Report and recommendations of the Environmental Protection Authority

Earl Grey Lithium Project

Covalent Lithium Pty Ltd

Report 1651

October 2019

Environmental impact assessment process timelines

Date	Progress stages	Time (weeks)
14/07/2017	EPA decides to assess – level of assessment set	
21/12/2017	EPA approved Environmental Scoping Document	19
31/01/2019	EPA accepted Environmental Review Document	62
11/02/2019	Environmental Review Document released for public review	2
11/03/2019	Public review period for Environmental Review Document closed	4
28/08/2019	EPA accepted Proponent Response to Submissions	24
19/09/2019	EPA board considered assessment	3
09/10/19	EPA provided report to the Minister for Environment	3
14/10/19	EPA report published	3 days
28/10/19	Close of appeals period	2

Timelines for an assessment may vary according to the complexity of the proposal and are usually agreed with the proponent soon after the Environmental Protection Authority (EPA) decides to assess the proposal and records the level of assessment.

In this case, the EPA met its timeline objective to complete its assessment and provide a report to the Minister.

Dr Tom Hatton
Chairman

7 October 2019

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Summary

The Earl Grey Lithium Project (the proposal) was referred to the Environmental Protection Authority (EPA) by Kidman Resources Limited (the original proponent) in May 2017. Following a change of proponent Covalent Lithium Pty Ltd is now the current proponent. The proposal is to develop a pegmatite-hosted lithium deposit at the abandoned Mt Holland mine site, located approximately 105 kilometres south-southeast of Southern Cross, in the Shire of Yilgarn.

The EPA assessed the proposal at the level of Public Environmental Review with a four-week public review period. In the course of the assessment, the EPA examined potential impacts on the key environmental factors of Flora and Vegetation and Terrestrial Fauna and has concluded that the proposal is environmentally acceptable and can be implemented subject to conditions.

The EPA has recommended conditions (Appendix 4) which include the development of environmental management plans and exclusion zones for the protection of conservation significant flora and fauna, and offsets to counterbalance the significant residual impact to flora species *Banksia sphaerocarpa* var. *dolichostyla*, *Microcorys* sp. Mt Holland (Priority 1) and fauna species chuditch and malleefowl.

Contents

Tables

Figures

1. Introduction

This report provides the advice and recommendations of the Environmental Protection Authority (EPA) to the Minister for Environment on the outcomes of the EPA's environmental impact assessment of the proposal by Covalent Lithium Pty Ltd. The proposal is to develop a pegmatite-hosted lithium deposit at the abandoned Mt Holland mine site, located approximately 105 kilometres (km) south-southeast of Southern Cross, in the Shire of Yilgarn (Figure 1).

The EPA has prepared this report in accordance with s. 44 of the *Environmental Protection Act 1986* (EP Act). This section of the EP Act requires the EPA to prepare a report on the outcome of its assessment of a proposal and provide this assessment report to the Minister for Environment. The report must set out:

- what the EPA considers to be the key environmental factors identified during the assessment
- the EPA's recommendations as to whether or not the proposal may be implemented and, if the EPA recommends that implementation be allowed, the conditions and procedures to which implementation should be subject.

The EPA may also include any other information, advice and recommendations in the assessment report as it thinks fit.

The proponent referred the proposal to the EPA on 19 May 2017. On 14 July 2017, the EPA decided to assess the proposal and set the level of assessment at Public Environmental Review with a four-week public review period. The EPA approved the Environmental Scoping Document for the proposal on 21 December 2017. The Environmental Review Document (ERD) was released for public review from 11 February 2019 to 11 March 2019.

1.1 EPA procedures

The EPA followed the procedures in the *Environmental Impact Assessment (Part IV Divisions 1 and 2) Administrative Procedures 2016* (EPA 2016a) and the *Environmental Impact Assessment (Part IV Divisions 1 and 2) Procedures Manual 2016* (EPA 2016b).

1.2 Assessment on behalf of Commonwealth

The proposal was determined to be a controlled action by a delegate of the Commonwealth Minister for the Environment under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) on 17 July 2017 as it will, or is likely to have, a significant impact on the following Matters of National Environmental Significance:

- listed threatened species and communities (sections 18 and 18A).

The proposal was assessed as an accredited assessment between the Commonwealth and Western Australian Governments.

2. The proposal

2.1 Proposal summary

The proponent, Covalent Lithium Pty Ltd (Covalent), proposes to develop a pegmatite-hosted lithium deposit at the abandoned Mt Holland mine site, located approximately 105 km south-southeast of Southern Cross (Figure 1).

The development envelope is 1,984 hectares (ha). The project footprint is 667 ha, which includes 281 ha of existing disturbed land, and 386 ha of native vegetation (Figure 2).

Key elements of the proposal include:

- mining of the Earl Grey lithium deposit using conventional open cut drill and blast methods
- processing of lithium ore at a rate between three to five million tonnes per annum (Mtpa)
- production of a lithium concentrate that would be stored in a concentrate shed prior to transportation by road and/or road and rail to an existing Western Australian export facility or to a future local refinery
- production of two waste streams: 1) gravel sized course tailings that would be disposed of in the waste rock dump as well as being used for construction purposes, and 2) finer grained dry tailings that would be dry stacked within the integrated waste landform
- disposal of un-mineralised waste rock to the waste rock dump and/or backfilled into the pit
- associated mine infrastructure, including: processing plant, accommodation village, wastewater treatment plant, landfill, water storage, stockpiles, magazine, coreyard, workshops, pipelines, powerlines, administration facilities, airstrip, roads and other miscellaneous infrastructure.

The proposal would require up to 1.5 gigalitres per annum of water for processing, accommodation, and dust suppression. Water would be sourced from pit dewatering, abstraction from the Bounty pit and the existing southern borefield (located approximately 8 km southeast of the accommodation village).

The pit would be developed in multiple stages over 40 years. It is expected that up to 100 million tonnes of ore would be mined over the life of mine.

The pit is expected to be approximately 1800 metres (m) long by 950 m wide at the completion of mining activities. Based on the current design, a pit lake would form with a maximum pit floor depth of 185 m below ground level in the south, and 300 m below ground level in the north. If backfilling activities are undertaken, it is expected to result in a raised landform that covers up to 50 percent of the pit footprint. The remainder of the pit is expected to remain open.

The key characteristics of the proposal are summarised in Tables 1 and 2 below. A detailed description of the proposal is provided in section 2 of the ERD (Covalent 2019a).

Table 1: Summary of the proposal

Proposal title	Earl Grey Lithium Project
Short description	The proposal is to develop a pegmatite-hosted lithium deposit at the abandoned Mt Holland Mine Site, in a development envelope of 1,984 ha. The mining proposal involves a footprint of 667 ha of land, including new clearing of up to 386 ha of native vegetation, for pit, waste rock dump, integrated waste landform, processing plant, airstrip, accommodation village and associated infrastructure.

Table 2: Location and proposed extent of physical and operational elements

Element	Location	Proposed extent
Physical elements		
Mine and associated infrastructure	Figure 2	Clearing of no more than 386 ha of native vegetation, within a disturbance footprint of 667 ha and development envelope of 1984 ha
Operational elements		
Mining	Figure 2	Earl Grey open cut pit
Waste rock	Figure 2	Up to 184 million cubic metres of waste rock
Tailings disposal	Figure 2	Up to 16.5 million cubic metres of course tailings (gravel rejects) Up to 32 million cubic metres of fine tailings (dry stacked)
Process water	-	Up to 1.5 gigalitres per annum

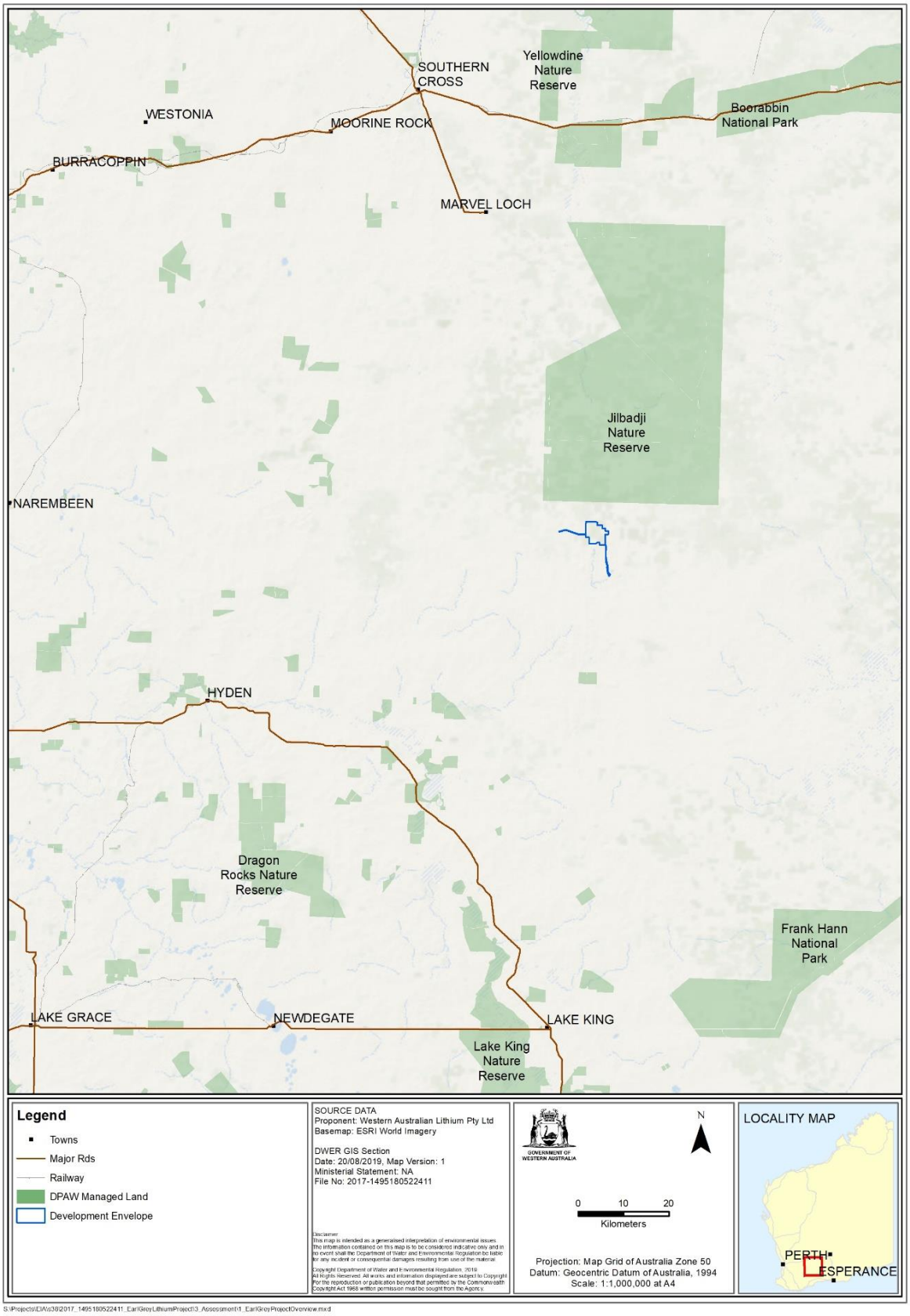

Figure 1: Regional location

Figure 2: Earl Grey Lithium Project development envelope and indicative layout

2.2 Changes to the proposal during assessment

During preparation of the Environmental Scoping Document, the proponent identified that additional capacity was required for the tailings storage facility (TSF), and that the existing network of roads that would be utilised for the proposal were not reflected in the proposal description. The proponent also identified the opportunity to reduce direct impact on malleefowl in the proposal area, through modification of the waste dump design.

On 23 November 2017, the proponent provided an application and supporting information and requested the following changes to the proposal:

- an increase of cell 2 of the TSF to increase capacity (resulting in a reduction of waste dump 2)
- incorporation of the existing road network into the proposal description
- modification of waste dump 3 to avoid an active malleefowl mound.

The Chairman, as a delegate of the EPA, concluded that the changes were unlikely to significantly increase any impact that the proposal may have on the environment and gave consent under section 43A of the EP Act to the changes on 7 December 2017.

