

ECOLOGICAL MANAGEMENT PLAN

STAGE 2 – Lot 9

Incorporating the:

- **Vegetation and Fauna Management Plan – Stage 2**
- **Rehabilitation Management Plan – Stage 2**

Prepared for **Blue Care**

**Grasstree Court
Sunrise Beach, Qld, 4567
Lot 9 SP322789**

Author: **JUSTIN WATSON**

Date: **April 2023**



DISCLAIMER

In accordance with the Copyright Act, no part of this report or attachments may be reproduced without the explicit permission of Gondwana Ecology Group Pty Ltd. This report does not constitute legal advice.

This report has been produced for **Blue Care** (Client) specifically for the purpose for which it is supplied.

Several assumptions have been made during the preparation of this report. This includes the accuracy of information and documents provided to Gondwana Ecology Group by the Client and that accessed on Commonwealth, State and other databases.

If any other Party makes use of the information contained within this report, Gondwana Ecology Group will not be held liable to a Third Party for any loss, damage or claim as a result of the use of information contained herein.

QUALITY ASSURANCE

#	Author	Signature	Date
1	J. Watson*	<i>Draft</i>	November 2018 for review
2	J.Watson (with K.Treers & L.Phelan) ¹	JW	19 December 2018 for Council approval
3	J.Watson	JW	8 May 2019 for Council approval (incorporating State conditions & Council 2019 conditions)
4	J.Watson	JW	5 February 2021 for Council Approval (EMP Stage 1 – updated to address staged development – Lot 6)
5	J.Watson ^{2,3}	JW	1 July 2021 for Council Approval (EMP Stage 2 – updated to address staged development – Lot 9) – approved by Council OPW 17 December 2021
6	J.Watson ⁴	JW	13 April 2023 for Council Approval (updated subsequent to Stage 1 rehabilitation works)
7	J.Watson		28 April 2023 (updated with Council comments)

CONTACT DETAILS

Gondwana Ecology Group Pty Ltd (ABN 20 143 747 326)

PO Box 535

Kenmore

QLD, 4069

www.gondwanaecology.com.au

GONDWANA ECOLOGY GROUP operates in accordance with the following approvals, permits and ethical principles:

- Scientific Use Registration (*Animal Care & Protection Act 2001*) – 508
- Animal Ethics Committee (DAFF Animal Ethics) – CA 2022/09/1651
- Scientific Purposes Permit (*Nature Conservation Regulation 2006*) – WISP 13794613
- *Certified Environmental Practitioner (Environment Institute of Australia & New Zealand)
- Registered as a *Suitably Qualified Person* with Queensland Government for protected flora surveys

¹ ArborCare Queensland

² With input from E.Pratt Harmony Landscapes Restoration Ecology

³ With recommendations from L.Pratt (Biodiverse Environmental)

⁴ With L.Pratt (Biodiverse Environmental - rehabilitation contractor for Stage 1 & 2 works) & Calibre (project engineers)

NOTE:

This 2023 plan has been updated to reflect the staged development and improved rehabilitation process for Stage 2.

Stage 1 EMP for Lot 6 approved by Noosa Shire Council February 2021

Stage 2 EMP for Lot 9 approved by Noosa Council December 2021 – updated to incorporate amendments to rehabilitation works



TABLE OF CONTENTS – ECOLOGICAL MANAGEMENT PLAN

1. INTRODUCTION	1
1.1 SUBJECT LAND AND APPROVED DEVELOPMENT	1
1.2 PURPOSE OF THE PLAN	2
1.3 OBJECTIVES	2
1.4 STATEMENT	2
2. STRUCTURE AND RESPONSIBILITY OF THE MANAGEMENT PLAN	3
ATTACHMENTS	6
FIGURE 1- SUBJECT LAND (LOT 9 IDENTIFIED BY WHITE DASHED OUTLINE). SOURCE: AERIAL NEARMAP NOVEMBER 2022.	7
FIGURE 2 – APPROVED STAGED DEVELOPMENT	8
FIGURE 3 – STAGED CLEARING PLAN	9

APPENDIX A VEGETATION AND FAUNA MANAGEMENT PLAN – STAGE 2

1. INTRODUCTION	11
2. GLOSSY BLACK-COCKATOO TREES	11
2.1 ACTIVE FEED TREE IDENTIFICATION	11
2.2 SEED COLLECTION AND PROPAGATION	11
2.2 THREATENED FLORA	12
3. VEGETATION PROTECTION	13
4. FAUNA MANAGEMENT	14
4.1 PRE-CLEARING	14
4.2 CLEARING & CONSTRUCTION	14
4.3 HABITAT CREATION	14
5. VEGETATION CLEARING	15
5.1 DEVELOPMENT AREA - LOT 9 - CLEARING METHODOLOGY	15
5.2 BUSHFIRE BUFFER AREAS	15
5.3 CLEARING DIRECTION	15
6. LIGHTING	16
7. FENCING	16
8. COMMUNITY CONSULTATION	17

APPENDIX B - REHABILITATION MANAGEMENT PLAN – STAGE 2

1. INTRODUCTION	23
2. SITE TREATMENT AND TRANSFER METHODS	23
2.1 OVERVIEW	23
2.2 STAGE 2 WORKS TO BE COMPLETED	25
2.2 SOIL SEED BANK TRANSFER	25
2.3 CLEARING METHODOLOGY	25
2.4 TRANSPORTING MATERIAL	25
3. THREATENED FLORA AND SEED COLLECTION	26
4. RECEIVING SITE REHABILITATION	27
4.1 DESCRIPTION AND TENURE	27
4.2 TREATMENT AREAS	27
4.3 RECEIVING SITE PREPARATION AND CAPPING	27
4.4 RECEIVING SITE PLANTING AND HABITAT CREATION	28
4.5 IRRIGATION AND WATERING	29
5. CLEARING OF LOT 9, REHABILITATION ESTABLISHMENT AND MAINTENANCE	30
6. PERFORMANCE CRITERIA AND MONITORING	31



1. INTRODUCTION

1.1 Subject Land and Approved Development

The subject land is located at land on Grasstree Court, Sunrise Beach and formally described as Lot 6 on RP901384 (SP322789) and Lot 9 on SP252905 (SP322789) (**FIGURE 1 – Aerial of Subject Land**).

On 20 December 2011, the Sunshine Coast Council (Council) approved a development application for a Material Change of Use for Multiple Housing – Type 3 Retirement and Special Needs, Commercial Business – Type 2 Medical and Wellbeing – Type 1 Health; and the Reconfiguring a Lot (1 into 2 lots). The State (DERM) approved the development in June 2011.

The proposal will result in the residential aged care facility to be situated on Lot 6 (northern lot) and a retirement facility to be situated on Lot 9 (southern lot) which includes independent living apartments / units, and a community facility.

Minor Change 2019

A minor change amendment application was made to Noosa Shire Council (Council) in December 2018. The minor change does not result in change of approved uses but rather minor changes to internal building layouts to meet current market expectations, industry standards and the existing approval conditions. While the changes are considered to be 'minor', the changes improve the development outcome in terms of design quality, reduced hardstand area, bushland and waterway protection and bushfire safety. Council granted approval of this change request on 28 March 2019 with updated set of conditions. Conditions relating to the ecological component (other than change to Lot numbers) are unchanged from the original approval. The conditions (under #12) also state that "The establishment of the vegetation offsets must be completed prior to the commencement of the use of the first stage".

Minor Change 2020

In November 2020 Council granted a minor change to stage the development (Minor Change Lot 6). The development is to proceed in a staged approach with Lot 6 (as stage 1) followed by Lot 9 as stages 2, 3 and 4. Council has approved the Ecological Management Plan (EMP) for Stage 1 Lot 6 (February 2021). **FIGURE 2** illustrates the Approved Staged Development and **FIGURE 3** the Staged Clearing Plan. There are no other changes that adversely alter the vegetation clearing, fauna management or rehabilitation actions. The staging approach has allowed some ecological enhancements, including staging of the clearing of vegetation (and trees), and an improved rehabilitation strategy for the offset/rehabilitation site.

Relevant amended conditions (10 November 2020) associated with the Minor Change are 12.3.7 and 12.4, as follows:

All information must be prepared by a person with industry experience in the successful establishment and/or re-establishment of heathland vegetation. Industry and educational institution involvement is recommended.

The establishment of the vegetation offsets for each stage must be completed prior to the commencement of the use for each stage. The Vegetation Clearing Offset program, required by these conditions, must be implemented in a staged manner reflective of the approved staging of the development. To this end separate Vegetation Clearing Offset programs must be developed to reflect the staged delivery of the development, in particular the staged development of lot 6, and the subsequent development of lot 9.

No clearing is permitted unless in accordance with the approved staged Vegetation Clearing Offset program¹.

Minor Change 2021

In December 2021 Council granted a minor change for Lot 9 which included amendment to Condition 1 (the plans and EMP Stage 2 dated 1 July 2021) and additional condition 48, i.e.

48. Vegetation clearing on Lot 9 SP 252905 cannot commence until:

- a. Lot 6 has been cleared of vegetation and live soil (topsoil, subsoil and seed bank) has been transferred to the receiving site, with the receiving site stage 1 weed control, planting and irrigation installation completed (as detailed within section 2. Site Treatment and Transfer Methods pg. 24 of the approved OPW18/0341.01 Environmental Management Plan Stage 1 – Lot 6 revision 4 prepared by Gondwana Ecology Group P/L dated February 2021; and
- b. Written notice has been provided to Council that Civil works on Lot 9 SP 252905 will commence within three (3) months following the commencement of clearing unless otherwise agreed in writing by Council.

¹ i.e. the Stage 1 2021 EMP.



In September 2021 Blue Care submitted the project (under the EPBC Act) to the Commonwealth. The Commonwealth determined (October 2021) that *“the proposed action is not a controlled action”*.

1.2 Purpose of the Plan

The overall purpose of the plan is to implement the approval conditions 12-20 provided by Council (and the State) in order to minimise impacts to ecological values, where possible. The plan (as per the approval conditions) aims to address recognised ecological and restoration principles.

The EMP is updated in 2023 due to the rehabilitation process and strategy being superseded subsequent to the approval of both the Stage 1 EMP and Stage 2 EMP². Stage 1 rehabilitation works has been completed and achieved on-maintenance in September 2022. The five year monitoring period concludes in September 2027. The Stage 1 rehabilitation works has also incorporated the planting of trees, sufficiently accommodating the requirements for both Stage 1 and Stage 2 tree planting³.

The purpose of the amended (2023) EMP is to update the rehabilitation strategy associated with the rehabilitation (receiver) site to accommodate works already completed for Stage 1 and 2, incorporate a capping exercise to the landfill area and address the balance rehabilitation for Stage 2.

1.3 Objectives

In accordance with approval conditions the overall objectives of the plan are to:

- Manage vegetation and fauna during the clearing operations;
- Identify glossy black-cockatoo active feed trees in order to collect seeds (for future propagation);
- Identify an area offsite for rehabilitation;
- Describe the rehabilitation process and associated maintenance obligations; and
- Management of threatened flora, where necessary.

1.4 Statement

The author (Justin Watson) and co-ordinator for this management plan has been involved in the research, ecological and consulting field for more than 30 years, including nearly 20 years in the Noosa and SEQ region. He has a PhD in ecology, is a Certified Environmental Practitioner with the Environment Institute Australia and New Zealand and a past committee member of the Queensland Environmental Law Association and past councillor for Birds Australia (now Birdlife) and Birds Southern Queensland committee member. In 2008, he was awarded an Adjunct Associate Professorship position with the Institute for Land, Water and Society (Charles Sturt University) in recognition of his “contribution to teaching, research, scholarship and creative work.” His PhD, subsequent research has focussed on biodiversity, rehabilitation, understanding ecosystem functioning and identifying a practical approach to restoring landscapes (including in the Noosa and Sunshine Coast region). He is regularly engaged by local and State government to provide specialist/technical review of project EIS’ and threatened species (including the Commonwealth provisions and koala management). He has given expert evidence in the Planning and Environment Court, Land Court and the Land Tribunal and has provided advice to the Court since 2003.

