives

The objective of biodiversity management is to manage biodiversity outcomes in accordance with Condition B13 of SSD-52984213 in a manner that meets the licence and approval conditions and generally minimises the impacts to biodiversity.

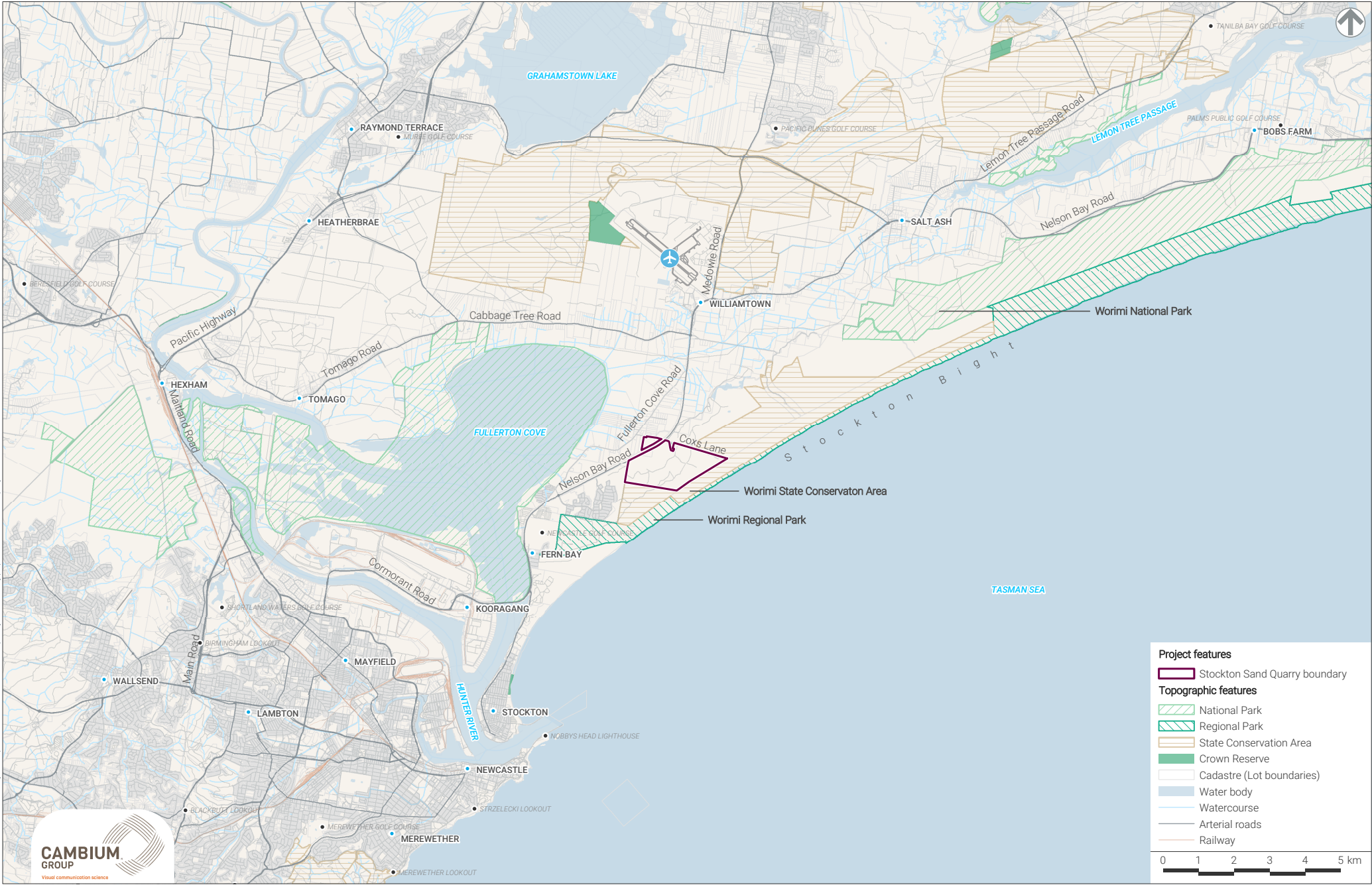
1.3.2 Preparation of Biodiversity Management Plan

As per Condition B13(b) of SSD 52984213, the Biodiversity Management Plan is to be prepared by a suitably qualified and experienced person/s. This plan has been prepared by Chris Jones, Kristen McMahon and April Shearer of Integrated Environmental Management Australia, in conjunction with Boral Resources. The Biodiversity Management Plan has been prepared in accordance with the BDAR assessment and EIS submission. The

The Biodiversity Management Plan must be submitted to the Planning Secretary for approval within six months of the commencement of development under this consent (SSD 52984213). A biodiversity development assessment report (BDAR), prepared by Niche Environment and Heritage (Niche, 2023) to accompany the EIS, characterises the existing biodiversity on the site.

Figure 1
Regional context

STOCKTON QUARRY DRY SAND EXTRACTION PROJECT | ENVIRONMENTAL IMPACT STATEMENT



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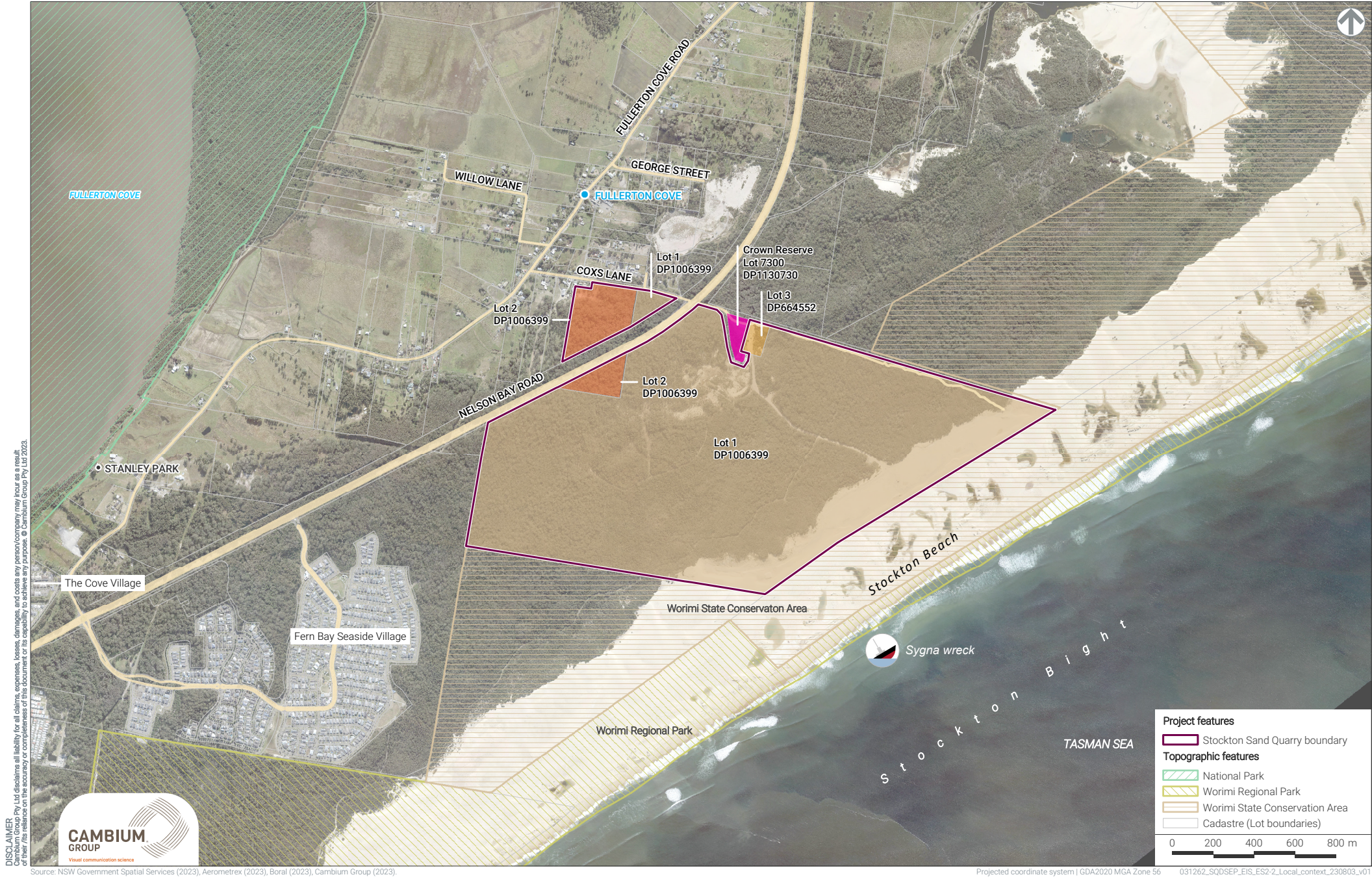
Source: NSW Government Spatial Services (2023), Aerometrex (2023), Boral (2023), Cambium Group (2023).

Projected coordinate system | GDA2020 MGA Zone 56

031262_SQDSEP_EIS_ES2-1_Regional_context_230803_v01

Figure 2
Local context

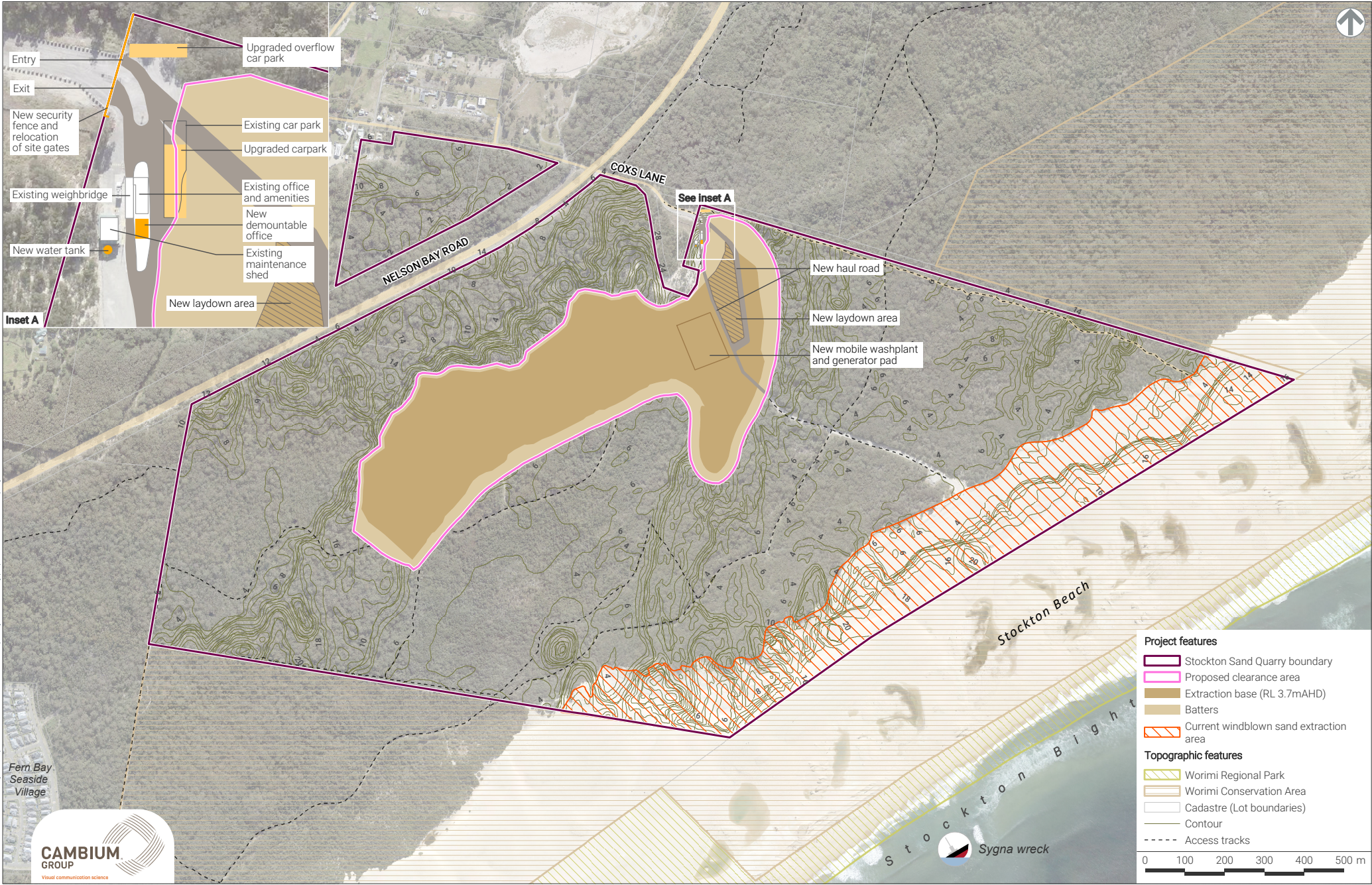
STOCKTON QUARRY DRY SAND EXTRACTION PROJECT | ENVIRONMENTAL IMPACT STATEMENT



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Figure 3
The Project

STOCKTON QUARRY DRY SAND EXTRACTION PROJECT | ENVIRONMENTAL IMPACT STATEMENT



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1.4 BORAL COMMITMENT TO BIODIVERSITY

The Quarry operates under a Boral integrated Health, Safety, Environment and Quality Management System (HSEQMS). The HSEQMS has commitments that support the Boral Environmental Policy through established standards and procedures which require internal conformance to high levels of environmental performance with continual improvement objectives.

1.4.1 Relationship to Rehabilitation Management Plan

A Rehabilitation Management Plan (RMP) will be prepared by a suitably qualified person/s to guide all rehabilitation activities associated with the project. A separate RMP will be prepared post-commencement (within 12 months) to outline site-specific rehabilitation measures, responsibilities, and performance criteria, as briefly outlined in Section 4.4 of this BMP and in accordance Condition B47 of the consent. The RMP will also be submitted to the regulatory authorities for comment and approval.

The EIS outlines that areas disturbed by the project would be progressively rehabilitated and revegetated. All project-related infrastructure would be decommissioned when redundant and removed, unless needed to support future post-mining land uses (in consultation with relevant stakeholders). Rehabilitation activities in these areas would comprise soil preparation (i.e. deep ripping for haul road corridors) and establishment of native vegetation in disturbed areas, utilising suitable rehabilitation species to minimise soil erosion and establish slope stability (Arnold 2023), further details are provided in the Rehabilitation Strategy for the project and RMP .

1.5 CONSULTATION

As per SSD-52984213 Condition A17 consultation must be undertaken with the relevant parties prior to submitting the document to the Planning Secretary for approval.

Documentary evidence and a tabulated summary of the consultation must be submitted with the subject document via the Major Projects Website, including:

- (a) dates of the consultation with the identified party, copies of the identified party's response, and a summary of the issues raised;*
- (b) the outcome of that consultation, including how the issues have been addressed in the subject document; and*
- (c) details of any disagreement remaining between the party consulted and the Applicant, and how the Applicant has addressed the matters not resolved.*

Correspondence associated with this Biodiversity Management plan is contained in **Table 3** and **Appendix A**.

Table 3: Consultation Summary Table

Date	Agency	Summary of Consultation
December 2024	Biodiversity and Conservation Science Group of the New South Wales Department of Climate Change, Energy, the Environment and Water (BCS)	BCS have been provided with a copy of this management plan to review. The requirement for consultation in Condition B13 (b) (ii), consultation is required to be undertaken with BCS . Recommendations provided in July 2025 include updates regarding: • Credit Retirement & Due Diligence • Qualified Plans & Consistency • Flora/Fauna Protection • Monitoring & Responsibilities Full recommendations are outlined further in Appendix A .
December 2024	Department of Planning, Housing and Infrastructure (DPHI)	DPHI have been provided with a copy of this management plan to review. The requirement for submission in accordance with Condition B13 (a).
July 2025	BCS	The Biodiversity & Conservation Science Group of the New South Wales Department of Climate Change, Energy, the Environment and Water (BCS) has been consulted through this process and provided recommendations regarding updates and amendments to the BMP, this has been completed prior to resubmission to DPHI. This BMP has been updated with the recommendations outlined in CHPR Response - Stockton Quarry - Biodiversity Management Plan Ref: DOC25/479211-2 dated 7 July 2025 outlined in Appendix A .
July 2025	DPHI	DPHI has provided Boral with the advice of the DCCEE. As per the recommendations of the BCS.
September 2025	DPHI	Implement performance criteria with SMART triggers against performance targets. Minor additional updates.

2 LEGAL AND OTHER REQUIREMENTS

2.1 ENVIRONMENT PROTECTION AND BIODIVERSITY CONSERVATION ACT 1999 (EPBC ACT)

The EPBC Act is Commonwealth legislation relating to matters of national environmental significance (MNES). The EPBC Act covers animals, plants, habitats and places, and any potential negative impacts on them are carefully considered before changes in land use or new developments are approved.

Direct impacts to flora and fauna species associated with ground disturbance and clearing within the project footprint are captured within the Biodiversity Assessment (Niche, 2023). The sand extraction does not involve intersection or take of groundwater, therefore indirect impact to flora and fauna habitat is unlikely.