During preparation of the draft ERD, the proponent provided an application for changes to the proposal on 30 May 2018, with final supporting information being provided on 10 July 2018. The requested changes were for:

- removal of the Bounty TSF at the eastern edge of the development envelope
- expansion in use of the existing Earl Grey TSF as an integrated waste landform (IWL)
- a new east-west aligned airstrip
- refinements in processing and infrastructure layout that maximise use within the existing disturbance area.

The Chairman, as a delegate of the EPA, concluded that the changes were unlikely to significantly increase any impact that the proposal may have on the environment and gave consent under section 43A of the EP Act to the changes on 17 July 2018.

During preparation of the Response to Submissions document, based on public submissions received on the ERD, the proponent re-evaluated the impacts associated with the proposal in regard to threatened flora and significant vegetation. From this re-evaluation process, the proponent identified that parts of the proposed mine footprint could be modified to reduce impacts to threatened flora and significant vegetation in the proposal area.

On 24 July 2019, the proponent provided an application and supporting information and requested the following changes to the proposal:

- relocation of the run of mine pad to areas of existing disturbance

- removal of the lower portion of the existing airstrip (which was to be used for topsoil storage)
- removal of the southern access road
- reorientation of the accommodation camp
- removal of a portion of the IWL to avoid impacts to priority flora
- addition of a conveyor from the waste dump to the processing area
- addition of an access road from the IWL to the processing area
- additional area surrounding the airstrip required for construction and operation
- realignment of haul road from the waste rock dump to the processing area
- addition of a new landfill site
- utilisation of an existing borrow pit (near the waste dump).

The Chairman, as a delegate of the EPA, concluded that the changes were unlikely to significantly increase any impact that the proposal may have on the environment and gave consent under section 43A of the EP Act to the changes on 7 August 2019.

Tables 1 and 2 above reflect the final changes to the proposal footprint.

2.3 Context

The Mt Holland Mine Site is a historic gold mining operation centred on the Bounty Mine, which forms the central infrastructure area of the site. Between 1988 and 2001, the historic processing plant received ore from numerous open pits within an approximate 10 km radius of the site, including the existing Earl Grey pit.

Mt Holland was owned and operated by a number of companies during the 1980's and 90's, including Aztec Mining Company Limited, Forrestania Gold NL and Lion Ore Mining International Limited. In 1999, the site was purchased by Viceroy Australia Pty Ltd which subsequently went into involuntary administration in 2002.

The majority of leases associated with the proposal area were allowed to expire and were subsequently surrendered to the State, with associated unconditional performance bonds called in by the State.

The current proposal over the historical gold mine is proposed by a joint venture between Kidman and Sociedad Quimica y Minera (SQM). The Earl Grey Lithium Project proposal would be wholly located within tenure granted under the *Mining Act 1978.*

The development envelope is located within the southwest corner of the Great Western Woodlands. The proposal development envelope is located near two Nature Reserves; Jilbadji Nature Reserve located approximately 5 km to the north; and Lake Cronin Nature Reserve located approximately 30 km to the south.

3. Consultation

The EPA advertised the referral information for the proposal for public comment from 26 May to 4 June 2017 and received six submissions. All of the submissions requested 'Assess-Public Environmental Review'.

The proponent has consulted with state, federal and local government agencies, non-government agencies and interest groups since referral of the proposal. The agencies and stakeholders consulted, the matters raised, and comments received are detailed in Table 3-2 of its ERD (Covalent 2019a).

Fifteen submissions were received during the public review period, four government agencies, three conservation groups, one Native Title claimant group and seven individuals. The key issues relate to:

- impact to threatened fauna species and habitat
- uncertainty of impacts to threatened and priority flora species
- increased clearing of potentially significant vegetation and land disturbance
- need for a detailed rehabilitation and closure plan
- adequacy of the fauna offsets proposed, and the requirement for flora offsets for the proposal.

The proponent has provided responses to the matters raised in the Response to Submissions document (Covalent 2019b).

The EPA considers that the consultation process has been appropriate and that reasonable steps have been taken to inform the community and stakeholders about the proposed development. Relevant significant environmental issues identified from this process were taken into account by the EPA during its assessment of the proposal.

4. Key environmental factors

In undertaking its assessment of this proposal and preparing this report, the EPA had regard for the object and principles contained in s. 4A of the EP Act to the extent relevant to the particular matters that were considered.

The EPA considered the following information during its assessment:

- the proponent's referral information and ERD
- public comments received on the referral, stakeholder comments received during the preparation of the proponent's documentation and public and agency comments received on the ERD
- the proponent's response to submissions raised during the public review of the ERD
- the EPA's own inquiries
- the EPA's *Statement of environmental principles, factors and objectives* (EPA 2018a)
- the relevant principles, policy and guidance referred to in the assessment of each key environmental factor in sections 4.1 to 4.2.

Having regard to the above information, the EPA identified the following key environmental factors during the course of its assessment of the proposal:

- **Flora and Vegetation** – loss of flora including threatened and priority species and vegetation communities from clearing, and indirect impacts such as dust deposition, hypersaline water use, spills, weeds and changes to fire regimes.
- **Terrestrial Fauna** – death, injury and displacement of threatened fauna species and loss/fragmentation of habitat, vehicle strikes, entrapment in trenches or similar structures and the pit lake, and interactions with introduced fauna.

The EPA considered other environmental factors during the course of its assessment of the proposal. These factors, which were not identified as key environmental factors, are discussed in section 7 of the proponent's ERD (Covalent 2019a). Appendix 3 contains an evaluation of why these other environmental factors were not identified as key environmental factors.

Having regard to the EP Act principles, the EPA considered that the following principles were particularly relevant to its assessment of the proposal:

1. **The precautionary principle** – the EPA has considered whether the proponent's investigations into the biological and physical environment provide the means to assess risk and identify measures to avoid or minimise impacts. Where greater certainty regarding risk to flora and fauna is required, the EPA has recommended conditions to ensure that certainty is provided.
2. **The principle of intergenerational equity** – the EPA has considered whether the health, diversity and productivity of the environment would be

maintained or enhanced during the implementation of this proposal, with particular regard to the diversity and productivity of flora and vegetation and terrestrial fauna. The EPA has recommended conditions to ensure the biological environment is maintained for the benefit of future generations.

3. **The principle of the conservation of biological diversity and ecological integrity** – the EPA has considered the impacts on flora and vegetation and terrestrial fauna with particular regard to listed threatened species. The EPA has recommended conditions to manage the impacts on conservation significant flora and fauna so that biological diversity is maintained.
4. **Principles relating to improved valuation, pricing and incentive mechanisms** – the proponent will bear the costs relating to management of waste and pollution, including avoidance, containment, decommissioning, rehabilitation, and closure.
5. **The principle of waste minimisation** – the proponent proposes to minimise waste by adopting the hierarchy of waste controls; avoid, minimise, reuse, recycle and safe disposal.

Appendix 2 provides a summary of the principles and how the EPA considered these principles in its assessment.

The EPA's assessment of the proposal's impacts on the key environmental factors is provided in sections 4.1 – 4.2. These sections outline whether or not the EPA considers that the impacts on each factor are manageable. Section 7 provides the EPA's conclusion as to whether or not the proposal as a whole is environmentally acceptable.

Assessment on behalf of Commonwealth

The EPA assessed the proposal on behalf of the Commonwealth Minister for Environment as an accredited assessment. The EPA has addressed the Matters of National Environmental Significance (MNES) under each relevant factor and has summarised its assessment of MNES in section 6.

4.1 Flora and Vegetation

EPA objective

The EPA's environmental objective for this factor is *to protect flora and vegetation so that biological diversity and ecological integrity are maintained.*

Relevant policy and guidance

The EPA considers that the following current environmental policy and guidance is relevant to its assessment of the proposal for this factor:

- *Environmental Factor Guideline – Flora and Vegetation* (EPA 2016c)
- *Technical Guidance: Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA 2016d)
- *WA Environmental Offsets Policy* (Government of Western Australia 2011)

- *WA Environmental Offsets Guidelines* (Government of Western Australia 2014).

The considerations for environmental impact assessment for this factor are outlined in *Environmental Factor Guideline – Flora and Vegetation* (EPA 2016c).

EPA assessment

Under the Interim Biogeographic Regionalisation for Australia (IBRA) the proposal area is located within the Southwest Interzone and Southern Cross Subregion of the Coolgardie Bioregion. The Southwest Interzone is the transitional area between the Southwest (Bassian) and Eremaean Provinces.

Several flora and vegetation surveys have been undertaken in the project area and wider region since 2016. These consist of:

- An assessment of the flora and vegetation of the project areas at Mt Holland by Mattiske Consulting Pty Ltd, from the 24 to 26 October 2016, 9 to 10 November 2016 and September 2017.
- A survey of the threatened *Banksia sphaerocarpa* var. *dolichostyla* both within the development envelope and within the broader region surrounding the proposal area by Mattiske Consulting Pty Ltd in April and June 2018.
- A targeted floristic survey focusing on Priority 1 flora, range extensions and new species with potential to be impacted by the proposal by Mattiske Consulting Pty Ltd in November 2018.
- A regional targeted flora survey to assess potential locations that may support populations of *Banksia sphaerocarpa* var. *dolichostyla* and *Microcorys* sp. Mt Holland by Mattiske Consulting Pty Ltd and Strategen JBS&G in June and July 2019.

The surveys were undertaken mostly in accordance with the standards set out in *Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA 2016d) and *Environmental Factor Guideline – Flora and Vegetation* (EPA 2016c). The use of multiple surveys across different seasons provides confidence in the overall identification of species.

No Threatened Ecological Communities (TECs) or Priority Ecological Communities (PECs) are known to occur within the development envelope.

Twenty-three vegetation communities were identified during the 2016 and 2017 surveys within the development envelope. The majority of the proposal area is situated in Eucalyptus woodlands over Melaleuca shrublands. The proponent has identified vegetation community W17 as unique and restricted. The EPA considers that vegetation community S3 is the most significant because it contains threatened and priority 1 flora species.

The surveys identified a total of 369 vascular plant taxa, which are representative of 140 genera and 49 families recorded within the development envelope and surrounding area. One threatened flora species *Banksia sphaerocarpa* var.

dolichostyla (listed as Vulnerable under the state *Biodiversity Conservation Act 2016* (BC Act) and EPBC Act) was recorded in the development envelope.

Ten priority (P) flora species were recorded within the development envelope (Figure 3):

- *Acacia* sp. Mt Holland (B Ellery BE1147) (P1)
- *Brachyloma stenolobum* (P1)
- *Labichea rossii* (P1)
- *Microcorys* sp. Mt Holland (D Angus DA 2397) (P1)
- *Daviesia sarissa subsp. redacta* (P2)
- *Eutaxia lasiocalyx* (P2)
- *Orianthera exilis* (P2)
- *Acacia undosa* (P3)
- *Hakea pendens* (P3)
- *Verticordia stenopetala* (P3).

Of the species listed above it is expected that *Brachyloma stenolobum* (P1) and *Daviesia sarissa subsp. redacta* (P2) will not be impacted directly or indirectly by the proposal. Other species will be impacted by less than 10% except for *Microcorys* sp. Mt Holland (D Angus DA 2397) (P1).

Both *Acacia* sp. Mt Holland (B. Ellery BE1147) (P1) and *Microcorys* sp. Mt Holland (D. Angus DA2397) (P1) are new species, uncovered during the vegetation survey of the project area in 2016. These priority species along with the threatened *Banksia sphaerocarpa* var. *dolichostyla* were the focus of the assessment.

The Department of Biodiversity, Conservation and Attractions (DBCA) advised that the priority species of greatest concern is *Microcorys* sp. Mt Holland (D Angus DA 2397) (P1) due to its restricted range and risk of cumulative impacts.

