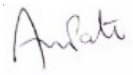
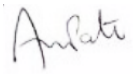
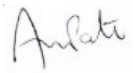
Covalent Lithium

Earl Grey Lithium Project

Flora and Vegetation Environmental Management Plan

REVISION HISTORY

Rev	Originator	Reviewer	Approval	Date	Covalent Approval	Date
1	L Whitley	K Moyle		6/04/20	A Pate	6/04/20
2	L Whitley	K Moyle		17/11/20	A Pate	17/11/20
3	L Whitley	K Moyle		10/12/20	A Pate	10/12/20
4	L Whitley	K Moyle		1/02/21	A Pate	1/02/21
5	L Whitley	K Moyle		24/02/21	A Pate	24/02/21
6	A Pate	A Pate		22/04/22	A Pate	22/04/22
7	S Hawkins	A Pate B Longbottom		29/11/2022	A Pate	29/11/22
8 (DRAFT)	S Hawkins	A Pate		13/11/2023	A Pate	

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EXECUTIVE SUMMARY

This Flora and Vegetation Environmental Management Plan (FVMP) is submitted to meet the requirements of Condition 2 of the Statement 1199 approval (MS 1199) granted under the State *Environmental Protection Act 1986* (WA) for the Earl Grey Lithium Project. Covalent Lithium (Covalent) is the Proponent for the Project. Table ES1 summarises the FVMP and its purpose.

This FVMP is designed to be adaptive and will be updated over the life of the Project. As monitoring programs are undertaken, quantifiable environmental criteria will be further defined. Covalent will update this FVMP in consultation with relevant Government agencies, as such, this FVMP remains a working document.

The revised FVMP is generally within alignment with the following EP Act and EPBC Act guidelines for Environmental Management Plans -

a. DCCEEW (2014) document Environmental Management Plan Guidelines
b. EPA (2021e) document How to Prepare Environmental Protection Act 1986 Part IV Environmental Management Plans

This document will be amended to address any change of conditions, monitoring requirements and impacts due to the proposed 2023 expansion once approved and assessed by the EPA.

Table ES1: Summary and Purpose of the Flora and Vegetation EMP

ITEM	DESCRIPTION
Project	Earl Grey Lithium Project
Proponent	Covalent Lithium
Operational Elements	The Project is to develop mining operations and mining infrastructure of a pegmatite-hosted lithium deposit, located at the abandoned Mt Holland Mine Site, within a proposed Development Envelope of 3,996 ha as identified by Figure E-0-1 Project Area. The Project includes proposed new clearing of up to 1,885 ha of native vegetation for mining operations and mining infrastructure including a mine pit, waste rock landforms, tailings storage facility, processing plant, airstrip, accommodation village, water supply pipeline, solar plant, and associated infrastructure.
Timing Elements	Project life of up to 30 years
Key Environmental Factor	Flora and Vegetation
EPA Objective	*"To protect flora and vegetation so that biological diversity and ecological integrity are maintained."* (EPA 2021a)
Purpose of the Environmental Management Plan	The FVMP provides a framework to ensure this objective is achieved by implementing management provisions to avoid direct impacts and mitigate potential indirect impacts. It also provides provisions for monitoring and reporting against trigger and threshold criteria which are used to demonstrate the outcome is being achieved. Conditions to be determined upon EPA assessment.
Key Management Plan Objectives	The key environmental criteria for this FVMP include: • No Project-related direct impact to flora and vegetation within the exclusion zones resulting in an adverse impact to flora and vegetation. • No Project-related indirect impact to vegetation within the exclusion zones resulting in an adverse impact to vegetation. Management objectives: • No unauthorised clearing of native vegetation • No unauthorised access within the Flora Protection Zones (VEZ's)

ITEM	DESCRIPTION
	• Dust deposition from mining and related activities is minimised • Spread of weeds or dieback is minimised • Alteration of fire regimes or surface hydrology is minimised

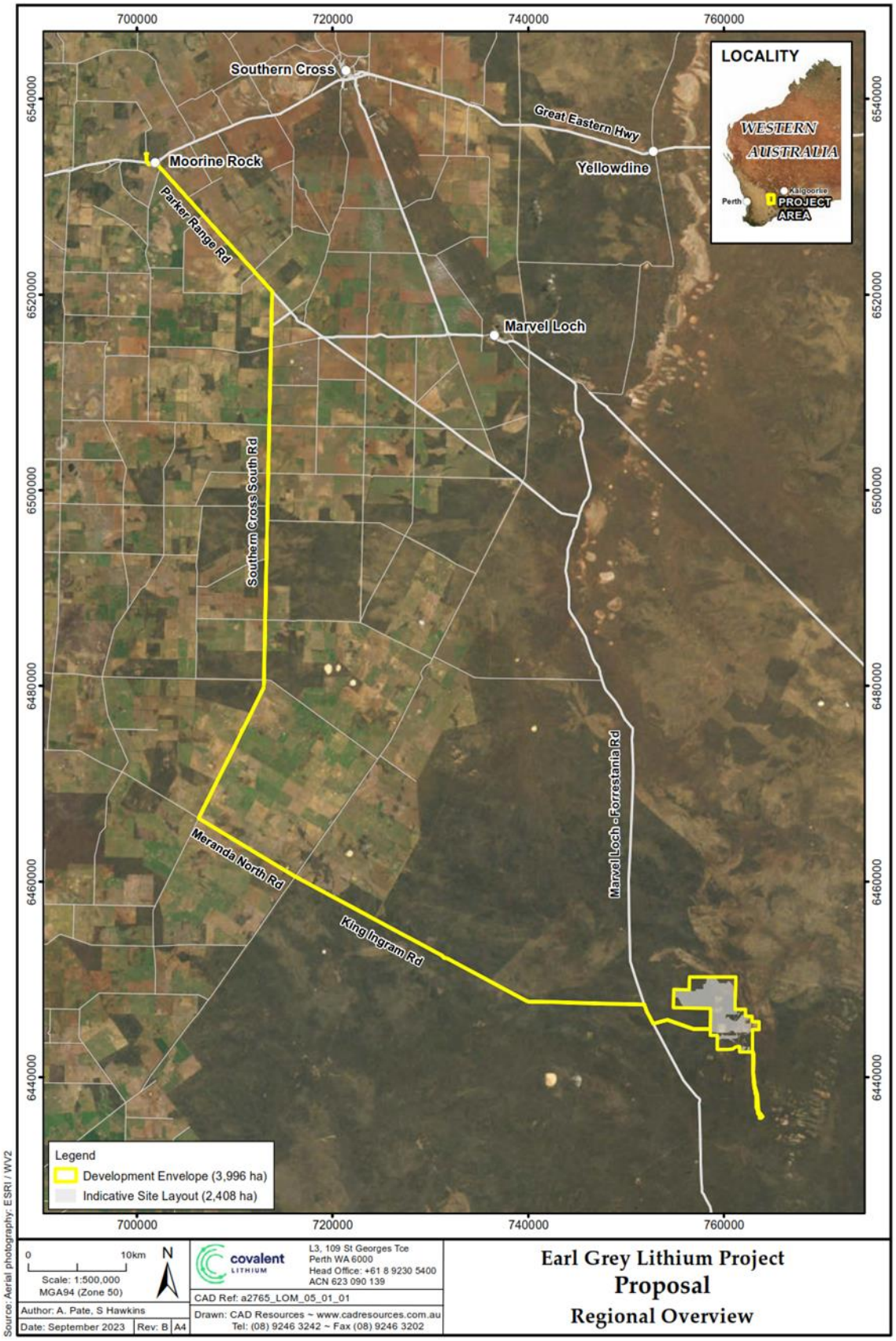

Figure E-0-1 Project Area

1. Context, Scope and Rationale

The Earl Grey Lithium Project (the Project) is located approximately 105 km south–southeast of Southern Cross, Western Australia in the Shire of Yilgarn (Figure E-0-1). Covalent is a joint venture between Wesfarmers Limited (Wesfarmers) and Sociedad Química y Minera (SQM).

A large, economic pegmatite–hosted lithium deposit was discovered by Kidman Resources Limited in 2016. The deposit is situated at the previously abandoned Mt Holland Mine Site, which was operated between 1988 and 2001, and comprises open pits, an underground mine, a processing plant, waste rock dumps, tailings storage facilities (TSF) and associated infrastructure. The Mt Holland Mine is largely unrehabilitated and is a current liability of the State of Western Australia.

This Flora and Vegetation Management Plan (FVMP) is intended to meet Condition 2 of the Statement 1199 approval (MS 1199) providing environmental approval for the Earl Grey Lithium Project. Specifically, this FVMP aims to meet the environmental requirements of Condition 2 of MS 1199 which require the preparation and implementation of a Flora and Vegetation Environmental Management Plan.

1.1 The Project

The Project comprises open cut mining and processing of lithium ore. Within the Development Envelope (3,996 ha), the total Project footprint (Indicative Site Layout) is 2408 ha with the full extent of the Project to be developed progressively over a 40-year period. The location of the Development Envelope and Indicative Site Layout is shown in Figure 1-1.

The Project has been designed to maximise the use of existing disturbance areas where possible. The Project requires clearing of 1,885 ha of native vegetation and will additionally use existing cleared areas. The additional clearing is predominately required for the mine pit, waste landforms, tailings storage facility and ancillary infrastructure.

The processed lithium concentrate from the Project will be transported to Covalent's Kwinana Lithium Refinery, or to a port for export to overseas markets. The transport and refining of the lithium concentrate does not form part of the Project.

1.2 Key Environmental Factors

The Project was referred for environmental assessment under Section 38 of the EP Act in 2017. The Environmental Protection Authority (EPA) determined the Project required an environmental assessment, with Flora and Vegetation identified as a key environmental factor for the Project. The EPA (2019) provided a report to the Minister for Environment on the Project, and following, the Minister approved the Project under the Statement 1118 approval (MS 1118) (WA Minister for Environment 2019) including an implementation condition requirement for a FVMP.

In 2020, Covalent requested a number of changes to the implementation conditions of MS 1118 in accordance with Section 46 of the EP Act, including changes to the approved impact values for flora taxa. The EPA (2021b) provided a report to the Minister for Environment on the proposed changes, and following, the Minister approved proposed changes to the implementation conditions through the Statement 1167 approval (MS 1167) (WA Minister for Environment 2021) including an amendment to the implementation condition requirement for the FVMP.

In 2021, Covalent referred a 'significant amendment' to the Project, which included additional land clearing containing native flora and vegetation. The EPA (2022) provided a report to the Minister for Environment on the significant amendment, and following, the Minister approved the significant amendment through the MS 1199 approval (WA Minister for Environment 2022) including an amendment to the implementation condition requirement for the FVMP.

Covalent Lithium propose to amend the Approved Proposal to incorporate the following changes (the Revised Proposal), Change to the Development Envelope from 2,347 ha to 3,996 ha within which implementation of the Proposal may occur, Increase the Indicative Site Layout from 848 ha to 2,408 ha, with an increase in the extent of native vegetation clearing from 442 ha to 1,885 ha and Additional mining and processing infrastructure/operations.

Current Condition 2-1 of MS 1199 addresses the key environmental factor of Flora and Vegetation and requires Covalent to meet the following environmental outcome new, due to the proposed changes new conditions will be determined on completion of the EPAs assessment.

The requirements of Condition 2 of MS 1199 relating to the key environmental factor of Flora and Vegetation are detailed by Table 1-1, including identification of the relevant section within this FVMP where each of the condition requirements is addressed.

To note, the Project was also referred and assessed under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The EPBC Act requires an assessment as to whether a proposed action is likely to have a significant effect on a Matter of National Environmental Significance (MNES), which for the Project included the listed 'Threatened' flora taxon Ironcaps Banksia (*Banksia dolichostyla*) (EPBC-V, BC-V). The Project was approved under the EPBC Act in 2020 (DCCEEW 2020, as amended). This FVMP includes management and monitoring actions associated with *Banksia dolichostyla*, however, the preparation and implementation of this FVMP is not a requirement under the EPBC Act approval.

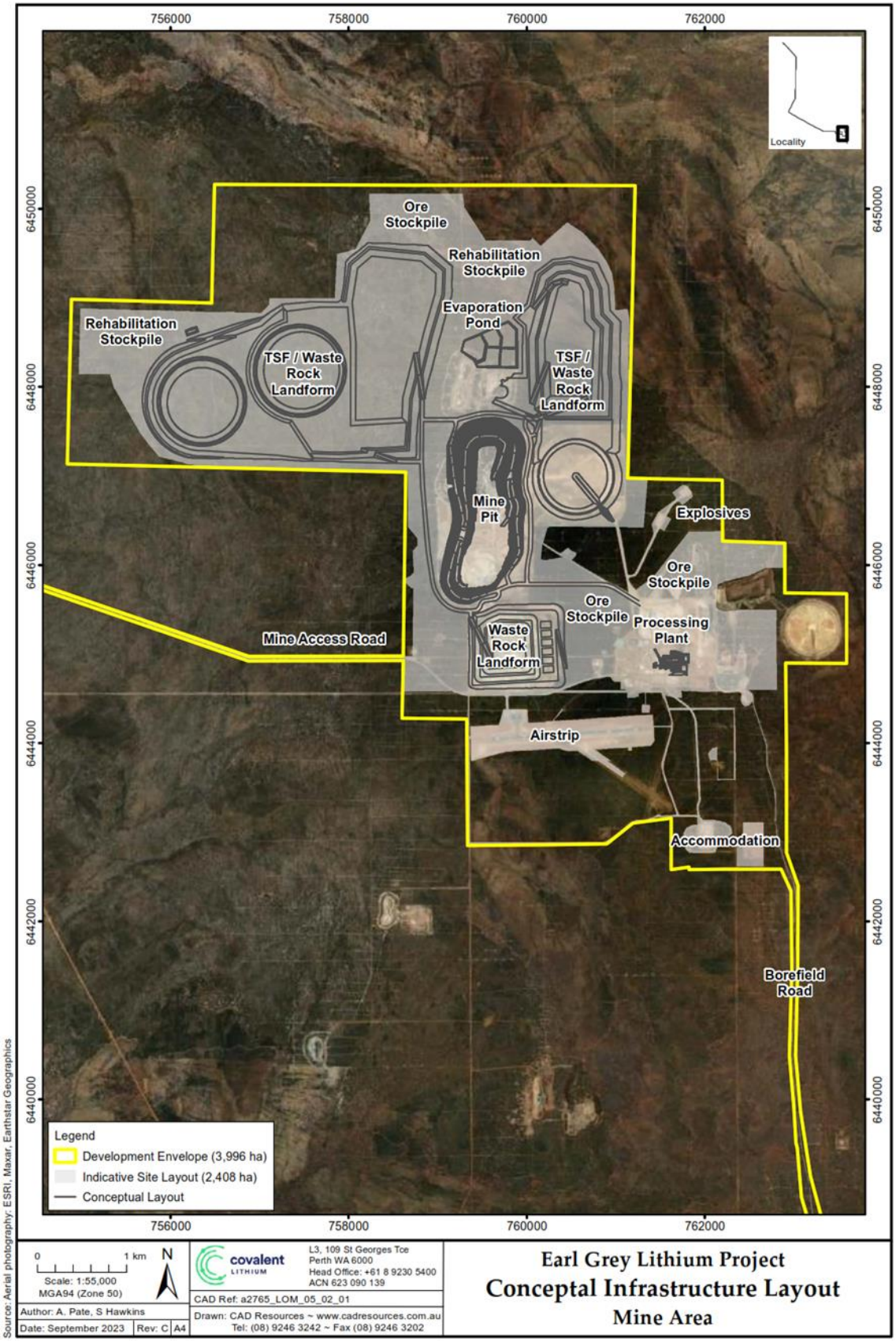

Figure 1-2: Development Envelope and Indicative Site Layout

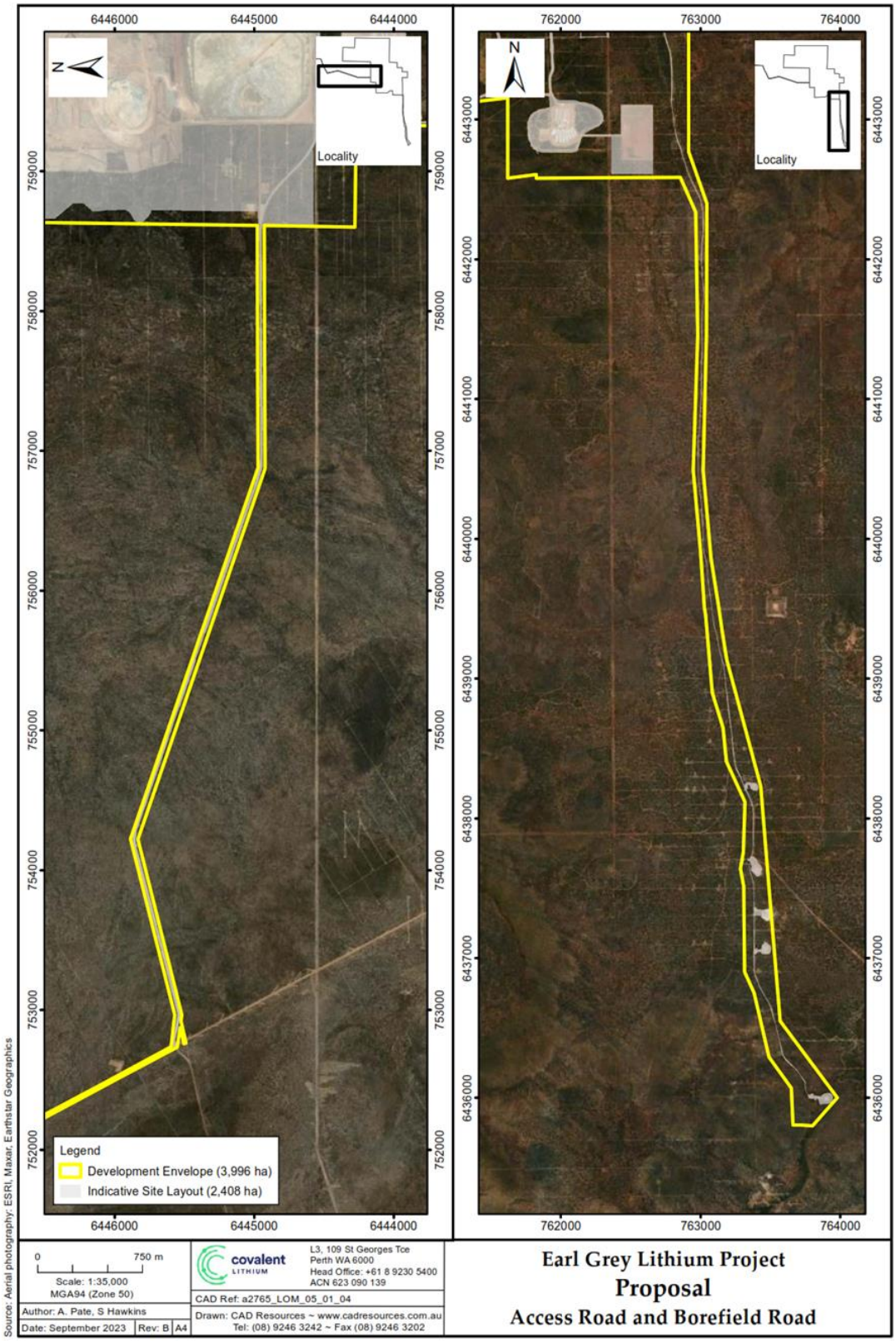

Figure 1-2a: Development Envelope- Access Road and Borefield Road

1.3 Condition Requirements

Table 1-1 outlines the current requirements of Condition 2 of MS 1199 prior to the proposed amendment, and the corresponding section where they are addressed within this FVMP.

Table 1-1 will be updated once new conditions have been issued post EPA assessment of the expansion.

Table 1-1: Condition 2 of Statement 1199

CONDITION		SECTION
2-1	*The proponent shall implement the proposal to meet the following environmental outcomes:* *(1) clearing of no more than 442 ha of native vegetation* *(2) no direct or indirect disturbance to flora and vegetation in the exclusion zones as shown on Figure 3* *(3) no more than 9,732 individuals of Microcorys elatoides and two (2) individuals of Banksia dolichostyla to be subject to direct disturbance inside the development envelope* *(4) The loss of no more than:* • *7% of the known population of Labichea rossii,* • *7% of the known population of Microcorys sp. Mt Holland broad-leaf,* • *5% of the known population of Acacia lachnocarpa* • *2% of the known population of any other priority 1 flora species.*	This Plan
2-2	*The proponent shall implement the proposal to achieve the following environmental objectives:* *(1) avoid, where practicable, and otherwise minimise direct disturbance to priority flora species outside the flora exclusion zones detailed on Figure 3* *(2) avoid, where practicable and otherwise minimise indirect impacts to flora and vegetation including but not limited to impacts from clearing, dust, weeds and fire.*	Section 1.3.1, Section 1.3.3, Section 2.2, Table 2-3
2-3	*Prior to clearing within the areas subject to the significant amendment as described in section 1 of the proponent's section 38 Referral Supporting Document (Revision 3, April 2022), the proponent must undertake pre-clearance vegetation and flora survey(s), in accordance with Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment, or any approved updates of these guidelines.*	Section 1.3.1, Section 3, Appendix A
2-4	*In order to meet the outcomes of condition 2-1, and the objectives of condition 2-2, within six (6) months of the date of this Statement, the proponent shall update the Earl Grey Lithium Project Flora and Vegetation Environmental Management Plan (July 2022). This plan shall:*	This Plan
	(1) include details of the timing, methods, limitations, and results of the pre-clearance surveys required by condition 2-3 and demonstrate how the findings of the survey(s) have been considered, including provision of mitigation measures	Section 3.1, Section 3.2, Appendix A
	(2) describe how impacts to threatened and priority flora species outside the flora exclusion zones will be avoided where possible, and/or minimised	Section 1.3.1, Section 1.3.3
	(3) include actions to ensure that dust, weeds, and fire are appropriately managed within the development envelope	Section 1.3.1, Section 2.2, Table 2-3
	(4) specify trigger criteria that must provide an early warning that the threshold criteria identified in condition 2-4(5) may not be met	Section 2.1, Section 2-2, Table 2-1, Table 2-2, Table 2-3

CONDITION		SECTION
	(5) specify threshold criteria to demonstrate compliance with the environmental outcome specified in condition 2-1	Section 2.1, Section 2-2, Table 2-1, Table 2-2, Table 2-3
	(6) specify monitoring to determine if trigger criteria and threshold criteria are exceeded	Section 2.4, Table 2-1, Table 2-2, Table 2-3
	(7) specify trigger level actions to be implemented in the event that trigger criteria have been exceeded	Table 2-1, Table 2-2, Table 2-3
	(8) specify threshold contingency actions to be implemented in the event that threshold criteria are exceeded	Table 2-1, Table 2-2, Table 2-3
	(9) provide contingency measures and adaptive management techniques to ensure the outcomes of conditions 2-1 and objectives of 2-2 are met, and include options for changes to operations and reductions in disturbance.	Section 1.3.3, Section 4
	(10) provide the format and timing for the reporting of monitoring results against trigger criteria and threshold criteria to demonstrate that the outcome of condition 2-1 and the objectives of condition 2-2 have been met over the reporting period in the Compliance Assessment Report required by condition 8-6.	Section 2.5
2-5	*The proponent must not commence clearing exceeding the extent of the original authorised proposal until the CEO has confirmed by notice in writing that the Earl Grey Lithium Project Flora and Vegetation Environmental Management Plan satisfies the requirements of condition 2-4.*	This Plan (subject to CEO DWER approval)
2-6	*The proponent must implement the most recent version of Flora and Vegetation Environmental Management Plan confirmed for implementation by the CEO, with the objective of ensuring the outcomes of condition 2-1 and objectives of condition 2-2 are achieved/met, until the CEO has confirmed by notice in writing that the proponent has demonstrated that the environmental outcomes in condition 2-1 have been achieved and the objectives of 2-2 have been met.*	This Plan (subject to CEO DWER approval)
2-7	*In the event that monitoring, or investigations indicates exceedance of threshold criteria specified in the confirmed Flora and Vegetation Environmental Management Plan, the proponent shall:*	
	(1) report the exceedance in writing to the CEO within seven (7) days of the exceedance being identified;	Section 4, Table 2-2, Table 4-1
	(2) implement the threshold contingency actions specified in the Flora and Vegetation Environmental Management Plan within twenty-four (24) hours of the exceedance being reported as required by condition 2-7 (1) and continue implementation of those actions until the CEO has confirmed by notice in writing that it has been demonstrated that the threshold criteria are being met and the implementation of the threshold contingency actions is no longer required;	Table 2-2
	(3) investigate to determine the cause of the threshold criteria being exceeded;	Table 2-2
	(4) investigate to provide information for the CEO to determine potential environmental harm or alteration of the environment that occurred due to threshold criteria being exceeded; and	Table 2-2
	(5) provide a report to the CEO within twenty-one (21) days of the exceedance being reported as required by condition 2-7(1). The report shall include: *(a) details of threshold contingency actions implemented;* *(b) the effectiveness of the threshold contingency actions implemented, against the threshold criteria;* *(c) the findings of the investigations required by conditions 2-7(3) and 2-7(4);*	Table 2-2

CONDITION		SECTION
	(d) measures to prevent the threshold criteria being exceeded in the future; *(e) measures to prevent, control or abate the environmental harm which may have occurred; and* *(f) justification of the threshold remaining, or being adjusted based on better understanding, demonstrating that objectives will continue to be met.*	
2-8	*The proponent shall make the Flora and Vegetation Environmental Management Plan required by condition 2-4 publicly available.*	Section 5.5
2-9	*The proponent:* *(1) may review and revise the confirmed Flora and Vegetation Environmental Management Plan and submit it to the CEO; and* *(2)* shall *review and revise the confirmed Flora and Vegetation Environmental Management Plan and submit it to the CEO as and when directed by the CEO by a notice in writing.*	Section 4.3 Section 4.3
2-10	*The proponent shall implement the latest revision of the Flora and Vegetation Environmental Management Plan, which the CEO has confirmed by notice in writing, satisfies the requirements of condition 2-4.*	This Plan (subject to CEO DWER approval)

1.3.1 Management Approach

Management measures to minimise impacts from Project activities are necessary to ensure no significant impact on flora and vegetation within the Development Envelope (including the VEZs).