Stage 1 rehabilitation works (offset site) was initiated in April 2021 by Biodiverse Environmental following meeting with Council (14 April 2021). The Stage 1 rehabilitation was completed (and approved by Council) in September 2022 with the five-year maintenance period to be completed by September 2027. The Stage 1 rehabilitation works has also incorporated some milestones for Stage 2 rehabilitation.

² Amendments necessary to rehabilitation strategy and areas due to on site conditions, weed management, Council requirements and in order to achieve an acceptable long-term ecological outcome.

³ All tree planting requirements for Stage 1 & 2 have been completed as part of Stage 1 works. Additional tree planting is proposed for Stage 2.



2. STRUCTURE AND RESPONSIBILITY OF THE MANAGEMENT PLAN

The measures to be implemented to achieve the conditions of approval and appropriate ecological outcomes are provided in two separate attachments, as follows:

Appendix A - Vegetation and Fauna Management Plan (VFMP) – Stage 2

- Activities on subject land prior to and during clearing, including appropriate management of fauna

Appendix B – Rehabilitation Management Plan (RMP) – Stage 2

- Management of subject land and rehabilitation of the offset site

The relevant Council (i.e. 12-20), and State (i.e. DERM 1-16) approval conditions associated with ecological matters are identified in the **Table 1** and **2** respectively, with corresponding **Section/Attachment** provided for reference. Note that many of the DERM conditions simply require confirmation and no specific measure/action within the VFMP or RMP.

The acceptable implementation of the VFMP and RMP will be the responsibility of contractors engaged by Lendlease.

Due to the nature of the Council and State approval conditions, and for completeness, some sections are repeated in both the VFMP and the RMP.

Table 1. Council Ecological Conditions (LANDSCAPE & ECOLOGY) of Approval with EMP Reference

#	Condition	Reference
12	In conjunction with an application for operational works on the site, the applicant must submit an operational works application for Vegetation Management for the development site. The Vegetation Management operational works application must detail:	
12.1	Identification of all active Glossy Black Cockatoo food trees within the development footprint or in areas likely to be impacted upon by the operation or construction of the development.	VFMP Section 2
12.2	A Vegetation Clearing Offset program to be undertaken to re-establish the habitat to be cleared from the site to a nearby location with similar soil properties. A receiving site is to be identified and maintained for a specified period (minimum 5 years) after the establishment of the receiving site.	RMP Sections 1-7
12.3	The Vegetation Clearing Offset program must include the details of the transfer methods to be engaged including:	
12.3.1	The transfer of soil/seed bank media off the site to the designated receiving site(s),	RMP Section 2
12.3.2	Methods of transfer including, inter alia, mastication of native vegetative matter, tile transfer of live soil/plant matrix, peat locations and extents, sexual and vegetative methods of revegetation of offset receiving site and other deemed pertinent matters by a person with industry experience in the successful establishment and/or re-establishment of heathland vegetation	RMP Section 2-5
12.3.3	Transfer of rare and threatened plant species (sexual and/or vegetative)	VFMP Section 2 RMP Section 3
12.3.4	Details of pre-treatment works prior to transfer of soil/seed bank media off the site and methods of transplanting.	RMP Section 2
12.3.5	Details of seed collections times and estimated establishment procedures and times.	VFMP Section 2 RMP Section 3
12.3.6	Details of the receiving site, including tenure, contractual details, establishment, monitoring and maintenance details and suitability of the site for the purpose.	RMP Section 4-5
12.3.7	All information must be prepared by a person with industry experience in the successful establishment and/or re-establishment of heathland vegetation. Industry and educational institution involvement is recommended.	EMP Section 1.3
12	Refer updated Conditions 12.3.7 and 12.4 in Section 1.1 re Minor Change approval.	RMP Section 5
13	The Vegetation Management operational works application must detail the protection of vegetation off site from the impacts of clearing. That is, the demarcation of the vegetation to be retained by the use of temporary fencing or alike.	VFMP Section 3
14	The Vegetation Management operational works application must detail the location and extent of vegetation disturbance on Lot 9 SP 252905 and Lot 6 RP 901384 must be accurately marked on-site, including any setback requirements for bushfire mitigation purposes, for Council officers to inspect prior to commencement of any vegetation clearing.	VFMP Section 3
15	Vegetation must only be removed or disturbed in accordance an approved Fauna Management Plan for the development must be prepared by a qualified person and submitted to Council prior to the issue of any Development Permit for Operational Works.	
15.1	The fauna management plan is to detail the methods to ensure the fauna values of the site are managed in a way that the removal of vegetation from the site does not cause immediate harm to fauna. The application must ensure spotter/catchers are engaged and reports are supplied to the relevant statutory authorities. The fauna management plan is to prohibit on-site dogs or cats during the construction process and prohibit cats or dogs during the operational use of the site.	VFMP Section 4
16	All identified Glossy Black Food trees are to be propagated at a ratio of 8:1 from the parent tree and replanted in landscaping areas on the development site and maintained for a specified period of time (minimum 3 years).	VFMP Section 2
17	All protected vegetation removal must be undertaken in accordance with the relevant provisions of applicable legislation. Any operational works application must detail the clearing procedures and address any relevant Koala clearing guidelines or regulations.	VFMP Section 4-5
18	Any lighting to the development is not to impact on the ecological values of the adjacent National Park and the southern portion of Lot 9 SP 252905, i.e. lighting must not be directed toward, and light spill must be minimised to, the adjacent National Park or remnant vegetation to the south. Details of the design response to this requirement must be submitted with the application for operational works.	VFMP Section 6
19	With the exception of fencing to the boundaries with adjoining residential allotments or the Sunrise Beach shops, any new fencing to delineate boundary alignments must be constructed to allow for the movement of fauna. Such fencing must:	
19.1	Allow adequate clearance at ground level for local macropods	VFMP Section 7
19.2	Not include any use of barbed wire or similar materials	VFMP Section 7
19.3	Provide regular opportunities for passage over and through for local native fauna	VFMP Section 7
20	Any new fencing to common boundaries with adjoining residential allotments or the Sunrise Beach shops shall be of timber construction or incorporate timber koala poles of at least 200mm diameter at maximum centres of 10 metres.	VFMP Section 7



Table 2. DERMs Ecological Conditions of Approval and EMP Reference

#	Condition	Reference
1	Development must be wholly contained within the portion of a lot zoned for community infrastructure. Building envelopes and associated infrastructure must be placed in the location as shown on the Blue Care Development Master Plan	Fig 2
2	The VMP and FMP are to be submitted to the DERM prior to the commencement of operational works	✓
3	All koala habitat trees with a height of 4m or greater or a diameter of 10cm or greater at 1.3m above the ground outside of the approved development zone, which is bound by the fire trail to the south and west boundaries and the existing lot boundaries to the north and east, will be retained with the following exceptions; a) Koala habitat trees identified within the proposed western (southern most) detention/bio-retention basin site b) Koala habitat trees identified within the proposed northern detention/bio-retention basin site c) Koala habitat trees identified within the building areas which extend into the western conservation buffer zone	Fig 2, VFMP Section 3
4	Rehabilitation of Koala habitat is to be undertaken in accordance with the current Landscape Plan, VMP, bushfire assessment report to be submitted to the DERM and Sunshine Coast Regional Council prior to commencement of operational works a) plant species assemblage, density and distribution including the understorey should resemble the surrounding regional ecosystem b) depending on availability, all koala habitat tree species are to be derived from local seed stock. Alternative stock (preference given to 'native to area' species) can be used if prior approval is given by the DERM c) suitable protective measures are required to be installed around the rehabilitation areas(s) at the time of planting and remain in place until the maintenance period has finished. d) All vegetation must be completed within one (1) year of the date an operational works approvals is issued by Sunshine Coast Regional Council. e) Maintenance of all completed revegetation is to be undertaken by the applicant over a period of two (2) years, commencing from the date revegetation is completed. Maintenance actions are to address the following: stabilisation of soil structure, replacement of dead or diseased tree plantings, regular watering taking into consideration current water restrictions, removal and management of noxious plant and environmental weed species.	RMP
5	Clearing and construction on subject site must be limited to the hours between 6am and 6pm	VFMP Section 4
6	During construction, the driving and parking of vehicles as well as stockpiling of soil and other materials, must be carried out away from the root zone of trees to be retained	VFMP Section 4
7	The applicant shall ensure that all employees, contractors, subcontractors, agents or any other person engaged or employed to carry out building works under this development permit comply at all times with the requirements of this development permit and do not clear any vegetation that is not approved to be cleared under this development permit or in a manner that is inconsistent with it.	✓
8	The applicant shall notify the DERM customer service centre on phone or email at least 5 business days prior to commencement of any clearing of koala habitat trees on the subject site of the date clearing is to commence and the koala spotter to be used.	VFMP Section 4
9	Domestic dogs are not permitted on the site during construction	VFMP Section 4
10	Traffic entering the exiting the site should be kept to a minimum between the hours of 6pm and 6am	VFMP Section 4
11	Signage depicting a koala and a maximum speed limit of 30km/h should be erected at the entrance to the site to inform visitors that koalas may be present on the site.	VFMP Section 4
12	The fence to be erected along the western boundary of the conservation buffer zone is to be built with the intentions of the proposed design plan	VFMP Section 7
13	The barrier fence to be erected on the eastern boundary (along Ben Lexen Drive) is to be designed as a 'koala exclusion' fence to prevent eastward movement of fauna	VFMP Section 7
14	Any future fencing along the Southern and Northern boundary is to be endorsed by the DERM and Sunshine Coast Regional Council prior to construction	VFMP Section 7
15	Any landscaping to be undertaken on the subject site must consist of at least 70% Australian plants, of which 50% are native to the area including koala habitat trees native to the area.	✓
16	Artificial lighting on the subject site must be operated to ensure it is directed away from adjacent native vegetation and minimises impacts to koalas and other wildlife inhabiting or moving through the adjacent vegetation.	VFMP Section 6



ATTACHMENTS

Figures

- Figure 1- Subject Land
- Figure 2 – Approved Staged Development
- Figure 3 – Staged Clearing Plan

Appendices

- Appendix A - **Vegetation and Fauna Management Plan – Stage 2**
- Appendix B - **Rehabilitation Management Plan – Stage 2**



Figure 1- Subject Land (Lot 9 identified by white dashed outline). Source: Aerial Nearmap November 2022.



APPROVED PLANS
NOOSA COUNCIL
19 NOVEMBER 2020



staging

- stage 1: residential aged care (RAC)
- stage 2: central facilities and collocated apartments and 50% of the villas.
- stage 3: remaining 50% villas.
- stage 4: 4no. apartment buildings.

thomson
adsett

STAGING PLAN

1: 1500 @ A3
DA 107

15-10-2020
rev. 4

© Copyright Thomson Asset Pty Ltd.
All Rights Reserved.
Documents are precedence over scaling. Do not
measure off drawings as print size may vary

Telephone +61 7 3840 9999
www.thomsonadsett.com
120 Robertson Street
Fortitude Valley
Qld 4006 Australia
thomsonadsett.com

TAM 20/0054

BLUE CARE SUNRISE BEACH

GRASSTREE COURT
SUNRISE BEACH
QLD 4567
BLUE CARE

BlueCare

REV	DATE	BY	CHKD	DESCRIPTION
1	22.05.2020	DA 107/E	PG	
2	23.07.2020	DA 107/E	PG	
3	29.08.2020	REVISED DA 107/E	MF	
4	15.10.2020	UPDATED DA 107	PG	