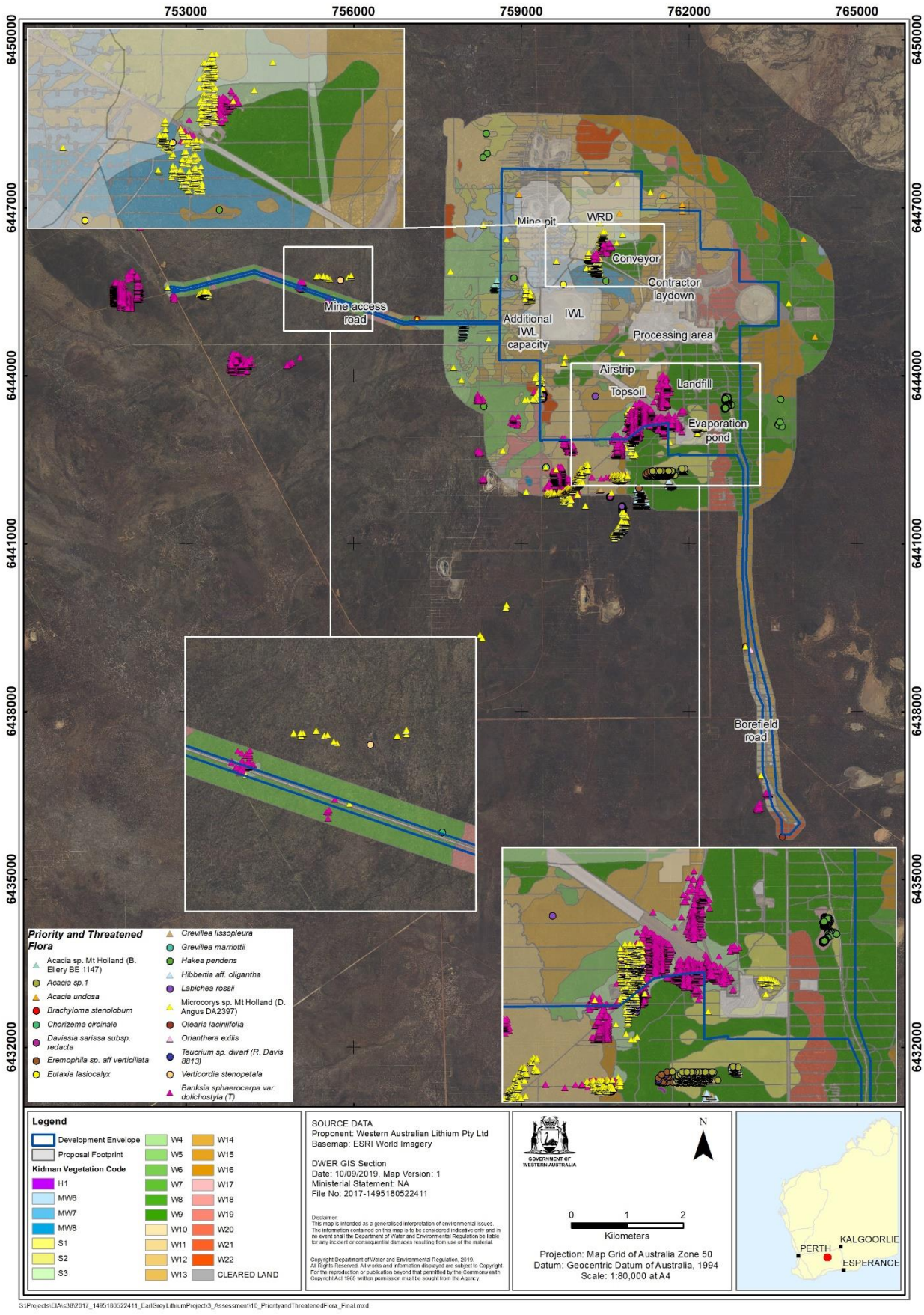

Figure 3: Conservation significant flora

Banksia sphaerocarpa* var. *dolichostyla

This species is confined to an area east of the cleared wheatbelt within the Narrogin and Merredin Districts (Figure 4). It occurs on Vacant Crown Land north from Digger Rocks through Forrestania to Mt Holland.

Banksia sphaerocarpa var. *dolichostyla* plants were recorded in the S3 vegetation community. Targeted surveys in 2018 and 2019 recorded 16,822 individuals in the survey area of which 5220 were recorded within the development envelope. A total of 25,445 individuals were recorded regionally.

***Microcorys* sp. Mt Holland (D. Angus DA2397) (P1)**

This is a new species first recorded in the Earl Grey project area in 2016 (Figure 5). It is principally recorded in the S3 vegetation community.

Microcorys sp. Mt Holland (D. Angus DA2397) (P1) tends to be highly associated with areas where *Banksia sphaerocarpa* var. *dolichostyla* is growing and has also been recorded in the Jilbadji Nature Reserve.

Targeted surveys in 2018 and 2019 recorded a total of 8174 in the project area, of which 5692 were recorded within the development envelope. A total of 10,856 individuals were recorded regionally.

In situations where it was not possible to record all individual plants within an identifiable population, an estimate of the total population was calculated using Esri ArcGIS. Population estimates were made if the species was recorded in sufficient number and the vegetation community was sufficiently surveyed.

It is estimated that 43,676 individuals of *Microcorys* sp. Mt Holland (D. Angus DA2397) (P1) are present in the survey area, of which 27,535 are present within the development envelope. A total of 43,676 individuals are estimated to be present regionally.

Potential Impacts

Flora and vegetation could be potentially impacted, either directly or indirectly through:

- clearing of 386 ha of native vegetation
- introduction or spread of weeds
- impacts from dust generation and use of hypersaline water for dust suppression and spills
- changes to fire regimes.

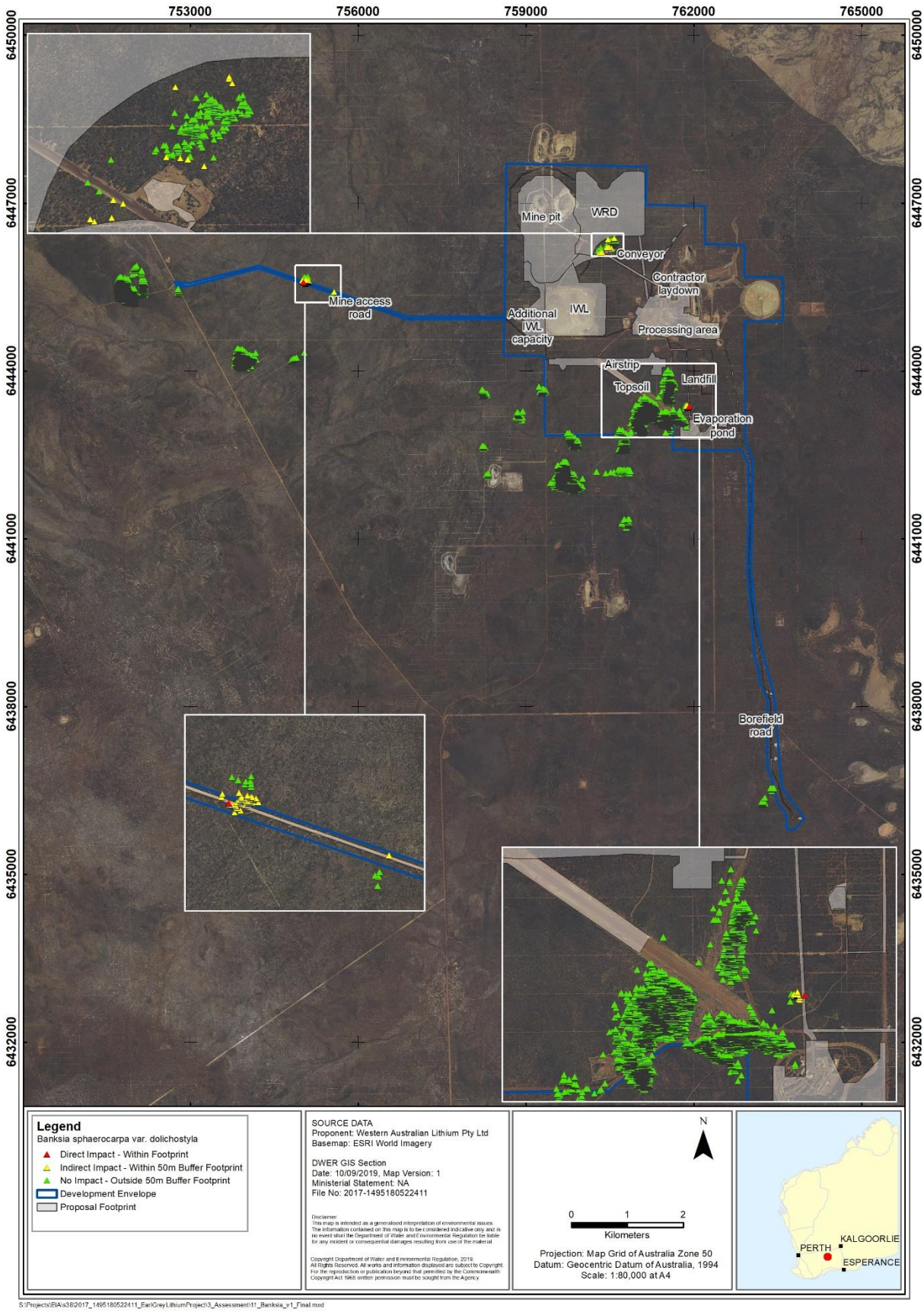

Figure 4: *Banksia spherocarpa* var. *dolichostyla* locations

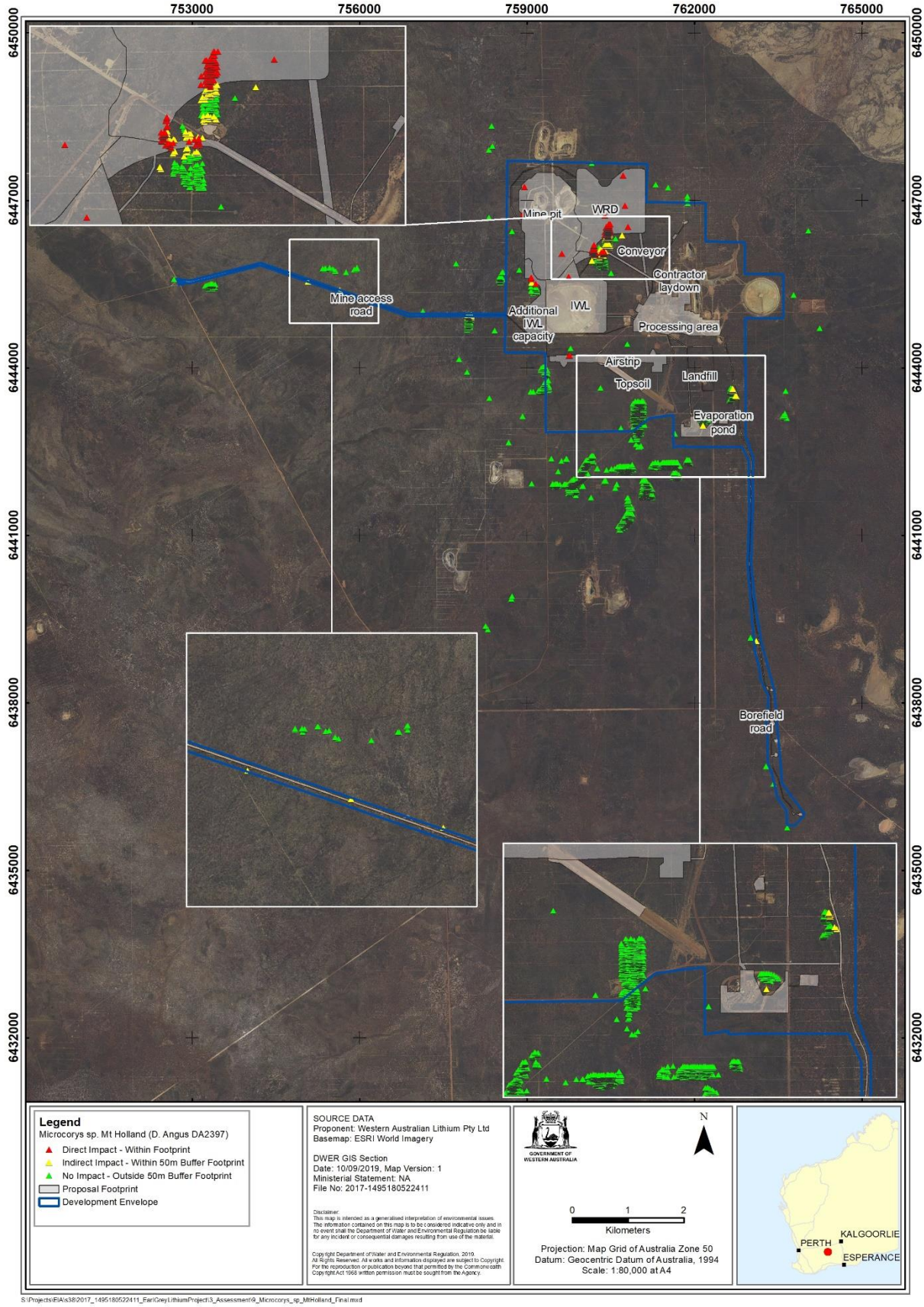

Figure 5: *Microcorys* sp. Mt Holland (D Angus DA 2397) locations

Mitigation and Management

The EPA notes that in designing the proposal, the proponent has applied the mitigation hierarchy, in accordance with the *Environmental Factor Guideline – Flora and Vegetation* (EPA 2016c).