1.3.1.1 Potential Impacts

The potential impacts to the flora and vegetation include:

- Direct loss of conservation significant flora from vegetation clearing.
- Indirect impact from altered fire regimes.
- Indirect impact from dust, during construction and mining operations.
- Indirect impact from weed infestation during construction and mining operations.
- Indirect impact from changes to surface hydrology, during construction and mining operations.

1.3.1.2 Focus on Avoidance

Covalent's internal vegetation clearing procedure and permit will be utilised to control clearing within the Development Envelope.

Direct impacts (unauthorised clearing) within the VEZs will be avoided to meet the environmental outcomes of Condition 2-1(2) of MS 1199. Furthermore, the VEZs will be surveyed and delineated by an appropriate means (for example flagging tape, fencing or signage) to prevent unauthorised access. Access will be limited to foot access only or vehicle access only to existing cleared tracks and controlled by a procedure and permitting process. This will aim to ensure the area is only accessed for monitoring or rehabilitation activities to meet the requirement of this FVMP. All personnel will be made aware of the requirement to avoid the VEZs through Covalent's site induction process.

1.3.1.3 Minimising Potential Impacts

The potential for factors that may lead to potential adverse direct and indirect impacts within the broader Development Envelope also needs to be addressed, in particular for DBCA-classified 'Priority'

flora taxa in order to meet the environmental outcome of Condition 2-1(1), Condition 2-1(3), Condition 2-1(4), Condition 2-2(1), Condition 2-2(2) and Condition 2-4(2) of MS 1199.

Direct impacts within the Development Envelope will be minimised through modifications to the Indicative Site Layout which seek to avoid or minimise the clearing of DBCA-classified 'Priority' flora taxa. Modifications to the Indicative Site Layout will seek to balance the operational requirements (as authorised) with the potential opportunities to modify the layout to achieve a reduction in vegetation clearing and/or flora impacts. To achieve this, Covalent's mine planning and environment personnel together consider the operational area requirements overlain with the recorded flora and vegetation values in order to confirm/alter the proposed clearing areas. The location of the determined clearing areas are recorded on Covalent's databases (i.e. geographical information systems (GIS) and spreadsheets) including records of the DBCA-classified 'Priority' flora taxa to be cleared.

Potential indirect impacts such as dust, fire and weeds will be minimised to the maximum extent practicable using standard mining operational management practices to suppress dust and minimise invasive plant species and impacts from altered surface hydrology as described in Section 2.2.

1.3.1.4 Mitigation and Remediation Actions

Mitigation measures where monitoring or observations have identified impact(s) on values are detailed in Table 4.1. In the unlikely event the environmental outcome of Condition 2-2(1) and/or and Condition 2-2(2) of MS 1199 are not met, further actions will be undertaken to mitigate this loss. This shall include consultation with the CEOs of DWER and DBCA, respectively to determine an appropriate strategy.

1.3.1.5 Rationale for Choice of Provisions

The mitigation hierarchy is based on the objective of avoiding direct impacts and minimising indirect impacts within the Development Envelope, with a primary focus on protecting the flora and vegetation values within the VEZs (which area excluded from mining operations).

The key mechanism by which direct impacts may occur to the VEZs is unauthorised clearing. Management measures mentioned by Section 1.3.3.2 will avoid vegetation clearing by limiting access to the area. The key outcome will be to ensure there is no vegetation clearing within the VEZs (Threshold Criteria) and should there be failures of the management measures (Section 2) without causing a direct impact on the VEZs, this will serve as an early warning trigger (Trigger Criteria) (e.g. clearing within the Development Envelope, but outside of the VEZs without an internally approved clearing permit or unauthorised access to a VEZs).

The assessment process outlined by Section 1.2 identified dust emissions, weeds and fire as potential sources of indirect effects on the flora and vegetation of the VEZs, and as a result MS 1199 includes conditions for their management. It is not known at what level dust and weeds may impact the vegetation communities of the VEZs and for this reason Trigger Criteria and Threshold Criteria have not been prescribed for these aspects (Section 1.3.2.2). However, monitoring of dust and weeds as outlined by Section 2.4 will be undertaken in conjunction with flora and vegetation health and condition monitoring to understand if any indirect effects to vegetation of the VEZs are Project-related.

Plant health and condition monitoring will be undertaken on both a qualitative and quantitative basis. Trigger Criteria and Threshold Criteria have been developed based on the outcomes of this monitoring (Section 2.1). Qualitative monitoring will include a scoring system for a visual assessment of plant health. Quantitative monitoring will be conducted using a plant pigment efficiency analyser (PEA) which measures chlorophyll inflorescence and photosynthetic function. Monitoring quadrats with at least five representative species will be placed both within the VEZs and control sites to allow for a statistical comparison. A potential adverse impact may be apparent in the event of a statistically significant difference in the monitoring results between the VEZ and a control site (non-impact area). This approach has been demonstrated and accepted at other mine sites within the mid-west region for this purpose. Monitoring for plant health is outlined further by Section 2.4.

Periodic review of the management approach will be undertaken based on monitoring results and incident data. Adaptive management measures will be implemented with a view to achieving continuous improvement in managing flora and vegetation values within the VEZs.

1.3.2 Biological Surveys

1.3.2.1 Surveys

Biological surveys for flora and vegetation within the Development Envelope and surrounds have been completed to inform the environmental assessment and management of the project, as listed in Table 1-2. The areas considered by the biological surveys are identified by Figure 1-1.

The surveys were completed in accordance with the standards set out in Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment (EPA 2016a) and Environmental Factor Guideline: Flora and Vegetation (EPA 2016b). This included targeted surveys for the 'Threatened' flora *Banksia dolichostyla* (EPBC-V, BC-V) protected under the State *Biodiversity Conservation Act 2016* (WA), and 'Priority' flora classified by the Department of Biodiversity, Conservation and Attractions (DBCA).

Table 1-2: Biological Surveys

SURVEY TYPE AND SCOPE
Native Vegetation Solutions (2014) *Targeted Banksia dolichostyla Survey*. Report prepared by Native Vegetation Solutions for Kidman Resources Ltd.
Native Vegetation Solutions (2016) *Level 1 Flora and Vegetation Survey Proposed Blue Vein Mine Mt Holland Project Tenement M77/1065*. Report prepared by Native Vegetation Solutions for Kidman Resources Ltd.
Mattiske Consulting Pty Ltd (2017) *Flora and Vegetation Assessment* of the *Earl Grey, Irish Breakfast and Prince of Wales Prospects*. Report prepared by Angus D and Murdock N of Mattiske Consulting Pty Ltd for Kidman Resources Ltd. Final (Version 4). April 2017.
Blueprint Environmental Strategies Pty Ltd (2017) *Targeted Surveys for Threatened Flora Species Banksia dolichostyla*. Report prepared by Blueprint Environmental Strategies Pty Ltd for Kidman Resources Ltd. May 2017.
Native Vegetation Solutions (2017) *Targeted Search of Threatened Flora for Kidman Resources Limited – Mount Holland Gold Project*. Report prepared by Reid E of Native Vegetation Solutions for Blueprint Environmental Strategies on behalf of Kidman Resources Ltd. October 2017.
Mattiske Consulting Pty Ltd (2018a) *Flora and Vegetation Assessment Earl Grey Lithium Project*. Report prepared by Angus D of Mattiske Consulting Pty Ltd for Kidman Resources Ltd. Version 3. March 2018.
Mattiske Consulting Pty Ltd (2018b) *Memorandum: Earl Grey Lithium Project Statistical Comparison of Vegetation Within Earl Grey Lithium Project with Ironcap Hills Vegetation Complex*. Memorandum prepared by Angus D of Mattiske Consulting Pty Ltd for Kidman Resources Ltd. October 2018.
Mattiske Consulting Pty Ltd (2019a) *Earl Grey Lithium Project Banksia dolichostyla (T) Target Survey.* Report prepared by Angus D of Mattiske Consulting Pty Ltd for Covalent Lithium Pty Ltd. Version 7. January 2019.
Mattiske Consulting Pty Ltd (2019b) *Earl Grey Lithium Project Conservation Significant Flora Targeted Survey.* Report prepared by Angus D of Mattiske Consulting Pty Ltd for Covalent Lithium Pty Ltd. Version 7. January 2019.
Mattiske Consulting Pty Ltd (2019c) *Threatened and Priority Flora Assessment Tenement M77/215 Proposed Tracks and Drill Hole Locations.* Report prepared by Riviera F and Sims Z of Mattiske Consulting Pty Ltd for Kidman Resources Ltd. Final (Version 3). April 2019.
JBS&G Australia Pty Ltd (2019) *Earl Grey Lithium Mine Regional Flora Survey*. Report prepared by Oversby W and Chesney R of Strategen-JBS&G (JBS&G Australia Pty Ltd) for Covalent Lithium Ltd. July 2019.
Mattiske Consulting Pty Ltd (2019d) *Threatened and Priority Flora Assessment Earl Grey Lithium Project Pre-Clearance Surveys.* Report prepared by Angus D of Mattiske Consulting Pty Ltd for Covalent Lithium Pty Ltd. Final. December 2019.
GHD Pty Ltd (2020) *Flora Survey Mt Holland*. Report prepared by Flemington S of GHD Pty Ltd for Covalent Lithium Pty Ltd. March 2020.
Mattiske Consulting Pty Ltd (2020a) *Flora and Vegetation Assessment Earl Grey Lithium Project Water Pipeline Corridor.* Report prepared by Sims Z and Angus D of Mattiske Consulting Pty Ltd for Covalent Lithium Pty Ltd. Version 6. May 2020.
Mattiske Consulting Pty Ltd (2020b) *Flora and Vegetation Assessment Earl Grey Lithium Project Modified Great Eastern Highway Pipeline Alignment and Booster Station Access Areas: Water Pipeline Alignment Supplementary Report*. Report prepared by Angus D of Mattiske Consulting Pty Ltd for Covalent Lithium Pty Ltd. Version 2. September 2020.
Mattiske Consulting Pty Ltd (2020c) *Earl Grey Lithium Project Introduced Flora (Weed) Survey*. Report prepared by Pereira A and Sims Z of Mattiske Consulting Pty Ltd for Covalent Lithium Pty Ltd. Version 3. October 2020.
Mattiske Consulting Pty Ltd (2020d) *Memorandum: Earl Grey Lithium Project Field Survey 21st – 26th* October 2020. Vegetation health monitoring transects and threatened ecological community

SURVEY TYPE AND SCOPE
assessment. Memorandum prepared by Angus D of Mattiske Consulting Pty Ltd for Covalent Lithium Pty Ltd. October 2020.
Mattiske Consulting Pty Ltd (2020e) *Memorandum: Earl Grey Lithium Project Field Survey 25th October 2020*. Threatened ecological community assessment. Memorandum prepared by Angus D of Mattiske Consulting Pty Ltd for Covalent Lithium Pty Ltd. November 2020.
360 Environmental Pty Ltd (2020) *Targeted Flora Survey Mt Holland Lithium Project.* Report prepared by Walker S of 360 Environmental Pty Ltd for Covalent Lithium Pty Ltd. November 2020.
Mattiske Consulting Pty Ltd (2021a) *Earl Grey Lithium Project Vegetation Condition Monitoring Transect Establishment.* Report prepared by Angus D of Mattiske Consulting Pty Ltd for Covalent Lithium Pty Ltd. Final. January 2021.
Mattiske Consulting Pty Ltd (2021b) *Memorandum: Earl Grey Lithium Project Field Survey 14th – 21st March 2021.* Vegetation health monitoring transects. Memorandum prepared by Sims Z of Mattiske Consulting Pty Ltd for Covalent Lithium Pty Ltd. March 2021.
Mattiske Consulting Pty Ltd (2021c) *Threatened and Priority Flora Assessment Earl Grey Lithium Project Pre-Clearance Surveys.* Report prepared by Angus D and Sims Z of Mattiske Consulting Pty Ltd for Covalent Lithium Pty Ltd. Version 2. April 2021.
Mattiske Consulting Pty Ltd (2021d) *Earl Grey Lithium Project Vegetation Condition Monitoring.* Report prepared by Sims Z of Mattiske Consulting Pty Ltd for Covalent Lithium Pty Ltd. Version 2. June 2021.
Glevan Consulting (2021) *Earl Grey Project Phytophthora Dieback Occurrence Assessment*. Report prepared by Brown E of Glevan Consulting for Covalent Lithium Pty Ltd.
Mattiske Consulting Pty Ltd (2022) *Earl Grey Lithium Project Vegetation Condition Monitoring Autumn 2022*. Report prepared by Pereira A of Mattiske Consulting Pty Ltd for Covalent Lithium Pty Ltd. Version 2. July 2022.
Mattiske Consulting Pty Ltd (2023a) *Earl Grey Lithium Project Vegetation Condition Monitoring Spring 2022*. Report prepared by Pereira A of Mattiske Consulting Pty Ltd for Covalent Lithium Pty Ltd. Version 2. January 2023.

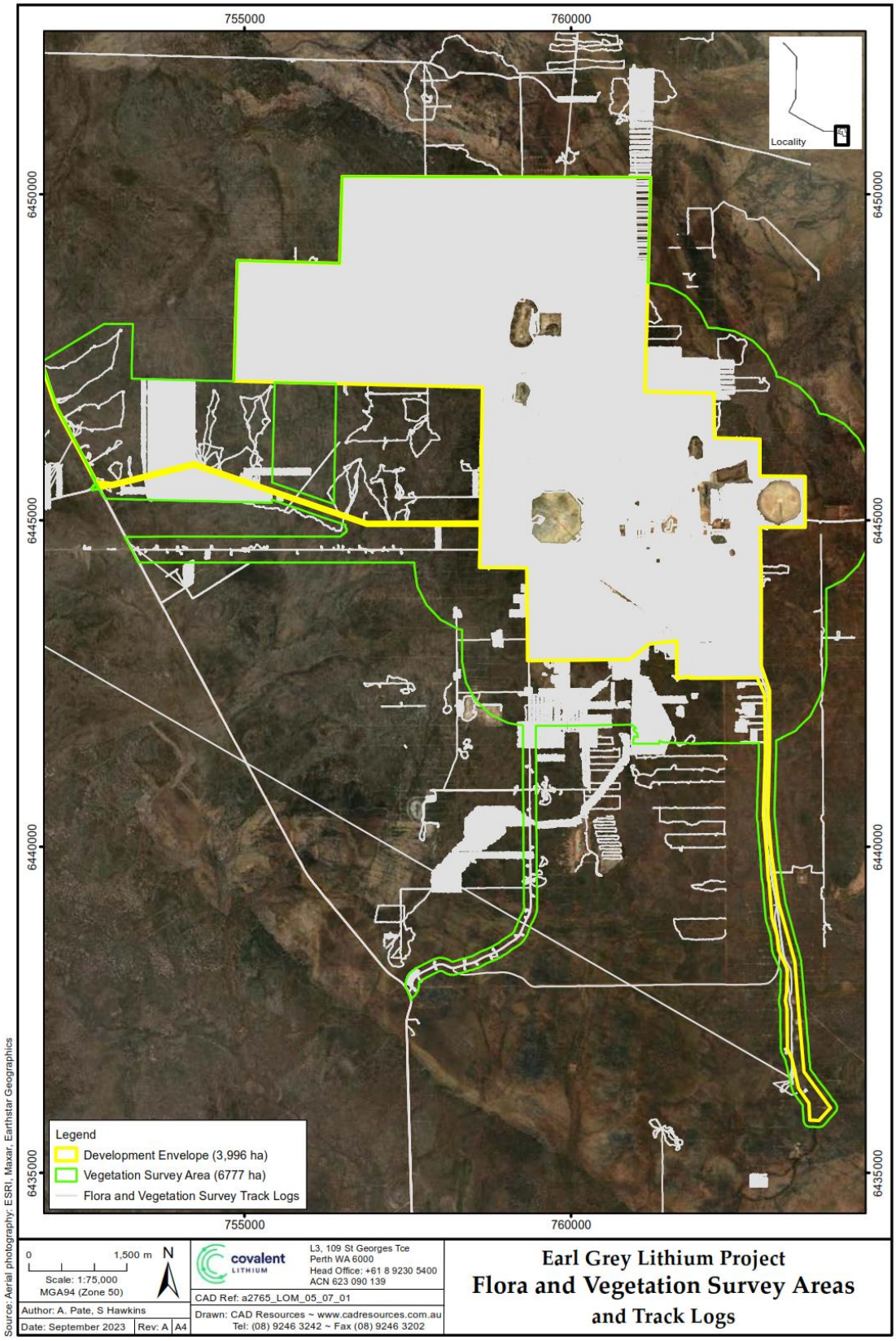

Figure 1-1: Biological Survey Areas

1.3.2.2 Survey Results

The flora and vegetation values for the area of the Project and surrounds have been subject to multiple biological surveys, as outlined within Table 1-2.

The biological surveys have been undertaken over multiple years and seasons by suitably qualified and experienced personnel in the survey and identification of flora taxa and vegetation units. The results of the biological surveys provide a sound basis on which to assess the potential environmental effects of the Project to flora and vegetation values. The biological surveys were completed in accordance with the standards set out in the EPA (2016) document *Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment*.

The results of the biological surveys identify the area of the Project and surrounds contain a variety of flora and vegetation values comprising > 450 native vascular flora taxa occurring within > 30 vegetation units. The native flora taxa include 2 'Threatened' flora taxa, > 30 DBCA-classified 'priority' flora taxa and 1 DBCA-classified 'priority' ecological community.

The flora and vegetation values identified through the biological surveys are identified by Figure 1-1.

A brief description of all flora species recorded by the biological surveys is provided in Appendix A.

The Indicative Site Layout for the Project has been designed to avoid and minimise impacts on flora and vegetation values.

Flora Protection Zones (VEZs) have been established based upon the results of the biological surveys, with mining operations excluded from these areas. The location of the VEZs are identified by Figure 1-12. The Threatened and Priority flora protected within the VEZs are detailed by Table 1-3. Whilst noting the full list of flora species recorded within the VEZs, the primary purpose of the VEZs is for the protection of the flora taxa *Banksia dolichostyla* (EPBC-V, BC-V) and *Microcorys elatoides* (DBCA-P1), and the protection of Vegetation Unit W17 (not of listed conservation significance, however is restricted in area).

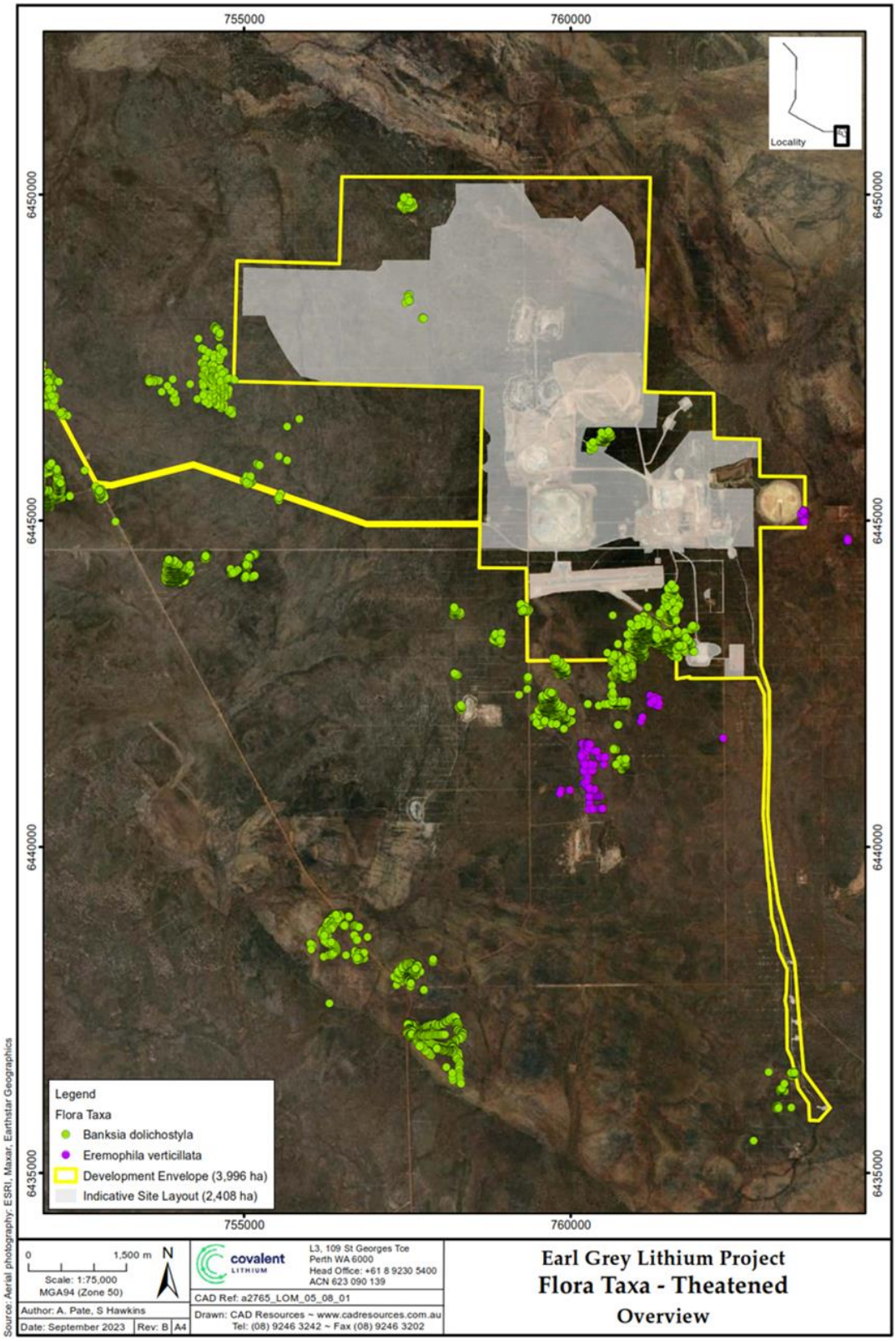

Figure 1-2: Flora Taxa – Threatened Flora

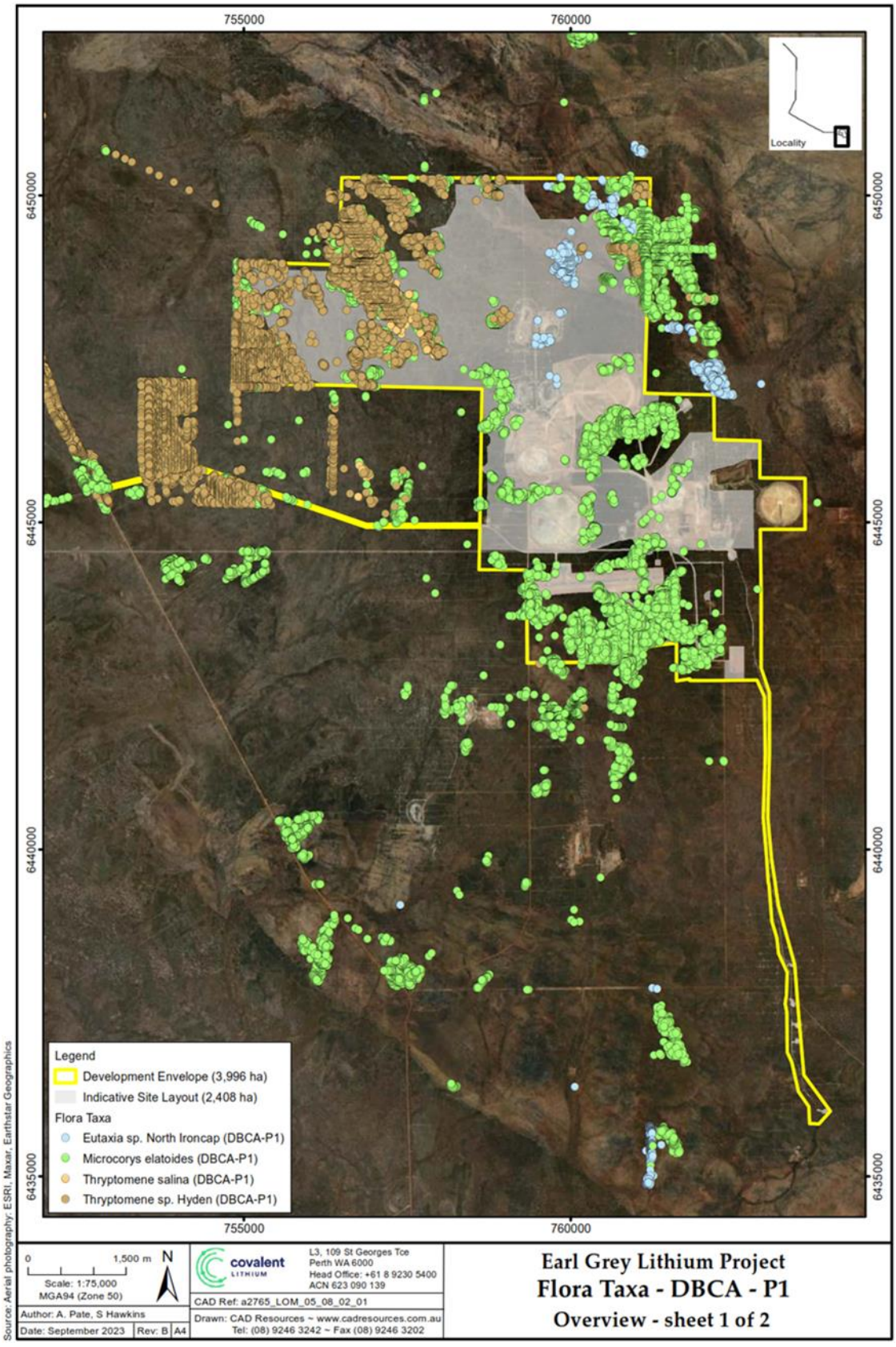

Figure 1-3: Flora Taxa – DBCA-P1 (1 of 2)