2.2 BIOSECURITY ACT 2015

Under the *Biosecurity Act 2015*, Boral has a general biosecurity duty to prevent, eliminate, or minimise any biosecurity risks encountered. Under the *Biosecurity Act 2015 (NSW)* pests are any species (other than native species) that present a biosecurity threat. A pest means a plant or animal (other than a human) that has an adverse effect on, or is suspected of having an adverse effect on, the environment, the economy, or the community because it has the potential to:

- (a) *Out-compete other organisms for resources, including food, water, nutrients, habitat, and sunlight, or*
- (b) *Prey or feed on other organisms, or*
- (c) *Transmit disease to other organisms, or*
- (d) *Cause harm to other organisms through its toxicity, or*
- (e) *Otherwise reduce the productivity of agricultural systems or the value of agricultural products, or*
- (f) *Damage infrastructure, or*
- (g) *Reduce the amenity or aesthetic value of premises, or*
- (h) *Harm or reduce biodiversity.*

2.2.1 General Biosecurity Duty

Under Part 3 of the *Biosecurity Act 2015*, Boral and individuals have a general biosecurity duty:

Any person who deals with biosecurity matter or a carrier and who knows, or ought reasonably to know, the biosecurity risk posed or likely to be posed by the biosecurity matter, carrier or dealing has a biosecurity duty to ensure that, so far as is reasonably practicable, the biosecurity risk is prevented, eliminated or minimised.

2.3 BIODIVERSITY CONSERVATION ACT 2016

The purpose of the Biodiversity Conservation Act 2016 is to maintain a healthy, productive, and resilient environment for the greatest well-being of the community, now and into the future, consistent with the principles of ecologically sustainable development (described in section 6(2) of the Protection of the Environment Administration Act 1991).

Under the Biodiversity Conservation Act 2016, Boral must not:

- *Harm an animal that is protected (native), a threatened species, or part of a threatened ecological community,*
- *Pick a plant that is a protected plant (native), a threatened species, or part of a threatened ecological community; or,*
- *Damage the habitat of a threatened species or threatened ecological community, unless the act was necessary for the carrying out of a development in accordance with a development consent, within the meaning of the EP&A Act (see Section 2.1 of this BioMP).*

Section 5 & 6 of this Management Plan provides management measures to ensure that Boral limits impacts to biodiversity to those which are approved under SSD-52984213.

2.3.1 Biodiversity Conservation Regulation 2017

As per Condition B7 of the Development Consent the application of any ancillary rules published under clause 6.5 of the Biodiversity Conservation Regulation 2017.

6.5 (2) *The ancillary rules may*

(a) set out standards for the ecological rehabilitation of sites impacted by the carrying out of mining under a mining lease and the credit value of any such rehabilitation, and

(b) set out any impacts on threatened species or ecological communities that are excluded from the application of the variation rules, and

(c) set out the reasonable steps that a proponent is required to take to obtain requisite like-for-like biodiversity credits before the variation rules can be applied, which may include—

(i) checking the public register of biodiversity credits, and

(ii) lodging an entry in the public register of persons seeking biodiversity credits for a minimum specified period, and

(iii) contacting landholders who are entered on the public register of biodiversity stewardship site expressions of interest, and

(d) set out the biodiversity conservation actions that qualify as biodiversity conservation measures under the offset rules, and

(e) include any other provisions that the Environment Agency Head considers necessary or convenient for the purposes of the interpretation or application of the offset rules or variation rules.

2.4 NSW BIODIVERSITY OFFSET SCHEME

The Biodiversity Offsets Scheme provides a mechanism to avoid, minimise and offset the impacts of development and some types of clearing on biodiversity in New South Wales. Boral commits to satisfying the credit requirements using offset mechanisms allowed by the NSW Biodiversity Offset Scheme (i.e. retirement of biodiversity credits and/or contribution to the Biodiversity Conservation Fund).

Boral proposes implementing a staged-offset approach to reflect progressive vegetation clearing, consistent with that proposed for the current dredge application. The staged offset would involve the retirement of the required credits to reflect the clearing associated with each of the five stages of extraction. As per the EIS (ES4.4), it is considered that the direct loss of habitat associated with the project would be offset in accordance with the NSW Biodiversity Offset Scheme, which would result in no net loss in biodiversity.

2.5 STATE ENVIRONMENTAL PLANNING POLICY (BIODIVERSITY AND CONSERVATION) 2021

State Environmental Planning Policy (Biodiversity and Conservation) 2021 aims to encourage the proper conservation and management of areas of natural vegetation that provide habitat for koalas to ensure a permanent free-living population over their present range and reverse the current trend of koala population decline. The subject site occurs within the Port Stephens LGA, which is listed within Schedule 2 of the SEPP. Port Stephens Council currently has a Comprehensive Koala Plan of Management (CKPoM) for which would apply to Site as per the SEPP, outlined in the RTS Section 7.5.

The Koala was not recorded on the subject site during the EIS Biodiversity surveys and there are no historical records of the species in the subject site. Within the EIS, the Koala has been recorded within the locality, with the closest records being along Nelson Bay Road approximately 100 metres to the north of the subject site.

If a resident population of the Koala was present within the subject site, it is highly likely that there would be extensive sightings by Boral staff and rehabilitation contractors whilst working within the subject site. Given the lack of recent sightings and/or historical records in the subject site, the site is not considered to constitute 'core Koala habitat'.

2.6 DEVELOPMENT CONSENT (SSD-52984213)

SSD-52984213 stipulates the required biodiversity management criteria that the construction and operational activities of Site must comply with and sets out the core requirements of this Management Plan. Relevant conditions associated with this approval (including Statement of Commitments) and where they have been addressed in this document are reproduced in **Table 4** below.

Table 4: SSD-52984213 Consent Conditions Summary

Condition	Condition of Development Consent	Referenced in BioMP																					
A1	OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT In addition to meeting the specific performance measures and criteria established under this consent, all reasonable and feasible measures must be implemented to prevent, and if prevention is not reasonable and feasible, minimise, any material harm to the environment that may result from preconstruction works or the construction and operation of the development, and any rehabilitation required under this consent.	This Document																					
B7	BIODIVERSITY The biodiversity credits specified in Table 3 and Table 4 must be retired in accordance with the Biodiversity Offsets Scheme of the Biodiversity Conservation Act 2016, including the application of any ancillary rules published under clause 6.5 of the Biodiversity Conservation Regulation 2017.	Section 2.4 Section 4 Table 7 Table 8																					
B8	Staged Retirement of Biodiversity Credits Prior to undertaking any construction or operation activities that would impact on biodiversity values within the: (a) stage 1 impact area (as shown on Figure 3 in Appendix 4), the Stage 1 biodiversity credits as specified in Table 3 and Table 4 must be retired; (b) stage 2 impact area (as shown on Figure 3 in Appendix 4), the Stage 2 biodiversity credits as specified in Table 3 and Table 4 must be retired; (c) stage 3 impact area (as shown on Figure 3 in Appendix 4), the Stage 3 biodiversity credits as specified in Table 3 and Table 4 must be retired; (d) stage 4 impact area (as shown on Figure 3 in Appendix 4), the Stage 4 biodiversity credits as specified in Table 3 and Table 4 must be retired; (e) stage 5 impact area (as shown on Figure 3 in Appendix 4), the Stage 5 biodiversity credits as specified in Table 3 and Table 4 must be retired;	Section 4 (a) – (e)																					
B9	The Planning Secretary must be provided with evidence that confirms that the correct number and class of credits has been retired prior to the development impacting the biodiversity values associated with each stage identified by the plan included in on Figure 3 in Appendix 4.	Section 4																					
B10	Preliminary vegetation clearance Prior to the commencement of any preliminary vegetation clearance, the biodiversity credits specified in Table 5 must be retired in accordance with the Biodiversity Offsets Scheme of the Biodiversity Conservation Act 2016, including the application of any ancillary rules published under clause 6.5 of the Biodiversity Conservation Regulation 2017. Table 5: Preliminary vegetation clearance - Biodiversity credit requirements – Ecosystem and Species credits <table border="1"> <thead> <tr> <th>Credit Type</th><th colspan="2">Credits required</th></tr> <tr> <th>Ecosystem Credits</th><th>Area (ha)</th><th>Credits</th></tr> </thead> <tbody> <tr> <td>PCT1644 – Coast Tea Tree/ Old Man Banksia coastal shrubland</td><td>0.08</td><td>1</td></tr> <tr> <td>PCT 1646 – Smooth barked Apple/ Blackbutt/Old Man Banksia woodland</td><td>0.39</td><td>4</td></tr> <tr> <th>Species credits</th><th>Area (ha)</th><th>Credits</th></tr> <tr> <td>Squirrel Glider</td><td>-</td><td>12</td></tr> <tr> <td>Mahony's Toadlet</td><td>-</td><td>6</td></tr> </tbody> </table>	Credit Type	Credits required		Ecosystem Credits	Area (ha)	Credits	PCT1644 – Coast Tea Tree/ Old Man Banksia coastal shrubland	0.08	1	PCT 1646 – Smooth barked Apple/ Blackbutt/Old Man Banksia woodland	0.39	4	Species credits	Area (ha)	Credits	Squirrel Glider	-	12	Mahony's Toadlet	-	6	Section 4
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PCT1644 – Coast Tea Tree/ Old Man Banksia coastal shrubland	0.08	1																					
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Species credits	Area (ha)	Credits																					
Squirrel Glider	-	12																					
Mahony's Toadlet	-	6																					
B11	The Planning Secretary must be provided with evidence that confirms that the correct number and class of credits has been retired prior to the commencement of preliminary vegetation clearance.	Section 4																					

Condition	Condition of Development Consent	Referenced in BioMP
B12	Preliminary vegetation clearance must be undertaken in accordance with the due diligence checklist submitted with the documents listed in condition A2(c).	Table 10
B13	A biodiversity management plan must be prepared for the development. The plan must: (a) be submitted to the Planning Secretary for approval within six months of the commencement of development under this consent; (b) be prepared: (i) by a suitably qualified and experienced person/s; (ii) in consultation with the BCS; (iii) with reference to any relevant Biodiversity Management Plan guidance material provided by the BCS;	Section 1.3.2 Section 1.5
	(c) be consistent with the commitments included in the documents listed in condition A2(c);	This document
	(d) include a description of the measures and timeframes that would be implemented for: (i) minimising clearing and avoiding unnecessary disturbance of vegetation by the development; (ii) minimising the impacts to flora and fauna on site and implementing fauna recovery and management protocols; (iii) maximising the salvage of vegetative and soil resources, including tree hollows, within the approved disturbance area for beneficial reuse on site, including the enhancement of rehabilitation of the site; and (iv) controlling weeds, feral pests, and pathogens;	Section 6 (i) – (iii) Section 3.5 (iv) Table 10
	(e) include a program to monitor and report on the effectiveness of avoidance, minimisation and NSW Government 13 Stockton Dry Sand Extraction Project Department of Planning, Housing and Infrastructure (SSD-52984213) mitigation measures;	Section 5 Section 6
	(f) include an incidental threatened species finds protocol to identify the avoidance and/or minimise and/or offset options to be implemented if additional threatened species are discovered on site; and (g) include details of who would be responsible for monitoring, reviewing, and implementing the plan.	Table 10
B14	Construction and quarrying operation must not impact biodiversity values within the approved disturbance area must not commence until the biodiversity management plan is approved by the Planning Secretary.	Section 1.3.2
B15	The biodiversity management plan must be implemented, as approved by the Planning Secretary, prior to construction and quarrying operations impacting on biodiversity values within the approved disturbance area	Section 1.3.2
C4	MANAGEMENT PLAN REQUIREMENTS Management plans required under this consent must be prepared in accordance with relevant guidelines, and include: (a) a summary of relevant background or baseline data;	Section 3
	(b) details of: (i) the relevant statutory requirements (including any relevant approval, licence or lease conditions); (ii) any relevant limits or performance measures and criteria; and (iii) 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;	Section 2 (i) Section 6, Section 7 & Table 11 (ii)-(iii)
	(c) any relevant commitments or recommendations identified in the document/s listed in condition A2(c);	This document

Condition	Condition of Development Consent	Referenced in BioMP
	(d) a description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria;	Section 6 & Section 7
	(e) a program to monitor and report on the: (i) impacts and environmental performance of the development; and (ii) effectiveness of the management measures set out pursuant to condition C4(c)C5(c);	Section 6 (i) Section 8 (ii)
	(f) 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 7
	(g) a program to investigate and implement ways to improve the environmental performance of the development over time;	Section 8
	(h) a protocol for managing and reporting any: (i) incident, non-compliance or exceedance of the impact assessment criteria or performance criteria; (ii) complaint; or (iii) failure to comply with statutory requirements;	Section 8
	(i) public sources of information and data to assist stakeholders in understanding environmental impacts of the development; and	Section 8.3
	(j) a protocol for periodic review of the plan	Section 12

2.7 EPL REQUIREMENTS (EPL 10132)

The Protection of Environment Operations (POEO) Act 1997 is administered by the Environmental Protection Agency (EPA). The objectives of the POEO Act are to protect, restore and enhance the quality of the environment. There are no requirements from EPL 10132 relating to biodiversity.

2.8 GUIDELINES AND POLICIES

2.8.1 National Parks and Wildlife Service Lands

The quarry is bordered on three sides by the Worimi State Conservation and Regional Park areas (the Worimi areas). Under the NSW National Parks and Wildlife Service's (NPWS) has prepared guidelines (Developments adjacent to National Parks and Wildlife Service lands: *Guidelines for consent authorities* (NPWS, 2020) for planning authorities assessing development applications adjacent to land managed by NPWS, which includes the Worimi areas. The guidelines aim to avoid any direct or indirect impact on NPWS managed land and identifies a number of key issues that need to be considered by planning authorities.

3 BASELINE ENVIRONMENT

3.1 LAND USE HISTORY

The Aboriginal Cultural Heritage Assessment Report (Kelleher Nightingale 2023) details over 60 years of sand quarrying and landscape disturbance at the project site. Sand extraction activities began prior to G. Hawkins and Sons acquiring the land in the 1950s, with further extraction approved by Port Stephens Council in 1976. The 1994 Environmental Impact Statement (EIS) identified significant disturbance across multiple areas, including the eastern Phase 1-2 dune and former haul roads. Additionally, the eastern portion of the site was dredged for mineral sands between 2000 and 2003.

Boral acquired the site in 1992 and commenced sand extraction in 1996 under development consent. This process involved the clearance of native vegetation and sand extraction using front-end loaders, with up to 500,000 tonnes per annum transported by road. Extraction activities concluded in 2008, after which topsoil and vegetation were respread as part of progressive rehabilitation efforts. Despite these efforts, the site still exhibits evidence of disturbance, particularly in areas where extraction took place (Kelleher Nightingale 2023).

3.2 VEGETATION

As outlined in the EIS, field surveys were carried out to stratify the vegetation at the project site as per the Biodiversity Assessment Method (BAM). The field surveys confirmed that the project consists predominately of native vegetation, including a large portion of infill planting, which was conducted over the last two decades to rehabilitate the former inland dunes extraction area as part of DA 2010-94. Different condition classes were assigned to vegetation where obvious differences in structure and quality occurred, resulting in two plant community types (PCTs) and six vegetation categories (zones), presented in **Table 5** and shown in **Figure 4** below.

3.2.1 Vegetation Communities

The Biodiversity Development Assessment Report completed by Niche Environment and Heritage (2023) confirmed the project site mainly comprises native regeneration associated with rehabilitation of the former inland extraction area, including the following two plant community types (PCT) found in **Figure 4** and **Figure 5**:

- **PCT1646** - Smooth-barked Apple/Blackbutt/Old Man Banksia woodland on coastal sands of the Central and Lower North Coast; and
- **PCT1644** - Coast Tea Tree - Old Man Banksia coastal shrubland on foredunes of the Central and lower North Coast.

No threatened ecological communities (TEC) as defined by the *NSW Biodiversity Conservation Act 2016* (BC Act) and *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) were identified at the project site.

3.2.2 Vegetation Integrity

Vegetation integrity describes the degree to which the composition, structure, and function of vegetation at a particular site and the surrounding landscape has been altered from a near natural state. The site value assessment completed as part of the Biodiversity Development Assessment Report was carried out by entering plot data into the BAM Calculator. The data provides quantitative measures of composition, structure and function for each vegetation zone.

The BAM Calculator compares the values recorded with the benchmark for the vegetation class to provide the site value score. This score represents the overall condition of the vegetation compared against the benchmark. The vegetation scores for each zone in the subject site have been provided in **Table 6** below. The score from these inputs, coupled with data in the following section of this report, is used to determine the number of ecosystem credits that are required for development.

Vegetation zones that have a site integrity score of less than 17 out of 100 for a non-threatened ecological community do not need to be offset. As shown in **Table 6**, vegetation zone 'Zone 4' had a score of 15.7 and, as such, does not require to be offset. The remainder of the vegetation zones had a site integrity score greater than 17 and therefore requires biodiversity offsetting.