To ensure the protection of flora and vegetation, the proponent has undertaken changes to the proposal during the assessment (under s. 43A of the EPA Act) to reduce clearing of native vegetation and to change the location of infrastructure to avoid populations of *Banksia sphaerocarpa* var. *dolichostyla* and *Microcorys* sp. Mt Holland (D. Angus DA2397) (P1).

To further reduce impacts to *Banksia sphaerocarpa* var. *dolichostyla* and *Microcorys* sp. Mt Holland (D. Angus DA2397) (P1) and vegetation community W17, the proponent proposes to exclude development in a number of areas (conservation significant flora exclusion zones). Conservation significant flora exclusion zones with a 50 m buffer are proposed (Figure 6).

After applying the mitigation hierarchy, undertaking changes to the proposal and including conservation significant flora exclusion zones, the proposal is expected to:

- directly impact on two individuals of *Banksia sphaerocarpa* var. *dolichostyla* (0.01% of the local population)
- indirectly impact on 67 individuals (0.40% of the local population). The impact prior to implementation of the exclusion zone were up to 17% of the population. Indirect impacts are classified as within a buffer of 50 m from direct disturbance.

After applying the mitigation hierarchy, undertaking changes to the proposal and including conservation significant flora exclusion zones the proposal, is expected to:

- directly impact on 6246 individuals of *Microcorys* sp. Mt Holland (D. Angus DA2397) (P1), (14.30% of the local population)
- indirectly impact on 711 individuals (1.63% of the local population). The reduction in impacts from application of the exclusion zones is approximately 6%.

The taxonomic identification of several specimens was only confirmed after targeted surveys had been undertaken in 2018. Therefore searches undertaken for some significant flora may not provide exact numbers. The proponent has committed to undertake pre-clearance surveys to confirm population estimates, ensure agreed direct impacts are not exceeded and to avoid any additional flora species found where possible. This is most important for *Microcorys* sp. Mt Holland (D. Angus DA2397) where reasonable estimates of the population have been used.

The proponent proposes to manage dust impacts to vegetation by using saline water for dust suppression, manage weeds by implementing control measures including vehicle hygiene procedures and fire through control of ignition sources, hot work procedures and maintenance of fire breaks.

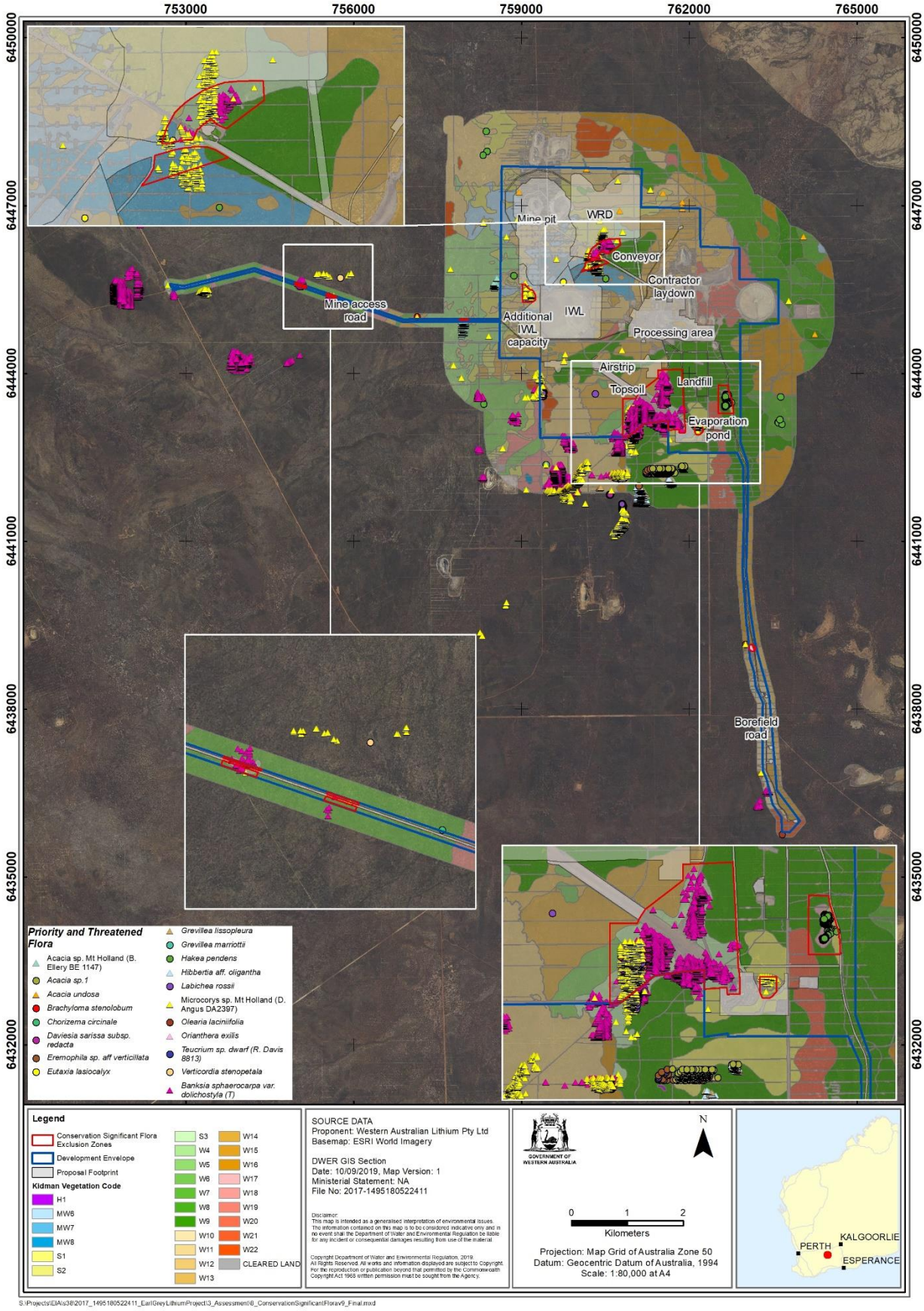

Figure 6: Conservation significant flora exclusion zones

EPA consideration of impacts and mitigation

The EPA notes that the proposal will be developed at the abandoned Mt Holland mine site, where the majority of the disturbed areas associated with the mine are a state liability. The EPA also notes that the proponent has chosen to maximise the use of existing disturbed areas as far as possible to reduce new disturbance.

The EPA notes that the proponent will undertake progressive rehabilitation in areas where mining operations have been completed. Rehabilitation, translocation and seeding trials will be undertaken for *Banksia sphaerocarpa* var. *dolichostyla* and *Microcorys* sp. Mt Holland (D. Angus DA2397) (P1) to aid species recovery. The proponent is currently preparing a Mine Closure Plan, in accordance with the Department of Mines, Industry Regulation and Safety (DMIRS) and EPA Guidelines for Preparing Mine Closure Plans. This will be submitted as part of the DMIRS Mining Proposal Approval Process. The EPA considers that these activities can be managed under the *Mining Act 1978.*

The EPA considers that the proponent has made all reasonable and achievable attempts to avoid impacts to conservation significant flora and vegetation communities and the proposed measures to minimise impacts are acceptable. The EPA has recommended Condition 6 to update and implement the Flora and Vegetation Environmental Management Plan.

The EPA considers that there will be a significant residual impact from the loss of conservation significant flora. The proponent has committed to an offset to counterbalance the significant residual impacts to significant flora (see Section 5). The proposed offset will consist of management and rehabilitation trials through the development of a Flora Offset strategy, designed in consultation with the DBCA. The EPA considers these offsets to be reasonable given the degree of impacts and threat status of the conservation significant flora and communities.

Summary

The EPA has paid particular attention to the:

- *Environmental Factor Guideline – Flora and Vegetation* (EPA 2016c)
- no impacts proposed to TECs or PECs
- status of the conservation significant flora and vegetation to be impacted
- proponent's application of the mitigation hierarchy to avoid and minimise clearing of conservation significant flora and vegetation
- avoidance of impacts through the proposed application of conservation significant flora exclusion zones
- proposed direct impact on two individuals of *Banksia sphaerocarpa* var. *dolichostyla* and indirect impact to 76 individuals
- proposed direct impact to 6246 individuals of *Microcorys* sp. Mt Holland (D. Angus DA2397) (P1), and indirect impact to 711 individuals
- proposed management plan and pre-clearance surveys to minimise direct and indirect impacts to conservation significant flora.

The EPA considers, having regard to the relevant EP Act principles and environmental objective for Flora and Vegetation that the impacts to this factor are manageable and would no longer be significant, provided there is:

- a limit on the clearing of native vegetation through the authorised extent in schedule 1 of the Recommended Environmental Conditions (Appendix 4)
- implementation of measures to ensure objectives of condition 6-1 are met through the updating and implementation of a Flora and Vegetation Environmental Management Plan (Condition 6-3)
- implementation of offsets (see section 5, condition 8) to counterbalance the significant residual impact to *Banksia sphaerocarpa* var. *dolichostyla* and *Microcorys* sp. Mt Holland (D. Angus DA2397) (P1).

4.2 Terrestrial Fauna

EPA objective

The EPA's environmental objective for this factor is *to protect terrestrial fauna so that biological diversity and ecological integrity are maintained*.

Relevant policy and guidance

The EPA considers that the following current environmental policy and guidance is relevant to its assessment of the proposal for this factor:

- *Environmental Factor Guideline – Terrestrial Fauna* (EPA 2016e)
- *Technical Guidance – Sampling methods for terrestrial vertebrate fauna* (EPA 2010)
- *Technical Guidance – Terrestrial Fauna Surveys* (EPA 2004)
- *Technical Guidance – Sampling of short range endemic invertebrate fauna* (EPA 2009)
- *WA Environmental Offsets Policy* (Government of Western Australia 2011)
- *WA Environmental Offsets Guidelines* (Government of Western Australia 2014).

The considerations for environmental impact assessment for this factor are outlined in *Environmental Factor Guideline – Terrestrial Fauna* (EPA 2016e).

In addition to the relevant current policy and guidance above, the EPA also had regard to the Commonwealth *Survey guidelines for Australia's threatened mammals* (Department of the Sustainability, Environment, Water, Population and Communities 2011) and *Survey guidelines for Australia's threatened birds* (Department of the Environment, Water, Heritage and the Arts 2010).

EPA assessment

Existing Environment

Three broad fauna habitats were defined within the development envelope; Mallee woodland, Salmon Gum woodland, and Shrubland. The broad fauna habitats are widespread across the Great Western Woodlands with over 1.1 million ha of Mallee Woodland mapped, and over 7.3 million ha of Salmon Gum Woodland mapped.

A range of fauna surveys were undertaken in 2016 and 2017, with the detailed survey being undertaken in November to December 2016. The fauna surveys identified a range of species within the development envelope, including one frog, 32 reptiles, 77 birds, 18 native mammals and five introduced mammals. The surveys included targeted searches for the conservation significant species; malleefowl (*Leipoa ocellata*) and chuditch (*Dasyurus geoffroii*).

The surveys for malleefowl included 269 km of transects at 10 m spacing in October 2016, followed by 306 km of transects in November to December 2016. An opportunistic malleefowl survey was undertaken in September 2017, followed by a further targeted survey (801 km of transects) in October 2017. The 2016 surveys focused on the location of the potential deposits and the broader region, whereas the 2017 targeted survey focussed primarily on the development envelope (780 km of 801 km of transects within the development envelope). There were 18 individual malleefowl sightings over the fauna surveys (12 within the development envelope), and a total of 51 malleefowl mounds recorded. Of these, one active mound, three recently active mounds and 34 inactive or failed mounds were within the development envelope.