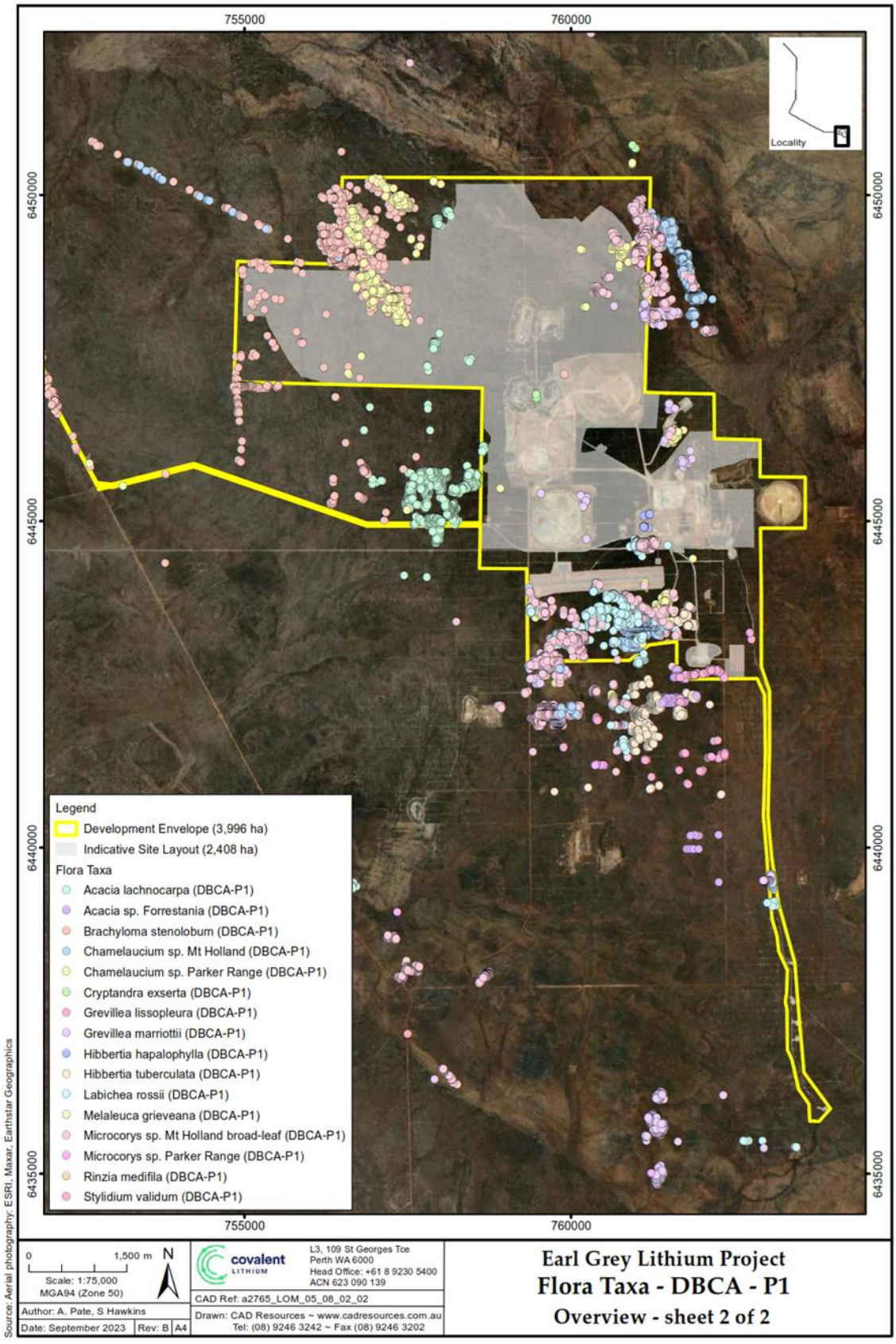

Figure 1-4Flora Taxa – DBCA P1 (2 of 2)

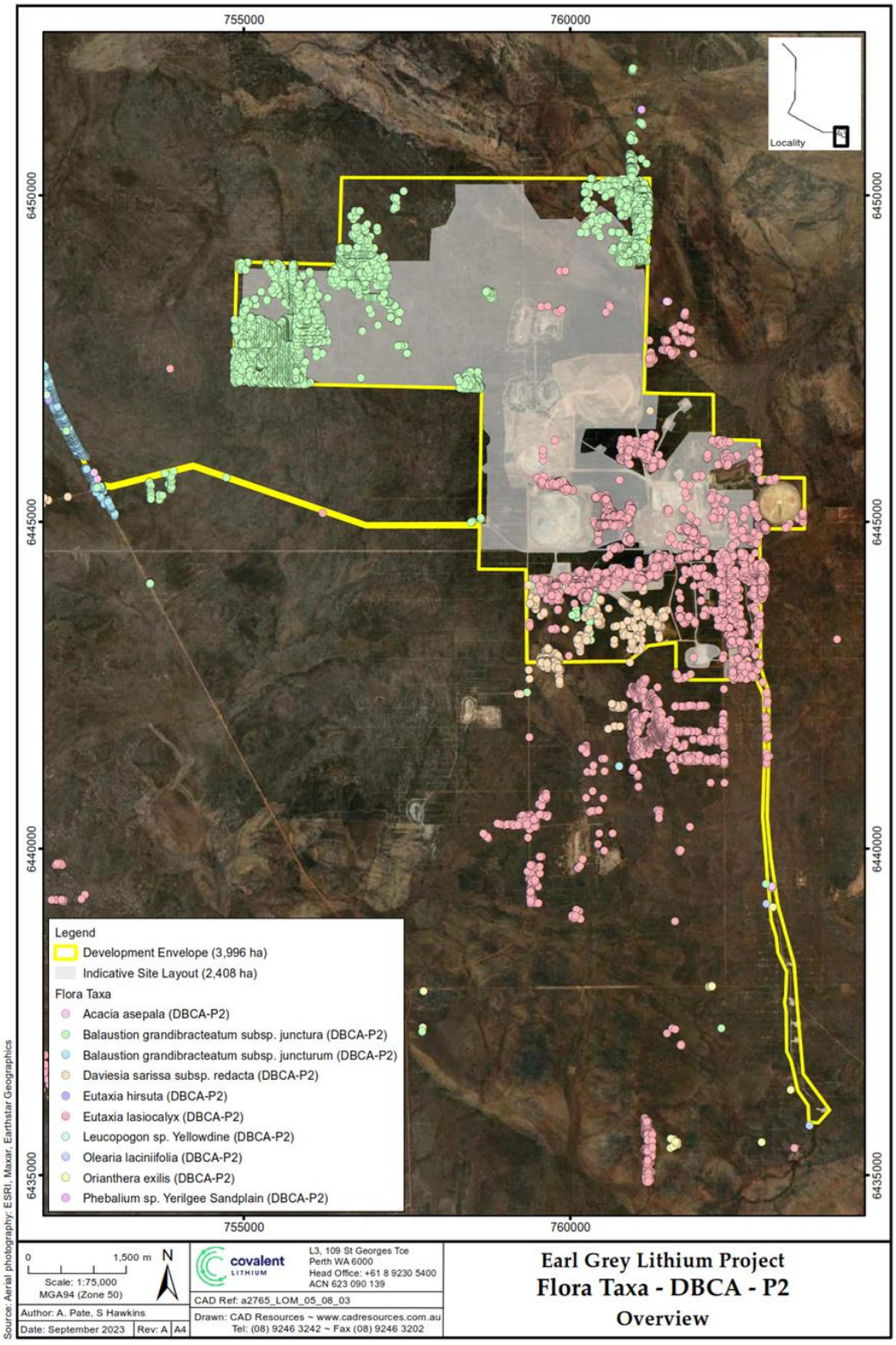

Figure 1-5 Flora Taxa - DBCA - P2

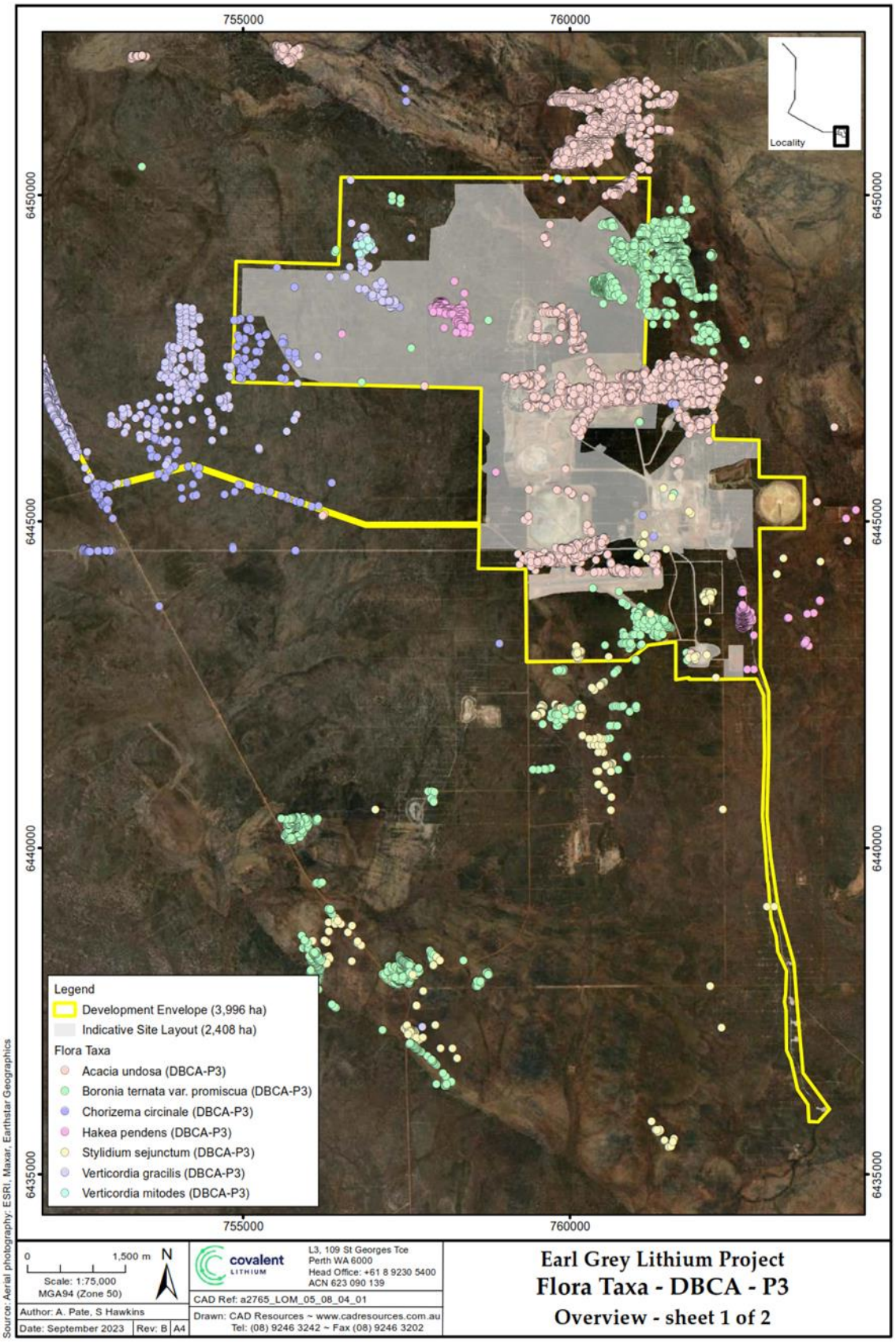

Figure 1-6 Flora Taxa – DBCA P3

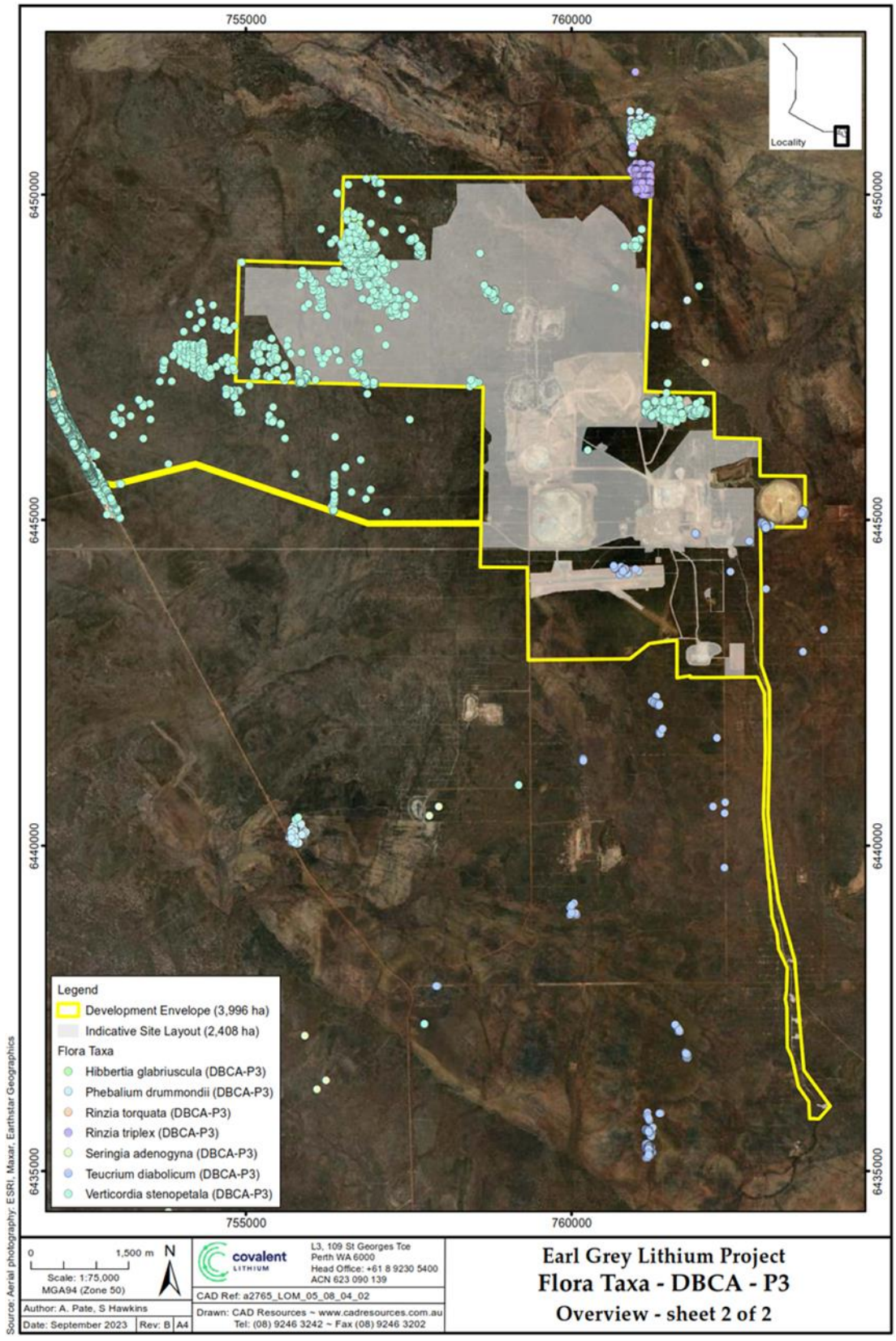

Figure 1-7 Flora Taxa - DBCA P3

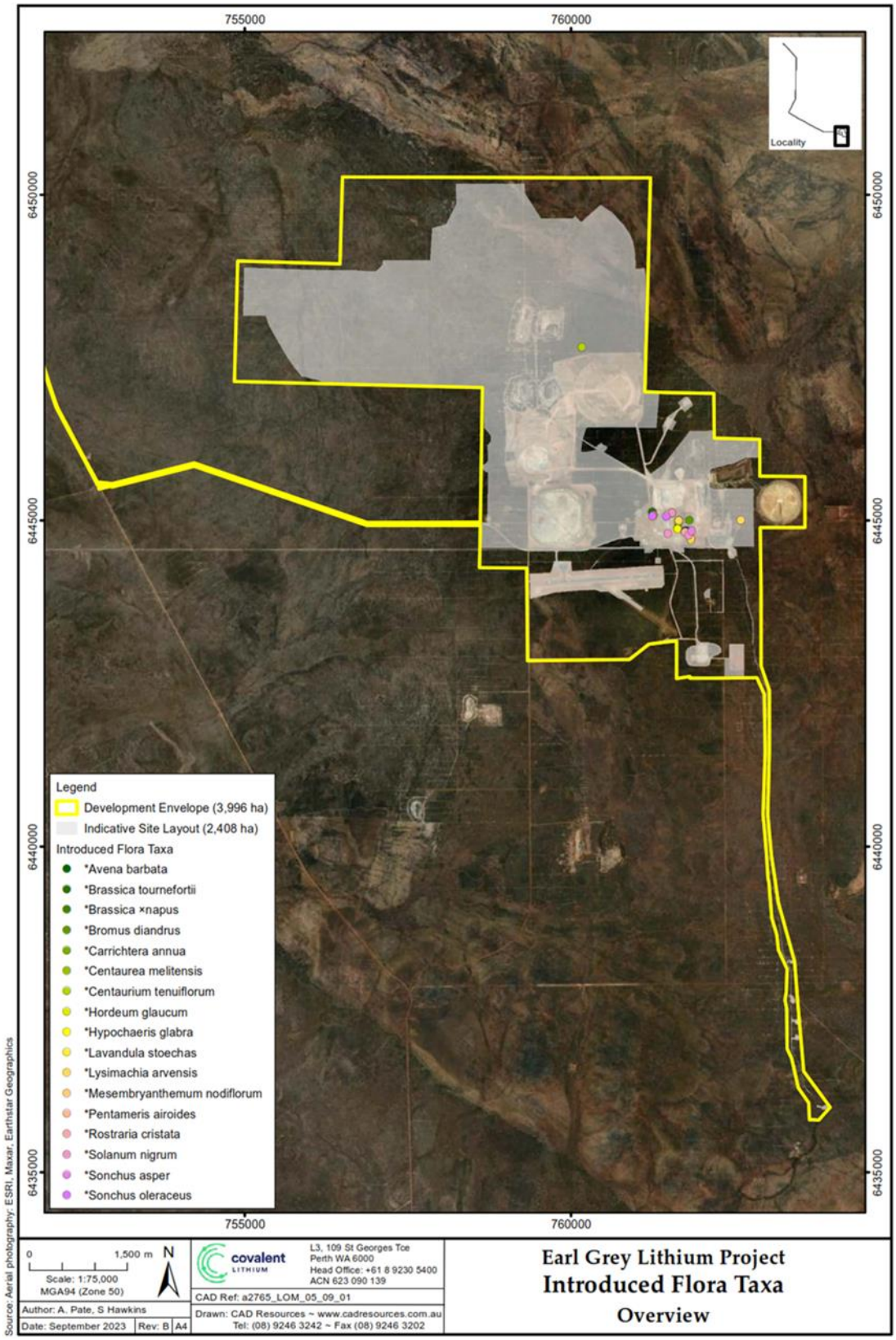

Figure 1-8 Flora Taxa - Introduced

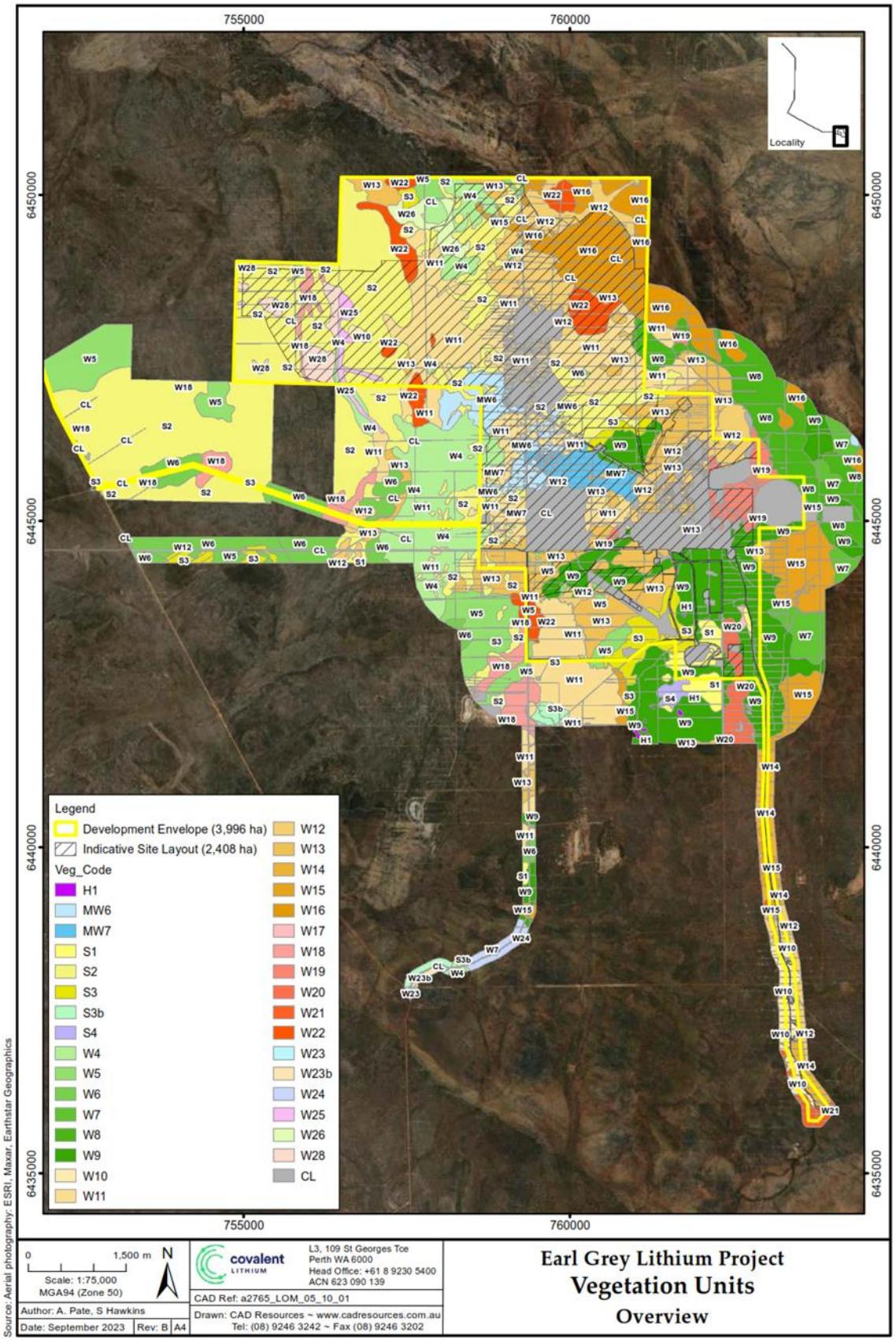

Figure 1-9 Vegetation Units

Figure 1-10 Vegetation Units (Legend)

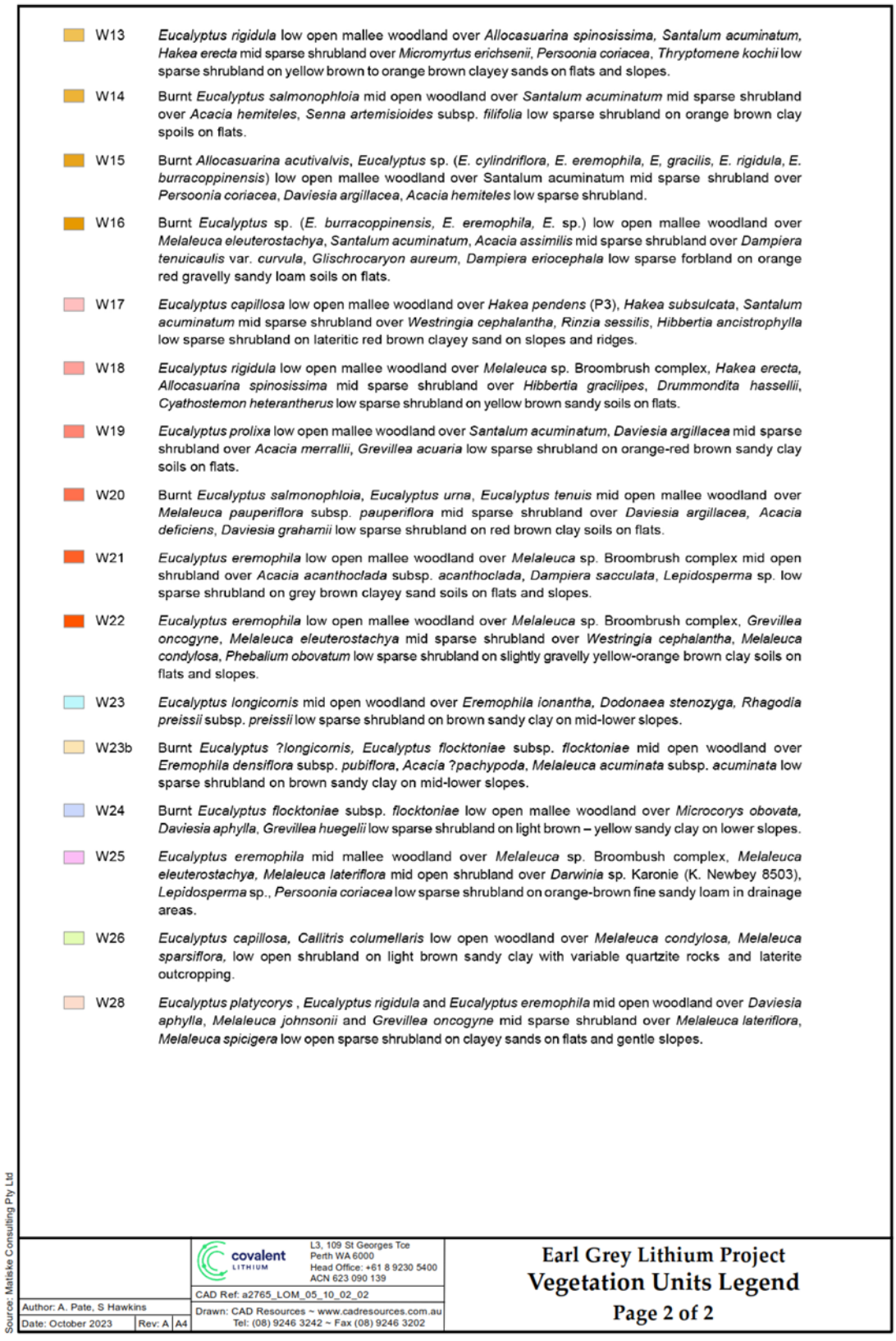

Figure 1-11 Vegetation Units (Legend)