Document Set ID: 21300655
Version: 1, Version Date: 2011/2020

Figure 2 – Approved Staged Development

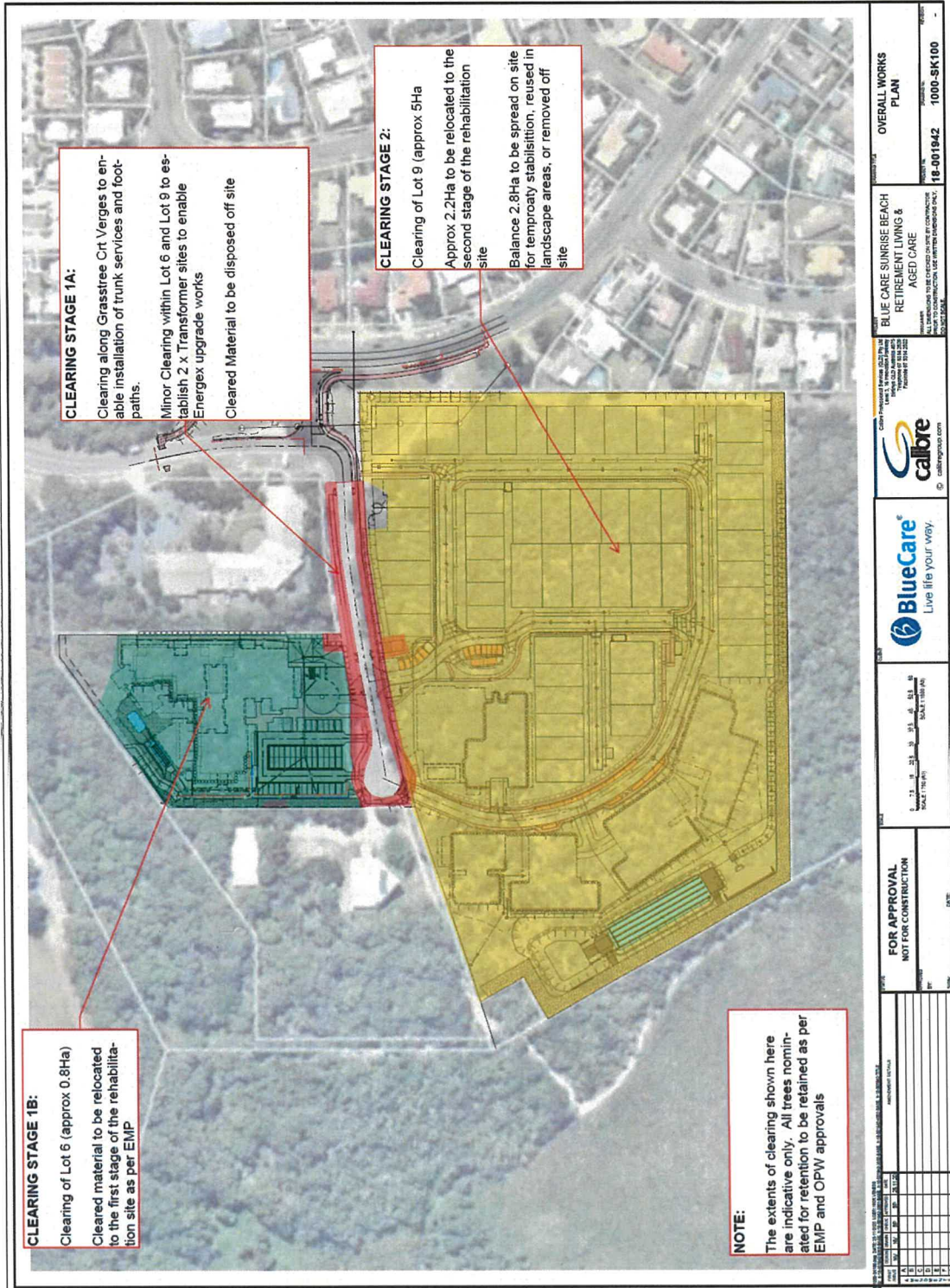


Figure 3 – Staged Clearing Plan



Appendix A

Vegetation and Fauna Management Plan – Stage 2



VEGETATION AND FAUNA MANAGEMENT PLAN – Stage 2

Prepared for **Blue Care**

Grasstree Court, Sunrise Beach, Qld, 4567

Lot 9 RP 252905

1. INTRODUCTION

The overall objects of the vegetation management and fauna management plan (VMFP) is to ensure:

- inadvertent vegetation clearing (i.e. protection of vegetation identified for retention) is avoided;
- appropriate instruction/direction regarding vegetation clearing;
- there is no injury to fauna during clearing operations; and
- direction/recommendations for lighting and fencing design that accommodates fauna.

2. GLOSSY BLACK-COCKATOO TREES

2.1 Active Feed Tree Identification

Over several days in October/November 2018 active feed trees (*Allocasuarina littoralis*) were identified by the evidence of orts (i.e. chewed she-oak cones).

IMPORTANT NOTE - a **conservative approach** was taken by identifying a “feed tree” even if only a few (i.e. <5 orts were located). These trees are highly likely not used for actual feeding and would be considered “test” or “sample” trees. Nevertheless, these were included for completeness. Feed trees were categorised (level of use based on fresh and number of orts) as low (<20), mid (20-50) and high (>50). Trees were flagged on site and surveyed by Downes Group. Subsequent surveys in 2019 and 2020 confirmed that several of the “feed” trees are no longer used. Comprehensive surveys in January 2021 across Lot 6, Lot 9 and the surrounding land confirmed the use of the trees is significantly less than in 2018 and no feeding activity was recorded at many of the “original trees”.

A total of 71 trees were identified in 2018 either within or immediately adjacent to the subject land (refer **Figure A1 – GBC Tree Location**). These trees are NOT all active feed trees and in 2021 many show little use – refer note above.

Glossy black-cockatoo trees and activity on site and in the locality were discussed with Bob Carey (Noosa Resident), Gabriel Conroy (University of Sunshine Coast) and Council officers.

The development approval conditions do not require any Glossy black-cockatoo trees to be retained on the subject land. However, following the detailed tree survey, discussions with Council and community, investigation into the potential for tree retention was considered. The design for Lot 6 has been amended, to accommodate feed trees. Of those surveyed, 13 (11 on subject land) feed trees will be retained. Several feed trees (confirmed in 2021) that occur in areas surrounding the subject land will be retained. The retention of these trees (and associated landscaping) has been considered as part of the bushfire management strategy.

2.2 Seed Collection and Propagation

In 2018 a total of 71 she-oak trees that had some evidence of feed activity are known to occur on the site and surrounds. Trees to be removed are to be offset at a ratio of 8:1 by seed collection and subsequent replanting/re-establishment. The planted trees are to be maintained for a period of three years.

Allocasuarina littoralis cones were collected from the site on 22nd November 2018. Seed predominantly from the feed trees 36, 63, 68, 62, 57 and 68 were obtained by specialists from Arborcare Queensland and Florabunda Nursery.



Once collected, the cones were taken to Florabunda Nursery and managed for future propagation. The process generally includes, placing cones in warm dry location for valves to open and release the seed. Once seed is released, they are stored below 3°C⁴ until germination of seeds are required.

Germination of seed will be staggered over time to ensure trees are available for planting in the various locations as proposed and approved by Council, including the landscaped/retained areas within and immediately adjacent to the subject land, the proposed rehabilitation/offset site and within local parks and open space areas.

In late 2020, approximately 800 tubestock have been grown on, with more than 100 larger pots ready for planting in early 2021 (e.g. for Stage 1 rehabilitation).

In September 2022 some 670 grown-on feed trees had been planted on the rehabilitation site.

2.2 Threatened Flora

As part of the State requirements for “threatened flora”, a report was prepared (for Lot 6 and Lot 9) in accordance with the Flora Survey Guidelines – Protected Plants (DEHP 2016)⁵ under the *Nature Conservation Act* (NC) 1992.

The original report was submitted to the State on 22 November 2018 for an activity that is:

- *Exempt under Section 261ZA – i.e. no EVNT plant species found to occur on site; and*
- *With regard to the DEHP (2015) Operational Policy - Wildlife Management - When a protected plant in Queensland is considered to be “in the wild”*

The State has approved/acknowledged the report (reference APP0030284) with the following provision:

Clearing of a protected plant under this section must be conducted within two years after the flora survey report was submitted to the Department of Environment and Science.

Further threatened flora surveys have been completed for Lot 9 (January 2021). As no threatened plants were located within the clearing area and in accordance with the State Guidelines, a protected plant clearing permit is **not** required from DEHP. Submission of the survey report to DEHP is taken to be **notification** to the Department. The 2nd report (notification) was submitted to the State in April 2021.

In summary, target threatened flora surveys have been completed in November 2018 by Queensland recognised botanists and “suitably qualified persons” Dr Stephen Catchpoole and Dr Ann Moran. Additional field surveys (September, October, November 2018) were completed by “suitably qualified persons” Dr Justin Watson. Further detailed/targeted surveys were completed over Lot 9 in December and January 2021 by Dr Watson, Liam Pratt and Lachlan Simpson.

The State has approved/acknowledged the report (reference APP0077353). For clearing related to this flora survey report to be exempt (i.e. avoid a further survey) the clearing must be completed within 3 years after the relevant flora survey was conducted, i.e. by January 2024.

No threatened species were located within or immediately adjacent to the subject land. One specimen of the *Macarthuria complanata* and several specimens of the *Blandfordia grandiflora* (Christmas bells) were recorded within Noosa National Park (Lot 147 NPW889). The subject land and area to be cleared does not support suitable habitat for these species. Despite no further actions required, protective fencing (to avoid inadvertent clearing of threatened species and vegetation to be retained) is recommended in the State Flora reporting and to be part of the recognised/best practice measures to be implemented as part of this document.

⁴ Storing seeds at this temperature maintains viability up to 12 months.

⁵ DEHP (2020) *Flora Survey Guidelines – Protected Plants*. Version 2.01. Wildlife and Threatened Species, Department of Environment & Science.



3. VEGETATION PROTECTION

The following vegetation protection works will be implemented for this project prior to any earthworks/clearing activities.

- Survey accurate identification of areas to be cleared vs areas to be retained;
- Survey accurate the identification of areas for bushfire setback/buffer and property boundaries;
- Installation of high visibility temporary fencing along the boundary of the subject land (property boundary) with “NO GO” or similar signage;
- Installation of temporary fencing (e.g. star picket/hazard tape) along the bushfire buffer⁶;
- Protective fencing to incorporate tree protection measures (TPZ) in accordance with *Australian Standards for Tree Protection*;
- Glossy Black-cockatoo trees identified for retention to be clearly marked and individually protected, if necessary (e.g. close to clearing area); and
- Fauna access/escape passage is to be provided at strategic locations along the fencing (i.e. to allow fauna to move into retained bushland during the clearing process).

Vegetation protection fencing to be inspected by Council prior to any site clearing works.

Tree protection measures to be in accordance with *AS4970: Protection of Trees on Development Sites*.

The location of **Vegetation Protection Fencing** for Lot 9 is provided in **FIGURE A2**.

⁶ Vegetation clearing in development area with standard clearing equipment. Selective clearing of vegetation in bushfire buffer manually or with light machinery.



4. FAUNA MANAGEMENT

4.1 Pre-clearing

A qualified fauna-spotter (holding an appropriate State-approved rehabilitation permit) is to be appointed before commencement of clearing. Pre-clearing fauna management measures are to include the following, as a minimum:

- Inspection of habitat on site within areas to be cleared.
- Identification of habitat trees (i.e. trees that have the potential to harbour fauna).
- Protective fencing installed to identify protected and clearing areas.
- Tree protection fencing must provide for the evacuation of fauna to retained habitat. Any gaps between fencing panels must not exceed 1m.
- Fauna spotter to be cognisant of koalas in the landscape and koala management measures in accordance with State guidelines.
- Fauna-spotter to attend pre-start meeting.
- Signage warning of fauna presence and speed limits (30km/hr) to be installed.

DERM customer service centre is to be notified (phone or email) at least five business days prior to commencement of any clearing of koala habitat trees on the subject site of the date clearing is to commence and the koala spotter to be used.

As an additional measure⁷, it is also proposed to undertake pre-clearing surveys/fauna to allow for relocation of small mammals, such as bushrats, melomys, antechinus, bandicoots, etc. if they occur. The exercise would incorporate a three-night trapping program incorporating Elliott traps (small and large) and cage traps (or otherwise deemed appropriate by a suitably qualified ecologist). Any trapped animals will be relocated further south, i.e. in the same vegetation community, but well to the south of the site. The trapping would be undertaken by an ecologist with appropriate experience and recognised State permits for this activity. The trapping/relocation exercise would occur within a week prior to clearing.