The large number of malleefowl records identified within the development envelope compared to the regional survey area is likely due to survey effort. However, other factors may influence the distribution, such as large areas of the landscape which were previously burnt. Surveys identified that all active mounds were found in unburnt habitat. Malleefowl typically do not breed in recently burnt areas and do not return to those areas to breed for at least six years, however, are likely to breed again in these areas in the future and may return to previously inactive mounds or construct new mounds.

During the surveys, a total of 28 individual chuditch were trapped (13 adults and 15 dispersing young), of which 23 were within the development envelope (Figure 7). This consisted of 18 individual chuditch trapped in 2016, and a further 10 individual chuditch trapped in 2017. The difference in numbers between years could be due to a range of factors including the short life cycle of the species, however, sampling effort and location varied between the two years. It is also noted that chuditch are highly mobile and have large home-ranges. Eight chuditch recorded in the fauna survey were recorded at more than one site, with one young female travelling over three km in a single night.

In addition to the trapping, chuditch were also recorded on 24 of the 42 camera traps within the development envelope, and 29 of 94 camera traps in the regional survey area. Due to the mobility of the species it is likely some of these records are of the

same individuals, however, it does provide an indication that chuditch are widely distributed within the area. The species was observed to have a preference for unburnt habitat which may have influenced the records, due to the large areas of previously burnt vegetation.

A range of conservation significant species, other than malleefowl and chuditch, were identified as potentially occurring within the development envelope, including:

- rainbow bee-eater (*Merops ornatus*) (Specially Protected Species under the BC Act)
- peregrine falcon (*Falco peregrinus*) (Specially Protected Species under the BC Act)
- fork-tailed swift (*Apus pacificus*) (Specially Protected Species under the BC Act, Migratory species under the EPBC Act)
- Carnaby's black-cockatoo (*Calyptorhynchus latirostris*) (Endangered under the EPBC Act and BC Act)
- red-tailed phascogale (*Phascogale calura*) (Endangered under the EPBC Act and BC Act).

The rainbow bee-eater and peregrine falcon were recorded within the development envelope and it is likely that the fork-tailed swift may also utilise the development envelope. These species however, are widespread and secure across most of their ranges. Although the proposal area provides suitable habitat for Carnaby's black-cockatoo, the development envelope is at the eastern limit of its known distribution and the species was not recorded during fauna surveys. The red-tailed phascogale was also not recorded during the fauna surveys and the likelihood of occurrence is low due to a lack of its favoured habitat (most records for this species are to the west of the development envelope). Therefore, it is not anticipated that the proposal would have a significant impact on these species.

A desktop review of short range endemic (SRE) invertebrate species was also undertaken. Within the broader search area (100 km x 100 km around the proposal area) 48 species from SRE groups have been recorded, however, no confirmed SRE or listed invertebrate species were recorded in the area. Of the species recorded, 23 were widespread, six were potential but unlikely SRE species, and 19 were potential SREs. The potential SRE species include 15 mygalomorphs (spiders), two isopods, one pseudoscorpion and one millipede.

Six habitat units were described for SRE fauna based on availability of moisture, soil structure, geological diversity, vegetation type and extent of shade and shelter. The proponent's consultant concluded that the habitat units generally have low prospectivity for SRE species and typically extend outside of the proposal footprint with no major geological barriers present.

Figure 7: Chuditch records within the development envelope

Impacts and evaluation

Terrestrial fauna would be directly impacted through the clearing of:

- 386 ha of native vegetation/habitat including:
    - potential breeding and foraging habitat for chuditch
    - potential breeding and foraging habitat for malleefowl
    - eight malleefowl mounds (including one recently active mound and seven inactive mounds).

Terrestrial fauna may be indirectly impacted through:

- further fragmentation of native vegetation
- risk of injury from vehicle strikes
- dust generation and use of saline water for dust suppression and spills
- entrapment in trenches during construction of pipes, culverts or similar structures and entrapment in the pit lake post closure
- interactions with introduced fauna
- changes to fire regimes.

Management and mitigation measures

The EPA notes that in designing the proposal the proponent has applied the mitigation hierarchy, in accordance with the *Environmental Factor Guideline – Terrestrial Fauna* (EPA 2016e).

The proponent has designed the proposal to avoid key fauna habitat where possible and use existing disturbed areas from the previous Mt Holland mine site. The proposal footprint is up to 667 ha, of which 281 ha will be on existing disturbed areas. Clearing for the proposal footprint will also be undertaken through a progressive approach, with the anticipated clearing to be below 150 ha after ten years.

The proponent changed the proposal during the assessment (under s. 43A of the EP Act) by modifying the design of the waste dump and avoiding an active malleefowl mound. The proponent has committed to protecting most of the malleefowl mounds identified within the development envelope by implementing exclusion zones around them (Figure 8).

The proponent has committed to minimising disturbance to both malleefowl and chuditch by implementing the following:

- exclusion zones around malleefowl mounds
- pre-clearance surveys within two weeks prior to clearing to identify any malleefowl mounds, chuditch dens, or presence/absence of both species within the area to be cleared
- pre-clearance LiDAR survey to identify malleefowl mounds

- clearing to be undertaken outside of breeding, mound building and egg incubation periods for malleefowl
- traffic management controls (including minimising driving between dusk and dawn, reduced speed limits, signage for the malleefowl and chuditch, and worker awareness training)
- implementating fauna entrapment controls such as trench inspections by qualified fauna specialists and providing egress ramps where possible
- control of introduced species, including fencing of landfills and covering putrescible waste
- managing dust through the use of watercarts as required.

EPA consideration of impacts and mitigation

The EPA notes that the proponent will be developing the mine on the abandoned Mt Holland mine site and will be using existing disturbance areas where possible. The EPA notes that the proponent will prepare a Mine Closure Plan, in accordance with the DMIRS and EPA Guidelines for Preparing Mine Closure Plans. As part of the closure plan it is expected that a portion of the open pit would be backfilled, however, a pit lake is expected to form in the area not backfilled. Egress from the pit lake would be possible for terrestrial fauna in the form of the pit ramp and it is not likely to significantly impact terrestrial fauna. The groundwater in the area is already hypersaline, so the water is not expected to be a critical source of drinking water and there will be no time where the lake may be a source of drinking water.

The EPA considers that while the impacts to conservation significant species are not insignificant, the site is likely to have been a refugia for recent fires in the region and the proposed approaches to avoid, minimise and manage impacts is reasonable. The EPA has recommended Condition 7 that provides for the updating and implementation of a Terrestrial Fauna Environmental Management Plan.

The EPA notes the clearing of habitat for conservation significant fauna (malleefowl and chuditch) will still occur as a result of implementing the proposal, which would result in a significant residual impact.

The proponent has committed to an offset to counterbalance the significant residual impact (see Section 5). The proposed offset will consist of land acquisition through the development of a Threatened Fauna Land Acquisition Strategy in consultation with DBCA. It is expected that the land parcel(s) will be of suitable environmental value for both conservation significant fauna species. Indicators of suitable environmental value would include (but not limited to) the presence of malleefowl mounds, observations of malleefowl or chuditch, evidence of chuditch presence (for example scats), and the presence of suitable habitat (for example heath and mallee shrublands).

Figure 8: Malleefowl records and exclusion zones

Summary

The EPA has paid particular attention to the:

- clearing of up to 386 ha of potential breeding and foraging habitat for chuditch and malleefowl (including one recently active mound and seven inactive mounds)
- application of the mitigation hierarchy to avoid clearing of fauna habitat by using existing disturbance and proposing offsets where a significant residual impact remains
- proposed exclusion zones around malleefowl mounds
- proponent's commitments to minimise impacts to terrestrial fauna through the proposed Terrestrial Fauna Environmental Management Plan.

The EPA considers, having regard to the relevant EP Act principles and environmental objective for Terrestrial Fauna that the impacts to this factor are manageable and would no longer be significant, provided there is:

- control through authorised extent in schedule 1 of the Recommended Environmental Conditions (Appendix 4)
- implementation of measures to ensure objectives of Condition 7 are met through the updating and implementation of a Terrestrial Fauna Environmental Management Plan (Condition 7-2)
- implementation of offsets (see section 5, condition 8) to counterbalance the significant residual impacts to chuditch and malleefowl through the clearing of 386 ha of potential breeding and foraging habitat.

5. Offsets

Relevant policy and guidance

The EPA considers that the following policy and guidance is relevant to its assessment of offsets for the proposal:

- *WA Environmental Offsets Policy* (Government of Western Australia 2011)
- *WA Environmental Offset Guidelines* (Government of Western Australia 2014)
- *Environmental Impact Assessment (Part IV Divisions 1 and 2) Procedures Manual 2016* (EPA 2016b)
- *Commonwealth EPBC Act Environmental Offsets Policy* (Commonwealth of Australia 2012).

EPA Assessment

Environmental offsets are actions that provide environmental benefits which counterbalance the significant residual impacts of a proposal. The EPA may apply environmental offsets where it determines that a proposal's residual impacts are significant, after avoidance, minimisation and rehabilitation have been pursued.

Mitigation measures are assessed under the relevant environmental factor (see 4.1 – Flora and Vegetation, 4.2 – Terrestrial Fauna). In applying the residual impact significance model (Government of Western Australia 2014), the EPA considers that the proposal would have a significant residual impact from the following:

- direct impacts associated with native vegetation clearing and land disturbance
- indirect impacts associated with mining and associated activities.

The proponent is proposing to offset the significant residual impact associated with the direct removal of 386 ha of conservation significant terrestrial fauna habitat which is potential breeding and foraging habitat for chudich and malleefowl, through direct offsets. The direct offset is based on the acquisition of suitable land containing native vegetation that consists of 'like for like' habitat values, which will be transferred to the DBCA and managed under the *Conservation and Land Management Act 1984*. The purchase of potential offset sites would be greater than the area to be impacted as determined by the EPBC Act offset calculator.

The calculation for the offset has been based on the Commonwealth offset guidelines, which often require an offset area greater than the area to be impacted. Based on calculations using the Commonwealth offset guide, it is expected that an offset area of up to 1800 ha (depending on the quality and values of the habitat) of malleefowl and chuditch habitat could achieve a direct offset of 100% of the residual impact associated with the clearing of the terrestrial fauna habitat.

The proponent and DBCA have identified five sites which could support habitat suitable for malleefowl and chuditch and are therefore considered as potentially

suitable offset sites. Detailed analysis of the sites will be undertaken during the development of the Threatened Fauna Land Acquisition Strategy.

The proponent is proposing a direct offset for the significant residual impact associated with the proposed:

- direct impact on two individuals of *Banksia sphaerocarpa* var. *dolichostyla* and indirect impact to 76 individuals
- direct impact to 6246 individuals of *Microcorys* sp. Mt Holland (D. Angus DA2397) (P1), and indirect impact to 711 individuals

The direct offset is based on the acquisition of suitable land containing *Banksia sphaerocarpa* var. *dolichostyla* and *Microcorys* sp. Mt Holland (D. Angus DA2397) populations, which will be secured in conservation tenure and managed by DBCA. The purchase of potential offset sites would be greater than the area to be impacted as determined by the EPBC Act offset calculator.

The calculation for the offset was based on the Commonwealth offset guidelines, which require an offset area greater than the area to be impacted. Based on calculations using the Commonwealth offset guide it is expected that a direct offset of up to 180 *Banksia sphaerocarpa* var. *dolichostyla* individuals might be required to meet 100% of the offset requirements. The offset for *Microcorys* sp. Mt Holland (D. Angus DA2397) may be up to 12,000 individuals however as it is not listed as scheduled species by the state or commonwealth, the offset may be more negotiable in accordance with the state and Commonwealth offset guidelines.

The proponent has undertaken surveys to determine the regional presence of *Banksia sphaerocarpa* var. *dolichostyla* and *Microcorys* sp. Mt Holland (D. Angus DA2397) and has identified land parcels that may be suitable offset sites. Once the proponent has consulted with DBCA and if the sites are considered acceptable, further environmental assessment will occur and the sites will be purchased and transferred into the conservation estate.

Potential sites have been found for *Banksia sphaerocarpa* var. *dolichostyla* and at this stage no potential sites have been found for *Microcorys sp.* Mt Holland (D. Angus DA2397).