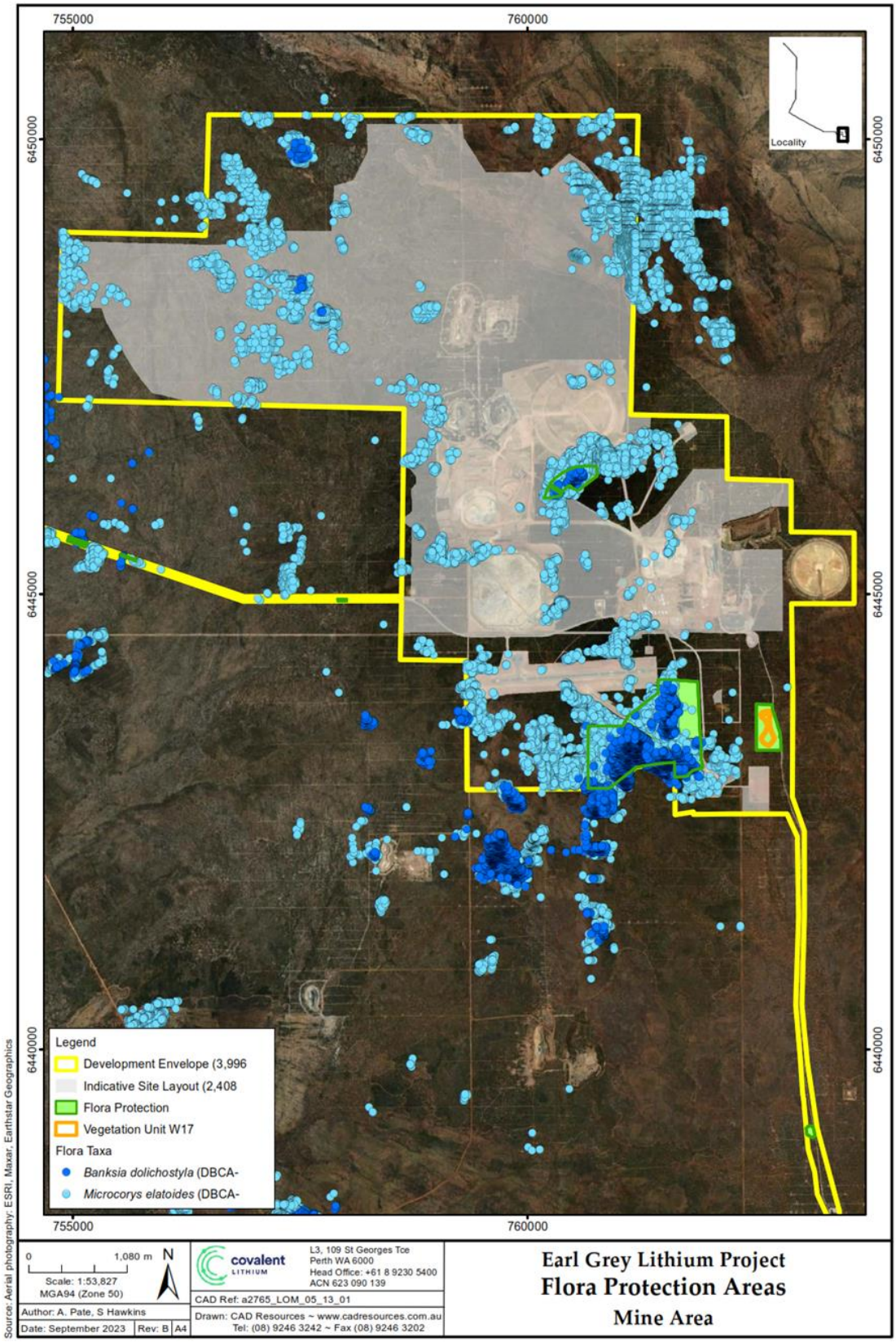

Figure 1-12: Flora Protection Areas

Table 1-3: Flora Species recorded within Flora Protection Zones

FLORA SPECIES	CONSERVATION STATUS	NO. INDIVIDUALS IN VEZS
Banksia dolichostyla	EPBC-V, BC-V	5,301
Acacia lachnocarpa	DBCA-P1	233
Chamelaucium sp. Parker Range	DBCA-P1	433
Grevillea lissopleura	DBCA-P1	498
Grevillea marriottii	DBCA-P1	25
Hibbertia tuberculata	DBCA-P1	1,082
Labichea rossii	DBCA-P1	568
Microcorys elatoides	DBCA-P1	13,825
Microcorys sp. Mt Holland broad-leaf	DBCA-P1	86
Thryptomene sp. Hyden	DBCA-P1	601
Daviesia sarissa ssp. *redacta*	DBCA-P2	125
Eutaxia lasiocalyx	DBCA-P2	236
Orianthera exilis	DBCA-P2	1
Boronia ternata var. *promiscua*	DBCA-P3	16
Chorizema circinale	DBCA-P3	1
Hakea pendens	DBCA-P3	1,124
Stylidium sejunctum	DBCA-P3	7
Verticordia stenopetala	DBCA-P3	1

(Values correct as at November 2022).

1.3.2.3 Introduced Flora (Weeds)

The biological surveys recorded 17 introduced flora taxa (weeds) within the Development Envelope, as identified by Figure 1-8. The majority of introduced flora are associated with the existing cleared / disturbed land areas of the abandoned Mt Holland Mine Site.

Introduced flora may compete with native flora taxa for resources (e.g. space, water, nutrients), alter the diversity and/or structure within native vegetation units, and degrade the quality of available fauna habitat.

The implementation of hygiene protocols during construction and operations will be necessary to prevent the introduction and spread of new introduced species into the VEZs.

1.3.2.4 Pathogens

Plant pathogens, particularly those of the *Phytophthora* genus, require hygiene protocols during construction and operations will be necessary to prevent the introduction and spread. Over 60 species of Phytophthora have been detected in WA (DBCA 2022), including both introduced and native *Phytophthora* species.

Phytophthora is a water mould which can spread through surface water (including run-off) and in the movement of soils by people, vehicles and animals. As identified by DBCA (2022), under optimal conditions (moist and warm) *Phytophthora* produces zoospores in large numbers which adhere to and infect plant roots producing mycelium. The Phytophthora mycelium draws nutrients from plant cells fuelling further growth and reproduction of the pathogen but killing the plant cells in the process (and killing the entire plant if extensively infected where water and nutrients to the crown are cut-off).

Phytophthora cinnamomi is the most commonly known *Phytophthora* species in WA, with potentially susceptible areas occurring where rainfall is ≥ 400 mm/y. As rainfall for the area of the Project is < 300 mm/y, *Phytophthora cinnamomi* is considered of low potential risk (unlikely) for the Project.

Phytophthora arenaria has been recovered exclusively (restricted) from natural Kwongan vegetation on the coastal sand plains of south-west WA, where its adaptation to this ecosystem suggests is native to WA (Rea *et al*. 2011 cited in Simamora *et al.* 2015). Noting the substantial separation distance and the soil/vegetation types for the coastal sand plains, *Phytophthora arenaria* is considered of low potential risk (unlikely) for the Project.

Phytophthora boodjera sp. nov. (closely related to *Phytophthora arenaria*) has only recently been found in WA in seedlings from plant production nurseries and from declining trees in disturbed urban landscapes in the Perth metropolitan area (Mt Claremont, Dalkeith, Kensington, Shenton Park, Floreat, Stirling), Darling Scarp (Gingin, York, Northam) the Wheatbelt (Kulin, Tincurrin, Toolibin Lake, Badgebup) and the south-coast (Ravensthorpe) (Simamora *et al.* 2015 Simamora *et al.* 2018). Noting the nearest identified recording of *Phytophthora boodjera* sp. nov. at Kulin is located > 150 km south-west of the Project (and with expected differences in soils, vegetation and rainfall), *Phytophthora boodjera* sp. nov. is considered of low potential risk (unlikely) for the Project.

Whilst noting plant pathogens, such as *Phytophthora*, are considered of low potential risk (unlikely) for the Project, standard hygiene protocols (clean on entry requirements) to be implemented during construction and operation of the Project, will minimise any residual risk of introduction or spread of such plant pathogens.

1.3.2.5 Fire

No fire has significantly altered the native vegetation within the Development Envelope since exploration commenced in 2016.

Fires as a result of construction and operations will be mitigated as far as practicable with protocols implemented by the onsite emergency response team throughout the life of the Project.

1.3.2.6 Dust

Fugitive dust emissions from vegetation clearing, disturbed areas, mine pit excavation, crushing and road use have been identified as a potential indirect impact to vegetation within the Development Envelope.

Dust deposition gauges are considered the most appropriate means by which to measure dust fall on flora and vegetation within the Development Envelope. Dust deposition gauges will be installed and monitored in accordance with Australian Standard AS/NZS 3580.10.1:2003 methods for sampling and analysis of ambient air. Results will be considered in association with the results of flora and vegetation health and condition monitoring (outlined in Section 2.4.1 and Section 2.4.2) to manage dust emissions from mining activities and mitigate potential adverse impacts to flora and vegetation within the Development Envelope (with specific focus on protections within the VEZs).

1.3.3 Key Assumptions and Uncertainties

1.3.3.1 Assumptions

- Biological surveys provide sufficient information to confirm the extent of conservation significant flora within the Development Envelope and VEZs.
- Targeted biological surveys for 'Threatened' flora as outlined in the *Biodiversity Conservation Act 2016* (WA) and DBCA-classified 'Priority' flora are considered adequate to characterise the populations within Development Envelope and VEZs.
- The biological surveys are of suitable quality to identify any Project-related direct or indirect impacts to flora and vegetation within the VEZs.

1.3.3.2 Uncertainties

- The extent to which natural climatic factors outside of Covalent's control will affect the spread of dust, weeds and fire within the Development Envelope (including into the VEZs).
- The extent to which dust generated from implementation of the Project will travel from the source (mining and processing operations) to receptor (flora and vegetation).
- The level of dust deposition (mass) that will have the potential to indirectly impact vegetation.
- The resilience of conservation significant flora species to dust deposition.
- The extent to which natural climatic factors outside of Covalent's control will impact on the health and extent of conservation significant flora within the Development Envelope.

2. Management Plan Provisions

This FVMP outlines both outcomes-based and management-based provisions.

Outcome-based provisions are performance-based and may be used where the part of the environment is capable of objective measurement and reporting. Therefore, outcome-based provisions have been established to specify Trigger Criteria and Threshold Criteria on direct impacts and to ensure the Project achieves acceptable environmental outcomes (i.e., plant health monitoring).

Management-based provisions relate to management actions and may be used where the part of the environment is not capable of objective measurement and reporting. Therefore, management-based provisions have been established to specify management actions and targets, particularly for indirect impacts that are non-quantifiable. In addition, management-based provisions will assist with onsite management in achieving the outcome-based environmental criteria. Early response triggers for management-based provisions are detailed in Section 4.1.

2.1 Outcome-Based Provisions

Environmental criteria, both triggers and thresholds, are detailed in Table 2-2.

2.1.1 Environmental Criteria Justification

Environmental criteria, triggers and thresholds have been established for direct impacts. Justification for the environmental criteria is detailed in Table 2-1.

Table 2-1: Environmental Criteria Justification

ENVIRONMENTAL CRITERIA (OUTCOME)	TRIGGER AND THRESHOLD	JUSTIFICATION
No Project-related direct impact to flora and vegetation within a VEZ	**Trigger Criteria:** • Vegetation clearing without an authorised internal permit within the Development Envelope, but outside of the VEZs • Authorised clearing has occurred within 5 m of a VEZ • Unauthorised access by personnel to a VEZ	The means by which a direct Project-related impact may occur to a VEZ is vegetation clearing. If clearing occurs which has not received an approved internal clearing permit within the Development Envelope, but outside of the VEZ, it is considered a non-compliance or failure of the procedure which is in place to prevent vegetation clearing of the VEZs. Similarly, if personnel access a VEZ without authorisation, it also represents a failure in the procedure and permit to control access to the area.
	Threshold Criteria: • Project-related direct vegetation disturbance of any kind or extent within a VEZ resulting in the mortality of flora and vegetation. For example, vegetation clearing.	The objective of the key environmental outcome is for no Project-related direct impacts to flora and vegetation within the VEZ. Threshold criteria of no Project-related disturbance within VEZ has been chosen as it could lead to mortality of *Banksia dolichostyla* and other priority listed flora within these areas. Exceeding the threshold criteria will lead to investigation, reporting and corrective actions of the incident.
No Project-related indirect impact to flora and vegetation within a VEZ resulting in an adverse impact	**Trigger Criteria:** • Statistically significant reduction in mean condition ratings (more than 20% difference for qualitative or quantitative) of vegetation health within a VEZ in comparison to control sites, or a mean Fv/FM <0.6 (index of chlorophyll inflorescence)	Vegetation health monitoring will be undertaken and if a decline in health is identified, the response actions will allow investigation to determine if the causes are attributed to the Project, and if necessary, allow for further management measures to meet the environmental outcome. The triggers for species health decline will be compared with control monitoring to allow consideration for climatic variation such as rainfall and factors outside of Covalent's control.
	Threshold Criteria: • Flora and vegetation within a VEZ experiences a statistically significant higher mortality rate than that of control sites (where that mortality is not attributed to direct or Project impacts). • Conservation significant species within a VEZ experiences a statistically significant higher foliage cover loss rate than that of control sites (where that foliage cover loss is not attributed to direct or Project impacts).	The objective of the key environmental outcome Is for no Project-related indirect adverse impacts to flora and vegetation within the VEZs, where adverse is defined as an impact likely to change the conservation status or significantly change the local population numbers of a species. It is widely known that all plants experience a natural rate of mortality. By comparing the rate of mortality of the VEZs, it may be deduced if the VEZs is experiencing natural rates of mortality. If the rate of mortality appears higher than control sites, it should be investigated, reported and corrective actions implemented if it is attributable to proposal related indirect effects. However, It should be noted that the extent of mortality will determine if the key environmental outcome is not being achieved as it may not mean the impact can be defined as 'adverse' (Section 6). By reporting a difference Covalent is adopting a precautionary approach. Through monitoring any significant foliage cover loss of conservation significant species, any potential degradation of individual health can be identified, investigated and potentially rectified prior to mortality.

[1] Impact to Threatened flora as outlined in the *Biodiversity Conservation Act* 2016 is defined as 'taking all or part of an individual'. Damage to all or any part of a Threatened flora individual requires a Section 40 authorisation.

Table 2-2: Outcome-based Provisions

ENVIRONMENTAL OBJECTIVE[1]	ENVIRONMENTAL CRITERIA	RESPONSE ACTIONS	MONITORING	REPORTING

No Project-related direct impact to flora and vegetation within a VEZ	**Trigger Criteria:**
	• Vegetation clearing without an authorised internal permit within the Development Envelope, but outside of the VEZs
	
	Trigger Criteria:
	• Unauthorised access by personnel to a VEZ
		Trigger Response:
		• Report internally as an incident in accordance with internal procedures.
		• Review management strategies and implement changes to prevent future occurrences. Management measures may include:
		  ○ Undertake incident investigation
		  ○ Review proximity of potential disturbance within/to VEZ. Should disturbance occur to threatened or Priority flora as a result of unauthorised access, report to DWER within 7 days of identification
		  ○ Review and upgrade VEZ signage/delineation where appropriate
		  ○ Audit and review of training and staff inductions (i.e. Increase in staff training and awareness to include information on VEZ's, legislative requirements, appropriate clearing procedures)
		  ○ Ground disturbance permit training competency training
		  ○ Review impact of unauthorised clearing and report any non-compliance to DWER CEO within 7 days of identification
		  ○ Undertake rehabilitation of unauthorised clearing (i.e. disturbance from vehicle tracks, vegetation clearing) by appropriately qualified personnel as required, in accordance with rehabilitation procedure.
			• Survey records of all clearing undertaken during operation of the Project.	• Annual reporting.
				• Clearing Register
				• Internal clearing permits.
				• Survey data
				• Incident reports.

	Threshold Criteria:
	• Proposal related direct vegetation disturbance of any kind or extent within a VEZ resulting in the mortality of flora and vegetation. For example, vegetation clearing initiated by Covalent's mining activities.
		Threshold Response:
		• Cease clearing activities
		• Immediately report internally
		• Undertake investigation to determine source of and extent of disturbance and if the disturbance is likely to result in the key environmental outcome not being achieved (i.e. potential environmental harm or alteration of the environment).
		• If disturbance is attributed to Proposal activities, undertake a review of layout to determine if impact can be minimised, development actions to prevent a recurrence and communicate findings to relevant personnel
		• A suitably qualified flora specialist to undertake an assessment of impact
		• Notification to DWER CEO within 7 days (Condition 2-7(1) of MS 1199)
		• Notification to DCCEEW and DBCA within 7 days
		• If necessary (deemed to be proposal related), consider measures to prevent an incident occurring and/or remediation strategies to address the impact. Report submitted to DWER with remediation actions proposed. Management measures may include the following:
		  ○ Audit and review of training and staff inductions (ie. Increase in staff training and awareness to include information on VEZ's, legislative requirements, appropriate clearing procedures, 5 m trigger response criteria for authorised clearing approaching a VEZ)
		  ○ Undertake rehabilitation of unauthorised access as required in accordance with internal rehabilitation procedures.
		• Engagement with key stakeholders including DBCA, and relevant specialists where required to determine key actions.
		• Provide a report of the incident to DWER CEO as detailed by Condition 2-7(5) of MS 1199 within 21 days (refer to Condition 2-7(5)(a)-(f) for report detail).
		Implementation of the threshold response actions will commence within 24 hours of the exceedance being notified to DWER CEO, with implementation of the threshold response actions to continue (as appropriate) until the DWER CEO has confirmed that it is demonstrated the threshold criteria are being met and the threshold response actions are no longer required.		

ENVIRONMENTAL OBJECTIVE[1]	ENVIRONMENTAL CRITERIA	RESPONSE ACTIONS	MONITORING	REPORTING

No Project-related indirect impact to flora and vegetation within a VEZ resulting in an adverse impact	**Trigger Criteria:**
	• Statistically significant reduction in mean condition ratings (more than 20% difference for qualitative or quantitative) of vegetation health within a VEZ in comparison to control sites, or a mean Fv/FM <0.6 (index of chlorophyll inflorescence)
		Trigger Response:
		• Report internally as an incident in accordance with site procedures.
		• Review all monitoring data (including control sites) in relation to management measures (Table 2.3) and any other available data such as weather and climate to determine if the decrease is due to proposal related impacts.
		• Review dust, weather and weed monitoring to compare VEZ and control sites. Determine whether the changes observed in the impact sites are comparable to the observations in the control sites.
		• Investigate potential causes for the observed decline in vegetation health which may include but are not limited to:
		  ○ seasonal conditions (e.g., rainfall and temperatures)
		  ○ effectiveness of weed control
		  ○ spatial variation (near-impact areas) versus sites located further from impact
		• Develop strategies based on the outcomes of the investigation to prevent a recurrence and if necessary or possible reverse the decline in health of the VEZ flora and vegetation. Management measures may include the following:
		• Change in frequency of vegetation health monitoring
		Increase in staff training and awareness on factors which have implications to vegetation health for example dust, changes to hydrology
			• Quarterly observations of plant health on commencement of Project for the first 12 months. Following the development of a strong dataset over this period, the monitoring methodology, frequency and monitoring sites will be reviewed.	• Annual reporting
				• Quarterly vegetation monitoring.

	Threshold Criteria: • Flora and vegetation within a VEZ experiences a statistically significant higher mortality rate than that of control sites (where that mortality is not attributed to direct or Project impacts). • Conservation significant species within a VEZ experiences a statistically significant higher foliage cover loss rate than that of control sites (where that foliage cover loss is not attributed to direct or Project impacts).	**Threshold Response:** • Report internally as an incident • Investigate cause and extent of mortality and if it is likely to result in the key environmental outcome not being achieved (i.e. potential environmental harm or alteration of the environment) • If necessary (deemed to be proposal related) consider measures to prevent a re-occurrence of the incident and/or remediation strategies to address the impact • Notification to DWER CEO within 7 days (Condition 2-7(1) of MS 1199) • Notification to DCCEEW and DBCA within 7 days • Engagement with key stakeholders including DBCA, and relevant specialists where required to determine key actions. • Provide a report of the incident to DWER CEO as detailed by Condition 2-7(5) of MS 1199 within 21 days (refer to Condition 2-7(5)(a)-(f) for report detail requirements). Implementation of the threshold response actions will commence within 24 hours of the exceedance being notified to DWER CEO, with implementation of the threshold response actions to continue (as appropriate) until the DWER CEO has confirmed that it is demonstrated the threshold criteria are being met and the threshold response actions are no longer required.		

2.2 Management-Based Provisions

The following management actions will assist in meeting the trigger and thresholds proposed in the outcome-based provisions. These actions will be reviewed as part of the monitoring and reporting process and changes made where required.

The management actions are detailed in Table 2-3, and include:

- Vegetation clearing management
- Dust management
- Weed management / dieback management
- Fire regime management
- Surface hydrology.

The management targets are:

- No unauthorised clearing of native vegetation
- No unauthorised access within the VEZs
- Dust deposition from mining and related activities is minimised
- Spread of weed or dieback is minimised
- Alteration of fire regimes or surface hydrology is minimised

Early response triggers have been established for management targets and are detailed in Section 4.1.

Table 2-3: Management-based Provisions

MANAGEMENT OBJECTIVE	MANAGEMENT ACTION	MANAGEMENT TARGETS	MONITORING	REPORTING
No unauthorised clearing of native vegetation No unauthorised access within the VEZs	Avoidance • Implementation of an internal clearing permit procedure • Implementation of an internal procedure limiting access to VEZs by foot only or only by car where there is an existing track. • VEZs to be delineated with flagging tape, physical barrier, signage or similar to alert all personnel of their location • Inductions of all site personnel to include information on the location of VEZs, management targets, measures and expectations	• No unauthorised clearing within the Development Envelope or VEZs. • No unauthorised access to a VEZ.	• Clearing register. • Survey records of all clearing undertaken during operation of the Project.	• Annual reporting. • Clearing Register. • Internal clearing permits. • Survey data.
Dust deposition from mining and related activities is minimised	Covalent will minimise dust deposition on vegetation through: • Dust suppression on cleared areas • Maximise efficiency of loads when transporting ore or concentrate (including haul trucks and conveyers) • Use dust covers on machinery and dust suppressants on exposed areas where possible • Minimise open area footprint and rehabilitate or cover (using vegetation, rock, water and/or dust suppressant) exposed areas as soon as practicable • Design the mine layout to minimise dust emissions to VEZs where practicable • Access roads will be sealed with an emulsion or suitable alternative, as shown in Figure 2-1.	• Dust deposition (present as insoluble solids) at any gauge in excess of 10 g/m^2/month.	• Dust deposition rates will be measured monthly using dust deposition gauges for the first 24 months from implementation of the Project, at the locations identified by Figure 2-2. The dataset gained will be reviewed to inform the dust monitoring regime for subsequent revisions of the FVMP.	• Annual reporting. • Dust deposition monitoring. • Vegetation health monitoring. • Incident report of significant dust plumes.
Spread of weeds or dieback is minimised	Covalent will minimise the risk of introduction of invasive species and spread of dieback through: • Implementation of vehicle hygiene / clean on entry measures. • Development Envelope and VEZs will be surveyed for weeds periodically, so that any infestations of invasive species that establish can be eradicated before the plants can flower and set seed •	• Minimise new weeds introduced to site. • Prevent spread of weeds to VEZs. • Prevent spread of dieback onsite.	• Annual weed monitoring across Development Envelope. • Quarterly observations of plant health on commencement of Proposal for first 12 months. Following the development of a strong dataset over this period, the monitoring methodology, frequency and monitoring sites will be reviewed. • Quarterly health monitoring at vegetation quadrats within VEZs and control sites to include observations for weeds and if the presence of weeds is having a potential indirect impact.	• Annual reporting. • Vehicle hygiene certificates and auditing. • Invasive species control reports. • Aerial photos. • Incident reports.
Alteration of fire regimes is minimised	Covalent will contribute to fire management at the mine site and in the region through the following measures: • Internal procedures to prevent fires and manage the occurrence of fires due to operational activities (emergency response team, automated fire extinguishers on equipment, personnel trained to use fire-fighting equipment). • Implement fire management procedures (e.g. maintenance of fire breaks, Hot Work Permit system, firefighting training, Emergency Response Plan) • Firefighting equipment will be located on site and in vehicles • Lightning protection equipment will be installed as part of Project design where necessary • Coordination with DBCA and Department of Fire and Emergency Services (DFES) to undertake prescribed burns.	• Prevent fires attributed to mining and associated Project activities.	• Incident reports of fire. • Quarterly observations of plant health on commencement of Proposal for first 12 months. Following the development of a strong dataset over this period, the monitoring methodology, frequency and monitoring sites will be reviewed.	• Aerial photos. • Incident reports.
Alteration of surface hydrology is minimised	Covalent will ensure the appropriate design of infrastructure including: • Drainage measures designed and constructed to minimise changes to natural surface water flow, including diversion drains, rock cladding and contouring as required. • Rehabilitation and closure to follow contours of natural landforms	• Prevent changes to surface water hydrology attributed to mining and associated Project activities.	• Quarterly observations of plant health on commencement of Proposal for first 12 months. Following the development of a robust dataset over this period, the monitoring methodology, frequency and monitoring sites will be reviewed. • Quarterly health monitoring at vegetation quadrats within VEZs and control sites.	• Aerial photos. • Incident reports. • Annual reporting.