Table 5: Plant Community Types (PCT's)

Vegetation Zone	Plant Community Type (PCT)	Vegetation Formation	Vegetation Class	TEC	PCT % Cleared	Total (ha)	Plots required	Plots completed
1	PCT1646 - Smooth-barked Apple/ Blackbutt/ Old Man Banksia woodland on coastal sands of the Central and Lower North Coast	Dry Sclerophyll Forests (Shrubby sub-form)	Coastal Dune Dry Sclerophyll Forests	-	45	1.14	3	4
2						3.83	2	2
4						5.12	3	3
5						1.70	1	1
6						8.21	3	4
3	1644 - Coast Tea Tree - Old Man Banksia coastal shrubland on foredunes of the Central and lower North Coast	Dry Sclerophyll Forests (Shrubby subformation)	South Coast Sands Dry Sclerophyll Forests	-	86	2.67	2	2
-	Nonnative	-	-	-	-	2.49		
	Total					38.16	14	16
	Total native vegetation					35.67		

Table 6: Vegetation Zones and Site Integrity Scores

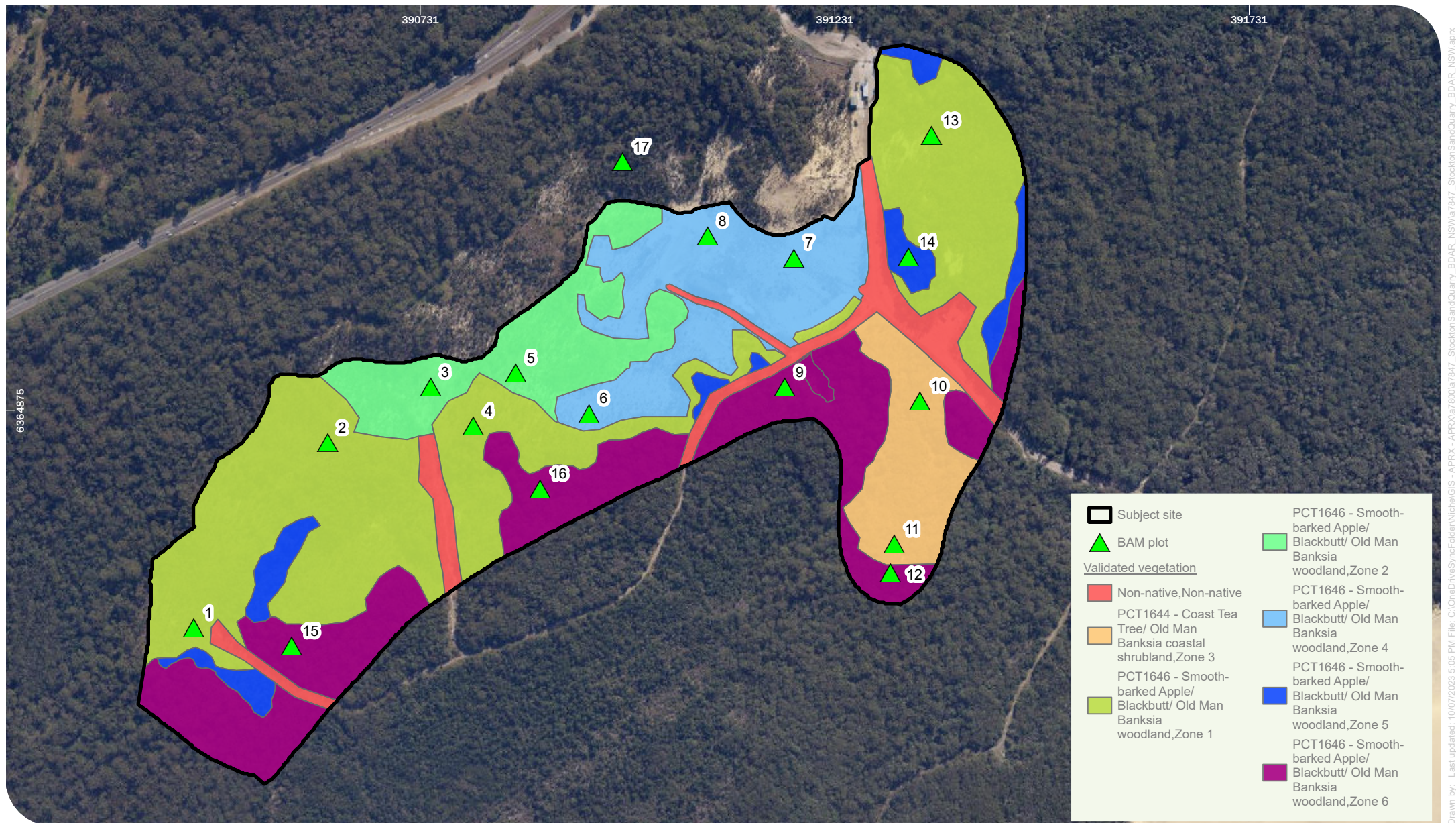
Plant Community Type	Condition identifier input used in Calculator.	Total (ha)	Site integrity	Offset required
PCT1646 - Smooth-barked Apple/ Blackbutt/ Old Man Banksia woodland on coastal sands of the Central and Lower North Coast	Zone 1	14.14	54.4	Yes
	Zone 2	3.83	27	Yes
	Zone 4	5.12	15.7	No
	Zone 5	1.70	65.8	Yes
	Zone 6	8.21	55.7	Yes
PCT1644 - Coast Tea Tree - Old Man Banksia coastal shrubland on foredunes of the Central and lower North Coast	Zone 3	2.67	23.1	Yes

Figure 4
Validated vegetation mapping



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3.3 FAUNA HABITAT SUITABILITY

3.3.1 Habitat Features

A field survey conducted at Site by Niche (2023) observed a clear difference in fauna habitat across the project site, attributed to the age of rehabilitation vegetation. Areas of relatively recent rehabilitation contained scattered logs, generally sparse ground cover and lacked a mid and canopy stratum. Conversely, older rehabilitation areas had a developing canopy and midstorey cover. As such, the remnant and older patches of rehabilitation would offer greater foraging habitat for a variety of fauna, including that of nectivorous birds and the Squirrel Glider.

The survey of rehabilitated areas did not identify trees mature enough to contain hollows, and as such, roosting and breeding habitat for a range of hollow-dependent species, such as microbats, was absent. Limited hollows within adjoining areas of the remnant vegetation occur, none of these had any evidence of owl usage. Logs have been scattered throughout the rehabilitation areas which provide habitat for reptiles and small ground-dwelling mammals, and foraging resources for birds.

The ground cover of rehabilitated areas is particularly sparse, however the sandy substrate may provide habitat for small to medium-sized mammals to create burrows for shelter. No habitat in the form of bush rock or rock platforms were identified, nor were there any permanent or ephemeral aquatic habitats on the site.

3.3.2 Habitat Connectivity

The site adjoins a large native vegetation corridor which extends along Stockton Bight to Anna Bay in the north, and Stockton in the south. The stretch of the vegetation corridor encompasses the Worimi Regional Park and Worimi State Conservation Area. To the west of the site, connectivity of this corridor is fragmented by Nelson Bay Road and the contiguous areas of cleared rural agricultural lands. These existing intrusions form a barrier to fauna movement in the area.

The removal of vegetation (predominantly tubestock plantings within the former inland extraction area) and habitat within the project site would not reduce the amount of important habitat features (e.g. hollow bearing trees) within the corridor to the degree that fauna roosting and foraging habitat would be significantly impacted. The removal of the vegetation within the project site is unlikely to restrict fauna movement along the corridor extending from Stockton Beach to Anna Bay given the following:

- the area to be disturbed is centered on the former inland extraction area which was historically cleared;
- vegetation would be retained along Nelson Bay Road and towards Stockton Beach allowing continued fauna movement along the corridor; and
- the haul road that is currently in operation for the windblown sand extraction area would not be widened as part of the project and as such no changes to existing fauna movement are likely.

3.3.3 Water Sustainability

In accordance with Clause 6.1 of the NSW Biodiversity Conservation Regulation 2017, assessment of the impacts within the EIS Response to Submissions by Niche review includes water sustainability. The degree to which water quality, water bodies and hydrological processes sustain threatened species and threatened ecological communities at a particular site. The site does not contain a permanent or semi-permanent

waterbody or a does not contain any creek lines.

The closest waterbody to the subject site is located more than 50 m to the north-east near the site compound. A dam is located approximately 100 m to the south-east of the subject site. Both these two waterbodies coincide with the records of the Mahony's Toadlet, and both waterbodies would not be impacted by the project. Both waterbodies may be used by the species for breeding and foraging.

Changes to hydrology as a result of the construction and operation of the Project are unlikely to result in any significant change to water retention or change in vegetation structure surrounding the watercourses as a result of groundwater retention rates.

3.3.4 Flight Path Integrity

The Site is located predominately within an area that has historically been cleared for former mine pits. The location will not impact migratory flight corridors or corridors important to sustain threatened biodiversity populations in the locality.

3.3.5 Fauna Species Richness

As recommended in the Response to Submissions EIS, the BDAR (Niche, 2024) outlines a total of 63 species were recorded during field surveys, comprising 44 birds, five amphibians, seven mammals, and seven reptiles. Of the species recorded, the Brush-tailed Possum and Ring-tail Possum were the most commonly encountered species, detection via infrared cameras and spotlighting. The Swamp Wallaby was the most encountered mammal during the day surveys.

3.3.6 Migratory Species

The EIS for Site states that no migratory species listed under the EPBC Act were observed adjacent to or in the Site. It was determined that eight migratory species could occur in or adjacent to the project site due to the presence of opportunistic foraging habitat. However, the extensive native vegetation to the north and south of the quarry in the Worimi Regional Park and Worimi State Conservation Area contains more habitat for the species.

3.3.7 Koala Habitat Suitability

The subject site has been mapped as 'Supplementary' Koala habitat, which is defined as 'habitat where Marginal Koala Habitat Middle-ranking Community overlap' (Port Stephens Council 2002). This habitat is regarded in the Council Comprehensive Koala Plan of Management (CKPoM) as 'important to the long-term conservation of Koalas in Port Stephens and thus also requires protection, albeit with less restrictions on development than Preferred Koala Habitat'.

The CKPoM includes performance criteria to assist development applications in the Port Stephens LGA demonstrate that developments are consistent with the objectives associated with the CKPoM. Given this BDAR is associated with an SSD rather than a local government development application, the performance criteria are not relevant to this Site, however Boral has considered the aims and objectives of the performance criteria to minimise potential impact to the Koala as detailed in **Section 6** and **Table 10**. In consideration to the project, RTS BDAR Section 7.6 details that the site:

- is unlikely to impact the long-term sustainability of the Koala population in Port Stephens LGA.
- it does not occur within important Koala habitat and will not impact core habitat or corridors. Mitigation measures will be implemented to minimise indirect impacts on the environment.
- the site follows BAM Koala survey guidelines to assess Koala presence.
- it involves the clearing of rehabilitated land, and habitat impacts will be mitigated.
- biodiversity credits will be provided to ensure long-term management and restoration of Koala habitat.

3.4 THREATENED ENTITIES

3.4.1 Threatened Flora

Niche (2023) prepared the Biodiversity Development Assessment Report (BDAR) to form part of the EIS. As part of this assessment an ecological assessment in accordance with the BAM (OEH 2020a) was undertaken and determined that there was no threatened flora recorded within the subject site during targeted field surveys.

3.4.2 Threatened Fauna

The BDAR (Niche, 2023) confirmed that 16 threatened and migratory fauna species are considered to have a moderate or high likelihood of occurrence within the project site; however, most of these species were determined to only utilise the project site for foraging on an intermittent basis. Three threatened fauna were recorded within the subject site during the field survey:

- Greater Broad-nosed Bat (*Scoteanax rueppellii*);
- Eastern Bent-wing Bat (*Miniopterus schreibersii*); and
- White-bellied Sea Eagle (*Haliaeetus leucogaster*).

All are regarded as 'ecosystem credit' species for this assessment given the absence of breeding habitat within the subject site. The assessment concluded that the Squirrel Glider is likely to occur within the subject site due to a historic record within the subject site. And whilst the amphibian survey did not detect the Mahoney's Toadlet, two records of the species occur adjacent to the subject site. Both the Squirrel Glider and the Mahoney's Toadlet are 'species credit' fauna, and trigger offsetting as per the BAM.

The project is regarded as Supplementary Koala habitat given the feed trees present along with the corridor linkage. Targeted surveys were undertaken as per the DPE (2022) Koala (*Phascolarctos cinereus*) Biodiversity Assessment Method Survey Guide. The targeted surveys did not detect the Koala, and therefore as per the guidelines the species is regarded as an 'ecosystem credit' fauna species for the BDAR.

None of the above species were detected during the field surveys and based on specific habitat requirements for each species (Appendix 1), it is likely that the subject site would only be used on an intermittent basis for foraging, if at all based on the surveyed habitat features. The extensive native vegetation that occurs throughout the land to the north and south within Worimi Regional Park and Worimi State Conservation Area are likely to offer greater habitat suitability for each of these species. Given the likelihood of occurrence and

potential use of the subject site, each of the threatened species have been considered in an EPBC Act Assessment of Significance.

3.4.3 Threatened Fauna Survey

Three threatened fauna were recorded within the site during the field survey:

- Greater Broad-nosed Bat (*Scoteanax rueppellii*);
- Eastern Bent-wing Bat (*Miniopterus schreibersii*); and
- White-bellied Sea Eagle (*Haliaeetus leucogaster*).

Seven Assessments of significance under the EPBC Act were required for threatened biodiversity:

- Black-faced Monarch (*Monarcha melanopsis*)
- White-throated Needletail (*Hirundapus caudacutus*)
- Spotted-tail Quoll (*Dasyurus maculatus*)
- Long-nosed Potoroo (*Potorous tridactylus*)
- Koala (*Phascolarctos cinereus*)
- New Holland Mouse (*Pseudomys novaehollandiae*)
- Grey-headed Flying-fox (*Pteropus poliocephalus*)

Which concluded that a significant impact as a result of the project was unlikely. As such, there is no requirement for an EPBC Act Referral regarding Commonwealth MNES, and no requirement to offset them. Biodiversity offsets required for unavoidable impacts from the site have been calculated as follows:

Ecosystem credits:

- **PCT1646:** Smooth-barked Apple/ Blackbutt/ Old Man Banksia woodland on coastal sands of the Central and Lower North Coast (540 credits); and
- **PCT1644:** Coast Tea Tree - Old Man Banksia coastal shrubland on foredunes of the Central and lower North Coast (31 credits).

Total Ecosystem Credits = 571 Credits

Species credits:

- Squirrel Glider (*Petaurus norfolcensis*) 700 credits.
- Mahoney's Toadlet (*Uperoleia mahonyi*) 297 credits.

Total Species Credits = 997 Credits.

3.4.4 Threatened Ecological Communities (TECs)

The EIS developed for the Site states a list relevant database searches, which identified 25 TECs that have been determined as potentially occurring within the locality. However, based on the results of the detailed vegetation validation, and review of the conservation advice of the TECs, no TECs were recorded on the site or are considered likely to occur.

3.4.5 Threatened Species Finds Protocol

As per Development Consent Condition B13 (f) to include an incidental threatened species finds protocol to

identify the avoidance and/or minimise and/or offset options to be implemented if additional threatened species are discovered on site can be found in the Unexpected Finds Protocol, outlined in **Section 6**.

Figure 6
Survey type, recorded threatened species and fauna habitat

STOCKTON QUARRY DRY SAND EXTRACTION PROJECT | ENVIRONMENTAL IMPACT STATEMENT



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3.5 THREATS

Threats to Biodiversity from the EIS assessment include weeds, pests, disease, pathogens and human disturbance. The assessment of impacts and identification of threats are outlined below. Management measures to outline management actions and comply with Development Consent Condition B13:

(d)(iv) include a description of the measures and timeframes that would be implemented for:

(d)(iv) controlling weeds, feral pests, and pathogens;

Threats are outlined below. Under the BC Act, defining threats that may be listed as a key threatening process include:

- Adversely affects threatened species or ecological communities; or,
- Could cause species or ecological communities to become threatened.

3.5.1 Weeds

During the Biodiversity Development Assessment Report field surveys, three high threat weeds (HTW) were recorded within BAM plots;

- Farmers Friend (*Bidens Pilosa*)
- Panic Veldtgrass (*Ehrharta erecta*) and,
- Africa Lovegrass (*Eragrostis curvula*).

Although the three high threat weeds were located across all vegetation zones, they were concentrated adjacent to existing disturbance areas. Other HTW recorded outside of the BAM plots include;

- Bitou bush (*Chrysanthemoides monilifera*),
- Crofton Weed (*Ageratina adenophora*) and
- Fire weed (*Senecio madagascariensis*).

3.5.2 Pests

Introduced fauna species recorded in the Site include:

- Red Fox (*Vulpes vulpes*),
- European Brown Hare (*Lepus europaeus*),
- European Rabbit (*Oryctolagus cuniculus*), and
- Common Myna (*Acridotheres tristis*).

Pest animals are not anticipated to increase as an indirect impact of the Site. The existing land use and historic use is quarry operations and this would continue for the lifetime of the Project. As such, land use is not changing and likely to influence pest populations, as outlined in the Response to Submissions review (Niche, 2024).

3.5.3 Disease and Pathogens

The BDAR review (Niche, 2024) determined that the Site is unlikely to transport pathogens to adjacent vegetation. Adjacent vegetation would not be accessible to contractors and machinery. Myrtle Rust and *Phytophthora cinnamomi* were the only two identified to be disease and pathogens that may be associated with the project.