In the event that land parcels are not available for *Microcorys sp.* Mt Holland (D. Angus DA2397), identification of areas containing the species and provisions for management within Unallocated Crown Land and the Jilbadji Nature Reserve may form a portion of the offset. It is noted that portions of the Jilbadji Nature Reserve are degraded which may provide the opportunity for revegetation as part of the offset.

The proponent has engaged Western Botanical to undertake an independent review of the offsets strategy with regards to *Microcorys sp.* Mt Holland (D. Angus DA2397) to assist in the knowledge of its likely location and the potential outcome of revegetation and relocation trials.

The Department of Jobs, Tourism, Science and Innovation, the lead agency for this project, has confirmed they will facilitate discussions with key government

stakeholders and assist in identifying suitable parcels of Unallocated Crown Land to achieve an adequate offset for the project.

Once the sites have been purchased, the proponent has proposed to provide funding for management activities for five years. This will include fencing, weed control, and monitoring of populations.

The proponent has proposed an indirect offset to achieve a no net loss of *Banksia sphaerocarpa* var. *dolichostyla* within the development envelope. Trials are proposed to be undertaken to determine if *Banksia sphaerocarpa* var. *dolichostyla* can be germinated from seed and survive *in situ*. In addition, the proponent proposes a trial to rehabilitate *Microcorys sp.* Mt Holland (D. Angus DA2397) in designated areas within the development envelope. Trials will be undertaken in consultation with DBCA and Kings Park and Botanical Gardens. Pending the results of the trials, translocation or direct seeding of existing populations may be considered.

Summary

The EPA recommends that an offset condition (condition 8) is imposed to counterbalance the significant residual impacts of the proposal. The condition requires the preparation and submission of a Threatened Fauna Land Acquisition Strategy and a Flora Offset Strategy to be submitted within 12 months.

6. Matters of National Environmental Significance

The Commonwealth Minister for the Environment has determined that the proposal is a controlled action under the EPBC Act as it is likely to have a significant impact on one or more MNES. It was determined that the proposed action is likely to have a significant impact on the following matters protected by the EPBC Act:

- listed threatened species and communities (section 18 and 18A).

The EPA has assessed the controlled action on behalf of the Commonwealth as an accredited assessment under the EPBC Act.

This assessment report is provided to the Commonwealth Minister for Environment who will decide whether or not to approve the proposal under the EPBC Act. This is separate from any Western Australian approval that may be required.

Commonwealth policy and guidance

The EPA had regard to the following relevant Commonwealth guidelines, policies and plans, or state guidance where Commonwealth guidance is unavailable, during its assessment:

- Western Australian Wildlife Management Program No. 30 *Declared Rare and Poorly Known Flora in the Narrogin District* (Western Australia Department of Conservation and Land Management 2001)
- *National Recovery Plan for Malleefowl* (South Australia Department for Environment and Heritage 2007)
- *Approved Conservation Advice for Banksia sphaerocarpa var. dolichostyla (Ironcaps Banksia)* (Department of the Environment, Water, Heritage and the Arts 2008)
- *Survey guidelines for Australia's threatened birds* (Department of the Environment, Water, Heritage and the Arts 2010)
- Commonwealth *Survey guidelines for Australia's threatened mammals* (Department of the Sustainability, Environment, Water, Population and Communities 2011)
- Commonwealth EPBC Act Environmental Offsets Policy (Commonwealth of Australia 2012)
- Western Australian Wildlife Management Program No. 54 *Chuditch (Dasyurus geoffroii) Recovery Plan* (WA Department of Environment and Conservation 2012).

EPA assessment

The EPA notes that the proponent has given attention in the ERD to the intent of Commonwealth policy, guidelines and plans (or state guidance where Commonwealth guidance is unavailable) considered to be relevant for this matter.

Impacts to the environment are covered under the key environmental factors of Flora and Vegetation and Terrestrial Fauna.

Impact to listed threatened species

The EPA's assessment of the proposal's likely environmental impacts is provided in Section 4 of this report and discussed in brief below. In particular, the EPA has assessed the potential impacts of the proposal on listed threatened flora species in Section 4.1 (Flora and Vegetation) and listed threatened fauna species in Section 4.2 (Terrestrial Fauna). Appendix 3 provides the EPA's consideration of other aspects of the environment not discussed in Section 4.

A permit for 'taking of flora and fauna' through the *Biodiversity Conservation Act 2016* will also be required for the proposal.

Listed Threatened Flora – Banksia sphaerocarpa var. *dolichostyla*

A total of two individuals of *Banksia sphaerocarpa* var. *dolichostyla* will be directly impacted by clearing for mining. It is expected that 67 individuals may be indirectly impacted by dust generation, use of hypersaline water for dust suppression, introduction of weeds, spills and changes to fire regimes.

The EPA has assessed the direct and indirect impacts of the proposal to this species, and an offsets strategy for the significant residual impact to the species is proposed (see Section 5).

Listed Threatened Fauna – Malleefowl (Leipoa ocellata)

Malleefowl will be impacted through the direct clearing of 386 ha of native vegetation which includes potential breeding and foraging habitat for the species. Eight malleefowl mounds will also be removed within the proposal footprint, including one recently active mound and seven inactive mounds. Most of the malleefowl mounds currently identified within the development envelope will not be removed and the proponent has committed to protecting these by implementing exclusion zones around them (Figure 8). Malleefowl may also be indirectly impacted through further fragmentation of native vegetation, injury from vehicle strikes, dust during construction and mining operations, entrapment in trenches or similar structures and the pit lake, and interactions with introduced fauna.

The EPA has assessed the direct and indirect impacts of the proposal to this species, and offsets to counterbalance the significant residual impacts to this species is proposed (see Section 5).

Listed Threatened Fauna – Chuditch (Dasyurus geoffroii)

Chuditch will be impacted through the direct clearing of 386 ha of native vegetation which includes potential breeding and foraging habitat for the species. Chuditch may be indirectly impacted through further fragmentation of native vegetation, injury from vehicle strikes, dust during construction and mining operations, entrapment in trenches or similar structures, and interactions with introduced fauna.

The EPA has assessed the direct and indirect impacts of the proposal to this species, and offsets to counterbalance the significant residual impact to this species is proposed (see Section 5).

Summary

The EPA has recommended the following environmental conditions to minimise impacts on MNES:

- a limit on the clearing of native vegetation through the authorised extent in schedule 1 of the Recommended Environmental Conditions (Appendix 4)
- implementation of measures to ensure objectives of condition 6-1 are met through the updating and implementation of a Flora and Vegetation Environmental Management Plan (Condition 6-3)
- implementation of measures to ensure objectives of Condition 7 are met through the updating and implementation of a Terrestrial Fauna Environmental Management Plan (Condition 7-2)
- implementation of offsets (see section 5, condition 8) to counterbalance the significant residual impacts to *Banksia sphaerocarpa* var. *dolichostyla*, chuditch and malleefowl through the clearing of 386 ha of potential breeding and foraging habitat.

The EPA considers there will be a significant residual impact from the direct and indirect impacts associated with the proposal. The EPA has recommended offsets in Condition 8 (see section 5) which takes into account the significant residual impact to listed threatened flora and fauna species.

The EPA's view is that the impacts from the proposal on the above-listed MNES are therefore not expected to result in an unacceptable or unsustainable impact on the conservation status of the listed species.

7. Conclusion

The EPA has considered the proposal by the proponent of the Earl Grey Lithium Project at the abandoned Mt Holland mine site located approximately 105 km south-southeast of Southern Cross.

Application of mitigation hierarchy

Consistent with relevant policies and guidance, the proponent has addressed the mitigation hierarchy by identifying measures to avoid, minimise and rehabilitate environmental impacts including:

- avoiding the restricted vegetation community W17
- avoiding clearing active malleefowl mounds
- minimising clearing inactive, recently active and mound attempt malleefowl mounds within the development envelope through exclusion zones
- avoiding and minimising impacts to *Banksia sphaerocarpa* var. *dolichostyla* and *Microcorys* sp. Mt Holland (D. Angus DA2397) through mine design and implementation of 50 m exclusion zones
- minimising impact to chuditch, malleefowl and other fauna by use of vehicle speed limits, covering of excavations or providing escape ramps, and feral animal control
- managing impacts to flora and fauna by using dribble bars for dust suppression to minimise hypersaline water overspray
- managing impacts to flora and fauna by implementing measures to control weeds, disease and fire
- managing impact to chuditch by trapping and relocating ahead of clearing
- managing impacts to flora and fauna through progressive rehabilitation during the life of the project and upon closure.

Offsets

The EPA considers the proposal would have a significant residual impact from:

- clearing of 386 ha of potential breeding and foraging habitat for chuditch and malleefowl
- proposed direct impact on two individuals of *Banksia sphaerocarpa* var. *dolichostyla* and indirect impact to 76 individuals
- proposed direct impact to 6246 individuals of *Microcorys* sp. Mt Holland (D. Angus DA2397) (P1), and indirect impact to 711 individuals.

The EPA has recommended condition 8, which includes the provision of a Threatened Fauna Land Acquisition Strategy and a Flora Offset Strategy to offset the significant residual impact to significant flora and fauna.

Conclusion

The EPA has taken the following into account in its assessment of the proposal as a whole, including the:

- impacts to all the key environmental factors
- EPA's confidence in the proponent's proposed mitigation measures
- relevant EP Act principles and the EPA's objectives for the key environmental factors
- EPA's view that the impacts to the key environmental factors are manageable, provided the recommended conditions are imposed.

Given the above, the EPA has concluded that the proposal is environmentally acceptable and therefore recommends that the proposal may be implemented subject to the conditions recommended in Appendix 4.

8. Recommendations

That the Minister for Environment notes:

1. The proposal assessed is for the Earl Grey Lithium Project at the abandoned Mt Holland mine site located approximately 105 km south-southeast of Southern Cross.
2. The key environmental factors identified by the EPA in the course of its assessment are Flora and Vegetation and Terrestrial Fauna, set out in section 4.
3. The EPA has concluded that the proposal may be implemented, provided the implementation of the proposal is carried out in accordance with the recommended conditions and procedures set out in Appendix 4. Matters addressed in the conditions include the following:
    a) environmental management plan to minimise impacts to threatened and priority flora and exclusion zones to avoid *Banksia sphaerocarpa* var. *dolichostyla* and *Microcorys* sp. Mt Holland (D. Angus DA2397) (condition 6)
    b) environmental management plan to minimise impacts to threatened fauna and exclusion zones to avoid impacts to malleefowl mounds (condition 7)
    c) offset to counterbalance the significant residual impact to *Banksia sphaerocarpa* var. *dolichostyla*, *Microcorys* sp. Mt Holland (D. Angus DA2397), chuditch and malleefowl through the clearing of 386 ha of potential breeding and foraging habitat (condition 8).

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Mattiske 2018, *Statistical comparison of vegetation within the Earl Grey lithium project with the Ironcap Hills Vegetation Complex*, memorandum prepared for Kidman Resources, Mattiske Consulting Pty Ltd, Perth, WA.

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Appendix 1: List of submitters

Government organisations:

Commonwealth Department of the Environment and Energy
Department of Biodiversity, Conservation and Attractions
Department of Mines, Industry Regulation and Safety
Department of Water and Environmental Regulation

Other organisations:

Central West Goldfields People/Kaparn Native Title Claimant Group
National Malleefowl Recovery Team
Northern Valley Wildlife Support
The Wilderness Society of Western Australia

Individuals:

Individual 1 – ANON-V2QW-U89M-3
Individual 2 – ANON-V2QW-U89R-8
Individual 3 – ANON-V2QW-U89A-Q
Individual 4 – ANON-V2QW-U896-C
Individual 5 – ANON-V2QW-U89X-E
Individual 6 – ANON-V2QW-U89C-S
Individual 7 – ANON-V2QW-U89J-Z

Appendix 2: Consideration of principles

EP Act Principle	Consideration
1. The precautionary principle *Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation. In application of this precautionary principle, decisions should be guided by –* *a) careful evaluation to avoid, where practicable, serious or irreversible damage to the environment; and* *b) an assessment of the risk-weighted consequences of various options.*	In considering this principle, the EPA notes that Flora and Vegetation, and Terrestrial Fauna could be significantly impacted by the proposal. The assessment of these impacts is provided in this report. Investigations into the biological and physical environment have been undertaken by the proponent, and have provided sufficient certainty to assess risks and identify measures to avoid or minimise impacts. The proponent has designed the proposal footprint to utilise existing disturbed areas and modified the footprint to avoid several threatened and priority flora species, as well as an active malleefowl mound. The EPA has recommended conditions to ensure that risks are avoided where possible, and otherwise minimised, and that relevant measures are undertaken by the proponent to manage significant residual impacts including offsets. There remains some uncertainty around the potential availability of suitable offsets for *Microcorys sp.* Mt Holland, however, the species is a priority 1, and not scheduled under state or Commonwealth legislation. The proponent has provided contingency actions and agreed to continue consultation with DBCA and DWER to confirm the appropriateness of the proposed offsets. From its assessment of this proposal the EPA has concluded that there is no threat of serious or irreversible harm, provided that the recommended conditions are implemented.
2. The principle of intergenerational equity	In considering this principle, the EPA notes that Flora and Vegetation, and Terrestrial Fauna could be significantly impacted by the proposal. The assessment of these impacts is provided in this report.