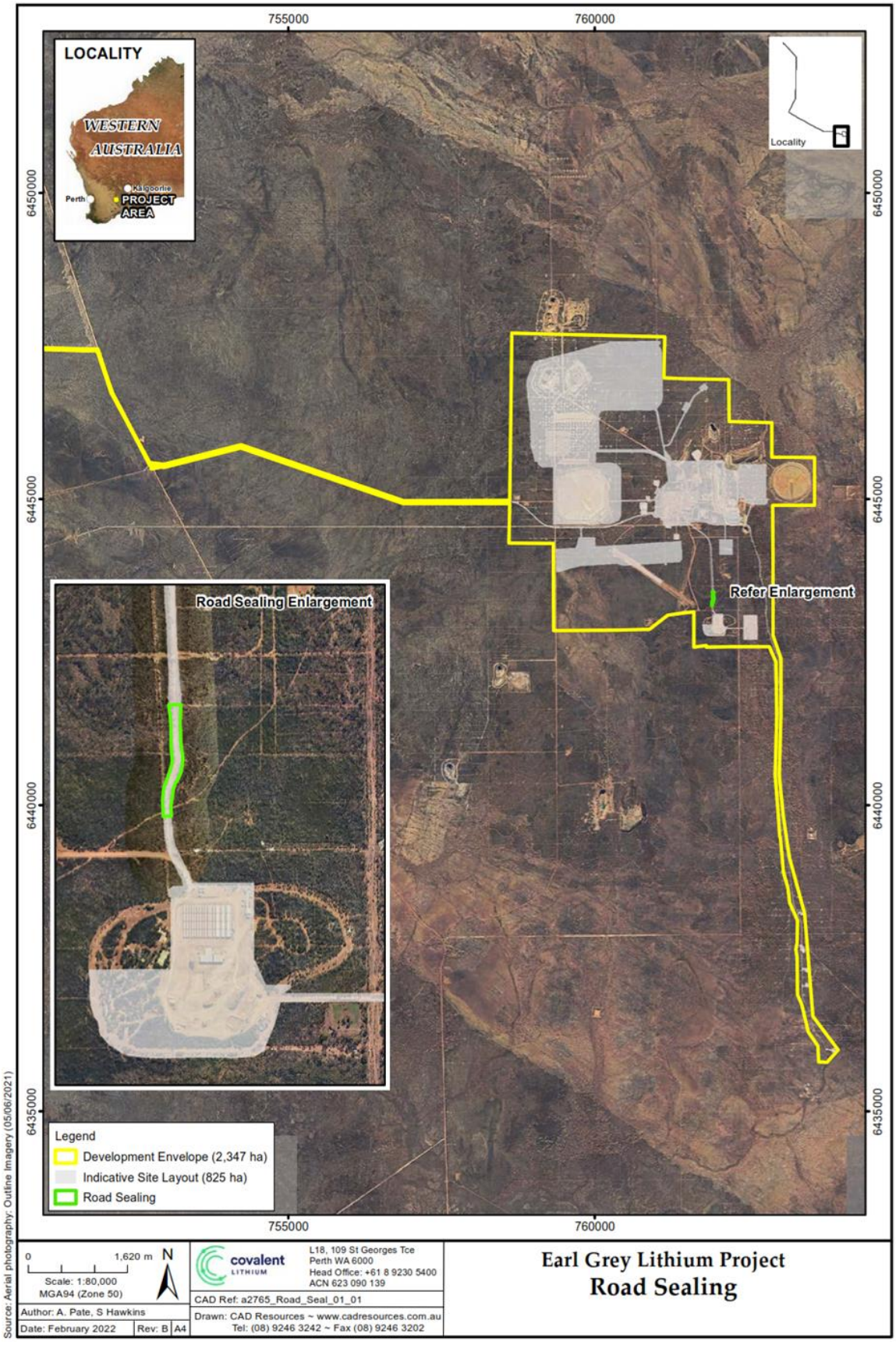

Figure 2-1 Dust Mitigation Measures

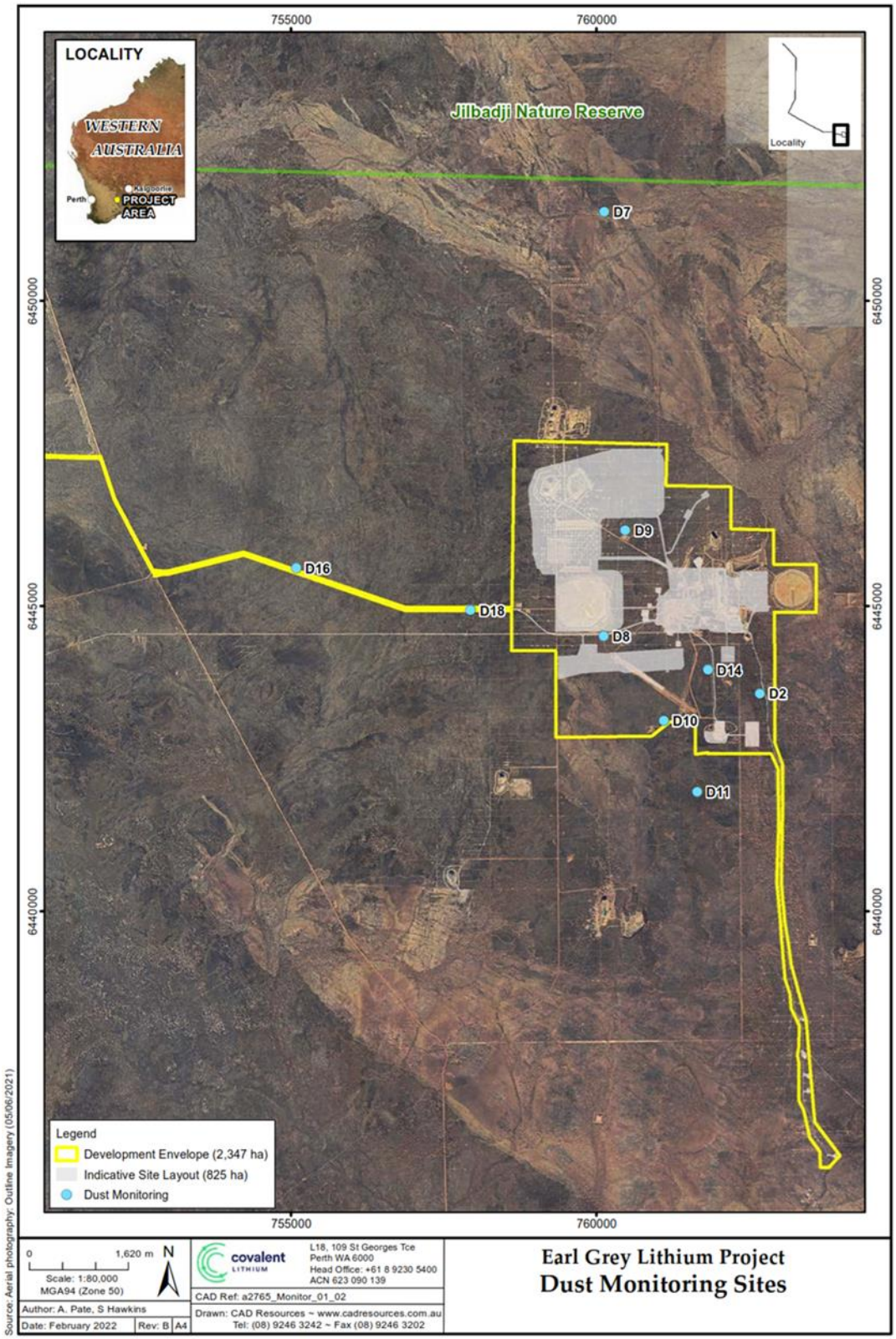

Figure 2-2 Dust Monitoring Locations

2.3 Implementation

The implementation of the FVMP will be assisted through Covalent's Environmental Management System (EMS) incorporating systems, processes, procedures and work instructions relating to the management, monitoring and reporting components of this FVMP.

Covalent is committed to conducting its activities for the Project in an ecologically responsible manner. The key personnel involved in implementation of this FVMP and their roles and responsibilities are listed in Table 2-4.

For any proposed activities related to seeding, germinating or planting of *Banksia dolichostyla*, Covalent will undertake consultation with DBCA (Species and Communities Program). The preparation and approval of a Translocation Proposal as required in Part 7 of the *Biodiversity Conservation Regulations 2018* (WA) will be completed. Impact to Threatened flora as outlined in the *Biodiversity Conservation Act 2016* (WA) is defined as 'taking all or part of an individual'. Damage to all or any part of a threatened flora individual requires a Section 40 authorisation.

Table 2-4: Roles and Responsibilities

ROLE	RESPONSIBILITY
Covalent Lithium	• Covalent have the overall responsibility for the implementation of this FVMP if any roles are delegated to a contractor or consultant, Covalent has the responsibility to audit compliance and ensure any contingency actions are implemented.
Environment Manager	• Overall accountability for auditing and compliance assessment with this FVMP during operation to ensure it is maintained and meets objectives and targets • Provide technical support to all Project personnel to ensure this FVMP is implemented correctly and complied with • Implement and maintain this FVMP, review its effectiveness and review the implementation as required • Obtain relevant approvals for disturbance as required • Ensure all personnel involved in the project are inducted and will adhere to FVMP requirements • Undertaking ongoing monitoring and documenting monitoring results • Liaise with stakeholders and technical advisors for advice and resolution of management aspects/objectives as required • Review and close out any contingency actions • Report as required to regulating authorities • May delegate all or part responsibility to an appropriately qualified person
Construction Manager / Registered Manager	• Overall accountability for auditing and compliance assessment with this FVMP during construction to ensure it is maintained and meets objectives and targets • Overall accountability to ensure this FVMP is implemented, reported and maintained on-site • Ensure personnel attend inductions, have sufficient resources and training to meet the requirements of this FVMP • Support Covalent's flora management initiative and culture • Comply with all legal requirements and the requirements of this FVMP • Seek advice from Covalent when in doubt about requirements • Appoint appropriate consultants to undertake specific activities set out in the FVMP if required.
All personnel	• Must receive induction prior to commencement of work on site • Comply with all legal requirements and the requirements of this FVMP • Attend environmental inductions and any other training required • Participate in toolbox meetings and encourage personnel to suggest improvements.

2.3.1 Environmental Induction

Covalent will require all workers, both during construction and operation of the mine, to attend a worker awareness training/environmental induction covering:

- Conservation significance of the flora and vegetation within the VEZs.
- Compliance and legislative requirements of the VEZs.
- Management measures and expectations of all personnel to ensure the environmental outcomes are achieved.

2.3.2 Incidents and Corrective Actions

Environmental incidents are defined as breaches or non-adherences to objectives and procedures applied to the Project and prescribed in this FVMP. Environmental incidents are to be reported to the Covalent Environmental Manager by the person responsible for the incident or the first person at the site of an incident.

The Covalent Environmental Manager will assess the type and severity of the incident in accordance with internal procedures. Relevant personnel shall be notified and consulted whether the incident requires notification to regulatory agencies.

2.4 Monitoring

The monitoring program involves monitoring of plant condition, dust deposition and weed monitoring in order to:

- Determine if there are any changes occurring to flora and vegetation condition and health in the VEZs.
- Assess whether any changes in flora and vegetation are due to the Project or external/natural factors.
- Provide a methodology for ongoing monitoring to enable time-based comparisons.

This will be achieved as the program has been designed to be:

- Extensive – sites within representative vegetation communities both within the VEZs and non-impact control sites.
- Balanced – replicate sites within potential impact areas, and areas outside of the Project's influence to enable statistical analyses (for example but not limited to, ANOVA, MANOVA).
- Repeatedly measurable, reliable and adaptable; allowing monitoring to be intensified or decreased as required based on measurements made.

Furthermore, monitoring by the way of pre-clearance surveys has also been undertaken to meet Condition 2-3 and Condition 2-4(1) of MS 1199. The timing, methods, limitations and reporting of those surveys is detailed by Section 1.3.1 and Section 3.

2.4.1 Plant Condition Monitoring

Plant condition monitoring to provide a qualitative assessment of the vegetation condition will be undertaken at permanent representative sites within the VEZs and control sites away from any proposal related indirect effects. Each monitoring site will consist of a quadrat 10 m by 40 m arranged linearly with four sub-quadrats of 10 m × 10 m, thereby providing an area equivalent to 20 m × 20 m and conforming to the recommended quadrat size for the bioregion (EPA 2016a).

The locations of monitoring quadrats have been reviewed based on recommendations provided by DBCA and locations were revised to monitor the following sub-set of conservation significant flora individuals in the monitoring program:

- *Banksia dolichostyla* (Threatened)
- *Acacia lachnocarpa* (DBCA-P1)
- *Chamelaucium* sp. Parker Range (DBCA-P1)

- *Grevillea lissopleura* (DBCA-P1)
- *Grevillea marriottii* (DBCA-P1)
- *Hibbertia tuberculata* (DBCA-P1)
- *Microcorys elatoides* (DBCA-P1)
- *Microcorys* sp. Mt Holland broad-leaf (DBCA-P1)
- *Rinzia medifila* (DBCA-P1)
- *Daviesia sarissa* ssp. *redacta* (DBCA-P2)
- *Acacia undosa* (DBCA-P3)
- *Hakea pendens* (DBCA-P3)
- *Stylidium sejunctum* (DBCA-P3)

The GPS coordinates of quadrats is provided in Table 2-5 and shown by Figure 2-2.

Table 2-5: Monitoring Quadrats

SITE#	TYPE – PAIR	VEGETATION COMMUNITY	DUST GAUGE (Y/N)	EASTING	NORTHING	LOCALITY	SITING JUSTIFICATION
1	Control – A	W7	N	763363	6443557	Rocky hill located 600 m east of 42orefield access track.	*Hakea pendens* (P3) community.
2	Impact – A	S1	Y	762678	6443570	70 m west of 42orefield access track.	*Hakea pendens* (P3) community (W17 vegetation) in VEZ.
3	Control – B	H1	N	761675	61,885044	located 600 m south of accommodation village.	H1 vegetation unit – most restricted unit in Development Envelope.
4	Impact – B	W9	N	761794	6443696	95 m west of planned access road to accommodation village.	H1 vegetation unit in VEZ.
6	Impact – C	CL	N	761111	6444662	100 m north-west of power substation, and 70 m south of current planned disturbance.	*Microcorys* sp. Mt Holland broad-leaf
7	Control – D	Unknown	Y	760130	6451461	3.7 km north of current EGLP DE, and 530 m south of Jilbadji Nature Reserve.	W13 vegetation containing *Acacia undosa* (P3).
8	Impact – D	W13	Y	760120	6444511	20 m south of planned access road between existing TSF and airstrip. 295 m east on planned entry road to airstrip.	W13 vegetation containing *Acacia undosa* (P3).
9	Impact– E	S3	Y	760476	6446242	15 m from edge of old borrow pit north of old Earl Grey haul road.	*Banksia dolichostyla* (T) community (S3 vegetation) in VEZ. Proximate to TSF, mine pit and operations area (generally).
10	Control – E	S3	Y	761102	6443126	55 m north of main access road south of Mt Holland airstrip.	*Banksia dolichostyla* (T) community (S3 vegetation). Area suitable as control as road access will be closed off and nearest area of disturbance is 800 m to the north (new airstrip) or east (accommodation village).
11	Control – F	W9	Y	761652	6441960	860 m south of accommodation village.	W9 vegetation community.
12	Impact – G	W13	N	761457	6443963	20 m east of planned new airstrip.	W13 vegetation within VEZ
13	Control – H	W5	N	758853	6443230	500 m west of Blue Vein Road	*Banksia dolichostyla* (T) community (S3 vegetation)
14	Impact – F	W9	Y	761826	6443962	12 m from planned access road to accommodation village.	W9 vegetation in VEZ.
15	Control – G	W5	N	760469	61,885964	80 m north of main access road south of Mt Holland airstrip.	Area suitable as control as road access will be closed off and nearest area of disturbance is 950 m to the north (new airstrip), 1.3 km east (accommodation village) and 1.1 km west (Blue Vein Road).
16	Impact – H	W6	Y	755088	6445627	10 m north of main access road from the Forrestania Rd.	*Banksia dolichostyla* (T) community (S3 vegetation) in VEZ. Adjacent to high traffic area.
17	Control – I	Unknown	N	758514	6454004	1.9km to the north of the southern boundary of the Jilbadji Nature Reserve, and 1.7 km west of main north-south track through the Reserve.	Only other known *Acacia lachnocarpa* (P1) community.
18	Impact – I	W4	Y	757942	6444937	10 m south of main access road from the Forrestania Rd.	In W4 vegetation, on opposite side of road from VEZ. South side of road chose due to better *Acacia lachnocarpa* (P1) distribution.
19	Control – J	W11	N	760666	61,885241	190 m east of Blue Vein Road and 10 m north of existing road south of Mt Holland airstrip.	Burnt W11 vegetation community with numerous conservation significant species.
20	Impact – J	W11	N	759552	61,885928	1.2 km east of Blue Vein Road and 630 m south of access road south of Mt Holland airstrip.	Burnt W11 vegetation community with numerous conservation significant species.

Within each sub-quadrat, the following will be recorded:

- All plant species, both native and introduced, present (this will allow for diversity calculations to be made and compared temporally). A specimen of all plant species recorded is to be collected for verification.
- The average height of each species present.
- The percentage foliage cover (dead / alive) of each species.

In addition, a minimum of five (dominant/keystone) species have been tagged, and the following information recorded for each specimen:

- Plant condition score, based on the scales in Table 2-6 and Table 2-7.
- Photographic record (taken from the north side of the quadrat to maintain temporal consistency).
- Reproductive status (vegetative, flowering, fruiting).
- Plant height and width.

A minimum of 20 plants will be individually tagged and scored within each quadrat. Conservation significant flora species have been tagged and where possible, the same species have been tagged in each of the sub-quadrats to provide for sample replication.

The visual assessment of a range of parameters to assist in determining plant condition score, is based on a stem classification system which has been used by Mattiske Consulting Pty Ltd on numerous projects, together with a modification of the method of Souter *et al*. (2010), to provide for visual assessments of a range of other characters. The range of visual characters used to assess plants has been designed to reduce inter-operator error when making assessments in the field.

Plant condition will be primarily measured by determining the extent and density of the foliage on the plant, or the crown cover of a tree (Table 2-7). In addition, a range of attributes will be scored to standardise the visual assessment process. Some of the attributes are positive, in terms of plant condition – signs of reproduction or new foliage growth. Some of the attributes are negative, in terms of plant health – increasing levels of leaf discolouration and death, insect damage. The attributes to be scored are:

- Leaf die-off
- New tip growth
- Reproductive state
- Epicormic growth
- Insect damage

These attributes will be assessed using the scale set out in Table 2-6.

The condition of the vegetation in each quadrat will also be assessed, based on the vegetation condition scale of Trudgen (1988), for assessment of disturbance within the Eremaean and Northern Botanical Provinces. The disturbance scale is set out in Table 2-8.

Baseline plant condition monitoring will consist of two baseline monitoring events conducted prior to commencement of construction and operations in spring and summer. On commencement of the Proposal, plant condition monitoring will be undertaken quarterly for the first 12 months during construction and operations. The data gained over this period will be used to review monitoring and inform the methodology and frequency of future monitoring. Should triggers be exceeded at any point, monitoring intensity shall be reviewed, and potentially increased if required and remain increased until such time as the trigger is no longer exceeded.

The mean condition monitoring scores will be compared across species and sites and appropriate statistical analysis undertaken to determine if there is a statistically significant difference between VEZs and control sites.

Table 2-6: Attributes Scale

SCORE	DESCRIPTION
0	Absent – effect is not present
1	Scarce – effect is not obvious in a cursory examination but is present.
2	Common – effect is clearly visible
3	Abundant – effect dominates the appearance of the shrub / tree

Table 2-7: Plant Condition Scoring

CONDITION	FACTORS
Healthy (score = 4)	• > 90% of foliage present • canopy is intact • if a tree, then no epicormic growth present • none or little indication of leaf discolouration or loss • none to minor evidence of insect damage, no fungal or other pathogen attack
Slightly stressed (score = 3)	• 75% - 90% of foliage present • some minor canopy loss • if a tree, then no epicormic growth • minor evidence of leaf discolouration; potentially some dead leaves on branch tips • minor evidence of insect damage, fungal or other pathogen attack
Stressed (score = 2)	• 50% - 75% of foliage present • moderate canopy loss • if a tree, then none to some epicormic growth evident • evidence of leaf discolouration; evident damage to leaves significant • evidence of insect, fungal or other pathogen attack obvious
Very stressed (score = 1)	• < 50% of foliage present • major canopy loss • if a tree, then epicormic growth likely • leaf discolouration significant; evident damage to leaves significant • evidence of insect, fungal or other pathogen attack obvious
Dead (score = 0)	• plant dead • foliage may present but is brown and desiccated. If a tree then the bark is still attached (DR – dead recent) • foliage is absent, fine twigs still present. If a tree bark may be present (DM – dead moderate) • foliage and file twigs absent. If a tree the bark is also absent (DO- dead old)

Table 2-8: Vegetation Condition Scale (adapted from Trudgen 1988)

VEGETATION CONDITION	DESCRIPTION
Excellent (Ex)	Pristine or nearly so, no obvious signs of damage caused by human activities since European settlement.
Very Good (VG)	Some relatively slight signs of damage caused by human activities since European settlement. For example, some signs of damage to tree trunks caused by repeated fire, the presence of some relatively non-aggressive weeds, or occasional vehicle tracks.
Good (G)	More obvious signs of damage caused by human activity since European settlement, including some obvious impact on the vegetation structure such as that caused by low levels of grazing or slightly aggressive weeds.
Poor (P)	Still retains basic vegetation structure or ability to regenerate it after very obvious impacts of human activities since European settlement, such as grazing, partial clearing, frequent fires or aggressive weeds.
Degraded (D)	Severely impacted by grazing, very frequent fires, clearing or a combination of these activities. Scope for some regeneration but not to a state approaching good condition without intensive management. Usually with a number of weed species present including very aggressive species.
Completely Degraded (CD)	Areas that are completely or almost completely without native species in the structure of their vegetation; i.e. areas that are cleared or 'parkland cleared' with their flora comprising weed or crop species with isolated native trees or shrubs.

2.4.2 Plant Health Monitoring

The use of a plant Pigment Efficiency Analyser (PEA) is an increasingly accepted method of determining plant health and function within the mining, forestry and agricultural industries. The PEA records a score of between 0.0 to 1.0 for Fv/Fm (index of chlorophyll inflorescence) with most plant taxa being considered healthy within a range of 0.7 to 0.8 (Kalaji *et al.* 2014). When plants are experiencing stress, the ratio may decline and potentially represent a reduction in physiological function or healthy function of the plant. To date, it has generally been accepted that a Fv/Fm score of <0.6 in most regions is an indicator a plant is stressed.

Within or adjacent to each of the monitoring quadrats detailed by Section 2.4.1, 25 plants (five from each keystone species) will be selected for testing with a PEA. Given control sites will be monitored, the requirement for monitoring prior to commencement of construction and operations is not considered necessary. As per Section 2.4.1, monitoring will initially be undertaken quarterly following implementation of the proposal for the first 12 months to generate a robust dataset. For each monitoring event, the mean of each species Fv/Fm ratio will be compared between VEZs and control sites and appropriate statistical analysis used to determine if a significant difference is apparent. After the first 24 months the dataset will be reviewed and used to inform future monitoring requirements.

2.4.3 Dust Monitoring

Dust deposition rates will be measured with Dust Deposition Gauges (DDGs) in accordance with AS/NZS 3580.10.1:2003. Data will be recorded monthly, commencing prior to construction or production enabling a baseline level to be established.

Nine DDGs will be installed at the select monitoring quadrats as detailed by Table 2-5 and shown by Figure 2-2. This will enable a comparison of results between VEZs and control sites and assist with determining any proposal related indirect effects.

As detailed previously in Section 1.3.3, it is unknown at what rates (if any) dust deposition may result in a reduction of health of the flora and vegetation within the VEZs. Studies investigating the effect of mining-generated dust on flora and vegetation have identified differing results and interpretations (for example, refer to Matsuki *et al.* 2016; Williams and Yates 2017; Yates & Williams 2005). Factors identified as potentially influencing dust impacts include location (distance), aspect, rainfall and temperature.

Other mining operations have adopted a management target of 10 g/m^2 in the absence of evidence to suggest at what dust loads certain species may become stressed and experience a reduction in health. A management target of 10 g/m^2 has been adopted for this FVMP, however, this will be reviewed based on monitoring of the health and condition of the keystone species and may be reduced or increased after the initial 24 months of monitoring. As detailed by Section 4.1 an early response trigger of 5 g/m^2 has also been adopted.

2.4.4 Census of Conservation Significant Flora

In order to increase understanding as to the degree of the potential for long-term impacts of the Project on conservation significant flora, a census of the highest ranked conservation significant flora will be undertaken in 10 years if a Project-related decline is identified within VEZ monitoring locations. This census will be designed in consultation with an appropriate flora specialist and consistent with monitoring undertaken within this FVMP.

2.4.5 Weed and Dieback Monitoring

Weed and dieback monitoring will be undertaken in conjunction with plant condition monitoring, as outlined in Section 2.4.1 at both VEZs and control sites. This will allow for quarterly monitoring for the first 12 months, with the frequency or monitoring to be reviewed following this period.

Furthermore, annual monitoring across the Development Envelope will be undertaken for the occurrence of new weeds, the spread of existing weeds and evidence of dieback.

A baseline dieback assessment undertaken by Glevan Consulting (2021) of plants and soils within the Development Envelope has identified the parasitic water moulds (dieback) *Phytophthora boodjera*, *Phytophthora arenaria* and *Phytophthora nicotianae* at multiple locations, with the effects resulting in *"sporadic and scattered deaths"*. As outlined by Glevan Consulting (2021), *Phytophthora* arenaria and *Phytophthora boodjera* are thought to be native to WA and appear to be widespread across the drier regions. *Phytophthora nicotianae* is known to be introduced to Australia and also widespread, however is not regarded as an important ecological pathogen for native flora taxa.

As dieback has been recorded within the Development Envelope by the baseline monitoring, a Dieback Management Plan will be produced and provided to DBCA. This plan will include hygiene management controls such as signage, clean down points, vehicle hygiene ('clean on entry' and 'clean on exit' requirements) and the inspection and monitoring of dieback infested areas.

2.4.6 Rehabilitation and Closure

Monitoring of flora and vegetation as outlined in (Sections 2.4.1 and 2.4.2) will be continued during rehabilitation and closure to confirm that rehabilitation and closure activities and outcomes are not contributing to any increased impact to conservation significant flora. Monitoring of conservation significant flora and vegetation within VEZs will continue for a suitable time period after mining has ceased and whilst rehabilitation and closure actions are ongoing.