- **Myrtle Rust** (*Austropuccinia psidii*) is a fungal disease known to affect plants such as eucalypts, bottlebrush and tea tree which are found on and around the Development Footprint. Myrtle Rust spreads naturally by wind, water, insects and animals as well as being carried in on contaminated vehicles and equipment. Myrtle Rust is prevalent in coastal areas with required humidity levels and is not considered likely to become established due to the Project activities.
- **Cinnamon Fungus** (*Phytophthora cinnamomic*) is a plant pathogen that can spread via any activity that moves soil, water or plant material. Dieback caused by the root-rot fungus is listed as a key threatening process under the EPBC Act. Spread of pathogens would be managed as part of the weed control program implemented to mitigate the potential impacts of weed invasion.

3.5.4 Human Disturbance

The subject site does not contain any karsts, caves, crevices, cliffs or rock. No human-made structures or non-native vegetation were identified in the subject land that would provide suitable habitat for any threatened species. No further assessment was required as part of the EIS Response to Submissions (Table 14 of the EIS RTS).

3.6 GROUNDWATER DEPENDENT ECOSYSTEMS

It is noted in the EIS that the Site is for dry sand extraction above the water table and so it would not impact ground water dependent ecosystems. As detailed further in the complimentary groundwater assessment completed by Umwelt (2023) and the Water Management Plan, the closest known listed groundwater dependent ecosystems (GDEs) to the Site are the Tilligerry Creek Wetlands and Hunter River Wetlands, located over 10 km to the north-east and south-west of the site, respectively.

The project would maintain a minimum 0.7 m buffer to the water table. As there would be no interception of groundwater as a result of extraction and given the distance to the closest known listed GDEs, there are not expected to be any adverse impacts to GDEs from the project.

4 BIODIVERSITY OFFSET CREDITS

Conditions B7 and B8 of SSD-52984213 require the retirement of biodiversity credits in **Table 7** and **Table 8**. In accordance with the Biodiversity Offsets Scheme of the Biodiversity Conservation Act 2016. Including the application of any ancillary rules published under clause 6.5 of the Biodiversity Conservation Regulation 2017.

On 8 April 2025 the Department of Planning and Environment contacted Boral to acknowledge the receipt of the Biodiversity Credit Report for Stages 0-2 for the Stockton Dry Sand Extraction Project and had no comments on the document at this time. This is considered to satisfy the Boral requirement to provide the Planning Secretary (DPHI) with evidence confirming the correct number and class of credits have been retired prior to the commencement of preliminary vegetation clearing. Additionally, Boral will continue to inform the DPHI on the tracking of credits throughout the life of the project including an update in the Annual Review.

Boral will retire the biodiversity credits required for each stage of the project in accordance with the development consent. As per Condition B8 of the consent prior to undertaking any construction or operation activities that would impact on biodiversity values within the Stage 1-5 as shown in Stage 1-5 Biodiversity credits as per **Table 7** and **Table 8**.

Impacts to native vegetation communities within the development site generate a requirement for 571 ecosystem credits. These 571 ecosystem credits also cover the credit requirement for ecosystem credit species. Threatened species identified or assumed to be present within the development site and likely to be impacted by the project generate a requirement for a total of 997 species credits.

Furthermore, in accordance with Condition B9 of the consent Boral will provide the Planning Secretary with evidence that confirms that the correct number and class of credits has been retired prior to the development impacting the biodiversity values associated with each stage identified by the plan included in on **Table 8** below.

Table 7: Biodiversity Credit Requirements – Ecosystem Credits

Credit	Credits required											
	Total		Stage 1		Stage 2		Stage 3		Stage 4		Stage 5	
Ecosystem Credits	Area (ha)	Credits	Area (ha)	Credits	Area (ha)	Credits	Area (ha)	Credits	Area (ha)	Credits	Area (ha)	Credits
PCT1644 – Coast Tea Tree/ Old Man Banksia coastal shrubland	2.7	31	2.59	30	0	0	0	0	0	0	0	0
PCT 1646 – Smooth barked Apple/ Blackbutt/Old Man Banksia woodland	27.8	540	7.34	156	2.39	44	5.5	91	6.31	120	5.95	125

Table 8: Biodiversity Credit Requirements – Species Credits

Credit	Credits required					
	Total	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
Species Credits						
Squirrel Glider	700	260	42	85	145	156
Mahony's Toadlet	297	227	64	0	0	0

4.1 DRILLING PROGRAM PRELIMINARY VEGETATION CLEARANCE

In accordance with the EIS and Condition B10 of the Consent, Boral is to prepare a widespread drilling program that would enable them to:

- monitor the level of the water table over the life of the project; and
- provide an accurate representation of the quality of the sand resource across the project site.

To enable drilling to commence prior to extraction, preliminary clearing of approximately 0.5 ha of vegetation is proposed to allow for the required network of access tracks and turning areas. Access tracks would be a maximum 2.6 m wide and turning areas a maximum of 40 m² (10 m x 4 m). Preference is given to locating the proposed boreholes in low lying areas and areas of cleared vegetation to minimise clearing where possible. Condition B10 of the consent states that prior to the commencement of any preliminary vegetation clearance, the biodiversity credits specified in **Table 9** below must be retired in accordance with the Biodiversity Offsets Scheme of the Biodiversity Conservation Act 2016, including the application of any ancillary rules published under clause 6.5 of the Biodiversity Conservation Regulation 2017.

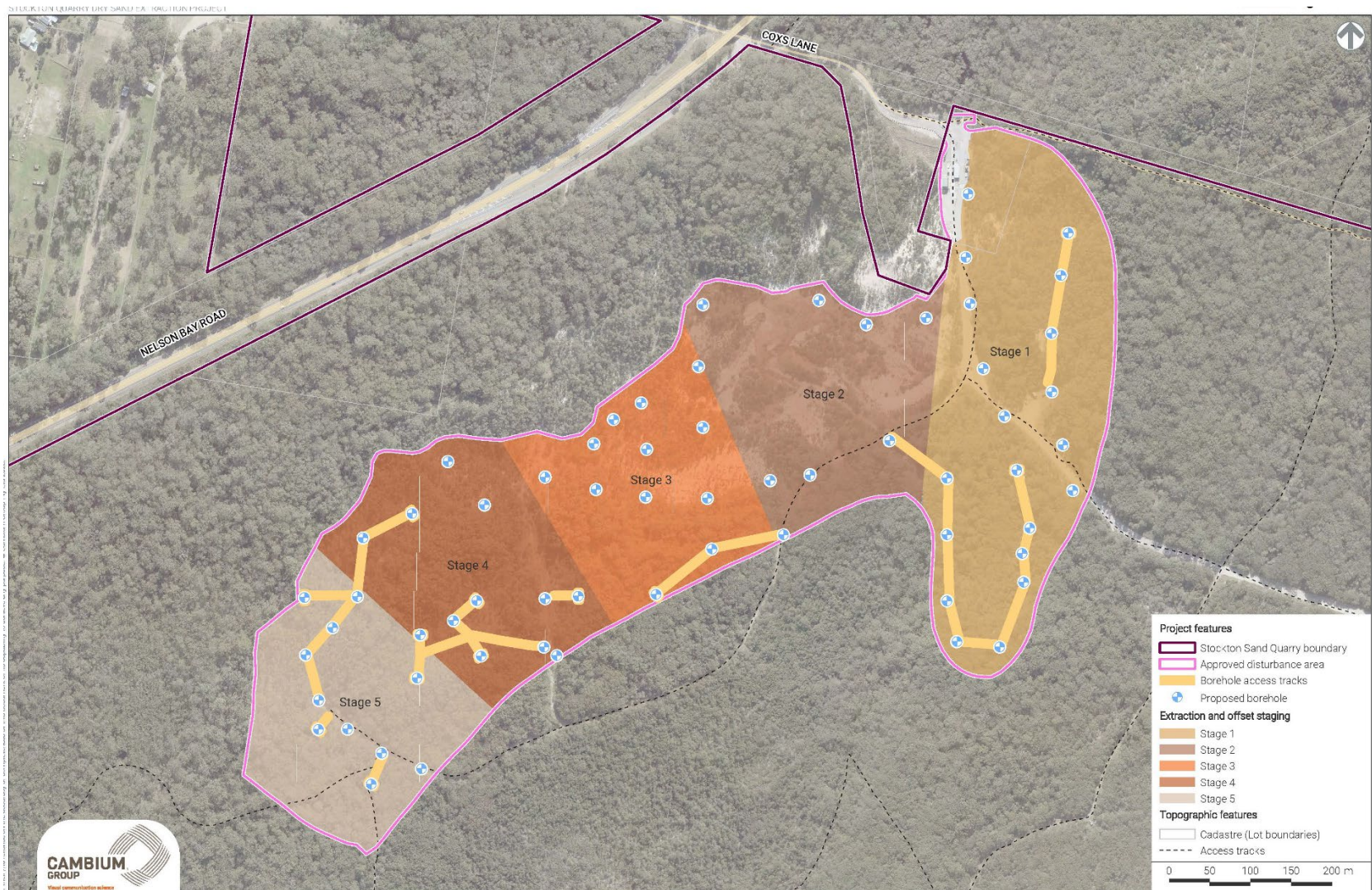
Boral will provide the Planning Secretary with, in accordance with Condition B11 of the consent, evidence that confirms that the correct number and class of credits has been retired prior to the commencement of preliminary vegetation clearance and at each stage of the development ongoing. Additionally, preliminary vegetation clearance will be undertaken in accordance with the due diligence checklist submitted with the documents listed in condition A2(c) of the consent, this checklist has been provided in **Appendix B** and will be kept in internal records, reported on in the annual report.

Following feedback by DCCEE and in accordance with Condition B12 of the Consent a due diligence checklist is required to be completed for each borehole and access track, and the tree clearing report will be completed by a suitably qualified and experienced person/s. Evidence of completion of the due diligence checklist will be included as part of the annual review submission confirming no more than 0.5ha of vegetation clearing. Should threatened flora or fauna, or suspected threatened flora or fauna, be encountered during the preliminary clearing, the procedure is outlined in **Table 10**.

Table 9: Consent Condition B10 – Preliminary Vegetation Clearance and Biodiversity Credit Requirements (Ecosystem and Species)

Credit Type	Credits required	
Ecosystem Credits	Area (ha)	Credits
PCT1644 – Coast Tea Tree/ Old Man Banksia coastal shrubland	0.08	1
PCT 1646 – Smooth barked Apple/ Blackbutt/Old Man Banksia woodland	0.39	4
Species credits	Area (ha)	Credits
Squirrel Glider	-	12
Mahony's Toadlet	-	6

Figure 7
Staged Retirement of Biodiversity Offsets (SSD-52984213)



5 BIODIVERSITY MONITORING

All construction and quarrying activities at Stockton Quarry will be confined to the approved disturbance area, as defined in the Development Layout Plan and marked in the field by a registered surveyor prior to commencement. Monitoring and compliance auditing will ensure that biodiversity protection measures are implemented effectively, with findings reported in the Annual Review as required by Condition C10. These measures will ensure that biodiversity values are not adversely impacted by quarry operations beyond the approved limits, in accordance with Condition B14 of the Development Consent.

As per Condition B13 (e) of SSD-52984213 Boral's monitoring and management regarding biodiversity can be found in **Table 10** below. Monitoring and inspection requirements include the following:

Monthly Inspections

- All exclusion and boundary fencing will be visually inspected to ensure structural integrity, correct placement, and ongoing effectiveness. Any signs of damage, wear, or unauthorised access will be rectified immediately.
- All environmental and exclusion zone signage will be routinely monitored for wear, damage, or fading and promptly repaired or replaced as required.
- Revegetated areas will be visually inspected to identify any vegetation dieback, pest damage, or need for maintenance (e.g., watering, supplementary planting).
- Internal records will be maintained for notifiable events, inductions, and toolbox talks. These will be checked monthly and updated periodically.
- Routine pest and weed surveillance (visual observations of rabbits, foxes, or weed infestations) will be included in monthly site inspections, with findings recorded and acted upon as necessary.

Pre-clearing Inspections as per the EIS

- Conducted no more than 48 hours prior to clearing by a qualified ecologist or wildlife handler. Key habitat features (e.g., hollow-bearing trees, logs, and habitat stags) will be identified, marked, and georeferenced.
- Where possible, habitat features will be avoided through micro-siting adjustments.
- Compliance with clearing limits will be documented and tracked via the GIS and site survey database.
- Pre-clearing surveys and clearing events will be reported at each event and summarised annually in the Annual Review.

Ecological Monitoring

- There is no specific ecological monitoring proposed for the project, as outlined earlier there are pre clearance and monthly inspection requirements.
- See **Section 9.1.** for the annual reporting of biodiversity activities prepared in accordance with the requirements of Condition 10.
- The Rehabilitation Management Plan will outline the monitoring requirements regarding rehabilitation.

6 BIODIVERSITY MITIGATION MEASURES

The mitigation measures outlined in **Table 10** have been outlined from the commitments made in the EIS, RTS, and BDAR, and are designed to minimise impacts on biodiversity values across all stages of the project. These measures address key aspects of vegetation clearance, fauna management, weed and pest control, habitat feature salvage, topsoil handling, vehicle management, and rehabilitation.

Table 10: Biodiversity Mitigation Measures

Mitigation ID	Description / Action	Frequency / Timing for Monitoring and Reporting	Responsibility	Condition / EIS Section Reference
General				
B1	A project specific landscape and rehabilitation management plan shall be prepared to reflect biodiversity management measures associated with the project and having regard to the rehabilitation management requirements and controls outlined in Section 18.2.6 of the projects EIS.	Approved within 12 months of quarrying commencement.	Quarry Manager	Condition B47 (a) Section 18.2.6 of the EIS.
B2	General site inspections and records	Ongoing monthly visual inspections, summarised annually.	Quarry Manager	EIS Management Action Plan 1.5
Fencing and Signposting				
B3	- The use of highly visible rope, or tape boundaries flagging and boundary markers will be used to delineate the boundary of vegetation clearing at the edge of the proposed extraction area. - Exclusion zones including tree protection zones (TPZ's) will be in general accordance with the principles of Australian Standard AS4970-2009 – Protection of Trees on Development Sites for the life of the project. - Manage access through the use of high visibility line with reflective tags and warning signs and fencing and gates at the site entrance.	Construction phase and ongoing, inspected monthly.	Quarry Manager	EIS 5.1.4 Note: exclusion zone point added by the DCCEEW recommendation
B4	Signposting shall be used to inform project personnel and site visitors of areas of conservation value, to restrict entry or inform behaviour that would reduce incidental interactions with threatened species, flora, fauna and the public. - Posts for signage and high visibility line are made of flexible shatterproof plastic to prevent injury to the public during possible collision speed limits along access roads to reduce potential for fauna vehicle strikes - Contact details will be prominently displayed on the site boundary fence.			
Employee Education				
B5	Employees and contractors inducted to the site will be provided with education on environmental aspects including biodiversity and are required to abide by the following controls to minimise potential environmental impacts associated with the project: Dust generation shall be minimised by minimising the extent and time that bare sand is exposed and by appropriate sand suppression	Construction phase and ongoing with records maintained.	Quarry Manager & all staff	EIS RTS 8.1.2

Mitigation ID	Description / Action	Frequency / Timing for Monitoring and Reporting	Responsibility	Condition / EIS Section Reference
	- Procedures for the management of hydrocarbon and/or chemical spills throughout the project site shall be undertaken, including the requirements for vehicles to carry spill kits - Vehicles shall remain on designated roads and tracks and abide by site speed limits, through use of signposting and driver education for areas of conservation value to restrict entry or inform behaviour that will reduce incidental interactions with threatened species during the induction process and in on-going project discussions - Staff and contractors involved in vegetation clearance works would be made aware of clearing limits via the ground disturbance process			
Vegetation Clearance				
B6	Vegetation clearing will be undertaken progressively and strictly within approved disturbance areas as defined in Appendix C. Boral's vegetation clearing protocol will be adopted under the landscape and rehabilitation management plan, and will include the following key protocols: <u>Pre-Clearing Procedure</u> - Locate potential habitat features within proposed disturbance areas (such as hollows for example habitat for threatened woodland birds, owls, arboreal mammals and bats) that may require special management during clearing - Identify habitat features (such as hollows for example habitat for threatened woodland birds, owls, arboreal mammals and bats and bushrock) that can be salvaged (where practicable) for reuse in rehabilitation areas or in adjoining non-disturbed native vegetation areas - Identify trees with actively nesting threatened birds - Search for threatened species within areas of suitable habitat - A suitably trained and qualified ecologist or wildlife handler would be present during the clearing of identified habitat trees to manage animals that may be encountered during land clearing - The extent of the work site is designated visibly (e.g. through temporary bunting or survey pegs) in the field to ensure the extent of clearing is known and inadvertent clearing is avoided. - Within the disturbance area, an ecologist or suitably qualified person is to identify and mark all habitat trees (being those containing hollows, cracks, splits, spouts, large amounts of peeling bark sheets, active bird nests, and possum dreys) using spray paint and flagging tape and, using a GPS, record the location. - Follow tree felling procedures outlined below	Prior to and during vegetation clearing included in annual review reporting.	Quarry Manager	EIS - Niche (2023) Management Action Plan Table 21 – Proposed Mitigation Measures
	<u>Tree Felling Procedure - Non Hollow / Habitat Tree</u>	Prior to and during vegetation		EIS - Niche