EP Act Principle	Consideration
The present generation should ensure that the health, diversity and productivity of the environment is maintained and enhanced for the benefit of future generations.	The EPA notes that the proponent has identified measures to avoid and minimise impacts to the factors of Flora and Vegetation and Terrestrial Fauna. The EPA has considered these measures during its assessment, and has recommended conditions to ensure that appropriate measures, including avoidance of impacts, are implemented. The EPA notes that the current site is the historic Mt Holland Mine site which is not rehabilitated. The proponent is proposing a Mine Closure Plan and progressive rehabilitation during the operation of the mine. The proponent notes that prior to mining, the area comprised natural wooded and scrubland ecosystems, and the aim at closure would be to return the project areas, as far as practicable, to a naturally functioning ecosystem. From its assessment of this proposal, the EPA has concluded that the environmental values will be protected and that the health, diversity and productivity of the environment will be maintained for the benefit of future generations.
3. The principle of the conservation of biological diversity and ecological integrity *Conservation of biological diversity and ecological integrity should be a fundamental consideration.*	In considering this principle, the EPA notes that Flora and Vegetation, and Terrestrial Fauna could be significantly impacted by the proposal. The assessment of these impacts is provided in this report. The proponent has undertaken a range of surveys for flora, vegetation and fauna within the proposal area and broader region. The proponent has proposed measures to avoid or minimise impacts to biological diversity. The EPA has considered these measures during its assessment and recommended a number of conditions, including the requirement for a Flora Environmental Management Plan, Terrestrial Fauna Environmental Management Plan and Offsets. From its assessment of this proposal, the EPA has concluded that the proposal would not compromise the biological diversity and ecological integrity of the affected areas.

EP Act Principle	Consideration
4. Principles relating to improved valuation, pricing and incentive mechanisms *(1) Environmental factors should be included in the valuation of assets and services.* *(2) The polluter pays principles – those who generate pollution and waste should bear the cost of containment, avoidance and abatement.* *(3) The users of goods and services should pay prices based on the full life-cycle costs of providing goods and services, including the use of natural resources and assets and the ultimate disposal of any waste.* *(4) Environmental goals, having been established, should be pursued in the most cost effective way, by establishing incentive structure, including market mechanisms, which enable those best placed to maximise benefits and/or minimize costs to develop their own solution and responses to environmental problems.*	In considering this principle, the EPA notes that the proponent would bear the cost relating to waste and pollution, including avoidance, containment, decommissioning, rehabilitation and closure. The EPA has had regard to this principle during the assessment of the proposal.
5. The principle of waste minimisation *All reasonable and practicable measures should be taken to minimise the generation of waste and its discharge into the environment.*	In considering this principle, the EPA notes that the proponent has committed to minimise waste by adopting the hierarchy of waste controls; avoid, minimise, reuse, recycle and safe disposal. The EPA has had regard to this principle during the assessment of the proposal.

Appendix 3: Evaluation of other environmental factors

Environmental factor	Description of the proposal's likely impacts on the environmental factor	Government agency and public comments	Evaluation of why the factor is not a key environmental factor
LAND			
Terrestrial Environmental Quality	It is proposed to place the integrated waste landform (IWL) over the top of the existing western tailings storage facility (TSF). There is the potential for placement of waste rock and dry tailings on the existing western TSF resulting in contaminant leaching.	No comments were received for this factor during consultation.	Terrestrial Environmental Quality was not identified as a preliminary key environmental factor when the EPA decided to assess the proposal or in the Environmental Scoping Document (ESD), but was identified as an Other factor. Having regard to: • the reuse of the existing western TSF minimises clearing of native vegetation and terrestrial fauna habitat • investigations determined the existing tailings mass is limited (1-4 m deep), reducing potential leachate volumes and the risk of increased seepage through the historic tailings • the Environmental Factor Guideline – *Terrestrial Environmental Quality* (EPA 2016f) • the significance considerations in the *Statement of Environmental Principles, Factors and Objectives* (EPA 2018a),

Environmental factor	Description of the proposal's likely impacts on the environmental factor	Government agency and public comments	Evaluation of why the factor is not a key environmental factor
			the EPA considers it is unlikely that the proposal would have a significant impact on Terrestrial Environmental Quality and that the impacts to this factor are manageable. Accordingly, the **EPA did not consider Terrestrial Environmental Quality to be a key environmental factor** at the conclusion of its assessment.
Subterranean Fauna	Mining of the Earl Grey pit would extend below groundwater level, and water would be abstracted from a borefield located approximately 8 kilometres (km) southeast of the accommodation village. There is the potential for: • impacts to stygofauna through removal of habitat from mining below the water • impacts to stygofauna and habitat through groundwater	**Public comments** The Wilderness Society of Western Australia noted that the desktop assessment for subterranean fauna did not consider impact to subterranean communities outside the proposal area, which might be connected to groundwater aquifers within the proposal area. The Wilderness Society of Western Australia was of the view that in the absence of an in-depth analysis of impacts on subterranean fauna inhabiting saturated micro caverns and groundwater aquifers connected to those within the proposal area, and preparation of a mitigation plan for identified impacts, the proposal should be rejected.	Subterranean Fauna was not identified as a preliminary key environmental factor when the EPA decided to assess the proposal or in the ESD, but was identified as an Other factor. Having regard to: • the subterranean fauna desktop assessment, which found: - it is unlikely that stygofauna occur in the mine area due to the depth to groundwater (58-70 m below ground level) and the salinity of the groundwater (17,000-120,000 milligrams per litre (mg/L)) - it is unlikely that stygofauna occur in the borefield area due to

Environmental factor	Description of the proposal's likely impacts on the environmental factor	Government agency and public comments	Evaluation of why the factor is not a key environmental factor
	abstraction from the borefield.		groundwater salinity (100,000-120,000 mg/L) - stygofauna are most likely to occur in calcretes located 5 km to the east, however the geologic and hydrological condition make it unlikely for connectivity between the calcrete, and mine and borefield areas. The potential for impacts on stygofauna communities in calcretes is unlikely, as predicted drawdowns from the mine and borefield extend less than 1 km • the Environmental Factor Guideline – *Subterranean Fauna* (EPA 2016g) • the significance considerations in the *Statement of Environmental Principles, Factors and Objectives* (EPA 2018a), the EPA considers it is unlikely that the proposal would have a significant impact on Subterranean Fauna and that the impacts to this factor are manageable. Accordingly, the **EPA did not consider Subterranean Fauna to be a key**

Environmental factor	Description of the proposal's likely impacts on the environmental factor	Government agency and public comments	Evaluation of why the factor is not a key environmental factor
			environmental factor at the conclusion of its assessment.
AIR			
Air Quality	Greenhouse gases (GHG) emissions would come from: • onsite power generation using diesel generators • diesel combustion in vehicles and equipment • onsite waste water handling • onsite emissions from landfill. The proponent predicted greenhouse gas emissions to be 57,680 tonnes per annum of carbon dioxide equivalent (CO2-e).	**Public comments** • Individual 6 (ANON-V2QWU89C-S) was concerned that GHG emissions had not been considered for the proposal. • Individual 7 (ANON-V2QWU89J-Z) and the Wilderness Society of Western Australia were concerned that the proposal would generate a large amount of GHG emissions.	Air Quality was not identified as a preliminary key environmental factor when the EPA decided to assess the proposal or in the ESD, but was identified as an Other factor. As stated in the Environmental Factor Guideline – *Air Quality* (EPA 2016h), the EPA may decide to assess GHG emissions within the environmental impact assessment process if a proposal's expected total GHG emissions are deemed to be significant. The EPA defines this as proposals that have the potential to significantly increase the state's GHG emissions. Having regard to: • predicted GHG of 57,680 tonnes per annum, the EPA considers it is unlikely that the proposal would have a significant impact on GHG emissions and that the impacts to this factor are manageable.

Environmental factor	Description of the proposal's likely impacts on the environmental factor	Government agency and public comments	Evaluation of why the factor is not a key environmental factor
			Accordingly, the **EPA did not consider Air Quality (greenhouse gas emissions) to be a key environmental factor** at the conclusion of its assessment.
PEOPLE			
Social Surroundings	The Holland Track runs to the south and east of the proposal area and intersects the development envelope at the southern end of the borefield road. There is the potential for adverse impact, or reduction in access, to the Holland Track. The proponent undertook an ethnographic survey with three Aboriginal groups in 2004, with no ethnographical sites of significance identified.	**Public comments** The Central West Goldfields People/Kaparn Native Title Claimant Group (CWGP) raised concern that it was not consulted about the proposal. The primary concern related to the potential for archaeological sites, or unknown ethnographical significant sites, within the proposal area. The CWGP requested that the Aboriginal heritage survey be conducted with the CWGP to identify any sites under the *Aboriginal Heritage Act 1972*.	Social Surroundings was not identified as a preliminary key environmental factor when the EPA decided to assess the proposal or in the ESD, but was identified as an Other factor. Having regard to: • the proponent's commitment to additional stakeholder engagement prior to commencement of construction and throughout development of the proposal in relation to heritage and Native Title matters • the proponent's statement that there is no conflict between mining operations and use of the Holland Track, so access and amenity would not be impacted • any disturbance to Aboriginal sites being in accordance with Section 18 of the *Aboriginal Heritage Act 1972*

Environmental factor	Description of the proposal's likely impacts on the environmental factor	Government agency and public comments	Evaluation of why the factor is not a key environmental factor
			• the Environmental Factor Guideline – *Social Surroundings* (EPA 2016i) • the significance considerations in the *Statement of Environmental Principles, Factors and Objectives* (EPA 2018a), the EPA considers it is unlikely that the proposal would have a significant impact on Social Surroundings and that the impacts to this factor are manageable. Accordingly, the **EPA did not consider Social Surroundings to be a key environmental factor** at the conclusion of its assessment.
WATER			
Inland Waters	The proposal would require up to 1.5 gigalitres per annum (GLpa) of water for processing plant and accommodation village, and for dust suppression around the mine site. Water would be sourced from pit dewatering, abstraction from the Bounty pit and abstraction	No comments were received for this factor during consultation.	Inland Waters was not identified as a preliminary key environmental factor when the EPA decided to assess the proposal or in the ESD, but was identified as an Other factor. Having regard to: • the existing licence Groundwater Licence (GWL)180267 to take up to 630,000 kLpa of water from the

Environmental factor	Description of the proposal's likely impacts on the environmental factor	Government agency and public comments	Evaluation of why the factor is not a key environmental factor
	from the existing southern borefield and water recycling within the various process water circuits. Based on the current design, a pit lake would form with a maximum pit floor depth of 185 m below ground level in the south, and 300 m below ground level in the north. If backfilling activities are undertaken, it is expected to result in a raised landform that covers up to 50% of the pit footprint. The remainder of the pit is expected to remain open.		bounty water supply until May 2025 • the refurbishment of the existing southern borefield (8 km south east of the accommodation village) with a recoverable storage capacity of 20,000,000 kL and a groundwater quality of between 73,000 and 87,000 mg/L • any pit lake developed being immediately filled with hypersaline groundwater unsuitable for consumption • the proponent having a licence to take water under Section 5C of the *Rights in Water and Irrigation Act 1914*. • the Environmental Factor Guideline – *Inland Waters* (EPA 2016j) • the significance considerations in the *Statement of Environmental Principles, Factors and Objectives* (EPA 2018a), the EPA considers it is unlikely that the proposal would have a significant impact on Inland Waters and that the impacts to this factor are manageable.