2.5 Reporting

2.5.1 Key Environmental Outcomes

A summary of all monitoring results against Trigger Criteria and Threshold Criteria will be provided within the annual Compliance Assessment Report. The summary will detail if any Trigger Criteria or Threshold Criteria have been exceeded and the actions taken to prevent a recurrence and/or remediation strategies. Raw monitoring data against management measures such as dust deposition, weeds, fire and climate (such as annual rainfall and temperature) will also be provided for comparison to flora and vegetation health and condition monitoring.

Reporting of exceedances of Threshold Criteria will be undertaken to meet Condition 2-7 of MS 1199. This shall include:

- A report on the exceedance in writing to the CEO of DWER within seven (7) days of the exceedance being identified;
- An investigation to determine the cause of the threshold criteria being exceeded;

- An investigation to provide information to the CEO of DWER to determine potential environmental harm or alteration of the environment that occurred due to threshold criteria being exceeded; and
- A report to the CEO of DWER within twenty-one (21) days of the exceedance being reported as required by Condition 2-7(5) of MS 1199. The report shall include:
    - Details of threshold contingency actions implemented;
    - The effectiveness of the threshold contingency actions implemented, against the threshold criteria;
    - The findings of the investigations required by Condition 2-7(3) and Condition 2-7(4) of MS 1199;
    - Measures to prevent the threshold criteria being exceeded in the future;
    - Measures to prevent, control or abate the environmental harm which may have occurred; and
    - Justification of the threshold remaining, or being adjusted based on better understanding, demonstrating that objectives will continue to be met.

3. Pre-Clearance Surveys

Pre-clearance surveys have been conducted across the Development Area within the area of the Indicative Site Layout. As a result of surveys, additional DBCA-classified 'Priority' flora species were identified and mitigation measures proposed.

Prior to any ground disturbance, pre-clearance surveys will be undertaken as per the methodology detailed in Section 3.1. Any future pre-clearance survey reports will be communicated to CEO DWER and include updated population impacts.

3.1 Methodology, Timing and Limitations

3.1.1 Methodology

Pre-clearance biological surveys have been coordinated by botanists Mattiske Consulting (Mattiske) on behalf of Covalent. Mattiske utilised tablets to display all relevant information, including:

- Proposed layout of mine footprint identified for vegetation clearing within the Development Envelope,
- 10 m spaced transect lines (in a north-south and east-west orientation) across the entire area requiring vegetation clearing, and
- Previously recorded locations of conservation significant flora within the Development Envelope (prevent double counting of previous records).
- Each of the 10 m spaced transect lines were walked and the GPS coordinate of each species of conservation significant species was recorded. Specimens of all known conservation significant taxa and any plant not readily identifiable in the field as non-conservation significant taxa were collected for verification and identification.

3.1.2 Timing

Pre-clearance biological surveys were completed by Mattiske between March 2019 and August 2020 (Mattiske 2019d, 2021c).

3.1.3 Limitations

Two minor constraints were associated with the pre-clearance surveys:

- Due to the large size of the Development Envelope and the intensity of survey coverage, the surveys within the Development Envelope were undertaken over the course of 50 field visits, spread over 4 years.

  Whilst noting the above, based on the review of timing of the flowering periods for the range of potential conservation significant flora, the timing of the surveys has ensured the range of conservation significant flora present would have been detected. The use of a consistent team of botanists to undertake the surveys, some of which have worked in the area for up to four of years, also increases the level of confidence in detecting and recording the conservation significant taxa. Additionally, other botanical consultants engaged by Covalent to undertake botanical survey work have undertaken surveys during the spring period to maximise the opportunity to detect any conservation significant flora.

  It is acknowledged that some of the conservation significant taxa would prove to be difficult to detect outside their flowering period, either because of their insignificant physical size, or because the absence of flowers would make distinguishing non-conservation significant species from conservation significant species from the same genus in the field difficult. This was overcome by targeting areas based on soil type and topography more likely to support the more cryptic species during their principal flowering period, and by ensuring the range of soil and topography types were searched during the principle flowering periods and sampling any representatives of suspected taxa which may prove more difficult to identify conclusively in the field. By undertaking the survey in this manner, the risks associated with not locating conservation significant taxa outside their flowering period was minimised.

- Timing, weather and season as the surveys were undertaken over the autumn, winter and spring months, whereas the EPA guidance recommends surveys in the area to be undertaken

after the main rainfall period (winter). However, the majority of species were identifiable when sterile. For species that are potentially more problematic for identification, as discussed above, the timing of surveys occurred during respective flowering periods.

3.2 Pre-Clearance Survey Results

As a result of the pre-clearance surveys and preceding regional surveys, multiple conservation significant flora were recorded (Figure 1-3 to Figure 1-8), with flora species coinciding with the Indicative Site Layout each described in Appendix A.

3.3 Flora Impact Limits

The initial EPA (2019) assessment noted the impact of the Project to the majority of conservation significant flora were anticipated to be below a 10 % total regional impact level, with the exception of *Microcorys elatoides* (DBCA-P1) and *Acacia undosa* (DBCA-P3). *Banksia dolichostyla* (EPBC-T, BC-T), *Microcorys elatoides* (DBCA-P1) and *Acacia lachnocarpa* (DBCA-P1) were the focus of the EPA (2019) assessment. Based on the EPA (2019) assessment, a 10% impact 'target' to conservation significant species was considered acceptable, with the exception of *Banksia dolichostyla* (EPBC-T, BC-T) and *Microcorys elatoides* (DBCA-P1) for which specific impact limits were specified within the environmental conditions.

The subsequent EPA (2022) assessment adopted a more conservative approach with substantially lower flora impact 'limits' specified for all DBCA-P1 flora (in addition to the previous limits specified for *Banksia dolichostyla* and *Microcorys elatoides*). The revised impact limits were based upon the biological survey data and Covalent's amended Indicative Site Layout.

Due to the proposed 2023 expansion of operations the impacts have been revised based on further survey work and the expansion of disturbance, as a result, the indicative impact applicable to the Project are:

- ≤ 12 individuals of *Banksia dolichostyla* (EPBC-V, BC-V).
- ≤ 41,315 individuals of *Microcorys elatoides* (DBCA-P1).
- ≤ 1,681 individuals of *Thryptomene salina* (DBCA-P1).
- ≤ 3 % of known population of *Microcorys* sp. Mt Holland broad-leaf (DBCA-P1).
- ≤ 5 % of known population of *Labichea rossii* (DBCA-P1).
- ≤ 3 % of known population of *Acacia lachnocarpa* (DBCA-P1).
- ≤ 20 % of known population of *Eutaxia* sp. North Ironcap (DBCA P1).
- ≤ 7 % of known population of any other DBCA-P1 flora taxa.

To ensure the impact limits are met, mitigation measures are proposed, as detailed in Section 3.4. Covalent will not undertake any Project activities which may exceed the above impact limits.

3.4 Mitigation Measures

In the event that pre-clearance surveys identify additional species or individuals, resulting in an increase in population impacts, the resulting mitigation measures follow the below hierarchy:

- Avoidance – Adjust the Indicative Site Layout to avoid direct impacts and minimise indirect impacts to ensure impact targets are not exceeded.
- Surveys – Undertake further surveys within local and regional areas to reduce the potential impact to an acceptable level based on the percentage impact limits.
- Minimise – Minimise indirect impacts to species through implementation of FVMP.
- Research – Commit to research programs with the aim of developing revegetation practices which will result in the re-establishment of the individuals to areas cleared of vegetation.

- Offsets – Apply the significant residual impacts model (Government of WA 2014) to determine the requirement for offsets.

Further detail on the mitigation hierarchy is detailed in Table 3-1.

As per Mitigation Measure 2 (Table 3-1), Covalent has undertaken further biological surveys since initial approval of the Project (refer Table 1-2) in order to increase the recorded number of individuals of flora species impacted by the Project. As a result of these surveys, the residual impact to majority of flora are < 10%. The residual impact to each flora species is detailed in Appendix A.

Table 3-1: Mitigation Hierarchy for Conservation Significant Flora

NO	MITIGATION MEASURE	ACTION	TIMEFRAME
1	Adjust Indicative Site Layout to ensure population impact limits are not exceeded	Investigate alternate layouts whereby the project may still be feasible, but reduces direct and potential indirect impacts.	As required.
		A review of the Indicative Site Layout shall be undertaken to ensure population impact limits (Section 3.3) are not exceeded. If the Indicative Site Layout is amended, revised population impacts will be calculated to ensure impact limits remain met.	Prior to clearing
		Implementation of an internal clearing permit procedure which includes demarcation of clearing area to ensure accurate clearing boundaries	Prior to clearing
2	Undertake further surveys within local and regional areas to reduce the direct impact to an acceptable level against impact limits	Identify areas locally and regionally which may provide habitat for the species	As required.
		Undertake further surveys in accordance with relevant technical guidance (EPA 2016a) and within the appropriate season.	Within 12 months of identifying further survey areas
		Develop and present survey report (including impact assessment against management targets) to CEO DWER and DBCA	Within two months of completing surveys
		CEO DWER and DBCA review and accept report	Within three months of receiving final survey report
3	Minimise indirect impacts through implementation of FVMP	Implement FVMP management measures, including monitoring requirements	Ongoing
4	Develop research programs for species revegetation	In consultation with research institutions, investigate programs to research and develop a greater scientific understanding of species for the purpose of revegetation. Develop proposal and scope for the research program. Potential topics may include: • Habitat modelling and necessary biotic and abiotic factors for establishment and long-term survival • Seed ecology including germination cues • Seedling establishment via the collection and growth of cuttings • Revegetation trials	Within three months of Mitigation Measures 1 to 3 proving to be unfeasible
		Submit research proposal to DBCA for review and acceptance.	Within 1 month of receiving research proposal.
		Implement research proposal and produce report on the outcomes.	Complete within 24 months of receiving DBCA acceptance.
		Submit report to CEO DWER and DBCA on research outcomes for acceptance.	Review and accept within three months of receiving report.
		Implement research program outcomes.	Within one month of accepting the report.
5	Apply the Residual Significant Impact Model (RSIM)	Apply the RSIM as per the WA Environmental Offset Guidelines (Government of WA 2014)	Within three months of Mitigation Measures 1 to 3 proving to be unfeasible
		Liaise with CEO DWER and DBCA on the outcomes of the RISM and further actions required.	Within one month of applying the model.

4. Adaptive Management and EMP Revision

Covalent recognises the dynamic nature of ecosystems and supports adaptive management under this FVMP. Adaptive management involves:

- Implementing mitigation measures.
- Monitoring and evaluation against management targets (including early response triggers) and environmental criteria (including limits, triggers and thresholds).
- Systematically adapting management and mitigation measures and monitoring to meet the environmental objectives.

Any changes to the Project will instigate a review and consideration of management actions. Assumptions and uncertainties will be evaluated against collected monitoring data on a recurrent basis in a process of continual improvement and establishing early response indicators/criteria. Any review and consideration of management actions or additions to this plan made in relation to adaptive management will be submitted to DWER for review. Examples of adaptive management throughout operations include:

- Introduction of a different / alternative monitoring initiative to better understand monitoring of the VEZs.
- The outcome of additional preclearance surveys which significantly change conservation significant flora species population impacts.
- Identification of more effective trigger criteria or early response triggers in light of more comprehensive monitoring information.
- Updated modelling and revision of trigger criteria or early response triggers in a system responding differently to that predicted in original modelling, for example:
    - The < 0.6 index of chlorophyll florescence (CF) is applied for plant health monitoring to indicate any significant decline(s) in plant health and condition as outlined in Table 2-1. The relative CF measure is both species specific and environmentally specific. The applicability and appropriateness of this trigger will be reviewed once baseline data has been collected over two seasons. Should triggers be exceeded at any point, monitoring intensity shall be reviewed, and potentially increased if required and remain increased until such time as the trigger is no longer exceeded.
    - A management target of 10 g/m^2 is set for dust monitoring in the absence of evidence to suggest at what dust loads certain flora species may become stressed and experience a reduction in health. The management target of 10 g/m^2 has been adopted for this FVMP, however, this will be reviewed based on monitoring of the health and condition of the keystone species and may be reduced or increased after the initial 24 months of monitoring.
- Changes to management actions and targets in response to monitoring data.
- Changes in technology.

4.1 Early Response Triggers

Early response triggers have been established for the management-based provisions in Table 2-3, as shown in Table 4-1.

Table 4-1: Early Response Triggers and Actions

MANAGEMENT TARGETS	EARLY RESPONSE TRIGGER	EARLY RESPONSE ACTION	EARLY RESPONSE TRIGGER JUSTIFICATION
Minimisation of dust emissions	• Dust deposition results at a single VEZ site > 5 g/m^2 for two consecutive months.	• Report internally that early response trigger has been met in accordance with internal procedures. • Review dust monitoring program. Determine whether the changes observed in the VEZ are comparable with control monitoring sites. • Review dust mitigation measures • Investigate and determine improvement strategy • Investigate the cause of the exceedance to determine if it is attributable to proposal related activities. Where the trigger is attributed to clearing, construction or operational activities, report the exceedance to DWER within 7 days of the exceedance being identified.	Whilst 10 g/m^2 a month is the adopted management target for dust deposition, adopting an early response trigger limit will identify trends of increasing dust emissions. Also, managing dust deposition to 5 mg/m^2 or less will reduce the risk of dust deposition leading to a decline in plant health or function.

Minimise new weeds introduced to site	• One new weed species sighted during annual monitoring but with limited to negligible coverage.	• Report internally that early response trigger has been met in accordance with internal procedures.
		• Review weed control programme and amend as required.
		• Staff training and awareness to include information on weed species and preventative measures such as vehicle/ weed hygiene procedures.
		• Review weed monitoring program. Trigger response actions may include the following:
		  ○ Review monitoring frequency (quarterly for initial 12 months then annually), adjust accordingly.
		  ○ Adjust timing of monitoring if appropriate, so that infestations of invasive species that establish can be eradicated before the plants can flower and set seed.
		  ○ Review suitability of weed monitoring locations, adjust accordingly.
		  ○ Determine whether the changes observed are comparable with control monitoring sites.
		  ○ If after the two consecutive monitoring events, a threshold exceedance has not been identified, resume standard monitoring.
			The potential for indirect effect on the health of vegetation within the VEZs due to weed impacts is currently unknown as impacts to populations have not been quantified.
			As population monitoring data is gathered, trending will indicate any threats (including weeds) and acceptable population changes.
			In the interim, the early response trigger has been established to identify trends with relation to weeds that could result in a potential indirect impact to flora and vegetation of the VEZ and provide an indication if the management actions detailed in Table 2-3 require review.

Prevent fires attributed to mining and associated activities	• A fire occurrence within the Development Envelope that impacts on native vegetation.	• Report internally that early response trigger has been met in accordance with internal procedures. • Internal audit of fire management plan • Review fire mitigation strategies to limit spread of fire. • Staff training and awareness to include information on the prevention and management of fires. • Investigate the cause of the exceedance to determine if it is attributable to proposal related activities.	The management actions are considered sufficient to prevent fire impacts to the VEZs. However, in the event a fire occurs within the Development Envelope that impacts on native vegetation, this is an indicator that further refinement of the management actions is required.
Impact to 'Threatened' and 'DBCA-P1' flora within specified impact limits	• Pre-clearance surveys data indicates impact approaching the specified impact limit.	• Apply the Mitigation Measures detailed in Section 3.4 • Undertake consultation with CEO DWER and DBCA regarding outcome of mitigation measures. • Project activities which exceed the impact limit will not proceed.	The mitigation measures will be applied to decrease population impacts.

4.2 Benchmarking and Best-Practice

For some environmental factors, environmental outcomes may include compliance with state, national or international standards, guidance or legislation. Covalent will conduct periodic benchmarking against best practice options. Adaptive management in this context may include initiatives to implement improvements in technology and emission control technologies to meet best-practice in the relevant industry, Covalent-driven improvements in operations, and keeping up-to-date with improvements in monitoring methods and standards for implementation.

4.3 EMP Revision

Covalent will amend this FVEMP as required to include any adaptive management updates based on information gathered from monitoring results. These amendments will involve regulatory consultation and be submitted to CEO DWER for review. If Covalent has gathered sufficient information through research and long-term monitoring to propose revisions to management targets, this FVMP may be amended and resubmitted to the CEO DWER for approval in accordance with Condition 2-9(1) of MS 1199.

Furthermore, in accordance with Condition 2-9(2) of MS 1199, Covalent will update this FVMP as and when directed by notice in writing by CEO DWER.

5. Stakeholder Consultation

5.1 Key Stakeholders

Covalent have undertaken extensive consultation with key stakeholders, including:

- State Government
- Commonwealth Government
- Local Government
- Non–government organisations and interest groups.

A list of Covalent's key stakeholders are identified by Table 5-1.

Table 5-1: Key Stakeholders

STAKEHOLDER GROUP	STAKEHOLDER	KEY INTERESTS
State Government	Environmental Protection Authority (EPA)	• Administration of the *Environmental Protection Act 1986* Part IV Environmental Impact Assessment.
	Department of Water and Environmental Regulation (DWER)	• Administration of the *Environmental Protection Act 1986*. • Regulation of the *Environmental Protection Act 1986* Part IV Statement approval conditions.
	Department of Mines, Industry Regulation and Safety (DMIRS)	• Administration of the *Mining Act 1978* (Mining Act) • Tenement conditions • Mining Proposals and Programs of Work • Mining Rehabilitation Fund (MRF) • Closure and rehabilitation • Safety.
	Department of Biodiversity, Conservation and Attractions (DBCA)	• Administration of the *Biodiversity Conservation Act 2016* • Flora, fauna and habitat conservation.
	Department of Planning, Lands and Heritage (DPLH)	• Native title and indigenous requirements • Heritage sites.
	Department of Fire and Emergency Services (DFES)	• Emergency services • Fire breaks • Fire reduction.
	Main Roads WA (MRWA)	• Use of public roads.
	Department of Jobs, Tourism, Science and Innovation (JTSI)	• Assistance to large/complex projects through inter-Governmental assistance to support State economic development and investment.
Commonwealth Government	Department of Climate Change, Energy, the Environment and water (DCCEEW)	• Administration of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) • Referral and assessment of environmental impact assessments of MNES.
Local Government	Shire of Yilgarn and Shire of Kondinin	• Use of public roads and infrastructure.

Non–government organisations and interest groups	Conservation Council of WA Wilderness Society National Malleefowl Recovery Team	• Protection of conservation significant species • Potential interest in baseline flora and fauna survey data.
Traditional Owners - Marlinyu Ghoorlie	Conservation of Aboriginal heritage values.	• Traditional Owners - Marlinyu Ghoorlie

5.2 Stakeholder Engagement Process

Stakeholder engagement with State Government and Local Government commenced in late 2016. Covalent has since developed and implemented a Stakeholder Consultation Strategy for ongoing social engagement and community investment.

Covalent's Stakeholder Consultation Strategy adopts the principles from the Ministerial Council on Mineral and Petroleum Resources (MCMPR 2005) document *Principles for Engagement with Communities and Stakeholders*. This includes:

- open and effective communication:
  - two–way communication
  - clear, accurate and relevant information
  - timeliness
- transparency, requiring a process for communication and feedback.
- collaboration, working cooperatively to seek mutually beneficial outcomes.
- inclusiveness, with the aim of recognising, understanding and involving stakeholders early and throughout the process.
- integrity, with engagement undertaken in a manner that fosters mutual respect and trust.

5.3 Stakeholder Consultation

The outcomes of consultation are recorded in a Stakeholder Consultation Register. Consultation to date has been comprised predominately of meetings and correspondence with a number of State and Commonwealth Government agencies, Local Government, Traditional Owners and non-government organisations and interest groups.

Covalent is committed to ongoing stakeholder identification, communication, engagement and consultation through the planning and approval phase, and through to construction, operational and closure phases of the Project.

5.4 Public Availability of EMP

Covalent will make this EMP publicly available to ensure stakeholders are informed of the management and monitoring actions to protect, avoid and minimise the environmental effects of the Project to flora and vegetation values.

Generally, Covalent will make this EMP publicly available for viewing through publication on its corporate website (www.CovalentLithium.com). Where public availability through Covalent's corporate website is not possible, Covalent will make available a hardcopy of this EMP within 7 days of receiving a written request for a copy (consistent with the requirements of EPA 2012).

6. Definitions

TERM	DEFINITION
Adverse	Impacts likely to change the conservation status or significantly change the local population numbers of a species.
Direct Impact	Impact through direct loss of conservation significant flora and vegetation from vegetation clearing
Indirect Impact	Effects which are considered to potentially reduce the health of flora and vegetation including: • dust, during construction and mining operations • weed infestation during construction and mining operations • Change in fire regimes Individuals within a 50 m buffer of the proposed mine layout, whereby potential indirect impacts may be predominantly more apparent to flora and vegetation. This is based on the DWER Clearing Regulation Fact Sheet 24: Environmentally Sensitive Areas (August 2014), whereby a declared environmentally sensitive area is considered the area covered by vegetation within 50 m of rare flora, to the extent to which the vegetation is continuous with the vegetation in which the rare flora is located.
Plant Condition	Qualitative measure of the condition of single plants based on leaf colour, new growth, foliage cover and general plant vigour.
Plant Health	Quantitative measure of plant physiological function
Rate of Mortality	Individual plant mortalities over a time period
Introduced Flora / Weeds	Flora species that are non-native to the bioregion
Unauthorised Clearing	Clearing of vegetation or individual flora species without an approved internal clearing permit.

7. Acronyms

ABBREVIATION	DESCRIPTION
BC Act	*Biodiversity Conservation Act 2016*
CAR	Compliance Assessment Report
CEO	Chief Executive Officer
DBCA	Department of Biodiversity, Conservation, and Attractions
DCCEEW	Department of Climate Change, Energy and the Environment
DFES	Department of Fire and Emergency Services
DMIRS	Department of Mines, Industry Regulation and Safety
DWER	Department of Water and Environmental Regulation
EMP	Environmental Management Plan
EPA	Environmental Protection Authority
EP Act	*Environmental Protection Act 1986*
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
ESD	Environmental Scoping Document
FVMP	Flora and Vegetation Management Plan
IUCN	International Union of Conservation of Nature
MCMPR	Ministerial Council on Mineral and Petroleum Resources
MNES	Matter of National Environmental Significance
NMRT	National Malleefowl Recovery Team
SQM	Sociedad Química y Minera
TSF	Tailings Storage Facility
VEZ	Vegetation Exclusion Zone

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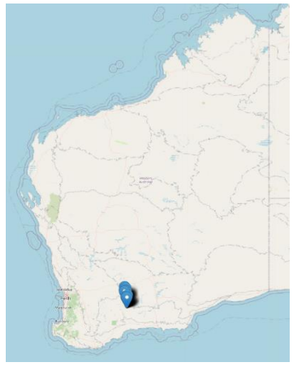
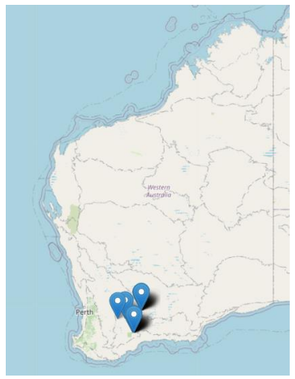
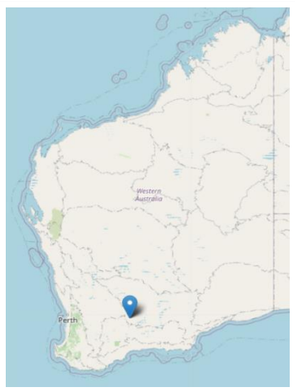
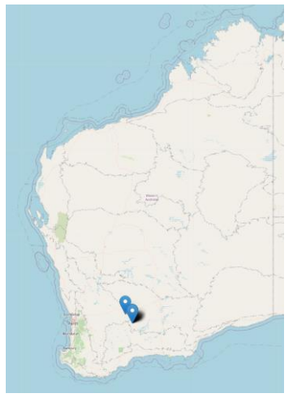
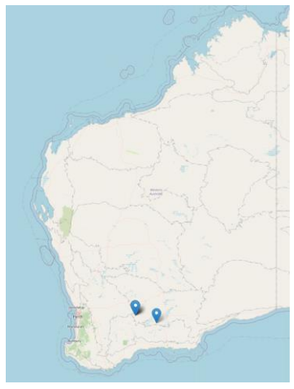
9. Appendices

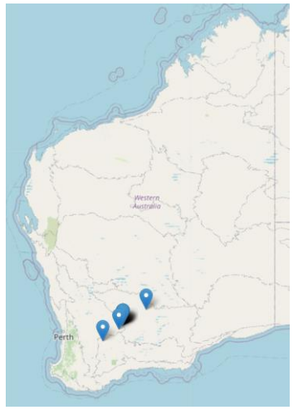
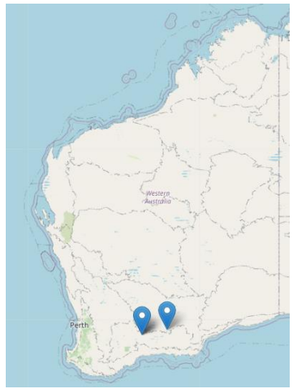
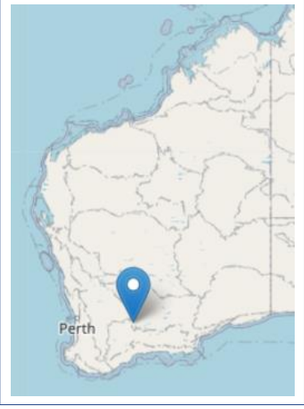
Appendix A Flora Species

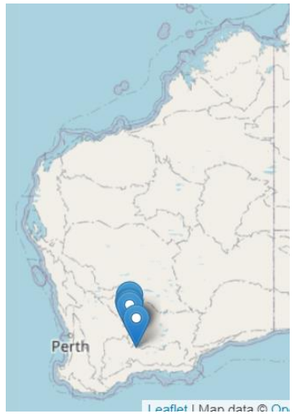
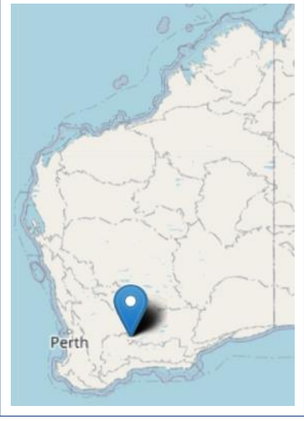
Source: Covalent Lithium (2022), as updated October 2023.