Mitigation ID	Description / Action	Frequency / Timing for Monitoring and Reporting	Responsibility	Condition / EIS Section Reference
	- Complete a visual inspection of the area to be cleared for fauna species and nests that may have become active since pre-clearing inspections. - Shake or knock the tree for at least 30 seconds, or as appropriate, prior to felling to encourage fauna to abandon the tree. - Lower the habitat tree as gently as possible, noting in some situations manual felling by chainsaw may be appropriate. - Capture of any displaced or injured fauna. Unharmd fauna are to be released into a nearby location which is not subject to future disturbance by the Project, on the same day. Injured fauna are to be triaged immediately, humanely euthanised if required (i.e. if injuries are deemed too substantial, making it inhumane to keep the injured animal alive), or taken to a veterinarian or wildlife carer for further attention if required. All personnel who are involved in the capture/handling/housing and/or transport of native fauna species (injured or uninjured) must be suitably qualified	clearing included in annual review reporting.		(2023) Management Action Plan
	<u>Tree Felling Procedure – Hollow-bearing trees / Habitat trees</u> A two-staged approach to vegetation clearing is to be carried out for the removal of hollow-bearing trees/trees containing disused nests. The first stage is the removal of trees that do not contain any hollow and active nests (described above). Following a period of 48 hours, the second stage of clearing is for trees with hollows/habitat. Such trees may be cleared in the presence of an ecologist. - Complete a visual inspection of the hollow-bearing trees/habitat trees that remain after stage 1 clearing process has occurred. - Shake or knock the habitat tree for at least 30 seconds, or as appropriate, prior to felling to encourage fauna to abandon the tree. - Lower the habitat tree as gently as possible, noting in some situations manual felling by chainsaw may be appropriate. - Inspect the hollows and nests, prior to moving the tree. - Capture of any displaced or injured fauna. Unharmd fauna are to be released into a nearby location which is not subject to future disturbance by the Project, on the same day. Injured fauna are to be triaged immediately, humanely euthanised if required (i.e. if injuries are deemed too substantial, making it inhumane to keep the injured animal alive), or taken to a veterinarian or wildlife carer for further attention if required. All personnel who are involved in the capture/handling/housing and/or transport of native fauna species (injured or uninjured) must be suitably qualified.	Prior to and during vegetation clearing included in annual review reporting.		EIS - Niche (2023) Management Action Plan
B7	<u>Pre Clearance Fauna Survey:</u>	Prior to and during clearing	Quarry Manager	Niche RTS Table

Mitigation ID	Description / Action	Frequency / Timing for Monitoring and Reporting	Responsibility	Condition / EIS Section Reference
	Pre-clearance fauna surveys would be undertaken by a suitably trained and qualified ecologist or wildlife handler to: • Locate potential habitat features within proposed disturbance areas (such as hollows [e.g. Habitat for threatened woodland birds, owls, arboreal mammals and bats]) that may require special management during clearing • Identify habitat features (such as hollows [e.g. Habitat for threatened woodland birds, owls, arboreal mammals and bats] and bushrock) that can be salvaged (where practicable) for reuse in rehabilitation areas or in adjoining non-disturbed native vegetation areas • Identify trees with actively nesting threatened birds • Search for threatened species within areas of suitable habitat	and summarised annually.		21
B8	<u>Fauna Displacement Protocol:</u> Displacement of fauna may occur as part of the clearing process. All clearing will be supervised by a suitable qualified, experienced and licenced ecologist / fauna handler, the following protocol should be followed in case of an injured animal: • Any fauna displaced during clearing are to be captured where possible and relocated to pre-planned areas (fauna to be captured and handled only by personnel trained to do so). • In an event that fauna are injured during clearing, the NSW Wildlife Information, Rescue and Education Service (WIRES) will be contacted to handle and collect for appropriate care and rehabilitation.	During construction and operations. Prior to and during clearing, when fauna is observed.	Quarry Manager	EIS Section 10.3 EIS RTS BDAR Table 21
B9	In an event that fauna are injured during clearing, the NSW Wildlife Information, Rescue and Education Service (WIRES) shall be contacted to handle and collect for appropriate care and rehabilitation.	Prior to and during clearing and ongoing throughout operations.	Quarry Manager	EIS Section 10.3
Pest Management				
B10	Management of feral pest activity for repeated sightings of feral animals such as dogs, rabbits and foxes within the disturbance footprint or rehabilitation area: • Baiting programs will continue to be implemented, as required and in conjunction with the relevant authority, to control the presence of feral animals as per the RLMP Section 6.7 (RWCorkery, 2020) and this strategy will be incorporated in the RLMP for the project area.	Ongoing throughout operations.	Quarry Manager	EIS Section 10.3
Weed and Pathogen Management				

Mitigation ID	Description / Action	Frequency / Timing for Monitoring and Reporting	Responsibility	Condition / EIS Section Reference
B11	Weed and pathogen management with a focus on vehicle/machinery hygiene control to prevent spread of weeds and pathogens, as well as physical and/or chemical weed removal/control. A pest and weed management is outlined below similar to those implemented under the existing management plan adopted for the Windblown Project (ERM 2010). Boral's weed management on-site has been successful and will continue. Weeds will be managed across the site through a series of control measures, including: - Weed management occurs on a regular basis with more activities directed to spring and summer months when weeds are more prevalent. - Hosing down "at risk" equipment in an approved wash down area before entry to site - Scalping weeds off topsoil stockpiles prior to re-spreading topsoil - Regular inspections of rehabilitation to identify potential weed infestations - Identifying and spraying existing weed populations on-site together with ongoing weed spraying over the life of the quarry - Regular inspection of areas to be stripped and on topsoil stockpiles and use of suitable herbicides to prevent weed establishment and infestations occurring. - Access to the site would be restricted and weeds and pathogens are very unlikely to be transported from the site to adjacent vegetation via vehicles or human activity. - Management protocols for the identification of noxious or important environmental weeds within areas to be cleared (in order to avoid transporting the weeds to rehabilitation areas or other parts of the site) will include removal completed by contractor using integrated management techniques from WoNS and NSW priority weeds.	First year and ongoing during construction, operations, and rehabilitation.	Quarry Manager	EIS 10.3 RTS BDAR Table 21 and RTS 2.2.2 of the Niche Assessment 'Weed Management' RLMP Stockton Transgressive Dune Quarry
Vehicle Speeds				
B12	Speed limits would be imposed on all vehicles using internal mine roads and access tracks to not impede Koala movement or fragment habitat and avoid collisions.	During construction, operations.	Quarry Manager	Traffic Management Plan & RTS BDAR
B13	Vehicles shall remain on designated roads and tracks and abide by site speed limits, through use of signposting and driver education during the induction process and in on-going project discussions.	During construction, operations.	Quarry Manager	Traffic Management Plan RTS BDAR
Topsoil and Salvage				
B14	Utilise the top-soil from remnant vegetated areas to assist in the rehabilitation process. Topsoil stripping, stockpiling, handling, re-spreading, amelioration, and seedbed preparation. Topsoil and habitat features	During construction, operations.	Quarry Manager	Not covered in the EIS, however

Mitigation ID	Description / Action	Frequency / Timing for Monitoring and Reporting	Responsibility	Condition / EIS Section Reference
	(such as hollow logs and coarse woody debris) will be salvaged where practicable prior to clearing. Topsoil will be stripped progressively within approved disturbance areas and stockpiled in stable locations for later use in rehabilitation. Habitat features, including hollow logs, will be relocated to adjacent undisturbed areas or designated rehabilitation zones to enhance fauna habitat. <u>The topsoil process includes:</u> • Topsoil will be maintained in a slightly moist condition during stripping. Where possible, material will not be stripped in either an excessively dry or wet condition. • Stripped topsoil will be placed directly onto regraded disturbed areas and spread immediately (if quarry sequences, equipment schedules and weather conditions permit) to minimise the requirement for stockpiling. • Where stockpiling is required, soil will be graded or pushed into windrows with excavators, graders or dozers for loading into rear dump trucks by front-end loaders. This is the preferred method as it minimises compression effects of the heavy equipment that is often necessary for economical transport of soil material. • Soil stockpiles surfaces will be left in a coarsely-textured condition (rough, not smoothed) to promote infiltration and minimise erosion until vegetation is established, and to prevent anaerobic zones forming. • Where possible, a maximum stockpile height that prevents biological and structural degradation will be maintained. • Free-draining stockpiles will be created to minimise the formation of anaerobic zones. Stockpiles will be formed in a "chevron" profile with batters roughly graded to achieve slopes approaching 18°, where practicable, but not smoothed. • If long-term stockpiling is planned (i.e. greater than 12 months), stockpiles will be seeded and fertilised. • Consideration should be given if an annual cover crop species that produces sterile florets or seeds are to be sown. A rapid growing and healthy annual pasture sward provides sufficient competition to minimise the emergence of undesirable weed species. • Topsoil will be spread to a nominal depth range of 0.1 m (steep slopes) up to 0.2 m (flatter areas). Soil respreading on steep slopes at depths exceeding 0.1 m can be deleterious because of the "sponge" effect, which can cause slippage of the topsoil from the slope. • Strip and stockpile topsoil progressively in approved areas. <u>The salvage process will include</u> • Salvage hollow logs and coarse woody debris for reuse. • Relocate habitat features to rehabilitation zones. • Salvage of key habitat features (e.g., hollows, bushrock, logs) will be undertaken where practicable for reuse in rehabilitation areas or adjacent vegetation. • Seed collection for rehabilitation will be in accordance with Florabank Guidelines. • Some of the vegetation on site (SSD-52984213) will be mulched and then this material will be moved to Pit 7 (DA140-6-2005) area to assist with stabilisation of dunes prior to rehabilitation			Boral has discussed with DPHI EIS Section 10.3 Niche BDAR Section 2.3

Mitigation ID	Description / Action	Frequency / Timing for Monitoring and Reporting	Responsibility	Condition / EIS Section Reference
	activities. - The site will utilise logs for stabilisation. - The management plans relating to DA140-6-2005 will also be updated to reflect methodology changes.			
Flora and Fauna				
B15	<u>Fauna Habitat Clearing Protocol and Recovery Management</u> - Immediately prior to clearing, a suitably qualified ecologist or wildlife handler will undertake pre-clearing surveys. Identified habitat features (including hollows) will be inspected immediately prior to clearing to determine fauna use. Any fauna located will be trapped and relocated to adjoining undisturbed areas. - Hollow-bearing trees unable to be inspected will be felled in 1–2 metre sections from the crown down, preserving hollows. Each section will be inspected and treated under ecologist supervision. - Alternatively, habitat trees will be 'soft felled' by machinery (excavator or similar) using a tap-and-observe method (minimum 1-minute observation intervals) as directed by the supervising ecologist. - All felled habitat trees will remain in situ for at least 24 hours before stockpiling or processing. - No clearing will occur during temperatures >35°C to reduce heat stress on displaced fauna. - Works will be scheduled outside breeding or torpor seasons of key fauna species likely to occur on-site (details to be confirmed in consultation with the project ecologist). - Temporary frog-proof/exclusion fencing will be installed near waterbodies to prevent amphibian entry / confirmation if required by an ecologist. - A record of effectiveness of these measures will be maintained and reported annually.	Prior to and during clearing, construction, operations and ongoing.	Quarry Manager / ecologist or suitably qualified person/s	Direct text from the DCCEEW recommendations
B16	<u>Incidental Threatened Species Finds:</u> Actions to be undertaken in the event threatened species, populations, or communities are unexpectedly identified on the project. This may occur where: - A known species / ecological community that occurs on Site is listed as threatened under the NSW Biodiversity Conservation Act 2016. - Environmental management actions improve the habitat suitability on Site such that a new population of a threatened species occurs within the project area. - Changes to the local climate change the habitat suitability on Site such that a new population of a threatened species occurs within the project area. - A threatened species occurs within the project, but has not been recorded during the environmental impact assessment for this project.	At the time of the observed incidental species find, reported to the Quarry Manager immediately.	Quarry Manager and all staff / contractors	Condition B13 (f)
B17	<u>The Incidental Threatened Species Finds Protocol</u> If native flora or fauna is found, stop work and determine if it is a threatened species		Quarry Manager and all staff / contractors	Condition B13 (f) and DCCEEW July 2025

Mitigation ID	Description / Action	Frequency / Timing for Monitoring and Reporting	Responsibility	Condition / EIS Section Reference
	- If the native flora or fauna that has been found is a threatened species, or it cannot be identified, notify the quarry manager who will then notify the project ecologist / fauna spotter catcher (if not already present) - The project ecologist is to assess the occupied habitat within the development footprint and assess the likely impact and development management options - If the project ecologist identifies that an impact is not likely to occur to the threatened species, then recommence works and maintain regular inspections of the area where the threatened species was found. Construction site staff are to be notified of the threatened species find via pre-start / toolbox talks. - Where the project ecologist identifies that an impact is likely to occur to the threatened species, Boral will notify and consult with the appropriate regulatory authorities, as required. Re-commence works once advice has been sought and / or works implemented (if required) have been obtained / completed.			Recommendation
Unexpected Finds Procedure				
B18	If a suspected threatened entity is unexpectedly identified on the Site: - Stop work and take measures to protect / avoid the threatened entity. - Notify the NSW environment agency and request advice for the appropriate management of the threatened entity. - Engage an ecologist to assess the risk to the threatened entity and provide recommendations for management. - Submit a tailored management plan for the threatened entity to the relevant authorities for approval. - Review the Biodiversity Management Plan and liaison with DPHI and DCCEEW. - Implement the amended and approved management plan for the threatened entity. Resume work and monitor for any potential impacts to the threatened entity – if unexpected impacts to the threatened entity occur, stop work, and return to Step 2.	At the time of the unexpected find.	Quarry Manager	EIS RTS Table A.1
Rehabilitation / Revegetation				
B19	There is a separate RMP, although as per recommendations there is a brief summary in the on the rehab requirements below. Monitoring of rehabilitated areas will include inspections focusing on vegetation health, species diversity, and weed occurrence (as per EIS Table 5). Indicator sites will be established, with photo-point, lidar and surveys will be maintained internally. Annual inspections by a qualified ecologist will assess progress against the performance criteria, including weed cover and native species density and diversity. Results will be documented in the Annual Review, with corrective actions implemented where targets are not	During operations and rehabilitation.	Quarry Manager	Existing RLMP EIS RTS 2.6.1 Niche report (2023) Outlined further in the upcoming RMP.

Mitigation ID	Description / Action	Frequency / Timing for Monitoring and Reporting	Responsibility	Condition / EIS Section Reference
	met. - Shrub and tree species endemic to the region will be seeded or planted as tubestock. - Regeneration of disturbed areas through the collection and planting of seeds and runner propagation. - Direct planting of tube stock in buffer areas. - Plant species selection have been identified in section 4.6 of the Rehabilitation Strategy (EES, 2023) which has taken into consideration the lessons learned for the historic and current rehabilitation at the project site.			
Bushfire				
B20	Bushfire risk would focus on - Education and training, - Reducing bushfire hazard (principally fuel levels), - Minimising and controlling ignition sources and - Developing appropriate responses and evacuation strategies.	During construction, operations.	Quarry Manager	Niche RTS 7.2.14

Note; Extraction Area (within the Project Approval Area) and Remnant Vegetation Area (area within Project Approval area that will not be disturbed by the Project).

Note: A project specific Landscape and Rehabilitation Management Plan (will be prepared to reflect biodiversity management measures associated with the Project in order to protect and manage important biodiversity values. It is envisaged that the project specific plan would be similar to the existing Landscape and Rehabilitation Management (Boral, 2010) adopted in relation to the existing Windblown Sand Project. This existing Plan discusses key commitments relating to threatened species management, pest and weed management, fire management and site hygiene practices.

7 TRIGGER ACTION RESPONSE PLAN

The Trigger Action Response Plan (TARP) defines the minimum set of corrective actions that the site must implement in response to unpredicted impacts or abnormal conditions (triggers). The trigger levels are determined based on regulatory requirements, previous monitoring, and best practice management. The TARP is displayed in **Table 11** below. The monitoring and management program in **Table 10** assesses the effectiveness of biodiversity management, weed and pest control, and rehabilitation activities. Measurable performance criteria and corrective actions will be implemented if monitoring identifies that performance targets are not being met. **Table 11** outlines the performance targets and triggers for implementing corrective actions, as derived from the EIS and RTS. It should be noted this BMP establishes immediate SMART targets and triggers for habitat salvage, weeds, pathogens, pests, species density and revegetation, consistent with SSD-52984213 Conditions. The Rehabilitation Management Plan (Condition B47) will provide further detail on long-term performance measures, progressive rehabilitation strategies, and final landform/closure objectives.