4.2 Clearing & Construction

The fauna-spotter is to be on site during clearing of all vegetation. Fauna management measures during clearing are to include the following, as a minimum:

- Directional clearing is to occur, i.e. clear from development area towards “conservation” areas (i.e. to the south and west for Lot 9) (refer **Section 5**).
- Habitat features to be checked for fauna prior to clearing.
- Habitat features such as hollow-bearing branches/logs are to be salvaged and re-located within the buffer area.
- Ongoing liaison with Civil Contractor and clearing contractors regarding fauna and vegetation clearing methods.
- Throughout clearing, the fauna-spotter is to capture, and release fauna as required.
- In the event of an injury to fauna, the fauna-spotter is to deal with the animal appropriately and/or have treated at local veterinary surgery or registered wildlife carer, as necessary (note below details).
- No domestic pets (including dogs, cats) allowed on the site during construction.

The **Eumundi Wildlife Centre** is the nearest wildlife rehabilitation facility (1411 Eumundi-Noosa Road, Eumundi – tel. 5442 8057) and the nearest vet is the **Sunshine Beach Vet** (46 Duke Street, Sunshine Beach – tel. 5447 4569).

4.3 Habitat Creation

While not a condition of approval, following discussions with Council, it is proposed to install a permanent water feature within the landscaping area/s of the Lot 9 development. This may take the form of birdbaths/ponds or similar structures that are incorporated into the landscaping features creating a permanent source of water.

⁷ Not a requirement of State/Council approval conditions or approved EMP, but recommended as a best practice exercise.



5. VEGETATION CLEARING

Following implementation of necessary fencing and other pre-clearing requirements (including Council acknowledgement) the clearing exercise can commence.

5.1 Development Area - Lot 9 - Clearing Methodology

The clearing methodology for the development (built) area to be generally as follows:

- Implement fauna spotter and habitat protection/identification measures as described above.
- Once the trees within the area have been given the “all clear” from the fauna spotter catcher, the trees will be pushed over using controlled felling techniques with a hydraulic excavator.
- Fauna spotter catcher will be present for all clearing works.
- The vegetation will then be placed in a windrow with a north/south alignment as it is being pulled down. This will be repeated until all the vegetation required to be removed to facilitate the development has been knocked over and piled into windrows. Once all the vegetation has been knocked down, another excavator will be used to downsize the material ready to be mulched, where necessary.
- A grinder will then be used to process the material into stockpiles throughout the site.
- Stockpiles (mulch or soil) where necessary, are to only be placed within development area (i.e. not beyond property boundary or within bushfire buffer areas).
- Any large trees/logs will be appropriately cut and relocated to the rehabilitation site to create habitat/refuge resources⁸.

Clearing and construction is to be limited to the hours of 6am and 6pm.

5.2 Bushfire Buffer Areas

Following clearing of development area, an inspection of the bushfire buffer area by the ecologist and bushfire consultant will occur in order to nominate trees/vegetation for retention.

Tree retention in this area is not mandatory (i.e. not a condition of approval), but desirable where practical for ecological and landscape purposes but must not generate a bushfire risk. Trees for possible retention include Glossy black-cockatoo feed trees (*Allocasuarina*), koala feed trees (i.e. eucalypt and allied species), grass trees (*Xanthorrhoea*) and other suitable landscape or habitat specimens (e.g. mature banksias). The retention of specific (agreed) feed trees has been considered as part of the bushfire management strategy.

Understorey/small trees for the buffer areas are to be cleared by hand (or light equipment) as per the bushfire management plan/requirements (refer Meridian Urban, 2018).

Note: This area is identified for bushfire management which needs to take precedence over landscaping and ecology.

5.3 Clearing Direction

For Lot 9 - clearing to start from Grasstree Court and progress in a south/south-westerly direction.

A Clearing Direction Plan is provided in **FIGURE A2**.

⁸ Not a requirement of the approval conditions. Trees to be relocated where possible – noting the project site has limited tree canopy material.



6. LIGHTING

The lighting design (refer Rixon Design, 2018) will accommodate the site context defined by the site plan, nature of the site and surrounds and the approval conditions. This includes that lighting must not be directed toward, and light spill must be minimised to, the adjacent National Park or remnant vegetation to the south.

As per the Rixon Design approach “the context for this site is the prime form giver to the design approach to lighting. This is not a central city environment with high ambient lighting levels. Deliberate and well researched lighting solutions will be used to meet the needs of the site operational requirements while at the same time take into account the natural context of the site”.

The key standard which will be followed will be current requirements of *AS/NZS 4282 – Control of the Effects of Obtrusive Light*.

This Standard sets out guidelines for the control of the obtrusive effects of outdoor lighting. It includes recommended limits for the relevant lighting parameters to control these effects. This standard will be used to ensure potentially adverse effects of outdoor lighting on nearby residents, fauna and users of adjacent roads.

Any external lighting will have shields/deflectors to avoid light fall into the surrounding bushland as required. The nature of the fittings used will be based on a low glare design” and “no spotlighting will be directed towards the National Park or remnant vegetation in the south.

7. FENCING

As per the conditions of approval (Council and DERM), any new boundary fencing (other than in the east, i.e. adjacent to the existing shopping centre and between existing residential area) is to be fauna friendly. This fencing design would allow fauna movement within the bushfire buffer areas.

A detailed fencing design would be provided at a future stage of building works and is to ensure the following recognised/standard design guidelines or similar:

- A 30-50cm gap between ground level and the first rail or strand.
- Not include any use of barbed wire or similar materials.
- Provide regular opportunities (gaps) for passage over and through for local native fauna.

For any new fencing to common boundaries with adjoining residential allotments or the shopping centre either be:

- Of timber construction; or
- Incorporate timber koala poles (of at least 200mm diameter) at generally 10m intervals.

A Fencing Plan is provided in **FIGURE A2**.



8. COMMUNITY CONSULTATION

Separately to the State and Council conditions of approval a community consultation strategy has been developed. Communications with the community and interested parties is proposed to be an ongoing activity.

Blue Care/Lendlease have been liaising cooperatively with local community groups and will continue to do so as the project progresses. Blue Care/ Lendlease is committed to engaging with the surrounding community and will continue to identify and build on relationships with key stakeholder groups. Our interaction with the local community will continue via letter box drops, information sessions and one on one/small group discussions in the new year, using our dedicated phone number and project email address to facilitate communication with community groups.

Blue Care/Lendlease will be proactive in our approach and will communicate with residents, schools and local businesses regarding project developments. In particular, they will undertake the offset works per the DA conditions and look to expand on this by taking on additional commitments where possible.

A site-based Community Engagement Officer has been employed (December 2022) by Lendlease.



FIGURES

- **A1 - Downes Group: She-oak trees with some evidence of Glossy Black-Cockatoo use**
- **A2-A – Lot 9 Clearing Works Plan**
- **A2-B – Lot 9 Site Setup and Fencing Plan**

IMPORTANT WARNING NOTES

* The Glossy Black Cockatoo Trees were located by VRS- RTK GNSS in GDA94 (zone 56) coordinates. The GPS receiver was on an extended pole to get signals where the tree canopy allowed. From these points, compass and tape observations were made to the trees. Using this approach the accuracy of location of the GBC trees should be generally better than 0.5m. The locations of these trees in this plot have been derived by transforming the GDA 94 coordinates to the local site datum.

* Feeding preference based on level of use relative to the number of orts on the ground at time of survey (October 2018).

* High use denotes obvious and active use of tree; while Mid and Low use denotes occasional and infrequent use only (noting in some cases <5 orts recorded beneath tree).

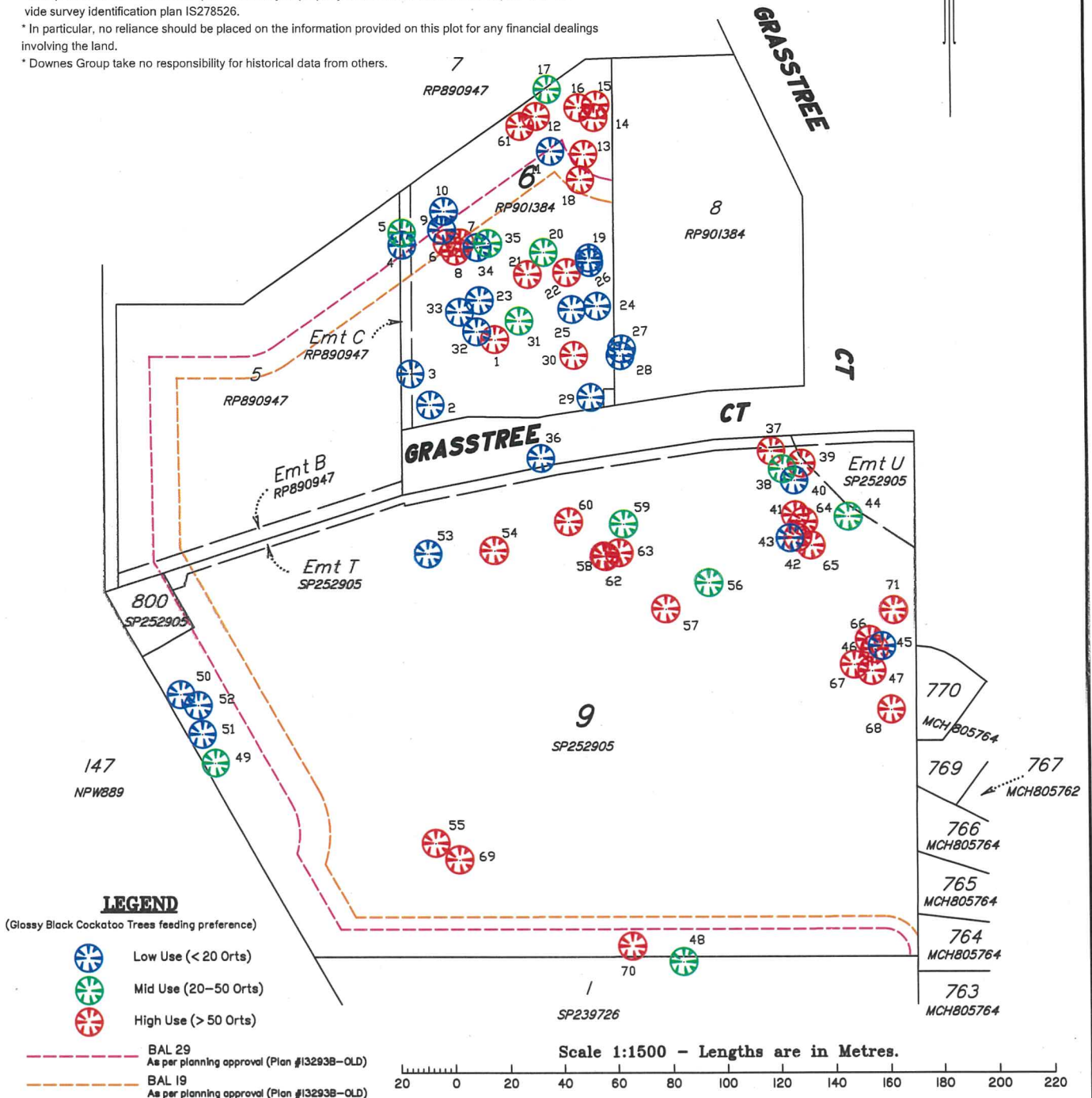
* This plot is provided for verification of survey data only and should not be used for any other purpose.

* These notes are an integral part of the subject plan.

* This plan is not an identification plan. The subject property boundaries as shown on the plan face are vide survey identification plan IS278526.

* In particular, no reliance should be placed on the information provided on this plot for any financial dealings involving the land.