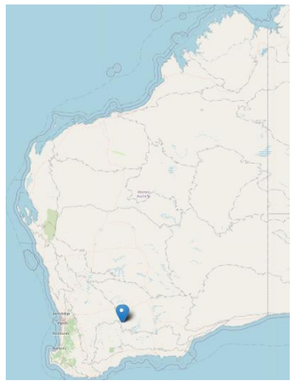
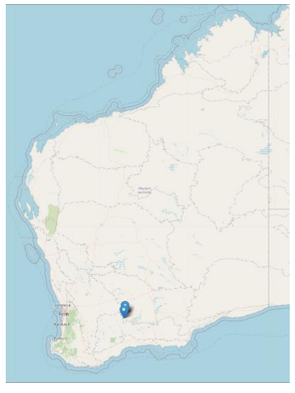
FLORA TAXA (Conservation Status)	IMAGE	DESCRIPTION & HABITAT	DISTRIBUTION MAP (adapted from DBCA 2021a, 2023a)	DISTRIBUTION (DBCA 2023a)	REGIONAL RECORDS (No. of Individuals)	FIELD SURVEY RECORDS (No. of Individuals)			
						SURVEY AREA (6,777 ha)	DEVELOPMENT ENVELOPE (3,996 ha)	PROJECT DISTURBANCE FOOTPRINT (848 ha) (% of Regional Records) [+0–10m, +10–50m]	REVISED PROPOSAL DISTURBANCE FOOTPRINT (2,408 ha) (% of Regional Records) [+0–10m, +10–50m]
Banksia dolichostyla (EPBC-V, BC-V) (previously recorded as *Banksia sphaerocarpa* var. *dolichostyla*)		Description – Dense-canopied shrub or small tree to 4 metres tall with bluish-green and narrowly linear leaves. Flower heads are golden and spherical, and fruiting cones are spherical with often crowded follicles. Habitat – Iron–capped rises on ironstone profiles. It is found in low woodlands to low shrublands with associates which include *Dryandra* and *Allocasuarina* taxa.		*Banksia dolichostyla* has a recorded distribution of approximately 70 km extending from Mt Holland (north) to South Ironcap (south). Recorded locations include the Jilbadji Nature Reserve. IBRA Regions: ○ Coolgardie ○ Mallee	> 26,000	11,928	5,467	0 [1] (<1%) [621, 2,142]	12 [1] (<1%) [623, 2,175]
Eremophila verticillata (EPBC-E, BC-CE) (previously recorded as *Eremophila* sp. aff. *verticillata*)	  Source: Mattiske (2019b)	Description – Low spreading shrub, up to 0.8 m high, to 1 m wide. Fl. Purple-violet, Nov to Dec. Habitat – Clay loam, loam over limestone. Source: DBCA (2021b)		*Eremophila verticillata* has a recorded distribution of approximately 150 km, known from 21 record locations. IBRA Regions: ○ Coolgardie ○ Mallee	> 10,500	1,991	844	0 (0%) [0, 0]	0 (0%) [0, 0]
Acacia sp. Forrestania (DBCA-P1)	  Source: Mattiske unpublished	Description – Not available Habitat – S4 Vegetation Community (*Eucalyptus* sp. Southern Wheatbelt, *Allocasuarina spinosissima*, *Allocasuarina acutivalvis* low open mallee woodland on light orange gravelly clay on upper-mid slopes. Source: Mattiske (2021c)		*Acacia* sp. Forrestania has a recorded distribution of approximately 3 km, known from 2 location records. (Mattiske 2021c) IBRA Regions: ○ Coolgardie	> 7,500	6,742	242	0 (0%) [0, 0]	0 (0%) [0, 0]

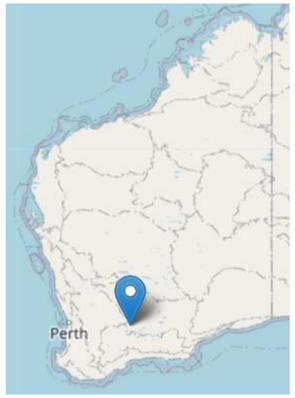
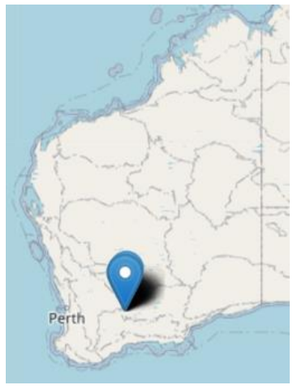
[1] Refer to descriptive text below on *Banksia dolichostyla* on data calculation adjustments for direct effects and potential indirect effects of the Indicative Site Layout applicable to both the Approved Proposal (848 ha) and the Revised Proposal (2,408 ha).

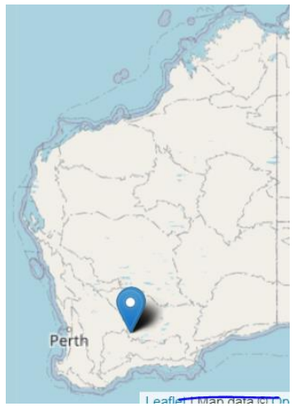
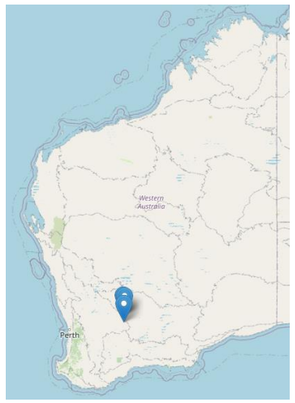
FLORA TAXA (Conservation Status)	IMAGE	DESCRIPTION & HABITAT	DISTRIBUTION MAP (adapted from DBCA 2021a, 2023a)	DISTRIBUTION (DBCA 2023a)	REGIONAL RECORDS (No. of Individuals)	FIELD SURVEY RECORDS (No. of Individuals)			
						SURVEY AREA (6,777 ha)	DEVELOPMENT ENVELOPE (3,996 ha)	PROJECT DISTURBANCE FOOTPRINT (848 ha) (% of Regional Records) [+0–10m, +10–50m]	REVISED PROPOSAL DISTURBANCE FOOTPRINT (2,408 ha) (% of Regional Records) [+0–10m, +10–50m]
Acacia lachnocarpa (DBCA-P1) (previously recorded as *Acacia* sp. Mt Holland)	  Source: Ellery B / Angus D in Mattiske (2019b)	Description – Up to 100cm high 80cm wide. Branchlets terete, densely woolly when young, becoming glabrous, ultimately bare with raised projections from remnant leaf and branchlet bases. Habitat – Orange-brown sandy clay soils with quartz on flats and slopes. Vegetation Communities W4, S2. Source: (Mattiske 2021c)		*Acacia lachnocarpa* has a recorded distribution of approximately 100 km, known from 10 location records. Recorded locations include the Jilbadji Nature Reserve. IBRA Regions: ○ Avon Wheatbelt ○ Coolgardie	> 30,000	19,531	1,803	502 (2%) [251, 822]	996 (3%) [252, 958]
Brachyloma stenolobum (DBCA-P1)	 Source: Hislop & Cranfield (2014) cited in Covalent Lithium (2019)	Description – The only Western Australian species of *Brachyloma*. White flowers and narrowly triangular, adaxially keeled corolla lobes. Habitat – Grows on yellow sandplain as a component of heath. Bare yellow sandy loam flats Source: Mattiske (2021c); Hislop & Cranfield (2014) cited in Covalent Lithium (2019)		*Brachyloma stenolobum* has a recorded distribution of approximately 150km, known from 4 location records. IBRA Regions: ○ Coolgardie	> 6,000	3,156	2,794	1 (<1%) [43, 96]	449 (7%) [59, 143]

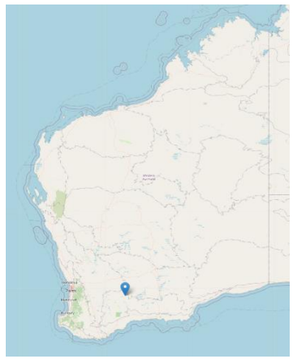
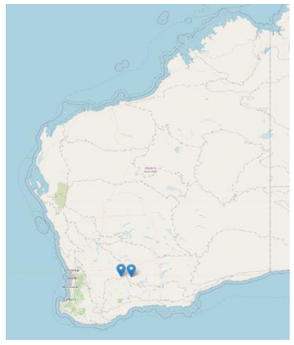
FLORA TAXA (Conservation Status)	IMAGE	DESCRIPTION & HABITAT	DISTRIBUTION MAP (adapted from DBCA 2021a, 2023a)	DISTRIBUTION (DBCA 2023a)	REGIONAL RECORDS (No. of Individuals)	FIELD SURVEY RECORDS (No. of Individuals)			
						SURVEY AREA (6,777 ha)	DEVELOPMENT ENVELOPE (3,996 ha)	PROJECT DISTURBANCE FOOTPRINT (848 ha) (% of Regional Records) [+0–10m, +10–50m]	REVISED PROPOSAL DISTURBANCE FOOTPRINT (2,408 ha) (% of Regional Records) [+0–10m, +10–50m]
Chamelaucium sp. Parker Range (DBCA-P1)	  Source: Western Botanical (unpublished)	Description – Not available Habitat – Sandy lateritic soils. Vegetation Communities W1, W13, S3 Source: Mattiske (2021c)		*Chamelaucium* sp. Parker Range has a recorded distribution of approximately 350 km, known from 12 location records. IBRA Regions: ○ Avon Wheatbelt ○ Coolgardie ○ Mallee	> 33,500	9,071	6,452	2 (<1%) [67, 430]	2,001 (6%) [107, 916]
Cryptandra exserta (DBCA-P1)	Image not available	Description- Shrub up to 0.5m high with narrowly oblong leaves with white tubular flowers Habitat- Sandy soil with lateritic gravel or red sand over clay on gentle mid-slopes and plains		*Cryptandra exserta* has a recorded distribution of approximately 160 km, known from 3 location records (with the Proposal area representing a new (and third) location record). IBRA Regions: ○ Coolgardie ○ Malee	131	9	9	9 (7%) [0, 0]	9 (7%) [0, 0]
Eutaxia sp. North Ironcap (DBCA-P1)	  Source: Mattiske unpublished	Description – Erect spindly shrub (broom-like) Habitat – Red sandy clay. Undulating plains. Vegetation Communities W8, W13 Source: DBCA (2021b), Mattiske (2021c)		*Eutaxia* sp. North Ironcap has a recorded distribution of approximately 20 km, known from 2 location record (1 x DBCA; 1 x DBCA) (Mattiske 2021c) IBRA Regions: ○ Coolgardie	> 11,500	6,345	2,682	3 (<1%) [0, 0]	2,269 (20%) [0, 24]

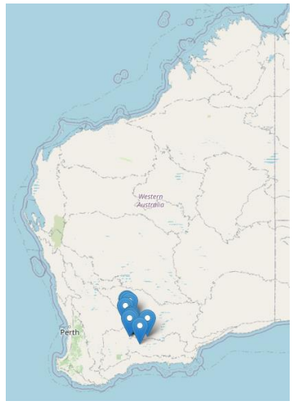
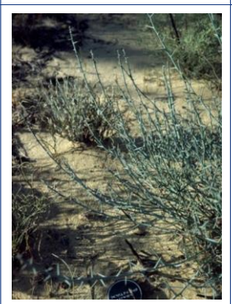
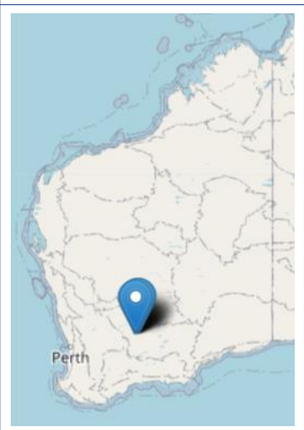
FLORA TAXA (Conservation Status)	IMAGE	DESCRIPTION & HABITAT	DISTRIBUTION MAP (adapted from DBCA 2021a, 2023a)	DISTRIBUTION (DBCA 2023a)	REGIONAL RECORDS (No. of Individuals)	FIELD SURVEY RECORDS (No. of Individuals)			
						SURVEY AREA (6,777 ha)	DEVELOPMENT ENVELOPE (3,996 ha)	PROJECT DISTURBANCE FOOTPRINT (848 ha) (% of Regional Records) [+0–10m, +10–50m]	REVISED PROPOSAL DISTURBANCE FOOTPRINT (2,408 ha) (% of Regional Records) [+0–10m, +10–50m]
Grevillea lissopleura (DBCA-P1)	  Source: Mattiske (2019b)	Description – A 0.5-1.5 m high shrub; branchlets hairy, not glaucous. Leaves alternate, Flowers in August. Habitat – Stony loam on banded ironstone; on ridges Source: Mattiske (2021c).		*Grevillea lissopleura* has a recorded distribution of approximately 140 km, known from 7 location records. Recorded locations include the Jilbadji Nature Reserve. IBRA Regions: ○ Avon Wheatbelt ○ Coolgardie ○ Mallee	> 5.500	3,007	924	0 (0%) [0, 6]	0 (0%) [0, 22]
Grevillea marriottii (DBCA-P1)	  Source: Mattiske (2019b)	Description – *Grevillea marriottii* blooms from July to October and produces a terminal raceme irregular inflorescence with green, white or green flowers. Later it forms ribbed ellispoidal glabrous fruit that is 10 to 14 mm. Habitat – The species is known from Yellow or white sand over laterite. On rises or on tops of lateritic cappings.		*Grevillea marriottii* has a recorded distribution of approximately 10 km, known from 15 location records (9 DBCA; 6 Mattiske) IBRA Regions: ○ Coolgardie	> 21,000	3,293	1,160	35 (<1%) [325, 1,012]	369 (2%) [379, 1,140]

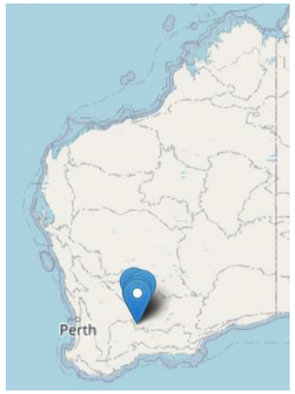
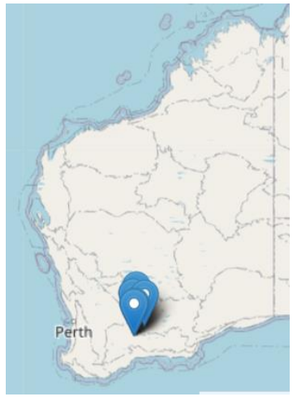
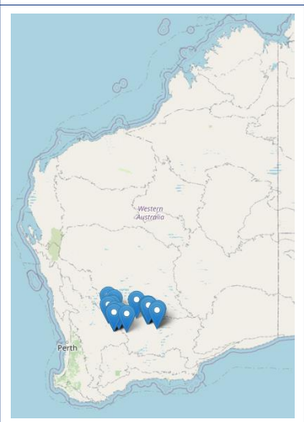
FLORA TAXA (Conservation Status)	IMAGE	DESCRIPTION & HABITAT	DISTRIBUTION MAP (adapted from DBCA 2021a, 2023a)	DISTRIBUTION (DBCA 2023a)	REGIONAL RECORDS (No. of Individuals)	FIELD SURVEY RECORDS (No. of Individuals)			
						SURVEY AREA (6,777 ha)	DEVELOPMENT ENVELOPE (3,996 ha)	PROJECT DISTURBANCE FOOTPRINT (848 ha) (% of Regional Records) [+0–10m, +10–50m]	REVISED PROPOSAL DISTURBANCE FOOTPRINT (2,408 ha) (% of Regional Records) [+0–10m, +10–50m]
Hibbertia hapalophylla (DBCA-P1) (previously recorded as *Hibbertia* sp. Mt Holland)	  Source: Cockerton G cited in Thiele & Hammer (2023)	Description – Erect and sprawling shrub to 0.3 m high with leaves spreading and erect. Yellow flowers, flowering in July and September. Habitat – White siliceous sand over laterite gravel, in mallee shrubland with *Leptospermum*, *Acacia* and *Baeckea* spp. Source: Thiele & Hammer (2023)		*Hibbertia hapalophylla* has a recorded distribution of approximately 15 km around the area of Mt Holland, known from 2 location records. Thiele & Hammer (2023) identify *Hibbertia hapalophylla* is likely to have localised/restricted distribution, however, is probably more widespread than currently known. Thiele & Hammer (2023) further identify the first-collected specimens were from a disturbed mining area. The first collected specimens may therefore indicate a positive rehabilitation potential. IBRA Regions: ○ Coolgardie	> 2,000	23	23	22 (1%) [0, 0]	22 (1%) [0, 0]
Hibbertia tuberculata (DBCA-P1) (previously recorded as *Hibbertia* aff. *oligantha*)	  Source: Mattiske (2019b) / Thompson W in Theile (2019)	Description – Shrub to 0.5 m high, yellow flowers, flowering September to October. Distinguished by combination of sessile flowers with 3–7, narrowly triangular to narrowly ovate bracts, erect stamens with free filaments on one side of the two glabrous carpels, and leaves (2–)3–5 mm long and prominently tuberculate. (Theile 2019) Habitat – Yellow sand, clayey grey sand, red clay, light brown loamy clay. Disturbed ground, utility reserves. Source: DBCA (2021b)		*Hibbertia tuberculata* has a recorded distribution of approximately 25 km, known from 3 location records. IBRA Regions: ○ Coolgardie	> 12,000	11,318	1,087	0 (0%) [0, 128]	0 (0%) [0, 128]

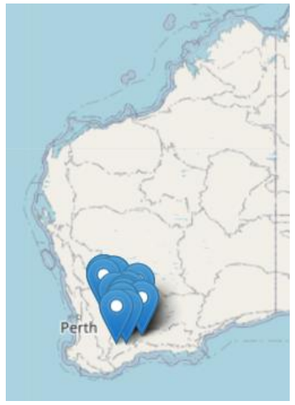
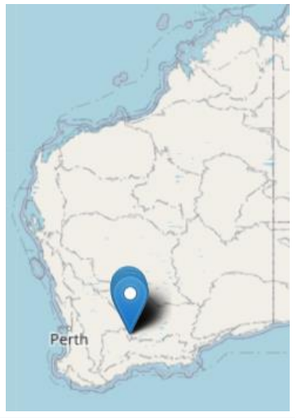
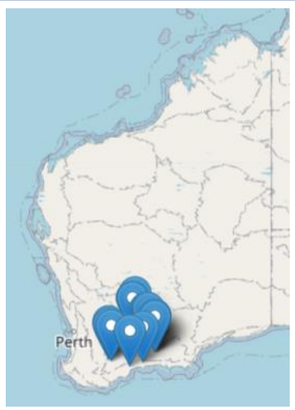
FLORA TAXA (Conservation Status)	IMAGE	DESCRIPTION & HABITAT	DISTRIBUTION MAP (adapted from DBCA 2021a, 2023a)	DISTRIBUTION (DBCA 2023a)	REGIONAL RECORDS (No. of Individuals)	FIELD SURVEY RECORDS (No. of Individuals)			
						SURVEY AREA (6,777 ha)	DEVELOPMENT ENVELOPE (3,996 ha)	PROJECT DISTURBANCE FOOTPRINT (848 ha) (% of Regional Records) [+0–10m, +10–50m]	REVISED PROPOSAL DISTURBANCE FOOTPRINT (2,408 ha) (% of Regional Records) [+0–10m, +10–50m]
Labichea rossii (DBCA-P1)	 Source: Mattiske (2019b)	Description – Flowers in late September and early October. Habitat – Grows out of cracks in the massive outcropping banded ironstone, often in the shade of larger shrubs. Source: DBCA (2021b)		*Labichea rossii* has a recorded distribution of < 1 km, known from 2 location records. IBRA Regions: ○ Coolgardie	> 9,000	8,197	7,779	463 (5%) [148, 613]	464 (5%) [160, 810]
Microcorys elatoides (DBCA-P1) (previously recorded as *Microcorys* sp. Mt Holland)	  Source: Mattiske (2019b)	Description – Dense to open erect, multi-stemmed woody perennial shrub to 120 cm high; leaves terete to sub-terete, without a pungent tip, often arranged in whorls of 3 along the stem. (Covalent Lithium 2019) Habitat – Clayey sands to lateritic clay soils; plains and lateritic slopes. (Covalent Lithium 2019)		*Microcorys elatoides* has a recorded distribution of approximately 10 km, known from 13 location records. Recorded locations include the Jilbadji Nature Reserve. IBRA Regions: ○ Coolgardie	> 244,000	105,703	90,792	7,968 (3%) [1,703, 7,764]	41,315 (17%) [2,112, 11,048]

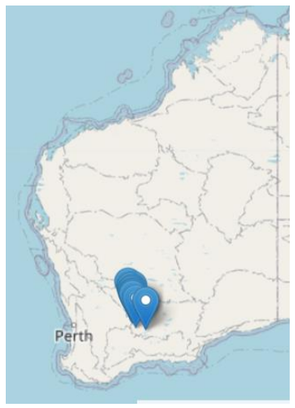
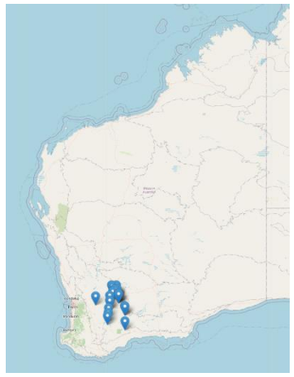
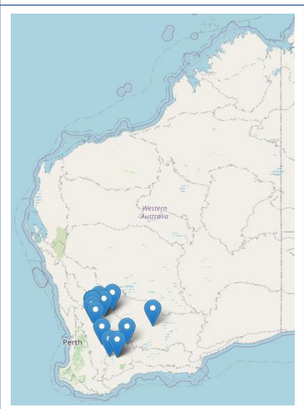
FLORA TAXA (Conservation Status)	IMAGE	DESCRIPTION & HABITAT	DISTRIBUTION MAP (adapted from DBCA 2021a, 2023a)	DISTRIBUTION (DBCA 2023a)	REGIONAL RECORDS (No. of Individuals)	FIELD SURVEY RECORDS (No. of Individuals)			
						SURVEY AREA (6,777 ha)	DEVELOPMENT ENVELOPE (3,996 ha)	PROJECT DISTURBANCE FOOTPRINT (848 ha) (% of Regional Records) [+0–10m, +10–50m]	REVISED PROPOSAL DISTURBANCE FOOTPRINT (2,408 ha) (% of Regional Records) [+0–10m, +10–50m]
Microcorys sp. Mt Holland broad-leaf (DBCA-P1)	 Source: Mattiske unpublished	Description – Dense to open erect, multi-stemmed woody perennial shrub to 120 cm high; leaves terete to sub-terete, without a pungent tip, often arranged in whorls of 3 along the stem. Habitat – Clayey sands to lateritic clay soils; plains and lateritic slopes. Source: DBCA (2021b)		*Microcorys* sp. Mt Holland broad-leaf has a recorded distribution of < 1 km, known from 6location records. Recorded locations include the Jilbadji Nature Reserve. IBRA Regions: ○ Coolgardie	> 42,000	25,657	11,009	642 (2%) [162, 561]	1,432 (3%) [190, 1,591]
Rinzia fimbriolata (DBCA-P1)	Image not available	Description- Shrub 0.4–0.7 m tall, 0.5–1.8 m wide; flowering branchlets with 1–4 pairs of flowers Habitat- Recorded from sandy soil in mallee shrubland or woodland, also with one record from 'clay soil with quartz pieces'. Nuytsia 28:58-60 (2017)		*Rinzia fimbriolata* has a recorded distribution of approximately 100kms, known from 4 location records (with the Proposal area representing a new (and fourth) location record). IBRA Regions: ○ Avon Wheatbelt ○ Coolgardie	34	2	2	0 (0%) [1, 1]	0 (0%) [1, 1]

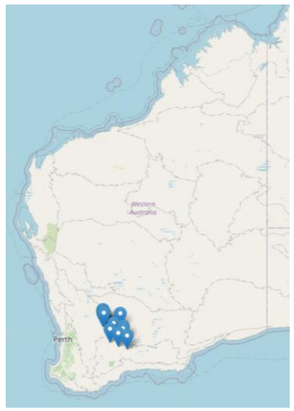
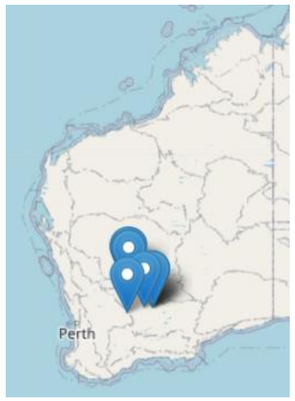
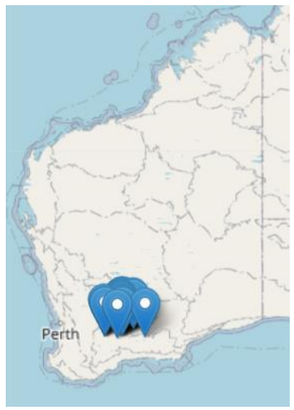
FLORA TAXA (Conservation Status)	IMAGE	DESCRIPTION & HABITAT	DISTRIBUTION MAP (adapted from DBCA 2021a, 2023a)	DISTRIBUTION (DBCA 2023a)	REGIONAL RECORDS (No. of Individuals)	FIELD SURVEY RECORDS (No. of Individuals)			
						SURVEY AREA (6,777 ha)	DEVELOPMENT ENVELOPE (3,996 ha)	PROJECT DISTURBANCE FOOTPRINT (848 ha) (% of Regional Records) [+0–10m, +10–50m]	REVISED PROPOSAL DISTURBANCE FOOTPRINT (2,408 ha) (% of Regional Records) [+0–10m, +10–50m]
Thryptomene salina (DBCA-P1)	  Source: Mattiske (2023xx)	Description – Spreading moderately dense shrub to 1m high and 1.5m wide. Flowers white in early bud and becoming pale pink in late bud, with flowering in October. Habitat – Deep alluvial sand on a flat along a saline creek (original record 1981 near Emu Rock, east of Hyden). Second record in the area of the Proposal on light-brown clayey sand flat. Source: DBCA (2023a); Rye & Trudgen (2001); Mattiske (2023xx).		*Thryptomene salina* has a recorded distribution of approximately 50 km, now known from 2 location records (with the Proposal area representing a new (and second) location record, extending its distribution into the Coolgardie IBRA Region). IBRA Regions: ○ Coolgardie ○ Mallee	> 7,500	2,577	2,361	0 (0%) [0, 0]	1,681 (22%) [0, 80]
Thryptomene sp. Hyden (DBCA-P1)	  Source: Mattiske (2023xx)	Description – Shrub to 1.2 m height, multiple branches from base, with white flowers. Not formally described. Habitat – Yellow sand (recorded within Vegetation Units S2, W5, W6, W13, W16 and W25). Source: Mattiske (2023xx)		*Thryptomene* sp. Hyden has a recorded distribution of approximately 60 km, now known from 2 location records (including the area of the Proposal). IBRA Regions: ○ Avon Wheatbelt ○ Coolgardie	> 464,000	356,651	216,933	256 (<1%) [2,357, 21,872]	67,098 (14%) [5,171, 29,482]