Table 11: Trigger Action Response Plan

Aspect	Performance Target	Corrective Action Trigger	Corrective Action
<u>Habitat Feature Salvage</u> SSD-52984213 B13(d) (ii)	100% of viable biodiversity resources including tree hollows, logs, topsoil and seedbank are salvaged from the approved disturbance areas for beneficial reuse. All salvaged resources will be recorded and reused onsite preferably in rehabilitation areas (if available).	Salvaged features are not reused onsite or stockpiled for future use within 30 days of clearing activities.	Recover and reintroduce habitat materials to rehabilitation zones as per RTS BDAR Table 21. Record and report in the Annual Review.
<u>Weeds</u> SSD-52984213 B13(e) (iv)	Prioritising reduction of the Weeds of National Significance (WoNS) and other high-priority or noxious weed species in line with the Hunter Regional Strategic Weed Management Plan 2023-2027 (LLS, 2022). Weeds are controlled and managed quarterly through routine weed contract work via spot sprays, slashing and manual removal.	Weed infestations exceed manageable thresholds (i.e., routine contract works cannot control the weed cover), or WoNS spread into undisturbed areas where previously not present.	Implement targeted weed control (manual/chemical spot spray) within one month of detection, record the works completed and review the weed management within the project area quarterly. Complete monthly visual inspections and record / confirm eradication of affected area. Complete additional checks after significant rainfall.
<u>Disease and Pathogens</u> SSD-52984213 B13(e) (iv)	100% of all machinery (excluding site based light vehicles) to be used in vegetation clearing, rehabilitation works or entering non-operational areas are to present a completed hygiene check. All other vehicles will remain in designated operational areas. Hygiene protocols are implemented at all times for machinery operating.	Machinery used in vegetation clearing or rehabilitation works introduced to site without being washed down (soil, vegetative material is adhered to the machine). Machinery moves from a weed infested area to an area non infested with pest plants, without being washed down.	Maintain vehicle and machinery hygiene to minimise spread of pathogens and weeds through spot checks and wash downs. • Halt operation of the machine with foreign material identified • Wash down the machine and inspect for thorough removal of soil / foreign plant material. • Resume operations with the clean machine. • Hygiene training at toolbox talks • Post breach confirmation of spot checks via wash down log / checklist to ensure ongoing vigilance.
<u>Pest</u> SSD-52984213 B13(e) (iv)	No significant / net increase in pest species activity (e.g., foxes, rabbits, hares) in rehabilitation or undisturbed areas measured through visual inspections and pest activity logged quarterly.	Any presence of new or increased pest activity through monthly visual inspection and any relevant photo evidence: • New active burrows • Excessive scat in one	Undertake targeted pest control in consultation with Local Land Services as per RTS BDAR Table 21 and record any outcome: • Trapping • Baiting • Exclusion fencing

Aspect	Performance Target	Corrective Action Trigger	Corrective Action
		area Increase in feral animal sightings	
<u>Native Species Density</u>	Annual monitoring of rehabilitation plots demonstrates progressive increase in native species richness and density compared to baseline, prepared in the Rehabilitation Management Plan with trends reported in the Annual Review. Long-term benchmark targets will be defined further in the Rehabilitation Management Plan.	Annual review will include a summary of the status of rehabilitation with a review of native species density with recommendations and actions for the following year. Details outlined further in the Rehabilitation Management Plan. No improvement, upward trend, or decline in native species richness/density identified over 2 consecutive annual rehabilitation monitoring events.	Supplementary planting or seeding with local provenance species as per BDAR (Niche, 2023). Recommendations outlined in the Annual Review implemented or completed in the following year.
<u>Revegetation</u>	Establishment of groundcover, shrubs, and canopy species within 3 years of initial planting/seeding, with progressive improvement monitored annually. Revegetation occurs after sand extraction after each completed staged area. Final cover thresholds and vegetation structure targets will be set out in the Rehabilitation Management Plan.	Groundcover or vegetation cover or survival rates fall below 50 % of target levels in any monitoring area recorded during annual rehabilitation reporting.	Investigate limiting factors. Undertake reseeding, additional soil amelioration, or watering with any additional planting by the next planting season. Annual monitoring of the survival and growth rates as required as per EIS Section 18.2.6, details on methodology and frequency will be outlined further in the rehabilitation management plan. Monitor and record recovery in the next monitoring round. Document limiting factors in Annual Review.
<u>Bushfire</u>	No bushfires originating from quarrying activities and access tracks maintained to allow bushfire response activities.	Monthly visual inspection identifies evidence of ignition sources on access tracks throughout the operations leading to increased bushfire risks. Annual review outlines the effectiveness of bushfire management measures.	Reinstate track maintenance and review fire prevention procedures. Maintenance of overgrown access tracks.

8 INCIDENT, NON-COMPLIANCE AND COMPLAINTS

Any environmental incident or noncompliance at the site will be managed in accordance with the consent. Incidents and non-compliances have the following definitions in the SSD-52984213.

8.1 INCIDENT MANAGEMENT

8.1.1 Incident Definition

SSD-52984213 defines an incident as:

An occurrence or set of circumstances that causes or threatens to cause material harm and which may or may not be or cause a non-compliance.

Material harm to the environment is defined under Section 147 of the POEO Act (1997) and under this consent. Harm is considered material if it:

1. Involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial.
2. Involves actual or potential loss or property damage of an amount exceeding \$10,000 (or such other amount as prescribed by regulations). "Loss or damage" includes the reasonable costs and expenses that would be incurred in taking action to prevent, mitigate, or make good the harm caused to the environment.

8.1.2 Incident Notification Condition

Initial Incident notification and reporting will be conducted in accordance with [Stockton Quarries Pollution Incident Response Management Plan \(PIRMP\)](#) as well as Condition C7 of SSD-52984213, whereby:

"The Department and any other relevant agencies must be notified within 24 hours of an incident occurring. The notification must be made using the Department's Major Projects website and address details of the incident including:

- (a) date, time and location of the incident;*
- (b) a brief description of what occurred and why it has been classified as an incident;*
- (c) a description of what immediate steps were taken in relation to the incident; and*
- (d) identifying a contact person for further communication regarding the incident."*

8.1.3 Incident Reporting

As per Condition 8 the Department must be provided with a subsequent incident report in accordance with Appendix 6 of the Consent which states:

1. All incident notifications and reports must be submitted via the Department's Major Projects website.
2. The Applicant must provide notification as required under these requirements, even if the Applicant fails, to give the notification required under condition C7 or, having given such notification, subsequently forms the view that an incident has not occurred.
3. Within 7 days (or as otherwise agreed by the Planning Secretary) of the Applicant making the immediate incident notification (in accordance with condition C9), the Applicant is required to submit a subsequent incident report that:

(a) identifies how the incident was detected; identifies when the Applicant became aware of the incident;

(b) identifies any actual or potential non-compliance with conditions of consent;

(c) identifies further action(s) that will be taken in relation to the incident; and

(d) a summary of the incident;

(e) outcomes of an incident investigation, including identification of the cause of the incident;

(f) details of the corrective and preventative actions that have been, or will be, implemented to address the incident and prevent recurrence; and

(g) details of any communication with other stakeholders regarding the incident.

Additionally, in alignment with Condition C8, Boral will provide the Department with a subsequent incident report in accordance with **Section 8.1**.

8.2 NON-COMPLIANCE MANAGEMENT

8.2.1 Non-Compliance Definition

An occurrence, set of circumstances or development that is a breach of this consent.

8.2.2 Non-Compliance Notification

Non-compliance notification and reporting will be conducted in accordance with Condition C9 whereby:

“Within seven days of becoming aware of a non-compliance occurring, the Department must be notified. The notification must:

(a) be in writing and submitted via the Department’s Major Projects Website;

(b) identify the development (including the development application number and name);

(c) set out the condition of this consent that the development is non-compliant with, why it does not comply, the reasons for the non-compliance (if known); and

(d) set out what actions have been, or will be, undertaken to address the non-compliance.

Note: A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance

8.3 COMPLAINTS MANAGEMENT AND REPORTING

Boral Stockton has complaints hotline, with all community or regulator complaints logged in a complaints register and investigated and actioned immediately as per EIS environmental management. The Environmental Management System (EMS) includes a detailed complaints management procedure.

This sub-section records the procedures that would be implemented following the receipt of a biodiversity - related complaint. Complaints can also be directed to the Company via phone or email. These details are presented in **Table 12** below.

Table 12: Complaints Management

Communication Method	Details
Email	info@boral.com.au
Website	https://www.boral.com.au/locations/boral-quarries-stockton-fullerton-cove

8.3.1 Complaints Procedure

Following receipt of any complaint relating to Biodiversity, Boral would implement the following procedure:

1. The complaint will be reviewed by Quarry Manager to determine the nature, date and time
2. The Quarry Manager would contact the complainant to discuss and attempt to resolve the complaint. Further measures may be undertaken if required in consultation with the complainant;
3. In the event that the procedures identified in Step 2 above resolve the issues raised, no further action would be taken. In the event that the complaint is not resolved within one month of the conclusion of Step 2 in accordance with the procedures identified in Section 5;
4. Should the site indicate that no incident of the relevant criteria was identified, the Quarry Manager will continue to consult with the complainant in relation to managing the complaint
5. Should the monitoring report indicate that an exceedance of the criteria identified in SSD-52984213 or the EPL the Quarry Manager will notify the relevant government agencies. In addition, the Quarry Manager will continue to consult with the complainant in relation to the complaint; and
6. In the event that multiple complaints are received from the same individual(s) and Boral can demonstrate:
 - have demonstrated compliance with the criteria
 - there is documented evidence of a genuine attempt by Boral to discuss the issue and seek a resolution with the complainant,
 - Then Boral may, in consultation with the relevant government agencies, limit responses to further complaints to Steps 1 and 2 above.

The complaints register will maintained by Boral for the life of the project and updated monthly. A record of any complaint will be kept for at least the life of the project after and the record will be produced to any authorised officer if requested as well as made available on the Boral website. A summary of complaints received will be provided in the Annual Review and made publicly available on the Boral website, where data and information on environmental impact will be made publicly available and can be accessed by stakeholders.

8.4 PUBLICLY ACCESSIBLE INFORMATION

As per the Environmental Management Strategy prepared for the Stockton Quarry Inland Dune Project all information on potential environmental impacts associated with the Biodiversity Management Plan will be provided on the public website located at www.boral.com.au.

All information required for the development in accordance with Part C Condition 12 of the Inland Dune Development Consent SSD-52984213 and any monitoring requirements of the Environmental Protection Licence (EPL 10132) will be provided on the website as required.

9 OTHER REPORTING

9.1 ANNUAL REPORTING

9.1.1 Annual Review

The quarry manager is responsible for managing the environmental reporting program and arranging specialist consultants to prepare reports, as required. The activities and performance outcomes of the BMP will be presented in the Annual Review.

This will include detailed assessment of monitoring results collected over the course of the BMP, an evaluation of any trends occurring across the site, a summary of any incidents or non-conformances with licences/criteria and recommendations for management actions including:

- Summary of revegetation/weed control works undertaken.
- Results of monitoring inspections, including comparison to previous inspections and site assessments, where applicable, and the performance criteria.
- Progress of revegetation works.
- Locations and extent of new weed infestations.
- Recommendations and management actions required to address any management issues identified
- Photographs taken at each photo monitoring point.

In accordance with the requirements of Project Approval Condition C10, By the end of March in each year after the commencement of development, or other timeframe agreed by the Planning Secretary, a report must be submitted to the Department, to Council and any other interested period upon request reviewing the environmental performance of the development.

As per Condition C10 of the Development Consent, the BMP review must:

- *describe the development (including any rehabilitation) that was carried out in the previous calendar year, and the development that is proposed to be carried out over the current calendar year;*

- *include a comprehensive review of the monitoring results and complaints records of the development over the previous calendar year, including a comparison of these results against the:*
 - I. relevant statutory requirements, limits or performance measures/criteria;*
 - II. requirements of any plan or program required under this consent;*
 - III. monitoring results of previous years; and*
 - IV. relevant predictions in the document/s listed in condition A2(c);*
- *identify any non-compliance or incident which occurred in the previous calendar year, and describe what actions were (or are being) taken to rectify the non-compliance and avoid reoccurrence;*
- *evaluate and report on:*
 - I. the effectiveness of the noise and air quality management systems; and*
 - II. compliance with the performance measures, criteria and operating conditions of this consent;*
- *identify any trends in the monitoring data over the life of the development;*
- *identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and*
- *describe what measures will be implemented over the next calendar year to improve the environmental performance of the development.*

9.1.2 EPL 10132 Reporting

Boral must also submit an Annual Return in accordance with Condition R1.1 of EPL 10132 which states:

R1.1 The licensee must complete and supply to the EPA an Annual Return in the approved form comprising:

- 1. a Statement of Compliance,*
- 2. a Monitoring and Complaints Summary,*
- 3. a Statement of Compliance – Licence Conditions,*
- 4. a Statement of Compliance -Load based Fee,*
- 5. a Statement of Compliance -Requirement to Prepare Pollution Incident Response Management Plan,*
- 6. a Statement of Compliance – Requirements to Publish Pollution Monitoring Data; and*
- 7. a Statement of Compliance – Environmental Management Systems and Practices.*

At the end of each reporting period, the EPA will provide to the licensee a copy of the form that must be completed and returned to the EPA.

9.2 INDEPENDENT ENVIRONMENTAL AUDIT

An independent environmental audit must be undertaken for the development. As per Condition C11 of Development Consent, the audit must:

- a. be conducted within one year of commencement of development under this consent, and every three years after, unless the Planning Secretary directs otherwise;*
- b. be conducted and carried out in accordance with the Independent Audit Post Approval Requirements (NSW Government, 2020) or its latest version; and*
- c. reported and submitted to the Department in accordance with the Independent Audit Post Approval Requirements (NSW Government, 2020) or its latest version*

10 ROLES AND RESPONSIBILITIES

Roles used within this plan are defined below, responsibilities are outlined below. In accordance with Condition B13(b) of the Development Consent.

Table 14: Roles and Responsibilities

Position	Position Description	Tasks
Quarry Manager	The Quarry Manager is the person who manages the Quarry and is responsible for the day to day activities on the site. The Quarry Manager reports to the Quarry Owner.	• Ensure all works comply with relevant regulatory and Project requirements. • Ensure the requirements of this due diligence process are implemented. • Ensure all personnel and contractors have completed a site induction and orientation. • Ensure that all personnel receive appropriate induction training including details of the environmental and community requirements. • Stop work immediately where there is an actual or potential risk of harm to the environment that has not been accounted for in the BDAR. • Plan construction works in a manner that avoids or minimises impact to environment. • Ensure construction personnel manage construction works in accordance with statutory and approval requirements. • Ensure environmental management procedures and protection measures are implemented. • Ensure all Project personnel attend an induction prior to commencing works. • Stop work immediately where there is an actual or potential risk of harm to the environment. • Conduct site environmental inspections. • Undertake scheduled and non-scheduled environmental audits.
Ecologist / Suitably qualified contractor	Where the Quarry Manager sub-contracts tasks within this management plan, the quarry manager is to satisfy themselves as to the suitability of the contractor for the task. A suitably qualified contractor will be able to demonstrate the following for the required task: • Relevant qualifications or training • Relevant experience	• Conduct Pre-clearing Assessment. • Manage fauna during tree clearing. • Possess suitable fauna licences and permits. • Provide tree clearing report upon completion of clearing.

11 TRAINING AND AWARENESS

All personnel shall undergo biodiversity management awareness training through the induction and re-induction process. Biodiversity shall be a component of the competency-based site induction program. The following areas shall be covered in the induction.

- The Quarry Manager shall be responsible for ensuring the appropriate biodiversity management training and is to be included in the induction.
- It is the responsibility of the Quarry Manager to ensure that all personnel receive appropriate induction training including details of the environmental and community requirements.
- It is the responsibility of the site personnel to ensure that environmental induction training will include instruction on the use of the due diligence checklist through toolbox talks / prestart meetings.
- Contractors / employees involved in the vegetation clearing process will be briefed on avoiding disturbance to mapped habitat areas and all aspects associated with the clearing requirements of this plan. The site will ensure all exclusion zones will be physically demarcated prior to work commencing. a copy of the BMP will be made available at the site for any employees / contractors requiring the plan.

12 REVIEW AND IMPROVEMENT

As per *Condition C5* of the Development Consent, this plan will be reviewed within three months of the triggers outlined below.

- a. the submission of an incident report under condition C7 or a non-compliance under Condition C9;*
- b. the submission of an Annual Review under condition C10;*
- c. the submission of an Independent Environmental Audit under Condition C11;*
- d. the approval of any modification of the conditions of this consent (unless the conditions require otherwise); or*
- e. notification of a change in development phase under condition A14.*

Additionally, in line with Condition C6 of the Development Consent, if necessary, to either improve the environmental performance of the development, cater for a modification or comply with a direction, the strategies, plans and programs required under this consent must be revised, to the satisfaction of the Planning Secretary and submitted to the Planning Secretary for approval within six weeks of the review.

It is the responsibility of the Quarry Manager to implement the BMP.

13 REFERENCES

Boral Resources (NSW) Pty Ltd, 2023. *Stockton Quarry Dry Sand Extraction Project Environmental Impact Statement*. Prepared by Arnold Planning and Niche Environment and Heritage.

Davies, P. (2004, February 19). *Is Evidence-Based Government Possible?* 4th Annual Campbell Collaboration Colloquium. Washington, DC, United States of America.

Environmental Earth Sciences (EES), 2019. *Acid Sulfate Soil Impact Assessment: Stockton Sand Quarry Cocks Lane Fullerton Cove NSW*. Environmental Earth Sciences Pty Ltd, August 2019.

Environmental Resource Management (ERM), 2007. *Stockton Transgressive Dune Quarry Erosion and Sediment Control Plan*. Environmental Resource Management Pty Ltd, December 2007.