* Downes Group take no responsibility for historical data from others.



group downes
Surveyors - Planners -
Development Consultants
Sunshine Coast * Toowoomba * Western Downs
www.downes.com.au A.C.N. 010 841 639

Blue Care Sunrise Beach
Project - **FIGURE A1**
GLOSSY BLACK COCKATOO TREES
over Lot 6 on RP901384 &
Lot 9 on SP252905
Ben Lexcen Drive, Sunshine Beach

Contour Interval	-			Local Authority -	
				NOOSA SHIRE COUNCIL	
Level Datum	AHD (derived)			Locality -	
				SUNSHINE BEACH	
Horizontal Datum/Meridian	IS278526			Scale (A3)	Surveyor
				1:1500	GC
Horizontal Co Ordinate System	ARBITRARY			Date Surveyed	Date Drafted
				30/10/2018	14/11/2018
Level Origin				Approved.	
				S.Passlow	
OPM 103925 RL 32.727m				Plan No.	
				Z80931.D03(A)	

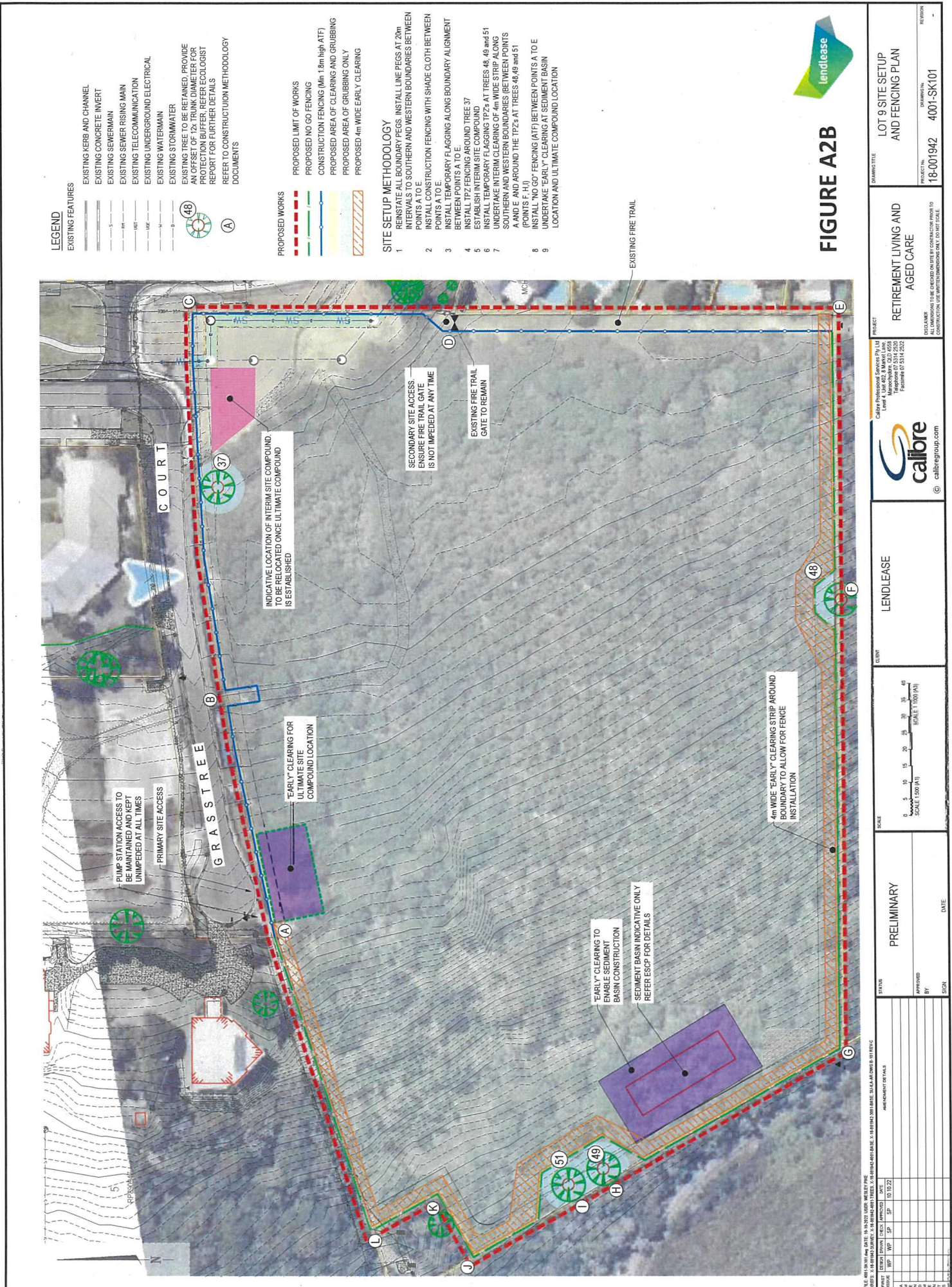


FIGURE A2B: LOT 9 SITE SETUP AND FENCING PLAN

PROJECT: 18-001942 4001-SK101

CLIENT: LENDELEASE

SCALE: 1:500 (A1) / 1:100 (A2)

STATUS: PRELIMINARY

APPROVED BY: [Signature]

SIGN: [Signature]

DATE: 17/05/2023



Appendix B - Rehabilitation Management Plan – Stage 2



REHABILITATION MANAGEMENT PLAN – Stage 2

Prepared for **Blue Care**

Grasstree Court, Sunrise Beach, Qld, 4567

Lot 9 SP 252905 {& Lot 6 RP 901384}

1. INTRODUCTION

The primary objective of the rehabilitation management plan (RMP) is to establish a “rehabilitation program” (vegetation offset proposal) that provides for a good ecological outcome by re-establishing habitat elsewhere in the nearby locality.

For the purposes of the RMP, the subject land is the *site* to be cleared (approved development land) while the rehabilitation site is the *receiver* site (land to be rehabilitated).

The receiver (rehabilitation) has been identified within the Girraween Sports Complex and Nature Refuge located at 100 Eenie Creek Road; Noosa Heads (off Wallum Lane), formally known as Lot 1 on SP239726 (**FIGURE B1 – Receiving Site Landscape**) **FIGURE B1A** illustrates the land at approximately 2018, while **FIGURE B1B** shows the site in March 2023.

Two treatment areas (T1 and T2) were identified in consultation with Council (**FIGURE B2 – Receiving Site Treatment Areas**).

Stage 1 of the development encompasses some 0.8ha of clearing and available soil/seed material (associated with Lot 6). Stage 2 includes the balance of the rehabilitation area and is associated with Lot 9. Stage 1 works was initiated in April 2021 and completed in September 2022. While Stage 1 rehabilitation activities have been completed, the actions are retained in this plan for completeness. Some of the original Stage 2 commitments have already been incorporated into the Stage 1 works. This plan incorporates additional measures, beyond the original approved EMP.

2. SITE TREATMENT AND TRANSFER METHODS

2.1 Overview

Stage 1 (Lot 6 clearing and initiation of the rehabilitation exercise) is completed. As part of the Stage 2 rehabilitation exercise, it is proposed that topsoil and subsoil containing the seed bank of the vegetation within Lot 9 will be scraped off post clearing and mulching of all above ground vegetation. The live⁹ soil will be transferred via trucks to the receiver site. Vegetation clearing for the subject land is described in the VFMP. The receiver site has been prepared as part of Stage 1. All vegetation on Lot 9 will be cleared and mulched prior to lifting out live topsoil and subsoil. All works will comply with the conditions of the operational works approval and the VFMP.

2.1.1 Completion of Stage 1 Works

The completed Stage 1 Rehabilitation encompasses some 11381m², incorporating 3326m² of T1 dune area and 8147m² for T2 area. Additional weed control across the balance rehabilitation area (totalling approximately 3ha) was completed by the rehabilitation contractor (up to mid-year 2022).

⁹ Live soil = soil with seed material from project site.



Step	Action
1	Clear entire offset site. Mulch, strip and stockpile all top layers and weed material.
2	Install main infrastructure e.g. haul/access roads, irrigation water line from treatment plant, water tanks.
3	Install exclusion fencing around weed area.
4	Provide weed treatment to entire receiver site after clearing, i.e. spray all weeds as they germinate for four weeks prior to seed soil being moved to site.
5	Site soil from Lot 6 transported and installed into the southern part of the rehabilitation site (0.8ha).
6	Treatment to T1 (e.g. coir logs) and soil (0.3ha).
7	Plant she-oak tubes and other trees. Planting included in T1 and T2 areas and incorporates both Stage 1 and Stage 2 planting targets.
8	Planting of grass trees into T2 area by Council.
9	Install monitoring points.
10	Ongoing weed management.

Practical completion for On-Maintenance Stage 1 has been achieved as follows:

Criteria	Target	Achieved
Fencing	Fencing installed where needed – part safety part fauna management	Installed around stage 2 area - rehabilitation area demarcated but unfenced to allow fauna movement
Weeds & Erosion	Landform stable & generally weed free	Landform stabilised with coir logs (T1), mulch (T2), earthen bund and erosion fencing in east
Soil translocation	0.8ha	0.5ha in T2 south, 0.3ha in north (original T2 area)*
She-oak planting	200x	670
Eucalypt (& allied) species planting	50x	50
Glossy black-cockatoo nest boxes	2x (where possible)	2 x nest boxes installed August 2021
Irrigation system	To be installed	Irrigation system is connected to a fixed water supply (recycled water supplied from the nearby treatment plant) with 2 x water tanks and pump system. Necessary approvals in place and signage "non-potable" installed.

* areas approximate.

In addition to the above, the T1 area has been rehabilitated. This rehabilitation has been brought forward (i.e. exchanged for part T2) with some 3000m² treated for weeds and approximately 1500m² (open dune) stabilised with the use of coir logs, natural vegetation material and the planting of 350 plants (as tube stock) from nine species. It is relevant to note:

- The she-oak planting has exceeded (by >200) the requirement for the project (i.e. stage 1 and stage 2 offset ratio target).
- The 350 native species incorporated into the T1 area is above any requirements for Stage 1 or Stage 2 planting.

2.1.2 Additional Works and Fencing

The project has successfully achieved the required planting target for both Stage 1 and Stage 2. Additional planting of 600 trees is proposed (refer **Section 4.4**).

Parts of the rehabilitation area for Stage 2 will be capped in accordance with the design and specification provided by Noosa Shire Council (refer **APPENDIX B1**) – refer **Section 4.3**.

The Madeira vine area was fenced (exclusion fencing) for future treatment¹⁰ and will remain fenced until the area is deemed secure by the contractors (e.g. buried beneath the GCL liner) which is to be vegetated as per this EMP.

Responsibility for existing fencing on the rehab site will transfer to Blue Care/Lendlease from 1 June 2023 and will be removed as soon as planting is complete, and all works machinery have demobilised offsite.

¹⁰ It is noted that Council have mulched the weed stockpiles in this area in September 2022. Left untreated this area remains a weed source and risk for the successful rehabilitation of the balance land.



2.2 Stage 2 Works To Be Completed

Step	Action
1	Balance land available for rehabilitation as identified by Council (see Figure B4).
2	Northern area to receive soil and mulch material from project site.
3	Spread bunded soil (i.e. original soil from northern part of rehabilitation site) over southern portion of site.
4	Southern area (associated with weed vine material) to be capped and covered with soil and mulch from project site.
5	Southern area to have contour banks and batter drain.
6	Sediment fencing to be relocated to appropriate locations as necessary.
7	Ensure monitoring points cover all of rehabilitation site (i.e. extend into balance rehabilitation area) where appropriate.
8	Weed management.
9	Supplementary planting with 300 she-oak and 300 eucalypts evenly distributed across balance land.

2.3 Soil Seed Bank Transfer

Once the site (Lot 9) is cleared and all above ground material is mulched and stockpiled, earthworks machinery will be used to scrape the top 200-300mm of soil off the ground at the translocation site. This will be placed immediately into a truck and driven to the receiver site.

Once transported to the receiver site, the soil is unloaded directly into balance area, and trucks return to subject site. Earthworks machinery will spread the unloaded soil as soon as is practicable over the pre-prepared area. Soil is to be stockpiled for the shortest amount of time possible to retain seed viability. It is acknowledged that some stockpiling is unavoidable. Stockpiling of live soil will be dependent on how quickly it can be spread out as well as the rate of removal from Lot 9. Subsoil and topsoil to be treated separately with topsoil placed above the subsoil.

Mulch that is stockpiled throughout Lot 9 will also be transported to the receiver site in trucks and spread over the live soil mix or stockpiled as agreed between Council and the project. This transfer will occur simultaneously with the soil transfer and mulch will be spread out over the receiver site as soon as is practicable to retain any viable seed within the mulch piles.

The southern portion of the rehabilitation site is to be capped (as per the capping plan) prior to soil transfer for that area. The GCL capped area (5000m²) is to have a confining layer with a minimum depth of 300mm in addition contour bank material and 1.5m depth of Lot 9 'live soil' above. The remaining non-GCL capped area (13000m²) is to have Lot 9 'live soil' depth of 300mm.