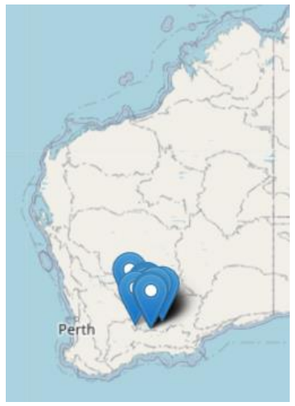
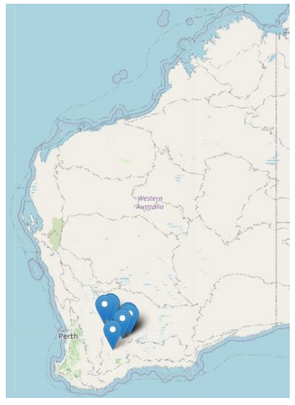
FLORA TAXA (Conservation Status)	IMAGE	DESCRIPTION & HABITAT	DISTRIBUTION MAP (adapted from DBCA 2021a, 2023a)	DISTRIBUTION (DBCA 2023a)	REGIONAL RECORDS (No. of Individuals)	FIELD SURVEY RECORDS (No. of Individuals)			
						SURVEY AREA (6,777 ha)	DEVELOPMENT ENVELOPE (3,996 ha)	PROJECT DISTURBANCE FOOTPRINT (848 ha) (% of Regional Records) [+0–10m, +10–50m]	REVISED PROPOSAL DISTURBANCE FOOTPRINT (2,408 ha) (% of Regional Records) [+0–10m, +10–50m]
Acacia asepala (DBCA-P2)	 Source: Maslin (2018)	Description- Diffuse shrub to 1.5 m high with short, pungent phyllodes. Habitat- Predominates in red-brown sandy loams along drainage lines and on undulating plains. Associated with low *Eucalyptus* woodland. Source: Maslin (2018)		*Acacia asepala* has a recorded distribution of approximately 180 kms, known from > 10 location records. Occurrence records extend from North of Marvel Loch township to South of Lake Hope in Frank Hann National Park. IBRA Regions: ○ Avon Wheatbelt ○ Coolgardie ○ Malee	> 25,000	27	5	0 (0%) [5, 0]	0 (0%) [5, 0]
Balaustion grandibracteatum ssp. *junctura* (DBCA-P2) (previously recorded as *Baeckea* sp. Forrestania)	 Source: B Longbottom / Covalent Lithium	Description – Shrub. Flowers October and November. Habitat – Sandy soils, sometimes with lateritic gravel or granite cobbles, in shrublands commonly dominated by *Acacia*, *Allocasuarina* or *Eucalyptus*. Source: Rye (2022)	Image not available	*Balaustion grandibracteatum ssp. juncturum* has a recorded distribution of approximately 120 km, known from > 25 location records extending from Mt Holland to Forrestania crossroads. Location records include the Jilbadji Nature Reserve. IBRA Regions: ○ Coolgardie ○ Mallee	> 72,000	43,573	38,583	22 (<1%) [255, 7,013]	18,196 (25%) [950, 9,250]
Daviesia sarissa ssp. *redacta* (DBCA-P2)	 (Source: Mattiske 2019b)	Description – Spreading or sprawling, glaucous shrub to 0.6 m high. Flowers yellow and red/brown, with flowering occurs in September. Habitat – Yellow sand. Plains. Source: DBCA (2021b)		*Daviesia sarissa* ssp. *redacta* has a recorded distribution of approximately 20 km, known from 8 location records. IBRA Regions: ○ Coolgardie	> 1,700	1,723	1,206	24 (1%) [112, 518]	25 (1%) [112, 518]

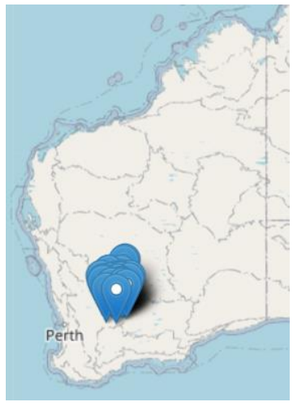
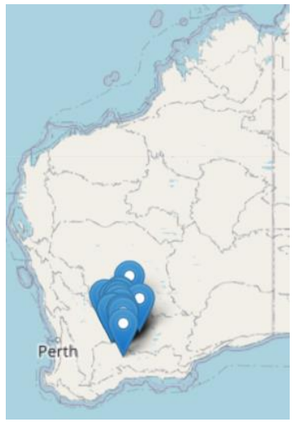
FLORA TAXA (Conservation Status)	IMAGE	DESCRIPTION & HABITAT	DISTRIBUTION MAP (adapted from DBCA 2021a, 2023a)	DISTRIBUTION (DBCA 2023a)	REGIONAL RECORDS (No. of Individuals)	FIELD SURVEY RECORDS (No. of Individuals)			
						SURVEY AREA (6,777 ha)	DEVELOPMENT ENVELOPE (3,996 ha)	PROJECT DISTURBANCE FOOTPRINT (848 ha) (% of Regional Records) [+0–10m, +10–50m]	REVISED PROPOSAL DISTURBANCE FOOTPRINT (2,408 ha) (% of Regional Records) [+0–10m, +10–50m]
Eutaxia lasiocalyx (DBCA-P2)	 Source: Mattiske (2018d) cited in Covalent Lithium 2019)	Description – Low, spreading, multi–stemmed shrub which grows to 15 cm high. It flowers in November with yellow flowers. Habitat – Grows on red sandy loam and laterite and quartz gravel on gentle lower slopes. Source: DBCA (2021b)		*Eutaxia lasiocalyx* has a recorded distribution of approximately 70 km, known from 12 location records (5 DBCA) IBRA Regions: ○ Avon Wheatbelt ○ Coolgardie	> 185,000	43,308	31,246	8,810 (5%) [1,037, 2,691]	12,258 (7%) [861, 2,229]
Orianthera exilis (DBCA-P2)	 Source: Mattiske (2018d) cited in Covalent Lithium (2019)	Description – Low shrub, branches 1.1-1.5mm diameter. Stipule 0.3mm long. Habitat – Brown loam over laterite, Band ironstone (unconfirmed) (Mattiske 2021c)		*Orianthera exilis* has a recorded distribution of approximately 100 km, known from 10 location records (9 DBCA). IBRA Regions: ○ Coolgardie ○ Mallee	328	1	1	0 (0%) [0, 1]	0 (0%) [0, 1]
Acacia crenulata (DBCA-P3)	 Source: Cowan & Maslin (2018)	Description – Bushy shrub to 3m tall, with ribbed, resinous branchlets. Habitat – Grows mostly on rocky outcrops and heavy soils. Largely affiliated with Eucalyptus wandoo low woodland with *Melaleuca uncinata* and *Allocasuarina campestris*. Source: Cowan & Maslin (2018)		*Acacia crenulata* has a recorded distribution of approximately 300 km, known from > 15 location records. Records extend from North-East of Mukinbudin to South-East of Coolgardie. IBRA Regions: ○ Avon Wheatbelt ○ Coolgardie	> 3,000	85	85	0 (0%) [108, 86]	0 (0%) [108, 86]

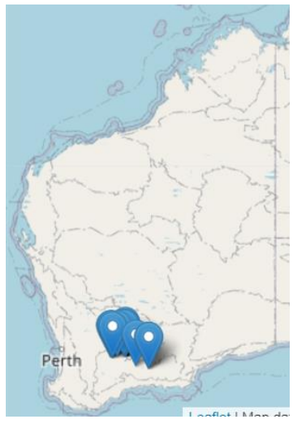
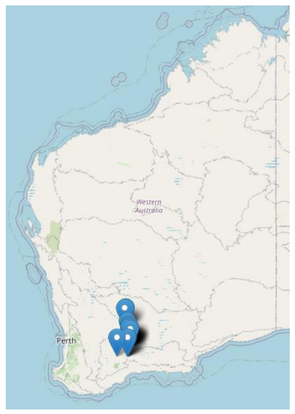
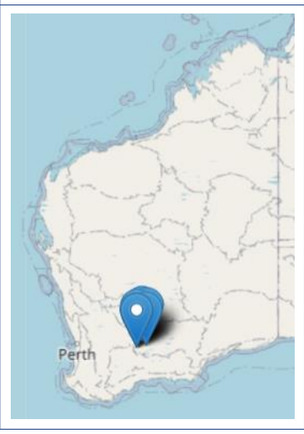
FLORA TAXA (Conservation Status)	IMAGE	DESCRIPTION & HABITAT	DISTRIBUTION MAP (adapted from DBCA 2021a, 2023a)	DISTRIBUTION (DBCA 2023a)	REGIONAL RECORDS (No. of Individuals)	FIELD SURVEY RECORDS (No. of Individuals)			
						SURVEY AREA (6,777 ha)	DEVELOPMENT ENVELOPE (3,996 ha)	PROJECT DISTURBANCE FOOTPRINT (848 ha) (% of Regional Records) [+0–10m, +10–50m]	REVISED PROPOSAL DISTURBANCE FOOTPRINT (2,408 ha) (% of Regional Records) [+0–10m, +10–50m]
Acacia undosa (DBCA-P3)	 Source: Royal Botanic Gardens, Kew powo.science.kew.org/	Description – Dense, spreading shrub 30 cm to 1.5 m tall. It flowers yellow from July to September. Habitat – Sandy clay loam, clayey sand. Undulating plains, low-lying area. Source: DBCA (2021b)		*Acacia undosa* has a recorded distribution of approximately 280 km, known from 26 location records (24 DBCA). Recorded locations include the Jilbadji Nature Reserve. IBRA Regions: ○ Avon Wheatbelt ○ Coolgardie	> 164,500	63,497	29,884	12,707 (8%) [1,216, 3,488]	16,318 (10%) [829, 3,269]
Boronia ternata var. *promiscua* (DBCA-P3)	 Source: Mattiske unpublished	Description – Spreading shrub to 1 m high. Flowers in June or September to October. Habitat – Yellow sandy clay, laterite. Source: DBCA (2021b)		*Boronia ternata* var. *promiscua* has a recorded distribution of approximately 50 km, known from 8 location records. Recorded locations include the Jilbadji Nature Reserve. IBRA Regions: ○ Avon Wheatbelt ○ Coolgardie	> 49,000	7,840	5,980	15 (<1%) [3, 17]	3,566 (7%) [117, 544]
Chorizema circinale (DBCA-P3)	 Source: DBCA in Mattiske (2019b)	Description – Prostrate, scrambling, wiry shrub, to 0.4 m high. Fl. Yellow & orange & red, Sep to Dec. Habitat – Yellow sand, sandy clay with gravel. Flats, margin of gravel pit. Source: DBCA (2021b)		*Chorizema circinale* has a recorded distribution of approximately 280 km, known from 17 location records (15 DBCA). IBRA Regions: ○ Coolgardie ○ Esperance Plains ○ Mallee	> 2,500	438	320	70 (3%) [99, 265]	84 (3%) [99, 287]

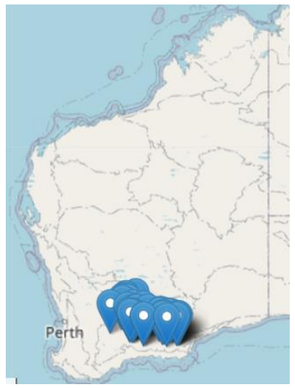
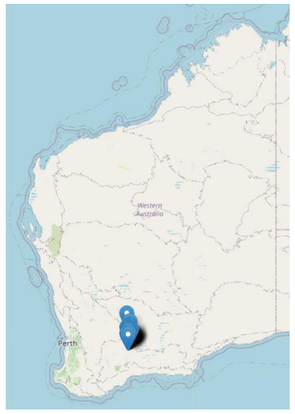
FLORA TAXA (Conservation Status)	IMAGE	DESCRIPTION & HABITAT	DISTRIBUTION MAP (adapted from DBCA 2021a, 2023a)	DISTRIBUTION (DBCA 2023a)	REGIONAL RECORDS (No. of Individuals)	FIELD SURVEY RECORDS (No. of Individuals)			
						SURVEY AREA (6,777 ha)	DEVELOPMENT ENVELOPE (3,996 ha)	PROJECT DISTURBANCE FOOTPRINT (848 ha) (% of Regional Records) [+0–10m, +10–50m]	REVISED PROPOSAL DISTURBANCE FOOTPRINT (2,408 ha) (% of Regional Records) [+0–10m, +10–50m]
Hakea pendens (DBCA-P3)	 Source: ?Insert?	Description – Shrub that grows between 2 to 3m high, and 2.5 to 3.1m wide. It produces pink-white flowers in September. Habitat – Grows in stony loam and is found on ironstone ridges. Source: DBCA (2021b)		*Hakea pendens* has a recorded distribution of approximately 160 km, known from 74 location records. Recorded locations include the Jilbadji Nature Reserve. IBRA Regions: ○ Avon Wheatbelt ○ Coolgardie	> 10,000	1,976	1,952	0 (0%) [0, 44]	811 (8%) [0, 44]
Hibbertia glabriuscula (DBCA-P3)	 Source: Mattiske (2021d)	Description – Small erect spindly shrub to 0.5 m high with yellow flowers. Flowering in September. Habitat – Originally recorded on yellow sand in heath or shrubland. Now known to occur more broadly in sandplain with some laterite breakaways. Source: Wheeler (1994); DBCA (2023a);		*Hibbertia glabriuscula* has a recorded distribution of approximately 240 km extending from Merredin (north) to Dunn Rock (south) and to Quairading (west), known from > 20 locations. The area of the Proposal represents a new location and the most eastern record of this taxon. IBRA Regions: ○ Avon Wheatbelt ○ Coolgardie ○ Mallee	>1,500	105	105	0 (0%) [0, 0]	0 (0%) [0, 0]
Phebalium drummondii (DBCA-P3)	 Source: Patrick S J in DBCA (2023a)	Description- Upright shrub growing to 1.5 m tall. Flowering in July to September with small yellow flowers. Habitat- Recorded on gravelly, sandy or clayey soils along roadsides and flats. Source: DBCA (2023a);		*Phebalium drummondii* has a recorded distribution of approximately 360 km, known from 15 location records. Recorded locations span from the surrounds of Koorda to Lake Grace. The area of the Proposal represents a new location for this taxon. IBRA Regions: ○ Avon Wheatbelt ○ Coolgardie ○ Malee	> 5,000	133	1	1 (<1%) [0, 1]	1 (<1%) [0, 1]

FLORA TAXA (Conservation Status)	IMAGE	DESCRIPTION & HABITAT	DISTRIBUTION MAP (adapted from DBCA 2021a, 2023a)	DISTRIBUTION (DBCA 2023a)	REGIONAL RECORDS (No. of Individuals)	FIELD SURVEY RECORDS (No. of Individuals)			
						SURVEY AREA (6,777 ha)	DEVELOPMENT ENVELOPE (3,996 ha)	PROJECT DISTURBANCE FOOTPRINT (848 ha) (% of Regional Records) [+0–10m, +10–50m]	REVISED PROPOSAL DISTURBANCE FOOTPRINT (2,408 ha) (% of Regional Records) [+0–10m, +10–50m]
Rinzia torquata (DBCA-P3)	Image not available	Description – Insert text. Habitat – Insert text. Source: Insert source For research see: Nuytsia 28:66-67		*Rinzia torquata* has a recorded distribution of approximately 200 km, known from > 15 location records. IBRA Regions: ○ Avon Wheatbelt ○ Coolgardie ○ Mallee	> 6,000	4,296	176	5 (<1%) [450, 4,284]	5 (<1%) [450, 4,284]
Rinzia triplex (DBCA-P3)	Image not available	Description – Shrub to 1.5 m tall and 1.2 m wide, Petals bright pink at first, becoming paler with age. Distinguished by having 5–11 staminodes. Flowering late June to September. Habitat – Sandy plains in yellow to red, often gravelly or lateritic soils which may contain banded ironstone, dominated by *Acacia*, *Eucalyptus* or *Allocasuarina*, often with *Baeckea elderiana* present. Source: Rye (2017)		*Rinzia triplex* has a recorded distribution of approximately 300 km, known from 32 location records (13 DBCA). IBRA Regions: ○ Avon Wheatbelt ○ Coolgardie ○ Murchison	> 15,000	5,211	5,408	25 (<1%) [188, 118]	25 (<1%) [188, 118]
Stylidium sejunctum (DBCA-P3)	 Source: Botanica (2018)	Description – Caespitose perennial, herb 0.25-0.45 m high. Flowers white/pink-purple, with flowering in September to November. Habitat – Clayey sand or loam, laterite. Outcrops, upper slopes, breakaways. Mallee and *Allocasuarina* shrubland. Source: DBCA (2021b)		*Stylidium sejunctum* has a recorded distribution of approximately 250 km, known from 65 location records (34 DBCA). IBRA Regions: ○ Coolgardie ○ Mallee	> 9,500	1,247	590	218 (2%) [32, 102]	218 (2%) [32, 103]

FLORA TAXA (Conservation Status)	IMAGE	DESCRIPTION & HABITAT	DISTRIBUTION MAP (adapted from DBCA 2021a, 2023a)	DISTRIBUTION (DBCA 2023a)	REGIONAL RECORDS (No. of Individuals)	FIELD SURVEY RECORDS (No. of Individuals)			
						SURVEY AREA (6,777 ha)	DEVELOPMENT ENVELOPE (3,996 ha)	PROJECT DISTURBANCE FOOTPRINT (848 ha) (% of Regional Records) [+0–10m, +10–50m]	REVISED PROPOSAL DISTURBANCE FOOTPRINT (2,408 ha) (% of Regional Records) [+0–10m, +10–50m]
Teucrium diabolicum (DBCA-P3) (previously recorded as *Teucrium* sp. Dwarf)	  Source: Wedge & Davis (2020)	Description – A compact, dwarf shrub, 0.2 m high, 0.1 m wide, suckering from a thick woody rootstock, with white flowers. Flowering recorded in Autumn (March to early May) and spring (late October to mid-November) Habitat – Red cracking clay or clay loam, usually in shallow depressions or on low undulating plains that support low scrub or heath, or in association with low open woodland (e.g. with *Eucalyptus tenuis*). Source: Wedge & Davis (2020)		*Teucrium diabolicum* has a recorded distribution of approximately 240 km, known from 18 location records (15 DBCA). IBRA Regions: ○ Coolgardie	> 68,000	24,049	11,561	485 (1%) [88, 34]	504 (1%) [88, 34]
Verticordia gracilis (DBCA-P3)	  Source: George E A in DBCA (2023a)	Description – Low, slender shrub up to 0.6m high. Pink flowers present from October to November. Habitat – Grows in yellow sands, gravelly sand and sandy loam. Source: DBCA (2023a)		*Verticordia gracilis* has a recorded distribution of approximately 160 km, known from 9 location records. IBRA Regions: ○ Avon Wheatbelt ○ Coolgardie ○ Mallee	> 33,000	13,249	969	14 (<1%) [616, 9,126]	496 (1%) [616, 9,174]

FLORA TAXA (Conservation Status)	IMAGE	DESCRIPTION & HABITAT	DISTRIBUTION MAP (adapted from DBCA 2021a, 2023a)	DISTRIBUTION (DBCA 2023a)	REGIONAL RECORDS (No. of Individuals)	FIELD SURVEY RECORDS (No. of Individuals)			
						SURVEY AREA (6,777 ha)	DEVELOPMENT ENVELOPE (3,996 ha)	PROJECT DISTURBANCE FOOTPRINT (848 ha) (% of Regional Records) [+0–10m, +10–50m]	REVISED PROPOSAL DISTURBANCE FOOTPRINT (2,408 ha) (% of Regional Records) [+0–10m, +10–50m]
Verticordia mitodes (DBCA-P3)	  Source: E A George in DBCA (2021a)	Description – Spreading shrub to 0.7 m high. Flowers pink-purple, flowering October to December/January. Habitat – Yellow sand. Undulating plains. Source: DBCA (2021b)		*Verticordia mitodes* has a recorded distribution of > 200 km, known from 30 location records (24 DBCA). IBRA Regions: ○ Avon Wheatbelt ○ Coolgardie	>2,500	45	45	0 (0%) [1, 2]	0 (0%) [1, 2]
Verticordia stenopetala (DBCA-P3)	 Source: E A Bembt in DBCA (2021b)	Description – Shrub to 0.6 m high, producing pink-purple-red flowers between October and January. Habitat – Recorded growing on yellow sands on undulating plains. Source: DBCA (2021b)		*Verticordia stenopetala* has a recorded distribution of approximately 280 km, known from 31 location records. Recorded locations include the Jilbadji Nature Reserve. IBRA Regions: ○ Avon Wheatbelt ○ Coolgardie ○ Mallee	> 48,000	11,288	3,435	59 (<1%) [930, 6,497]	1,361 (3%) [961, 6,693]

FLORA TAXA (Conservation Status)	IMAGE	DESCRIPTION & HABITAT	DISTRIBUTION MAP (adapted from DBCA 2021a, 2023a)	DISTRIBUTION (DBCA 2023a)	REGIONAL RECORDS (No. of Individuals)	FIELD SURVEY RECORDS (No. of Individuals)			
						SURVEY AREA (6,777 ha)	DEVELOPMENT ENVELOPE (3,996 ha)	PROJECT DISTURBANCE FOOTPRINT (848 ha) (% of Regional Records) [+0–10m, +10–50m]	REVISED PROPOSAL DISTURBANCE FOOTPRINT (2,408 ha) (% of Regional Records) [+0–10m, +10–50m]
Eremophila biserrata (DBCA-P4)	  Source: L&M Greeve and B Buirchell in DBCA (2021b)	Description – Prostrate shrub to 3 m wide. Flowers green to yellow-green, with flowering September to November or March. Habitat – Sandy or sandy clay soils. Alluvial flats, salt flats & lakes. Source: DBCA (2021b)		*Eremophila biserrate* has a recorded distribution of > 200 km, known from 31 location records. IBRA Regions: ○ Coolgardie ○ Mallee	> 500	3	3	3 (1%) [0, 0]	3 (1%) [0, 0]
Eremophila inflata (DBCA-P4)	 Source: Griesser H in Australian Native Plant Society (2023)	Description – Previously referred to as *Calamphoreus inflatus*. *Eremophila inflata* is an erect shrub growing to height of 1.5m and width of 2m. Pink to mauve, short tubular flowers present from December to February. Habitat – Brown to yellow sandy loam, brown clay. Known to colonise disturbed sites. Source: Australian Native Plant Society (2023); Mattiske (2023b)		*Eremophila inflata* has a recorded distribution of approximately 200 km, known from > 20 location records. IBRA Regions: ○ Coolgardie ○ Mallee	> 1,500	286	275	0 (0%) [0, 0]	10 (<1%) [2, 6]
Grevillea neodissecta (DBCA-P4)	 Source: Mattiske unpublished	Description – Shrub to 1 m high. Flowers in January, February, September, October, November or December. Habitat – Vegetation Communities W8, W11 Source: DBCA (2021b), Mattiske (2021c)		*Grevillea neodissecta* has a recorded distribution of approximately 70 km, known from 8 location records. Recorded locations include the Jilbadji Nature Reserve. IBRA Regions: ○ Coolgardie	> 11,000	2,196	2,182	3 (<1%) [21, 13]	263 (2%) [29, 32]

FLORA TAXA (Conservation Status)	IMAGE	DESCRIPTION & HABITAT	DISTRIBUTION MAP (adapted from DBCA 2021a, 2023a)	DISTRIBUTION (DBCA 2023a)	REGIONAL RECORDS (No. of Individuals)	FIELD SURVEY RECORDS (No. of Individuals)			
						SURVEY AREA (6,777 ha)	DEVELOPMENT ENVELOPE (3,996 ha)	PROJECT DISTURBANCE FOOTPRINT (848 ha) (% of Regional Records) [+0–10m, +10–50m]	REVISED PROPOSAL DISTURBANCE FOOTPRINT (2,408 ha) (% of Regional Records) [+0–10m, +10–50m]
Gyrostemon ditrigynus (DBCA-P4)	  Source: Esperance Wildflowers (2011)	Description – Shrub to 1.5 m high. Habitat – Recorded exclusively growing on cleared land, principally being drill pads Typically grows on sand, sandy clay, loam. Plains, low ironstone ridges. Source: Mattiske (2021c), DBCA (2021b)		*Gyrostemon ditrigynus* has a recorded distribution of > 400 km, known from 33 location records. IBRA Regions: ○ Coolgardie ○ Mallee	> 54,500	28	28	3 (<1%) [10, 114]	13 (<1%) [0, 114]
Microcorys sp. Forrestania (DBCA-P4)	  Source: Mattiske (2023)	Description – Either prostrate or erect growth form up to 0.4m high. White to Purple flowers present in January or April. Habitat – Yellow sandy clay or red-brown clay soil types. Occurs in open woodland and cleared disturbance areas. Source: DBCA (2023a)		*Microcorys* sp. Forrestania has a recorded distribution of approximately 130 km, known from > 30 location records. Recorded locations include the Jilbadji Nature Reserve. IBRA Regions: ○ Coolgardie ○ Mallee	> 215,000	87,150	84,411	0 (0%) [0, 0]	51,560 (24%) [1,026, 5,939]