NSW Department of Land and Water Conservation, 2002. *NSW State Groundwater Dependent Ecosystems Policy*. NSW Government.

NSW Government, 2012. *NSW Aquifer Interference Policy: NSW Government Policy for the Licensing and Assessment of Aquifer Interference Activities*. NSW Government.

NSW Office of Water, 2012. *Risk Assessment Guidelines for Groundwater Dependent Ecosystems*. NSW Government.

NSW Environment and Heritage, 2011. *Code of practice for injured, sick and orphaned koalas*. NSW Government. Available at: <https://www.environment.nsw.gov.au/research-and-publications/publications-search/code-of-practice-for-injured-sick-and-orphaned-koalas> [Accessed 17 Sep. 2024].

RPS Pty Ltd, 2016. *Stockton Sand Quarry – Groundwater Gap Analysis*. RPS Pty Ltd, July 2016.

Southeast Engineering and Environmental Pty Ltd, 2019. *Surface Water Impact Assessment - Stockton Sand Quarry Dredging*. Southeast Engineering and Environmental Pty Ltd, September 2019.

Southeast Engineering and Environmental Pty Ltd, 2023. *Surface Water Impact Assessment - Stockton Sand Quarry - Dry Extraction*. Southeast Engineering and Environmental Pty Ltd.

Appendix A

Consultation Evidence

- DPHI Approval Letter 11 November 2025
- CPHR DCCEEW Letter to Boral July 2025
- DPHI Letter to Boral September 2025
- Summary of Agency Correspondence

Glenn Cook
Environment Business Support
Boral Resources (NSW) PTY LTD
Triniti, T2, Level 5 39 Delhi Road
North Ryde New South Wales 2113

11/11/2025

Subject: Biodiversity Management Plan

Dear Mr Cook

I refer to the Biodiversity Management Plan submitted in accordance with condition B13 of Part B of the consent for the Stockton Dry Sand Extraction Project (SSD-52984213). I also acknowledge your response to the Department's review comments and request for additional information.

The Department has carefully reviewed the document and is satisfied that it meets the requirements of the relevant conditions in consent (SSD-52984213).

Accordingly, as nominee of the Planning Secretary, I approve the Biodiversity Management Plan (version 1.3, dated 27 October 2025).

You are reminded that if there are any inconsistencies between the Plan and the conditions of approval, the conditions prevail. Please ensure you make the document publicly available on the project website at the earliest convenience.

If you wish to discuss the matter further, please contact Kristina Robinson on 02 9860 1543 or at Kristina.Robinson@dpie.nsw.gov.au.

Yours sincerely

A handwritten signature in black ink that reads "J Evans".

Jessie Evans
Director, Resource Assessments
Resource Assessments

As nominee of the Planning Secretary

BIODIVERSITY AND CONSERVATION SCIENCE GROUP OF THE NEW SOUTH WALES DEPARTMENT OF CLIMATE CHANGE, ENERGY, THE ENVIRONMENT AND WATER

- Letter dated 7 July 2025 attachment of CPHR response regarding the Biodiversity Management Plan (this document) recommendations required prior to approval.
- Note* This Department is incorporated in the Conservation Programs, Heritage & Regulation Group (CPHR).
- The August 2025 update to the BMP has been restructured to improve the readability of the document – separating the sections into monitoring and mitigations and general administrative and formatting updates.

Rec ID	Condition	Required Amendments and Recommendations – DCCEEW	Where Addressed	Borals Response																					
1	B10. Prior to the commencement of any preliminary vegetation clearance, the biodiversity credits specified in Table 5 must be retired in accordance with the Biodiversity Offsets Scheme of the Biodiversity Conservation Act 2016, including the application of any ancillary rules published under clause 6.5 of the Biodiversity Conservation Regulation 2017.	CPHR notes the credit obligation specified in Table 5 and the BMP states that Boral will provide the Planning Secretary (DPH) with evidence confirming the correct number and class of credits have been retired prior to the commencement of preliminary vegetation ‘ Table 5: Preliminary vegetation clearance - Biodiversity credit requirements – Ecosystem and Species credits <table><tr><th>Credit Type</th><th colspan="2">Credits required</th></tr><tr><th>Ecosystem Credits</th><th>Area (ha)</th><th>Credits</th></tr><tr><td>PCT1644 – Coast Tea Tree/ Old Man Banksia coastal shrubland</td><td>0.08</td><td>1</td></tr><tr><td>PCT 1646 – Smooth barked Apple/ Blackbutt/Old Man Banksia woodland</td><td>0.39</td><td>4</td></tr><tr><th>Species credits</th><th colspan="2">Credits</th></tr><tr><td>Squirrel Glider</td><td>-</td><td>12</td></tr><tr><td>Mahony's Toadlet</td><td>-</td><td>6</td></tr></table>	Credit Type	Credits required		Ecosystem Credits	Area (ha)	Credits	PCT1644 – Coast Tea Tree/ Old Man Banksia coastal shrubland	0.08	1	PCT 1646 – Smooth barked Apple/ Blackbutt/Old Man Banksia woodland	0.39	4	Species credits	Credits		Squirrel Glider	-	12	Mahony's Toadlet	-	6	Section 4	On 8 April 2025 the Department of Planning and Environment emailed Boral to acknowledge the receipt of the Biodiversity Credit Report for Stages 0-2 for the Stockton Dry Sand Extraction Project and had no comments on the document at this time. This is considered to satisfy the Boral requirement to provide the Planning Secretary (DPHI) with evidence confirming the correct number and class of credits have been retired prior to the commencement of preliminary vegetation clearing. Additionally, Boral will continue to inform the DPHI on the tracking of credits throughout the life of the project including an update in the Annual Review.
Credit Type	Credits required																								
Ecosystem Credits	Area (ha)	Credits																							
PCT1644 – Coast Tea Tree/ Old Man Banksia coastal shrubland	0.08	1																							
PCT 1646 – Smooth barked Apple/ Blackbutt/Old Man Banksia woodland	0.39	4																							
Species credits	Credits																								
Squirrel Glider	-	12																							
Mahony's Toadlet	-	6																							
2	B11. The Planning Secretary must be provided with evidence that confirms that the correct number and class of credits has been retired prior to the commencement of preliminary vegetation clearance.	See above	Section 4	As above																					
3	B12. Preliminary vegetation clearance must be undertaken in accordance with the due diligence checklist submitted with the documents listed in condition A2(c)	CPHR notes the due diligence assessment and checklist in Appendix R 'Management Action Plan (Preliminary Clearing)' (Niche, August 2023), of the Environmental Impact Statement (EIS). CPHR requests that a due diligence checklist for each borehole and access track, and the tree clearing report are completed by a suitably qualified and experienced person. Evidence of completion of the due diligence checklist should be included as part of the annual review submission. These documents should confirm no more than 0.5ha of vegetation clearing. Should threatened flora or fauna, or suspected threatened flora or fauna, be encountered during the preliminary clearing, CPHR recommends the procedure outlined below: • If native flora or fauna is found, stop work and determine if it is a threatened species • If the native flora or fauna that has been found is a threatened species, or it cannot be identified, notify the construction site manager who will then notify the project ecologist / fauna spotter catcher (if not already present) • The project ecologist is to assess the occupied habitat within the development footprint and assess the likely impact and development management options • If the project ecologist identifies that an impact is not likely to occur to the threatened species, then recommence works and maintain regular inspections of the area where the threatened species was found. Construction site staff are to be notified of the threatened species find via pre-start / toolbox talks. • Where the project ecologist identifies that an impact is likely to occur to the threatened species, Boral, CPHR (a credit liability may be required), Commonwealth DCCEEW (for an MNES) and DPHI will be notified and consulted, as required. • Recommence works once advice has been sought and implemented and the necessary approvals (if required) have been obtained	Section 4.1 Appendix C	The due diligence assessment and checklist in Appendix R 'Management Action Plan (Preliminary Clearing)' (Niche, August 2023) has been attached in Appendix C of the Management Plan. <u>Boral included in Section 4.1:</u> A due diligence checklist for each borehole and access track, and the tree clearing report will be completed by a suitably qualified and experienced person/s. Evidence of completion of the due diligence checklist will be included as part of the annual review submission confirming no more than 0.5ha of vegetation clearing. <u>Boral included the following recommended text in Table 10 (B18) under Incidental Threatened Species Finds Protocol:</u> Should threatened flora or fauna, or suspected threatened flora or fauna, be encountered during the preliminary clearing, the procedure for Boral is outlined below: • If native flora or fauna is found, stop work and determine if it is a threatened species • If the native flora or fauna that has been found is a threatened species, or it cannot be identified, notify the construction site manager who will then notify the project ecologist / fauna spotter catcher (if not already present) • The project ecologist is to assess the occupied habitat within the development footprint and assess the likely impact and development management options • If the project ecologist identifies that an impact is not likely to occur to the threatened species, then recommence works and maintain regular inspections of the area where the threatened species was found. Construction site staff are to be notified of the threatened species find via pre-start / toolbox talks. • Where the project ecologist identifies that an impact is likely to occur to the threatened species, Boral will notify and consult with the appropriate regulatory authorities, as required. • Recommence works once advice has been sought and implemented and the necessary approvals (if required) have been obtained.																					
4	B13. A biodiversity management plan must be prepared for the development. The plan must:	The BMP should be submitted to the Planning Secretary including amendments as per CPHR advice.		NA																					
5	a) be submitted to the Planning Secretary for approval within six months of the commencement of development under this consent;	Detail should be provided of the qualifications and experience of those that prepared the BMP.	Section 1.3.2	As per Condition B13(b) of SSD 52984213, the Biodiversity Management Plan is to be prepared by a suitably qualified and experienced person/s. This plan has been prepared by Boral Resources. In addition, Chris Jones, Kristen McMahon and April Shearer of Integrated Environmental Management Australia, and prepared the Biodiversity Management Plan in accordance with the BDAR assessment and EIS submission. The IEMA team has experience in the preparation of management plans for a wide range of sites including quarries, infrastructure, and energy developments. The IEMA team																					

Rec ID	Condition	Required Amendments and Recommendations – DCCEW	Where Addressed	Borals Response
				have experience in completing and updating Biodiversity Management Plans aligned with regulatory expectations. IEMA also assist in ecologists' management for local quarries in the area.
6	b) The BMP must be prepared: (i) by a suitably qualified and experienced person/s;	Detail should be provided of the qualifications and experience of those that prepared the BMP.	Section 1.3.2	See the above Boral response
7	(ii) in consultation with the BCS;	The BMP should be updated as per this advice.	Section 1.5 Table 3	The Biodiversity & Conservation Science Group of the New South Wales Department of Climate Change, Energy, the Environment and Water (BCS) has been consulted through this process and provided recommendations regarding updates and amendments to the BMP, this has been completed prior to resubmission to the DPHI. This BMP has been updated with the recommendations outlined in CHPR Response - Stockton Quarry - Biodiversity Management Plan Ref: DOC25/479211-2 dated 7 July 2025, outlined in Appendix A .
8	(iii) with reference to any relevant Biodiversity Management Plan guidance material provided by the BCS;	See details outlined above and below.	This BMP	See the above and below Boral response
9	c) be consistent with the commitments included in the documents listed in condition A2(c);	- The BMP should detail all mitigation measures as detailed within the BDAR and EIS and provide reference to the specific sections where relevant. - The EIS states that a Pest and Weed Management Plan will be prepared. - This plan should be provided / integrated within this BMP and be prepared by suitably qualified persons. - The EIS states that a Rehabilitation Management Plan (RMP) will be prepared. - This should be prepared by suitably qualified persons. - The RMP should clearly define the qualifications and experience required to undertake rehabilitation works within the site. - Persons undertaking works should be Australian Association of Bush Regenerators (AABR) accredited bush regenerators and companies. - This accreditation provides assurance of high-level quality RMP works. - The RMP should be submitted to CPHR for review.	Section 5 Section 6 Section 1.4.1 Table 10	- The mitigation measures from the BDAR (Niche, 2023) which formed the EIS has been integrated into the current Biodiversity Management Plan (BMP), particularly within Section 5 and Section 6. - Table 10 outlines the reference / source of the mitigation measures outlined predominately from the BDAR assessment in the EIS and Response to Submissions. - Section 1.4.1 has been implemented to outline the relationship of the Rehabilitation Management Plan and the Biodiversity Management Plan. The RMP has not yet been submitted to the DPHI. A Rehabilitation Management Plan (RMP) will be prepared by a suitably qualified person/s to guide all rehabilitation activities associated with the project. A separate RMP will be prepared post-commencement (within 12 months) to outline site-specific rehabilitation measures, responsibilities, and performance criteria, as briefly outlined in Section 4.4 of this BMP and in accordance Condition B47 of the consent. The RMP will also be submitted to the regulatory authorities for comment and approval. - The weed and pest management on site is integrated in the mitigation measures Table 10 Mitigation ID B12.
10	d) The BMP must include a description of the measures and timeframes that would be implemented for: (i) minimising clearing and avoiding unnecessary disturbance of vegetation by the development;	Insufficient detail has been provided to determine how this will be met. Details should be provided outlining measures to minimise clearing and disturbance of vegetation. Corresponding maps should be provided showing specific areas where avoidance of vegetation may be achieved and details of measures to reduce impacts to vegetation during construction. The BMP should detail fencing and exclusion zones, including where, when, and what exclusion zones will be established across the project site. The BMP should provide further detail on Tree Protection Zones (TPZs) and consider the Australian Standard AS4970-2009 – Protection of Trees on Development Sites. The BMP should further detail the type of fencing type to be used, for example, temporary, permanent or barrier and the location it is to be installed, as well as the timeframe that fencing will be in place. Locations and type of fencing should be shown on a map. The BMP should provide detail how all employees and contractors will undergo site induction training relating to biodiversity management issues, roles and responsibilities, exclusion zones and unexpected finds protocol. Insufficient detail currently provided in Chapter 10.	Appendix B Table 10 & 11 Section 10	Appendix B – Disturbance Boundary Map added to the Biodiversity Management Plan Table 10 and Table 11 Monitoring and Mitigation Measures outline the detail fencing types and exclusion zones, TPZ's and employee education regarding biodiversity management for the project.
11	(ii) minimising the impacts to flora and fauna on site and implementing fauna recovery and management protocols;	Insufficient detail has been provided to determine how this will be met. Details should be provided outlining measures to minimise impacts to flora and fauna on site. The fauna habitat clearing protocol could be expanded. CPHR recommends the following text: - Immediately prior to clearing, a suitably qualified person will undertake pre-clearing surveys. Habitat/ hollows identified above for removal is to be inspected by a suitably qualified person, immediately prior to clearing to determine if the features are being utilised by fauna. Any fauna located are to be trapped and relocated to adjoining areas not subject to development pressure prior to the tree being felled/ habitat removed. - Any hollow-bearing trees unable to be thoroughly inspected shall be felled in one to two metre sections, beginning at the top of the crown. Lengths cut from the trees shall be in a manner that shall preserve the hollows with each section inspected and appropriately treated to minimise impact to fauna. - Alternatively, habitat trees are to be 'soft felled' by machinery (excavator or similar). The operator shall tap the tree barrel to alert any resident fauna, followed by a period of waiting/observation of no less than one minute. This is to be repeated as required by the supervising ecologist. - All felled habitat trees are to remain in situ on the ground for at least 24hrs before being stockpiled for processing - No clearing is to occur at temperatures greater than 35°C to minimise impact to displaced fauna. - Works are to be scheduled outside breeding and torpor season for species likely to occur on site, details of which are to be provided. - Temporary frog proof / exclusion fencing will be installed where near waterbodies to exclude	Table 10	<u>Table 10 B16 - Fauna Habitat Clearing Protocol and Recovery Management</u> - Immediately prior to clearing, a suitably qualified ecologist or wildlife handler will undertake pre-clearing surveys. Identified habitat features (including hollows) will be inspected immediately prior to clearing to determine fauna use. Any fauna located will be trapped and relocated to adjoining undisturbed areas. - Hollow-bearing trees unable to be inspected will be felled in 1–2 metre sections from the crown down, preserving hollows. Each section will be inspected and treated under ecologist supervision. - Alternatively, habitat trees will be 'soft felled' by machinery (excavator or similar) using a tap-and-observe method (minimum 1-minute observation intervals) as directed by the supervising ecologist. - All felled habitat trees will remain in situ for at least 24 hours before stockpiling or processing. - No clearing will occur during temperatures >35°C to reduce heat stress on displaced fauna. - Works will be scheduled outside breeding or torpor seasons of key fauna species likely to occur on-site (details to be confirmed in consultation with the project ecologist). - Temporary frog-proof/exclusion fencing will be installed near waterbodies to prevent amphibian entry / confirmation if required by an ecologist. - A record of effectiveness of these measures will be maintained and reported annually.