2.4 Clearing Methodology

The clearing methodology (project site) to be generally as follows:

- Implement pre-clearing surveys and fauna spotter and habitat protection/identification measures as described in the VFMP.
- Once the trees within the area have been given the "all clear" from the fauna spotter catcher, the trees will be pushed over using controlled felling techniques with a hydraulic excavator.
- Fauna spotter catcher will be present for all clearing works.
- The vegetation will then be placed in a windrow with a north/south alignment as it is being pulled down. This will be repeated until all the vegetation required to be removed to facilitate the development has been knocked over and piled into windrows. Once all the vegetation has been knocked down, another excavator will be used to downsize the material ready to be mulched.
- A grinder will then be used to process the material into stockpiles throughout the site.
- Note specific (selective and manual) clearing within the bushfire buffer areas.

2.5 Transporting Material

Material will be transported to the receiver site via the existing roadway network. The shortest route is approximately seven minutes on public roads, pending traffic conditions (refer **FIGURE B3 – Transport Route**). Transportation of material will occur in accordance with any specific traffic management plans, however, would aim to occur outside of peak traffic periods.



3. THREATENED FLORA AND SEED COLLECTION

Consideration of threatened flora and the collection of seed is described in the VFMP and summarised below.

A total of 71 glossy black-cockatoo trees that demonstrated some feed activity (note – not all active feed trees) were known to occur on the site and surrounds (i.e. Lot 6 and Lot 9). Trees to be removed are to be offset (i.e. approval condition) at a ratio of 8:1 by seed collection and subsequent replanting/re-establishment. The planted trees are to be maintained for a period of three years.

Allocasuarina littoralis cones were collected from the site in November 2018 and taken to Florabunda Nursery for storage and future propagation. This process has already been initiated. Planting of propagated material is proposed in the various locations, including the landscaped/retained areas within and immediately adjacent to the subject land, the proposed rehabilitation/offset site and within local parks and open space areas.

For Stage 1 a total of 670 she-oak from feed tree seed stock have been planted. The generous “replacement” proposal of 500 trees for the project (i.e. Stage 1 and Stage 2) has been achieved¹¹.

As part of the State requirements for “threatened flora”, a report was prepared in accordance with the State Flora Survey Guidelines – Protected Plants under the *Nature Conservation Act* 1992. No threatened plants were recorded on the subject land.

Specimens of *Macarthuria complanata* and *Blandfordia grandiflora* (Christmas bells) were recorded adjacent to Lot 9, within Noosa National Park (Lot 147 NPW889). The habitat for these threatened flora is different to that which occurs on the subject land. No other rare or threatened species were located. Protective fencing (to avoid inadvertent clearing of threatened species and vegetation to be retained) is to be implemented.

¹¹ The approval conditions require an 8:1 replacement. 56 trees with some evidence of feed activity removed (but acknowledge not all of these are “feed” trees and the actual feed trees removed is recognised as being well less than this figure). Target total for compliance is conservatively no more than 448 (assuming all 56 trees are actually feed trees).



4. RECEIVING SITE REHABILITATION

4.1 Description and Tenure

The receiver site is located within the Girraween Sports Complex and Nature Refuge located at 100 Eenie Creek Road; Noosa Heads (off Wallum Lane) and formally known as Lot 1 SP239726. This area is owned by Council ensuring that the rehabilitation efforts will be preserved indefinitely and located within close proximity to the translocation site. A formal survey in 2018 located the boundaries for the receiver site and treatment areas (**FIGURE B2**).

4.2 Treatment Areas

The area designated within this lot to receive the translocation treatments is approximately 3ha of degraded land mapped as Category X (i.e. non-remnant) vegetation under Queensland state mapping.

The site consisted of a bare hillside in the southern portion (T1). The balance area comprises a weed infested area with scattered/few emergent trees (T2).

The total area of the receiver site is approximately 3ha.

- T1 area is approximately 3000m².
 - Consists of dune hillside, bare of vegetation with sandy, low nutrient soil.
- T2 area is approximately 27000m².
 - Consists of slight slope, dominated with weedy understory and few emergent trees.

The surrounding vegetation consists of a similar regional ecosystem composition to the subject land. It is made up of a 50/50 ratio of RE12.2.5 and RE12.2.9.

Proximity to the development site, similar land zone, similar surrounding ecology, opportunities/desire¹² for rehabilitation and long-term ecological benefit and protection justifies the suitability of the rehabilitation site.

4.3 Receiving Site Preparation and Capping

The receiver site has been prepared (in April 2021 and prior to any clearing works at the Lot 6). The receiver site is ready prior to any clearing works on Lot 9 (Stage 2) of the project area. As at mid-2022, weed control over the balance area has been under Council control.

The overall works involved weed removal from the surrounding buffer areas, weed removal from the T2 area, scraping away the top layer of organic material at T2 area to expose clean soil substrate, installation of a mulch bund along the bottom of the hillside to T2 area and placement of coir logs over T1 area to aid soil retention. Once translocated soil is placed over entire T1 and T2 area, an irrigation watering system is to be installed.

Access has been granted from Council. Areas have been designated for equipment storage, staff parking, emergency meeting point and emergency access are set up and signed. The TPZ of trees outside the boundary will have fenced temporary with "NO GO" or similar signage. A secure storage/work compound has been established in the east.

The T1 area (open dune) has been stabilised with the use of coir logs (secured with stakes), natural vegetation material and the planting of 350 plants (as tube stock) from nine species. This has been completed in September 2022. Irrigation to this area has positively assisted natural regeneration.

The T2 area has undergone extensive weed removal. An excavator was used to remove the bulk of the weedy lantana which will be mulched on site. Native trees will be retained with minimum diameter at breast height (DBH) of 25cm. Retained trees were managed in accordance with *AS4970: Protection of Trees on Development Sites* to ensure their survival throughout the works. TPZ's were established once the overhead height weed layer was removed and staff could access the trees. All weed material will be mulched on site and used to create erosion control barriers around the site where needed. The mulch will be treated for weeds via herbicide spray once laid in place. This was completed in September 2022.

¹² Note: part areas identified by Council as in need/preferred for rehabilitation.



The site has undergone scraping via excavator to expose bare sand /soil for the translocation material to be placed upon and spread. All vegetative debris (waste) and topsoil layer scraped off the receiver site has been stockpiled (in three piles in the east). This was completed by mid-2022.

Madeira vine was located on the rehabilitation site during the initial clearing for Stage 1. The weed material was consolidated into a mound in the centre of the area for further treatment. Council undertook mulching (and spreading) of the material in September 2022. This area is to be treated in accordance with the plans in **APPENDIX B1**.

With regards to the capping, “hold points” are to be verified by a Council Officer (or Contractor), noting that some adjustment to stages and inspections may be required and agreed to suit construction sequence:

- a) Confirmation that GCL has been placed as per the plans inclusive of batter drain GCL liner
- b) Depth of confining layer cover over GCL
- c) Depth of material above confining layer prior to planting
- d) Batter drain and contour banks built to design

Council on-maintenance will be achieved subject to appropriate staged signoffs being confirmed.

Short term maintenance (5-year period in accordance with the EMP) of the rehabilitation area (including capping area) remain the responsibility of Blue Care/Lendlease (and their contractors). The maintenance regime for the rehabilitation works will also include the capping installation, with specific focus on monitoring and rectification of any erosion.

The long term maintenance of the landfill (including the capping post the 5-year maintenance period) remains the responsibility of Noosa Shire Council.

Once the initial works are completed, areas that have potentially unstable slopes will be addressed by way of erosion control measures, including sediment fencing or coir logs (similar to those used for Stage 1 rehabilitation). This will be determined on site and prior to on maintenance sign off.

4.4 Receiving Site Planting and Habitat Creation

Planting of canopy trees has been undertaken as part of Stage 1 works and includes trees to be planted for Stage 2. While planting commitments have been met (to be monitored as part of Stage 1 works), additional planting is proposed for Stage 2.

These works have been undertaken to achieve the following:

- approval conditions regarding cockatoo feed trees
- establish canopy/minimise competition with groundcover species
- recreate woodland ecosystem
- enhance koala habitat (i.e. planting of locally occurring suitable feed trees) in the locality

Planting of trees has occurred as part of Stage 1 rehabilitation and includes:

- 670 she-oak from feed tree stock – tube stock, 140mm and 200mm
- 50 eucalypt and allied species – tube stock
- 350 other native species (local top the immediate surrounds and ecosystem) – tube stock

The balance rehabilitation area currently supports native trees (originally planted by Council) and which have been retained through the initial selective clearing process. Further planting of canopy trees (300) is to be undertaken to establish canopy/minimise competition with groundcovers species, recreate the woodland ecosystem, and enhance koala habitat (i.e. planting of locally occurring suitable feed trees). She-oak trees are also proposed to be planted (300) to enhance foraging resources for the glossy black-cockatoo. This will include she-oak grown from “feed tree seed” and a selection of eucalypt appropriate to the rehabilitation area and suitable as koala feed trees, e.g. brushbox, forest red gum, Moreton Bay ash, pink bloodwood¹³.

¹³ These include species already planted by Council. Where needed, additional trees can be considered at on-maintenance.



Planting density/arrangement will consider the location of existing/retained trees with an approximate density of 300 trees per hectare (i.e. 600 tree over 1.8ha).

Two Glossy Black-cockatoo nest boxes have been installed in large bloodwood trees as part of Stage 1 rehabilitation.

Where available¹⁴, tree trunks are to be salvaged from the project site and placed on the rehabilitation area to create habitat.

4.5 Irrigation and Watering

A watering system has been installed on the receiver site for Stage 1. The watering system consists of tanks installed in the eastern part of the site (secure compound) with six irrigation lines extending through the southern and southwestern part of the Stage 1 rehabilitation area. Recycled water is pumped into the tanks for use as irrigation. The Stage 2 irrigation system will be extended where appropriate and as agreed between Council and the project.

Final alignment of any new infrastructure will be decided on ground based on local conditions once works have been completed. This system will allow watering to be done on an as needed basis over the 5-year maintenance period.

The Receiving/Rehabilitation Site set-out is provided¹⁵ in **FIGURE B4**.

¹⁴ Noted that the project site does not support a large tree/canopy community.

¹⁵ The Set-out figure has been updated subsequent to the approved EMPs and following discussions with Council in order to address rehabilitation site context and conditions.



5. CLEARING OF LOT 9, REHABILITATION ESTABLISHMENT AND MAINTENANCE

In accordance with minor change condition 48 - vegetation clearing on Lot 9 SP 252905 cannot commence until:

- a. *Lot 6 has been cleared of vegetation and live soil (topsoil, subsoil and seed bank) has been transferred to the receiving site, with the receiving site stage 1 weed control, planting and irrigation installation completed (as detailed within section 2. Site Treatment and Transfer Methods pg. 24 of the approved OPW18/0341.01 Environmental Management Plan Stage 1 – Lot 6 revision 4 prepared by Gondwana Ecology Group P/L dated February 2021; and*
- b. *Written notice has been provided to Council that Civil works on Lot 9 SP 252905 will commence within three (3) months following the commencement of clearing unless otherwise agreed in writing by Council.*

Works have been completed in accordance with condition 48a.

Approval conditions require rehabilitation works to undergo a five-year maintenance period.

Stage 1 maintenance period will be completed in September 2027 (this includes original Stage 2 rehabilitation targets).

Noting part of Stage 2 rehabilitation works has already commenced and achieved “On-Maintenance”, the balance Stage 2 area will be considered On-Maintenance when:

- the balance area has received the banded soil where needed;
- translocated soil and mulch (from project site) have been spread across the rehabilitation site¹⁶; and
- the trees (600) have been planted.

The project ecologist will sign off on the works with reporting to Council (and site inspection as needed). Once the maintenance period has started, photo monitoring points will be established for reporting purposes and operational works approval conditions.

As time progresses, and where appropriate, Stage 1 and Stage 2 rehabilitation works will be monitored and reported simultaneously.

Maintenance visits will occur every month for the first year. Each visit will involve recording presence or absence of active regrowth/recruitment, photos from monitoring points, weed control requirements (including to the surrounding buffer area), watering requirements, mulching requirements, sediment and erosion control, reporting progress and any other items as needed.

For the balance of the maintenance period, quarterly maintenance visitation will occur (i.e. years 2-5) with recording as per year 1.