Rec ID	Condition	Required Amendments and Recommendations – DCCEW	Where Addressed	Borals Response
		amphibians. • Reporting on the effectiveness of measures.		
12	(iii) maximising the salvage of vegetative and soil resources, including tree hollows, within the approved disturbance area for beneficial reuse on site, including the enhancement of rehabilitation of the site; and	Insufficient information provided. Detail all practical steps to salvage and reuse vegetation, topsoil and habitat features from the areas being cleared. This methodology should reference and be integrated within the Rehabilitation Management Plan. Include a detailed methodology to maximise salvaging of resources for rehabilitation, for example: • Surveys to identify and clearly demarcate important habitat to be salvaged i.e. habitat trees (HBTs), dead stags, large woody debris, hollow locks, large rocks etc. • Methodology for salvaging vegetation, topsoil and habitat features, and the storage and re-use on site to be further detailed. Show locations for storage and re-use on a map. • Any planned seed collection to be in accordance with Flora Bank Guidelines .	Table 10	Utilise the top-soil from remnant vegetated areas to assist in the rehabilitation process. Topsoil stripping, stockpiling, handling, re-spreading, amelioration, and seedbed preparation. Topsoil and habitat features (such as hollow logs and coarse woody debris) will be salvaged where practicable prior to clearing. Topsoil will be stripped progressively within approved disturbance areas and stockpiled in stable locations for later use in rehabilitation. Habitat features, including hollow logs, will be relocated to adjacent undisturbed areas or designated rehabilitation zones to enhance fauna habitat. <u>The topsoil process will include:</u> •Topsoil will be maintained in a slightly moist condition during stripping. Where possible, material will not be stripped in either an excessively dry or wet condition. •Stripped topsoil will be placed directly onto regraded disturbed areas and spread immediately (if quarry sequences, equipment schedules and weather conditions permit) to minimise the requirement for stockpiling. •Where stockpiling is required, soil will be graded or pushed into windrows with excavators, graders or dozers for loading into rear dump trucks by front-end loaders. This is the preferred method as it minimises compression effects of the heavy equipment that is often necessary for economical transport of soil material. •Soil stockpiles surfaces will be left in a coarsely textured condition (rough, not smoothed) to promote infiltration and minimise erosion until vegetation is established, and to prevent anaerobic zones forming •Where possible, a maximum stockpile height that prevents biological and structural degradation will be maintained. •Free-draining stockpiles will be created to minimise the formation of anaerobic zones. Stockpiles will be formed in a “chevron” profile with batters roughly graded to achieve slopes approaching 18°, where practicable, but not smoothed. •If long-term stockpiling is planned (i.e. greater than 12 months), stockpiles will be seeded and fertilised. •Consideration should be given if an annual cover crop species that produces sterile florets or seeds are to be sown. A rapid growing and healthy annual pasture sward provides sufficient competition to minimise the emergence of undesirable weed species. •Topsoil will be spread to a nominal depth range of 0.1 m (steep slopes) up to 0.2 m (flatter areas). Soil resspreading on steep slopes at depths exceeding 0.1 m can be deleterious because of the “sponge” effect, which can cause slippage of the topsoil from the slope. •Strip and stockpile topsoil progressively in approved areas. <u>The salvage process will include.</u> •Salvage hollow logs and coarse woody debris for reuse. •Relocate habitat features to rehabilitation zones. •Salvage of key habitat features (e.g., hollows, bushrock, logs) will be undertaken where practicable for reuse in rehabilitation areas or adjacent vegetation. •Seed collection for rehabilitation will be in accordance with Florabank Guidelines. •Some of the vegetation on site (SSD-52984213) will be mulched and then this material will be moved to Pit 7 (DA140-6-2005) area to assist with stabalisation of dunes prior to rehabilitation activities. •The site will utilise logs for stabalisation. The management plans relating to DA140-6-2005 will also be updated to reflect methodology changes.
13	(iv) controlling weeds, feral pests, and pathogens;	The EIS states that a Pest and Weed Management Plan will be prepared. This needs to be integrated within this BMP and needs to be prepared by suitably qualified personnel. Detail practical methodology to prevent, manage and monitor Pest and Weed mitigation. This methodology should speak to and be integrated within Rehabilitation Management Plan. CPHR notes the objective of the weed management should be to treat priority weed species currently present onsite and to prevent future infestations and encroachment, whilst ensuring that the integrity of the native vegetation is not compromised. Performance criteria should be more specific and measurable and should include: • Weed density should be mapped in accordance with the National Trust Method (1999). • WoNS/ Priority Weeds complete removal tending towards eradication. • Other weed cover to be reduced to <5% cover for all strata. Consider referencing the Hunter Regional Strategic Weed Management Plan 2023-2027 (LLS, 2022). Provide further information regarding strategies for pathogen prevention hygiene protocols should adhere to Protocols to protect priority biodiversity areas in NSW from Phytophthora cinnamomic, myrtle rust, amphibian chytrid fungus and invasive plants (DPIE, 2020). Protocols for vehicle/machinery hygiene need to be provided to address the spread of weeds and pathogens.	Table 10	<u>Table 10 B12:</u> Weed and pathogen management with a focus on vehicle/machinery hygiene control to prevent spread of weeds and pathogens, as well as physical and/or chemical weed removal/control. A pest and weed management is outlined below similar to those implemented under the existing management plan adopted for the Windblown Project (ERM 2010). Boral's weed management on-site has been successful and will continue. Weeds will be managed across the site through a series of control measures, including: •Weed management occurs on a regular basis with more activities directed to spring and summer months when weeds are more prevalent. •Hosing down “at risk” equipment in an approved wash down area before entry to site •Scalping weeds off topsoil stockpiles prior to re-spreading topsoil •Regular inspections of rehabilitation to identify potential weed infestations •Identifying and spraying existing weed populations on-site together with ongoing weed spraying over the life of the quarry •Regular inspection of areas to be stripped and on topsoil stockpiles and use of suitable herbicides to prevent weed establishment and infestations occurring. •Access to the site would be restricted and weeds and pathogens are very unlikely to be transported from the site to adjacent vegetation via vehicles or human activity. •Management protocols for the identification of noxious or important environmental weeds within areas to be cleared (in order to avoid transporting the weeds to rehabilitation areas or other parts of

Rec ID	Condition	Required Amendments and Recommendations – DCCEW	Where Addressed	Borals Response
				the site) will include removal completed by contractor using integrated management techniques from WoNS and NSW priority weeds.
14	e) The BMP must include a program to monitor and report on the effectiveness of avoidance, minimisation and mitigation measures;	Greater detail should be provided regarding program monitoring and include specific methodologies and sampling units. The BMP should include tailored, quantitative performance measures and targets, completion criteria, monitoring and trigger points for corrective action which adhere to the SMART principles. Target outcomes are to be provided and must be measurable. <u>Performance criteria may include, but are not limited to:</u> • The percentage of weed species cover decreased (weed cover below 5% for all strata). • The percentage that native species diversity and density has increase. <u>The monitoring reports should include:</u> • Summary of revegetation/weed control works undertaken. • Results of monitoring inspections, including comparison to previous inspections and site assessments, where applicable, and the performance criteria. • Progress of revegetation works. • Locations and extent of new weed infestations. • Recommendations and management actions required to address any management issues identified • Photographs taken at each photo monitoring point.	Section 5 Section 6 Section 9.1	Section 5 – Biodiversity Monitoring Program Section 6 - TARP updated with performance targets in Table 11. Note: The BMP is about managing existing vegetation onsite. It is not about increasing density of existing vegetation. See RMP for rehabilitation commitments.
15	f) include an incidental threatened species finds protocol to identify the avoidance and/or minimise and/or offset options to be implemented if additional threatened species are discovered on site; and	• During the project's construction, operation, upgrading and decommissioning phases, the 'Incidental Threatened species finds protocol' will be implemented whenever a threatened species (as defined under the EPBC Act or BC Act, including but not limited to those listed in the BDAR) is unexpectedly found within the Development Footprint. Should threatened flora or fauna, or suspected threatened flora or fauna, be encountered, the procedure outlined below will be followed: • If native flora or fauna is found, stop work and determine if it is a threatened species • If the native flora or fauna that has been found is a threatened species, or it cannot be identified, notify the construction site manager who will then notify the project ecologist / fauna spotter catcher (if not already present) • The project ecologist is to assess the occupied habitat within the development footprint and assess the likely impact and development management options • If the project ecologist identifies that an impact is not likely to occur to the threatened species, then recommence works and maintain regular inspections of the area where the threatened species was found. Construction site staff are to be notified of the threatened species find via pre-start / toolbox talks. • Where the project ecologist identifies that an impact is likely to occur to the threatened species, Boral, CPHR (a credit liability may be required), Commonwealth DCCEW (for an MNES) and DPHI will be notified and consulted, as required. • Recommence works once advice has been sought and implemented and the necessary approvals (if required) have been obtained	Table 10	Boral has implemented the wording from this recommendation into the Section 6 Table 10 under Mitigation ID B17.
16	g) include details of who would be responsible for monitoring, reviewing, and implementing the plan.	Insufficient information provided. The BMP should provide additional details of who will be responsible for monitoring, reviewing, and implementing the plan.	Section 11	Boral has included the following text. •The Quarry Manager shall be responsible for ensuring the appropriate biodiversity management training and is to be included in the induction. •It is the responsibility of the Quarry Manager to ensure that all personnel receive appropriate induction training including details of the environmental and community requirements. •It is the responsibility of the site personnel to ensure that environmental induction training will include instruction on the use of the due diligence checklist through toolbox talks / prestart meetings. •Contractors / employees involved in clearing will be briefed on avoiding disturbance to mapped habitat, and exclusion zones will be physically demarcated prior to work commencing. Boral will provide contractors / employees with a copy of the BMP.
17	B14. Construction and quarrying operation must not impact biodiversity values within the approved disturbance area must not commence until the biodiversity management plan is approved by the Planning Secretary.	Nil comment	Section 1.3	Nil
18	B15. The biodiversity management plan must be implemented, as approved by the Planning Secretary, prior to construction and quarrying operations impacting on biodiversity values within the approved disturbance area	Nil comment		N/A

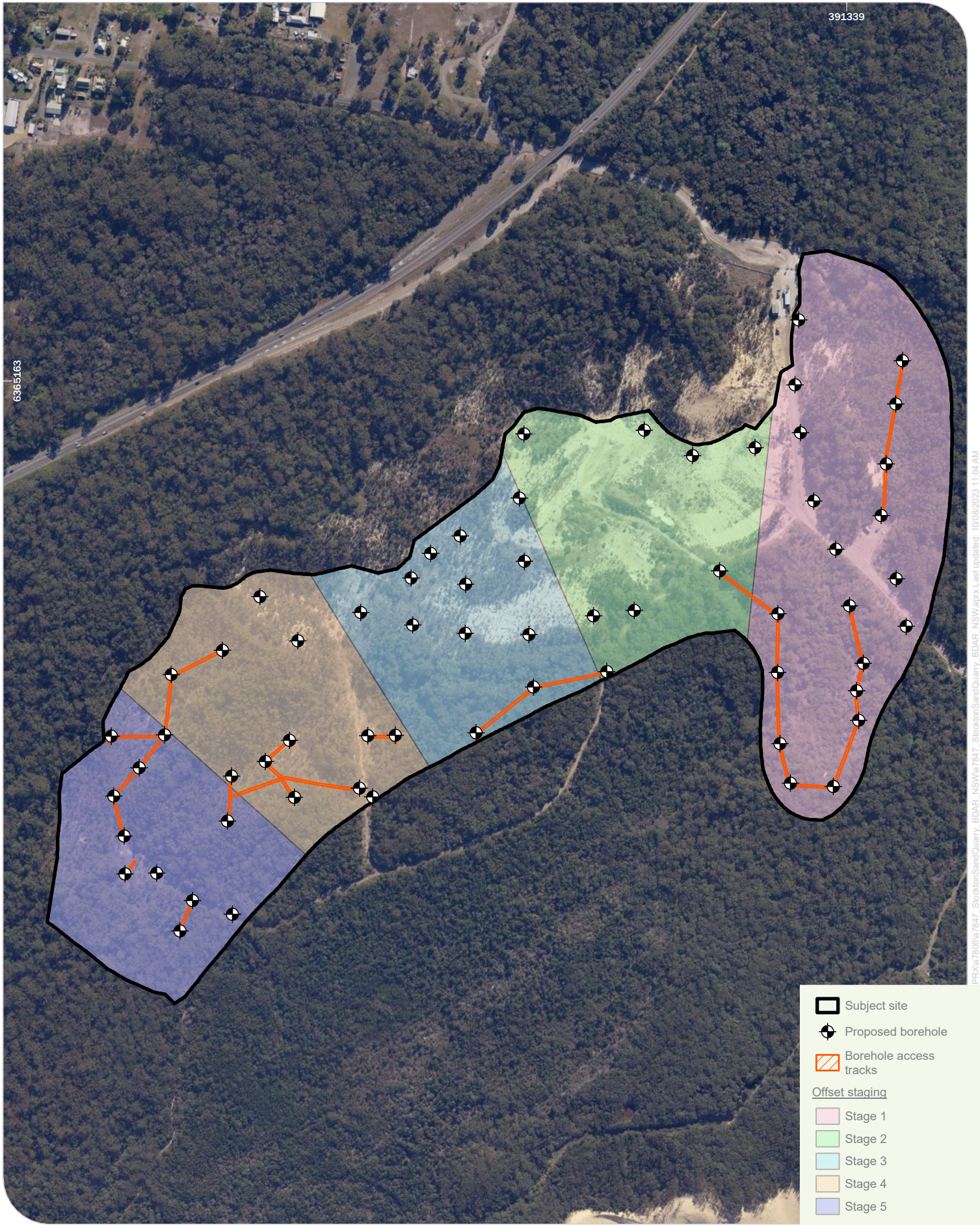
DEPARTMENT OF PLANNING HOUSING AND INFRASTRUCTURE (DPHI) – NSW GOVERNMENT

- Letter dated 18 September 2025 attachment of DPHI response and recommendations required prior to approval.
- The September 2025 update to the BMP has implemented the SMART framework into the performance criteria, triggers, actions and responses outlining benchmarks and staged management plan implementation. Additionally, the access to information. Complaints and environmental impacts will be made publicly available on the Boral website.
- This document has been updated to Version 1.2 as per document control table

#	Condition	DPHI Comment	Action Required	Where addressed	Borals Response
C4 b) (ii)	MANAGEMENT PLAN REQUIREMENTS C4. Management plans required under this consent must be prepared in accordance with relevant guidelines, and include: (ii) any relevant limits or performance measures and criteria; and	Table 4 indicates Section 6 which describes Mitigation measures	Please include or identify the limits, performance measures and/or criteria clearly	Table 4	Table 4 references Section 7
C4 b) (iii)	(iii) 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;	Table 4 indicates Section 7 The TARP presented in Section 7 does not detail specific indicators. The TARP targets and triggers are not measurable. Some items are ambiguous or confusing to the reader e.g. "Weed infestations cover the project area where an intervention would stop works.	Amend TARP to create meaningful and SMART (Specific, Measurable, Achievable, Realistic and Timely) Targets and triggers.	Table 11	This BMP provides immediate SMART targets and triggers for biodiversity management consistent with SSD-52984213 Condition B13. Detailed completion criteria and long-term performance standards will be developed and formalised in the Rehabilitation Management Plan (Condition B47). Table 11 has been modified to incorporate the SMART targets, and it should be noted this BMP establishes immediate SMART targets and triggers for habitat salvage, weeds, pathogens, pests, species density and revegetation, consistent with SSD-52984213 Conditions. The Rehabilitation Management Plan (Condition B47) will provide further detail on long-term performance measures, progressive rehabilitation strategies, and final landform/closure objectives.
C4 f)	(f) 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 7 TARP is inadequate.	Amend TARP to create meaningful and SMART (Specific, Measurable, Achievable, Realistic and Timely) Targets and triggers.		
C4 i)	(i) public sources of information and data to assist stakeholders in understanding environmental impacts of the development; and	Section 8.3 Complaints management does not satisfy this condition. Information should be made publicly available.	Identify how data and information on environmental impact is made publicly available and how it can be accessed by stakeholders.	Section 8.3.1	The complaints register will be maintained by Boral for the life of the project and updated monthly. A record of any complaint will be kept for at least the life of the project after and the record will be produced to any authorised officer if requested as well as made available on the Boral website. A summary of complaints received will be provided in the Annual Review and made publicly available on the Boral website. Where data and information on environmental impact will be made publicly available and can be accessed by stakeholders.

Appendix B

Disturbance Boundary Map (RTS, 2023)



PRX\7800\7847_StocktonSandQuarry_BDAR_NSW\7847_StocktonSandQuarry_BDAR_NSW.aprx Last updated: 10/09/2023 11:04 AM

Appendix C

Management Action Plan (Niche, 2023)

Attachment: Due Diligence Checklist

Borehole details	Site notes and access	Existing environment and impacts	Site-specific Environmental Safeguards
Borehole name:	Site Notes: Area of vegetation clearing Area of vegetation for access	Topography: Describe the site. eg. Relatively flat borehole location	Environmental Controls: Insert any specific controls, mitigation. Example: two-stage clearing process
Location details: Easting / Northing / MGA	Brief Site description (and any specific layout required)	Vegetation: Vegetation community to be impacted	
Site Photo No. or Reference: Insert photograph of borehole site and access	Access to Site: Vegetation clearing required? If so provide details (area, type)	Threatened flora and Fauna: Any specified threatened species constraints identified.	
Survey Date: Date of site inspection	Journey Management Notes/Constraints: Hollowing-bearing trees, mature trees, habitat features, rocks, large logs		
Survey inspection team: List personnel and ecologist	Details, including coordinates to be provided		