At the end of the maintenance period it is proposed to have the area established with 90 - 95% native vegetation cover and showing signs of returning to a self-sustaining ecosystem such as self-mulching, indications that all levels of strata (ground, mid and canopy) are or likely to be present and fauna recruitment to the area (refer **Section 6**). While this will be determined by the germination and establishment success of the soil/seed transferred, it will be supplemented by the additional planting of she-oak and eucalypts.

¹⁶ Note – capping of the southern area of Stage 2 is to commence as soon as practical to allow soil transfer.



6. PERFORMANCE CRITERIA AND MONITORING

Monitoring of performance criteria is to occur annually for years 1-5. Performance criteria are based on practical target outcomes for the rehabilitation following discussions with Council (and in accordance with the approval condition requirements). Rehabilitation targets identified below that relate to tree species, survival, height and density are addressed under the Stage 1 rehabilitation works and are already being monitored. The balance Stage 2 monitoring targets relate primarily to weed control (determined by the extent of soil placement over the balance area). Overall Performance Targets to be achieved are as follows:

- Weeds (low) – dependent on treatment of weed infested areas adjacent to and surrounding the subject land and soil treatment.
- Mulch layer generally intact/mulch stockpiles are relatively weed free.
- Establishment (natural recruitment) of native species (dependent on condition and placement of soil from Lot 9).
- Survival of planted trees (high) – i.e. those already planted in Stage 1 works.
- Monitor erosion and stabilisation measures.

An initial report detailing the finished works and photo monitoring points will be completed once the On Maintenance period has started (i.e. year 0).

Yearly reporting (years 1-5) will include the following:

- species list of all flora present within the treatment areas
- weed composition
- planted offset tree survival
- photos taken from the photo monitoring points
- other works (e.g. enhancement works, watering, weed control, etc.)

Specific Performance Criteria as follows:

Year One – 12 months after On Maintenance:

- i. Planted trees¹⁷ (i.e. koala feed trees) have achieved an average height of 1m.
- ii. Planted shrubs/small trees (i.e. cockatoo feed trees) have achieved an average height of 0.5m.

Year Two/Three/Four – 24-72 months after On Maintenance:

- i. Planted trees (i.e. koala feed trees) have achieved an average height of 2m.
- i. Planted shrubs/small trees (i.e. cockatoo feed trees) have achieved an average height of 1m.

Year Five – 60 months - Final Off Maintenance:

- i. Planted trees (i.e. koala feed trees) have achieved an average height of 3m.
- ii. Planted shrubs/small trees (i.e. cockatoo feed trees) have achieved an average height of 2m.
- iii. Plant density shading out and/or self-mulching (i.e. for plantings completed within Stage 1 works).

The duration of the on-maintenance period:

- i. Adherence to maintenance regime for rehabilitation areas.
- ii. No evidence of woody weeds reshooting from stumps, poisoned trees or the regrowth of cut stumps.
- iii. No evidence of over-weeding or impact on non-target species.
- iv. Signs of indigenous recruitment in rehabilitation areas.
- v. Weed infestations less than 5% of the rehabilitation areas.
- vi. Any failed plants within the previous 12 month period have been replaced.
- vii. Healthy and vigorous growth allowed to grow to full form.
- viii. Mulch layer sufficient to suppress weeds.

Ongoing liaison between contractors, project ecologist and Council is encouraged.

Reporting to Council for compliance with rehabilitation objectives is to be the responsibility of project ecologist. An example monitoring sheet is provided as **APPENDIX B2 (Monitoring Sheet - Rehabilitation)**.

¹⁷ The additional 600 trees.



ATTACHMENTS

- **Figure B1 – Receiving Site Landscape (A – 2018 aerial and B – 2023 aerial)**
- **Figure B2 – Receiving Site Treatment Areas (original survey 2018)**
- **Figure B3 – Transport Route**
- **Figure B4 – Receiving Site Set-out**
- **Appendix B1 – Capping Specifications**
- **Appendix B2 - Monitoring Sheet – Rehabilitation**



FIGURE B1A – Receiving/Rehabilitation Site Locality 2018

Rehabilitation Area (red dashed line approximate only) - Source: QLD Globe 2018

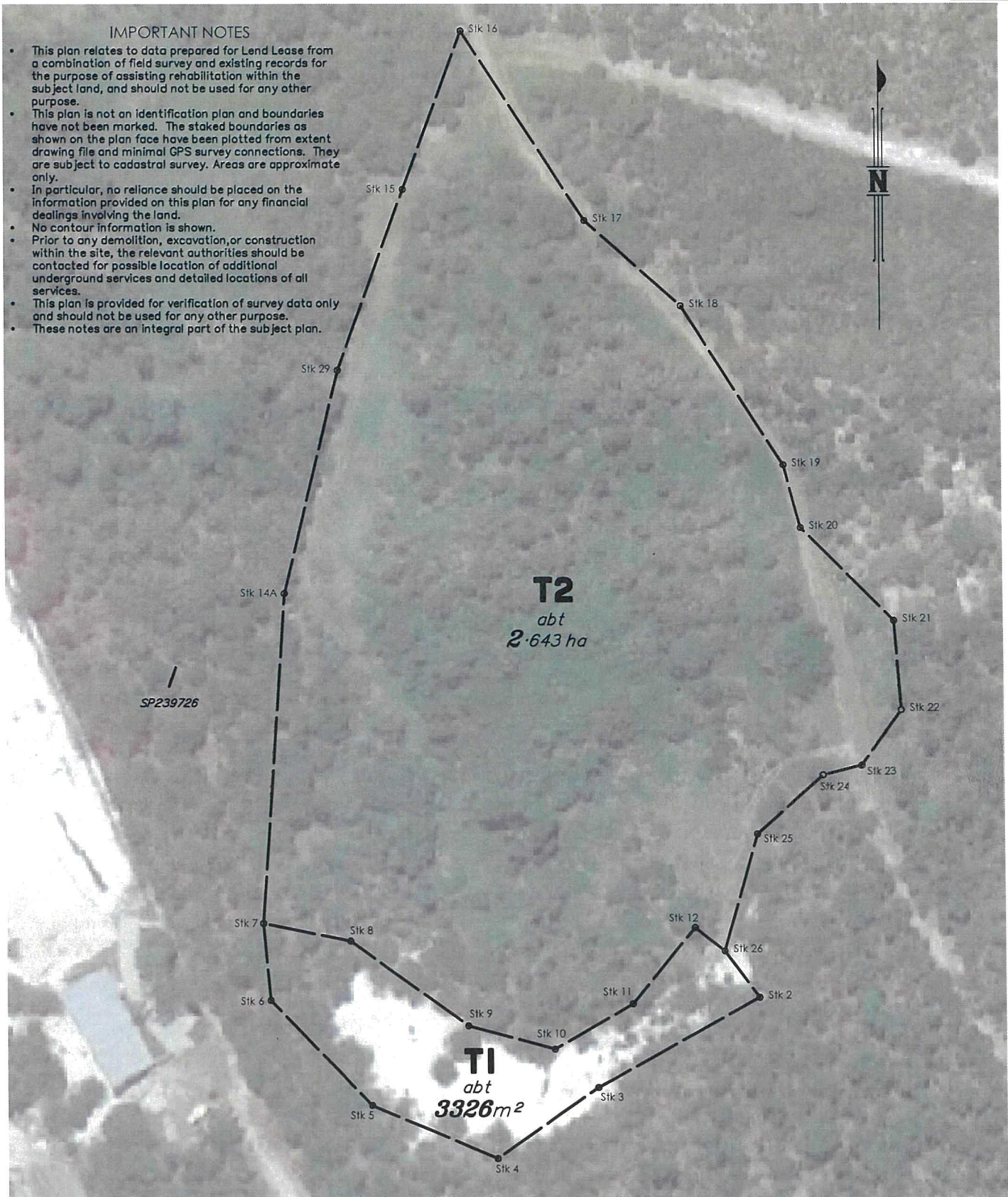


FIGURE B1B – Receiving/Rehabilitation Site 2023

Rehabilitation Area (*red dashed line* approximate only) - Source: Nearmap Aerial March 2023

IMPORTANT NOTES

- This plan relates to data prepared for Lend Lease from a combination of field survey and existing records for the purpose of assisting rehabilitation within the subject land, and should not be used for any other purpose.
- This plan is not an identification plan and boundaries have not been marked. The staked boundaries as shown on the plan face have been plotted from extent drawing file and minimal GPS survey connections. They are subject to cadastral survey. Areas are approximate only.
- In particular, no reliance should be placed on the information provided on this plan for any financial dealings involving the land.
- No contour information is shown.
- Prior to any demolition, excavation, or construction within the site, the relevant authorities should be contacted for possible location of additional underground services and detailed locations of all services.
- This plan is provided for verification of survey data only and should not be used for any other purpose.
- These notes are an integral part of the subject plan.



Scale 1:1000 - Lengths are in Metres.

10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140



**group
downes**

Surveyors - Planners -
Development Consultants

Sunshine Coast * Toowoomba * Western Downs
www.downes.com.au A.C.N. 010 841 639

Client - **Lend Lease**

Project - **FIGURE B2**
Sunrise Beach RL & AC Project

*Staking for rehabilitation areas T1 & T2
in part of Lot 1 on SP239726*

Contour Interval
-

Level Datum
AHD (derived)

Horizontal Datum/Meridian
MGA

Horizontal Co Ordinate System
ARBITRARY

Level Origin

OPM 138558
RL 15.009m

Local Authority -
NOOSA SHIRE COUNCIL

Locality -
NOOSA HEADS

Scale (A3)
1:1000

Date Surveyed
21/11/2018

Approved.

Surveyor
HG

Drafted
BJ

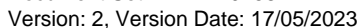
S. Passlow

Plan No. **Z80931.STK02**



FIGURE B3 – Public Road - Transport Route *(shaded blue)*

Subject Land (Lot 9 Development Site) to Rehabilitation (Receiver) Site *(red hatching)*

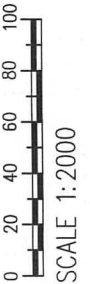




APPENDIX B1 – CAPPING SPECIFICATIONS



SITE PLAN 1:2000



BELLAS & REITANO
CONSULTING ENGINEERS & PROJECT MANAGERS
16 Lizanne Street Boondall
PO Box 338 Taigum QLD 4018
Phone (07) 3265 2866
Email admin@bellasandreitano.com.au

NOTE:
CONTOURS ARE HISTORICAL & DO
NOT REFLECT THE CURRENT SURFACE
LEVELS.

U. Reitano
Vice Reitano
CONSULTING ENGINEER'S SIGNATURE
RPEQ 3102
Date: 20/03/23



E	D	GENERAL AMENDMENTS	20.03.23
		B FOR APPROVAL	13.03.23
		A FOR REVIEW ONLY	23.02.23
		NO REVISION	DATE
CLIENT: NOOSA SHIRE COUNCIL			

ADDRESS:
LAKEVIEW RISE
NOOSA HEADS
PROJECT:
RECAPING OF DISUSED
GIRRAWEE OLD LANDFILL SITE

DRAWING TITLE:
EXISTING SITE PLAN
(HISTORICAL)

SCALE 1:2000 EAS DRAWN: AB
DATUM: -

Original drawing size: A3

DRG No 23004-GIR-01 C



BELLAS & REITANO

CONSULTING ENGINEERS & PROJECT MANAGERS

16 Lizanne Street Boondall
PO Box 338 Taigum QLD 4018
Phone (07) 3265 2866
Email admin@bellasandreitano.com.au

NOTE:

CONTOURS ARE HISTORICAL & DO NOT REFLECT THE CURRENT SURFACE LEVELS.

Vince Reitano
RPEQ 3102
Date: 20/03/23
CONSULTING ENGINEER'S SIGNATURE



SCALE 1:2000

E		
D	GENERAL AMENDMENTS	20.03.23
B	HATCHING & NOTE ADDED	16.03.23
A	FOR APPROVAL	13.03.23
No	REVISION	DATE

CLIENT: NOOSA SHIRE COUNCIL

ADDRESS:
LAKEVIEW RISE
NOOSA HEADS

PROJECT:
RECAPPING OF DISUSED
GIRRAWEE OLD LANDFILL SITE

DRAWING TITLE:
SITE PLAN (PROPOSED WORKS)

SCALE 1:2000 EAS DRAWN: AB

DATUM: -

Original drawing size: A3

DRG No 23004-GIR-02 C



SETOUT TABLE

POINT #	EASTING	NORTHING	POINT #	EASTING	NORTHING
1	509040.078	7077994.598	4	509006.828	7077905.185
2	509056.192	7077972.109	5	508985.595	7077918.660
3	509041.127	7077918.404	6	508967.820	7077957.207

SITE PLAN 1:2000



SCALE 1:2000




BELLAS & REITANO

CONSULTING ENGINEERS & PROJECT MANAGERS

16 Lizanne Street Boondall
PO Box 338 Taigum QLD 4018
Phone (07) 3265 2866

Email admin@bellasandreitano.com.au

NOTE:
REFER DRGS 23004-GIR-05 & 06
FOR CONTOUR BANK & BATTER
DRAIN DETAILS.


Vince Reitano RPEQ 3102
Date: 20/03/23
CONSULTING ENGINEER'S SIGNATURE

0 5 10 20 25
SCALE 1:500

E	
D	
C	
B	GENERAL AMENDMENTS 20.03.23
A	FOR APPROVAL 13.03.23
No	REVISION DATE

CLIENT: NOOSA SHIRE COUNCIL

ADDRESS:
LAKEVIEW RISE
NOOSA HEADS

PROJECT:
RECAPING OF DISUSED
GIRRAWEE OLD LANDFILL SITE

DRAWING TITLE:
PROPOSED PART SITE PLAN

SCALE 1:500 DRAWN: AB
DATUM: -

Original drawing size: A3

DRG No 23004-GIR-04 B



PROPOSED PART SITE PLAN 1:500



BELLAS & REITANO

CONSULTING ENGINEERS & PROJECT MANAGERS

16 Lizanne Street Boordall
PO Box 338 Taigum QLD 4018
Phone (07) 3265 2866

Email admin@bellasandreitano.com.au

NOTE 1.

FINAL COVER DEPTH MAY BE REDUCED TO 1.0m IF PLANTING GRASSES AND SHRUBS ONLY, BUT NOT LESS THAN 1.5m IF PLANTING TREES.

U. Reitano
Vince Reitano
CONSULTING ENGINEER'S SIGNATURE

RPEQ 3102
Date: 20/03/23



SCALE 1:50

E	DATE
D	NOTE AMENDED 20.03.23
C	GENERAL AMENDMENTS 20.03.23
B	NOTES AMENDED & ADDED 16.03.23
A	FOR APPROVAL 13.03.23
NO	REVISION

CLIENT: NOOSA SHIRE COUNCIL

ADDRESS:

LAKEVIEW RISE
NOOSA HEADS

PROJECT:

RECAPPING OF DISUSED
GIRRAWEE OLD LANDFILL SITE

DRAWING TITLE:

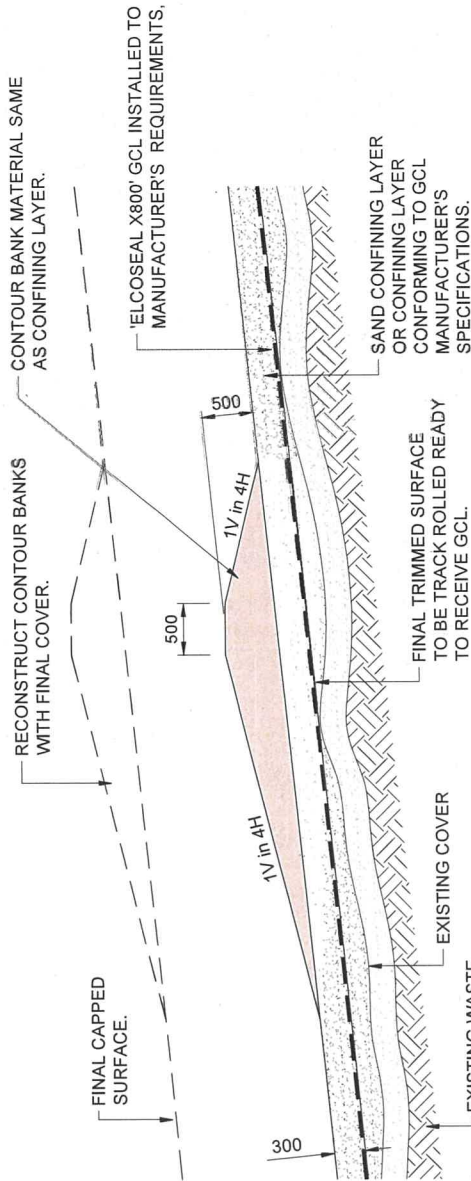
CONTOUR BANK
(TYPICAL SECTIONS)

SCALE 1:50 DRAWN: AB

DATUM:

Original drawing size: A3

DRG No 23004-GIR-05 D

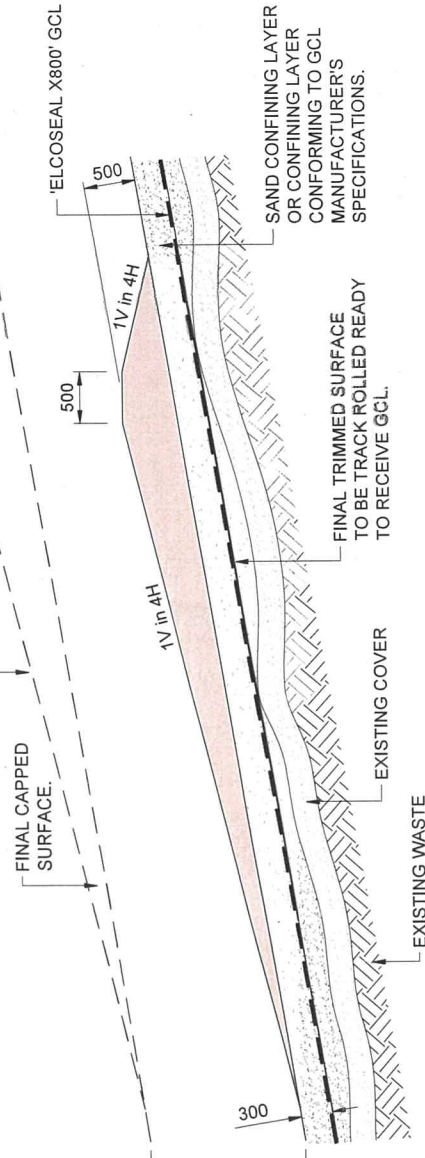


CONTOUR BANK (TYPICAL SECTION) EXISTING SURFACE SLOPE 1 in 10

1:50

NOTE: IF TIME FOR COMPLETION OF FINAL COVER IS GREATER THAN 6 MONTHS THEN CONSTRUCT THE CONTOUR BANKS TO DETAIL WITH A LOGITUDINAL FALL OF 1 in 100.

RECONSTRUCT CONTOUR BANKS WITH FINAL COVER.



CONTOUR BANK (TYPICAL SECTION) EXISTING SURFACE SLOPE 1 in 6

1:50

1500 FINAL COVER OF BLENDED
WOOD MULCH & SAND.
REFER NOTE 1.



BELLAS & REITANO

CONSULTING ENGINEERS & PROJECT MANAGERS

16 Lizanne Street Boordall

PO Box 338 Taigum QLD 4018

Phone (07) 3265 2866

Email admin@bellasandreitano.com.au

U. Reitano
VINCE REITANO

RPEQ 3102

Date 20/03/23

CONSULTING ENGINEER'S SIGNATURE



SCALE 1:50

E	
D	
C	
B	GENERAL ADDITIONS
A	FOR APPROVAL
No	REVISION
	DATE
	CLIENT: NOOSA SHIRE COUNCIL

ADDRESS:

LAKEVIEW RISE

NOOSA HEADS

PROJECT:

RECAPPING OF DISUSED

GIRRAWEE OLD LANDFILL SITE

DRAWING TITLE:

BATTER DRAIN & CONFINING

LAYER TAPER SECTIONS

SCALE 1:50

DRAWN: AB

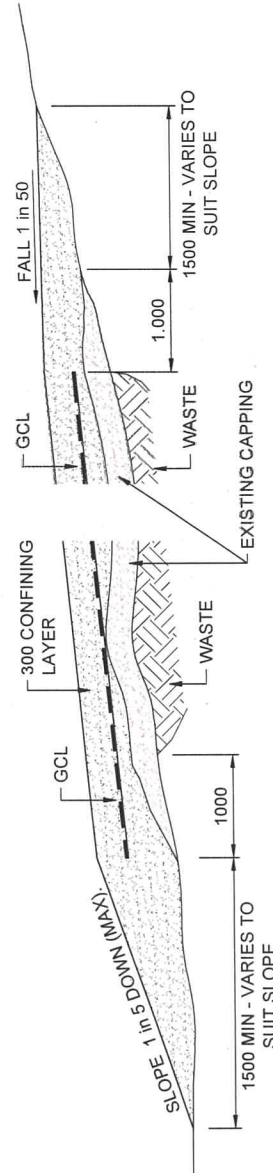
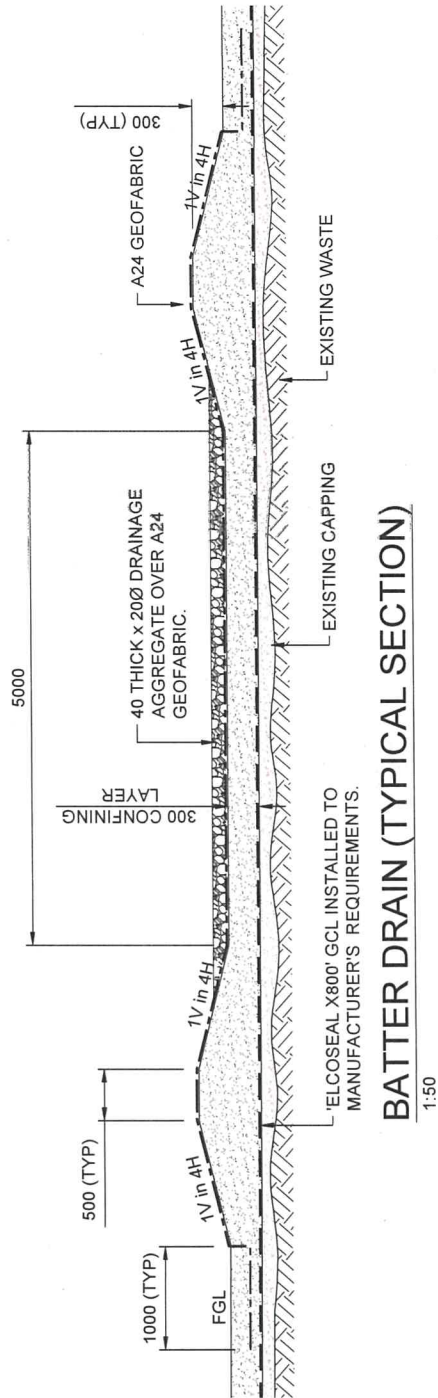
DATUM:

-

Original drawing size:

A3

DRG No 23004-GIR-06 B



CONFINING LAYER TAPER SECTIONS DOWNSLOPE & UPSLOPE

1:50



APPENDIX B2 - Monitoring Sheet – Rehabilitation

Item	Target Criteria	Measure/Unit
GENERAL		
Fencing	Protection fencing intact	Visual
Stabilisation/ Erosion	No evidence of erosion/stable landscape	Visual/Photograph/ Record erosion
Fauna Habitat	Logs in place	Unit/visual
Mulch	Intact	Visual
VEGETATION		
Species List	Attach	
Weeds	Rehabilitation zones significantly weed free (<5%)/No woody weeds	Unit/Area Count
Trees*	High (90%) survival of planted stock	Unit count
Planted Trees*	Height 1-2-3m	Unit
Planted Small Trees*	Height 0.5-1-2m	Unit
Natural Recruitment*	Signs	Visual/Species/Unit
PHOTO POINTS		
#	Attach Photo Record	
RECOMMENDATIONS/RECTIFICATION/NOTES		

*Planted trees/shrubs for Stage 2 have been completed under Stage 1 works (i.e. continue monitoring as per Stage 1 EMP)/natural recruitment for Stage 2 dependent on soil and mulch placement protocols.
*Refer also additional trees planted for Stage 2.