Environmental factor	Description of the proposal's likely impacts on the environmental factor	Government agency and public comments	Evaluation of why the factor is not a key environmental factor
			Accordingly, the **EPA did not consider Inland Waters to be a key environmental factor** at the conclusion of its assessment.

Appendix 4: Identified Decision-Making Authorities and Recommended Environmental Conditions

Identified Decision-making Authorities

Section 44(2) of EP Act specifies that the EPA's report must set out (if it recommends that implementation be allowed) the conditions and procedures, if any, to which implementation should be subject. This Appendix contains the EPA's recommended conditions and procedures.

Section 45(1) requires the Minister for Environment to consult with decision-making authorities (DMAs), and if possible, agree on whether or not the proposal may be implemented, and if so, to what conditions and procedures, if any, that implementation should be subject.

The following decision-making authorities have been identified:

Decision-making Authority	Legislation (and Approval)
1. Minister for Environment	*Biodiversity Conservation Act 2016* (Taking or disturbing threatened species)
2. Minister for Water	*Rights in Water and Irrigation Act 1914* (Water abstraction licence, permit to obstruct or interfere with beds and banks, licence to construct bores)
3. Minister for Mines and Petroleum	*Mining Act 1978*
4. Chief Executive Officer, Department of Water and Environmental Regulation	*Environmental Protection Act 1986* (Part V Works Approval and Licence)
5. Department of Mines, Industry Regulation and Safety Executive Director, Resource and Environmental Compliance Division	*Mining Act 1978* (Mining proposal)
State Mining Engineer	*Mines Safety and Inspection Act 1994* (Mine safety)
Chief Dangerous Goods Officer	*Dangerous Goods Safety Act 2004* (Dangerous goods)
6. Chief Executive Officer, Shire of Yilgarn	*Building Act 2011* (Development approval) *Health Act 1911* and Health (Treatment of Sewage and Disposal of Effluent and Liquid Waste) Regulations 1974

Note: In this instance, agreement is only required with DMAs 1 to 3 since these DMAs are Ministers.

RECOMMENDED ENVIRONMENTAL CONDITIONS

STATEMENT THAT A PROPOSAL MAY BE IMPLEMENTED
***(Environmental Protection Act 1986*)**

EARL GREY LITHIUM PROJECT

Proposal: Proposal to develop a pegmatite-hosted lithium deposit at the abandoned Mt Holland mine site, located 105 km south-southeast of Southern Cross, Shire of Yilgarn.

Proponent: Covalent Lithium Pty Ltd
Australian Company Number 623 090 139

Proponent Address: Level 18, 109 St Georges Terrace, Perth WA 6000

Assessment Number: 2123

Report of the Environmental Protection Authority: 1651

Pursuant to section 45 of the *Environmental Protection Act 1986,* it has been agreed that the proposal described and documented in Table 2 of Schedule 1 may be implemented and that the implementation of the proposal is subject to the following implementation conditions and procedures:

1 Proposal Implementation

1-1 When implementing the proposal, the proponent shall not exceed the authorised extent of the proposal as defined in Table 2 of Schedule 1, unless amendments to the proposal and the authorised extent of the proposal have been approved under the EP Act.

2 Contact Details

2-1 The proponent shall notify the CEO of any change of its name, physical address or postal address for the serving of notices or other correspondence within twenty-eight (28) days of such change. Where the proponent is a corporation or an association of persons, whether incorporated or not, the postal address is that of the principal place of business or of the principal office in the State.

3 Time Limit for Proposal Implementation

3-1 The proponent shall not commence implementation of the proposal after five (5) years from the date on this Statement, and any commencement, prior to this date, must be substantial.

3-2 Any commencement of implementation of the proposal, on or before five (5) years from the date of this Statement, must be demonstrated as substantial by providing the CEO with written evidence, on or before the expiration of five (5) years from the date of this Statement.

4 Compliance Reporting

4-1 The proponent shall prepare, and maintain a Compliance Assessment Plan which is submitted to the CEO at least six (6) months prior to the first Compliance Assessment Report required by condition 4-6, or prior to implementation of the proposal, whichever is sooner.

4-2 The Compliance Assessment Plan shall indicate:

(1) the frequency of compliance reporting;

(2) the approach and timing of compliance assessments;

(3) the retention of compliance assessments;

(4) the method of reporting of potential non-compliances and corrective actions taken;

(5) the table of contents of Compliance Assessment Reports; and

(6) public availability of Compliance Assessment Reports.

4-3 After receiving notice in writing from the CEO that the Compliance Assessment Plan satisfies the requirements of condition 4-2 the proponent shall assess compliance with conditions in accordance with the Compliance Assessment Plan required by condition 4-1.

4-4 The proponent shall retain reports of all compliance assessments described in the Compliance Assessment Plan required by condition 4-1 and shall make those reports available when requested by the CEO.

4-5 The proponent shall advise the CEO of any potential non-compliance within seven (7) days of any non-compliance being known.

4-6 The proponent shall submit to the CEO the first Compliance Assessment Report fifteen (15) months from the date of issue of this Statement addressing the twelve (12) month period from the date of issue of this Statement and then

annually from the date of submission of the first Compliance Assessment Report, or as otherwise agreed in writing by the CEO.

The Compliance Assessment Report shall:

(1) be endorsed by the proponent's Chief Executive Officer or a person delegated to sign on the Chief Executive Officer's behalf;

(2) include a statement as to whether the proponent has complied with the conditions;

(3) identify all potential non-compliances and describe corrective and preventative actions taken;

(4) be made publicly available in accordance with the approved Compliance Assessment Plan; and

(5) indicate any proposed changes to the Compliance Assessment Plan required by condition 4-1.

5 Public Availability of Data

5-1 Subject to condition 5-2, within a reasonable time period approved by the CEO of the issue of this Statement and for the remainder of the life of the proposal the proponent shall make publicly available, in a manner approved by the CEO, all validated environmental data (including sampling design, sampling methodologies, empirical data and derived information products (e.g. maps)), management plans and reports relevant to the assessment of this proposal and implementation of this Statement.

5-2 If any data referred to in condition 5-1 contains particulars of:

(1) a secret formula or process; or

(2) confidential commercially sensitive information;

the proponent may submit a request for approval from the CEO to not make these data publicly available. In making such a request the proponent shall provide the CEO with an explanation and reasons why the data should not be made publicly available.

6 Flora and Vegetation Environmental Management Plan

6-1 The proponent shall implement the proposal to meet the following environmental outcome:

(1) The proponent shall ensure there is no proposal-related direct or adverse indirect impacts to flora and vegetation within the exclusion zones as shown on Figure 3 and delineated by coordinates in Schedule 2.

6-2 Prior to the commencement of ground disturbing activities, the proponent must undertake pre-clearance vegetation and flora survey(s) within the development envelope in accordance with Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment.

6-3 In order to meet the requirements of condition 6-1, the proponent shall update and submit to the CEO the Flora and Vegetation Environmental Management Plan on advice of the Department of Biodiversity, Conservation and Attractions within six (6) months of this statement being issued.

6-4 The proponent shall not commence ground disturbing activities until such a time as the Flora and Vegetation Environmental Management Plan required by 6-3 is approved by the CEO.

6-5 The Flora and Vegetation Environmental Management Plan shall:

(1) Include details of the timing, methods, limitations and results of the pre-clearance surveys required by condition 6-2 and demonstrate how the findings of the survey(s) have been considered, including provision of mitigation measures.

(2) Include actions to ensure that dust, weeds and fire are appropriately managed within the development envelope.

(3) specify trigger criteria that must provide an early warning that the threshold criteria identified in condition 6-5(4) may not be met;

(4) specify threshold criteria to demonstrate compliance with the environmental outcome specified in condition 6-1;

(5) specify monitoring to determine if trigger criteria and threshold criteria are exceeded;

(6) specify trigger level actions to be implemented in the event that trigger criteria have been exceeded;

(7) specify threshold contingency actions to be implemented in the event that threshold criteria are exceeded; and

(8) provide the format and timing for the reporting of monitoring results against trigger criteria and threshold criteria to demonstrate that condition 6-1 has been met over the reporting period in the Compliance Assessment Report required by condition 4-6.

6-6 After receiving notice in writing from the CEO that the Flora and Vegetation Environmental Management Plan satisfies the requirements of condition 6-3 and 6-5 the proponent shall:

(1) implement the provisions of the Flora and Vegetation Environmental Management Plan; and

(2) continue to implement the Flora and Vegetation Environmental Management Plan until the CEO has confirmed by notice in writing that the proponent has demonstrated the objective specified in conditions 6-1 have been met.

6-7 In the event that monitoring, or investigations indicates exceedance of threshold criteria specified in the 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;

(2) implement the threshold contingency actions specified in the Flora and Vegetation Environmental Management Plan within 24 hours of the exceedance being reported as required by condition 6-7(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;

(3) investigate to determine the cause of the threshold criteria being exceeded;

(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

(5) provide a report to the CEO within twenty-one (21) days of the exceedance being reported as required by condition 6-7(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 6-7(3) and 6-7(4);

(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.

6-8 The proponent:

(1) may review and revise the Flora and Vegetation Environmental Management Plan, or

(2) shall review and revise the Flora and Vegetation Environmental Management Plan as and when directed by the CEO.

6-9 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 6-4.

7 Terrestrial Fauna Environmental Management Plan

7-1 The proponent shall implement the proposal to meet the following environmental outcomes and objectives:

(1) The proponent shall ensure there is no proposal-related direct or adverse indirect impacts to malleefowl mounds within the exclusion areas as shown on Figure 4 and delineated by coordinates in Schedule 2.

(2) The proponent shall ensure there is no direct or indirect proposal-related significant adverse impacts to malleefowl and chuditch within the development envelope.

(3) The proponent shall ensure there is no removal of active malleefowl mounds within the development envelope.

7-2 In order to meet the requirements of condition 7-1, the proponent shall prepare and submit to the CEO a Terrestrial Fauna Environmental Management Plan on advice of the Department of Biodiversity, Conservation and Attractions within six (6) months of this statement being issued.

7-3 The proponent shall not commence ground disturbing activities until such a time as the Terrestrial Fauna Environmental Management Plan required by 7-2 is approved by the CEO.

7-4 The Terrestrial Fauna Environmental Management Plan shall:

(1) outline how the pre-clearance surveys will be undertaken using LIDAR or similar technology;

(2) outline the procedure for capture and release of chuditch, and malleefowl if required, prior to clearing of native vegetation;

(3) specify trigger criteria that must provide an early warning that the environmental objectives identified in condition 7-1 may not be met;

(4) specify threshold criteria to demonstrate compliance with the environmental objectives specified in condition 7-1;

(5) specify monitoring to determine if trigger criteria and threshold criteria are exceeded;

(6) specify trigger level actions to be implemented in the event that trigger criteria have been exceeded;

(7) specify threshold contingency actions to be implemented in the event that threshold criteria are exceeded; and

(8) provide the format and timing for the reporting of monitoring results against trigger criteria and threshold criteria to demonstrate that condition 7-1 has been met over the reporting period in the Compliance Assessment Report required by condition 4-6.

7-5 After receiving notice in writing from the CEO that the Terrestrial Fauna Environmental Management Plan satisfies the requirements of condition 7-4 the proponent shall:

(1) implement the provisions of the Terrestrial Fauna Environmental Management Plan; and

(2) continue to implement the Terrestrial Fauna Environmental Management Plan until the CEO has confirmed by notice in writing that the proponent has demonstrated the objectives specified in conditions 7-1 have been met.

7-6 In the event that monitoring, tests, surveys or investigations indicates exceedance of threshold criteria specified in the Terrestrial Fauna Environmental Management Plan, the proponent shall:

(1) report the exceedance in writing to the CEO within seven (7) days of the exceedance being identified;

(2) implement the threshold contingency actions specified in the Terrestrial Fauna Environmental Management Plan within 24 hours of the exceedance being reported as required by condition 7-6(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;

(3) investigate to determine the cause of the threshold criteria being exceeded;

(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

(5) provide a report to the CEO within twenty-one (21) days of the exceedance being reported as required by condition 7-6(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 7-6(3) and 7-6(4);

(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.

7-7 The proponent:

(1) may review and revise the Terrestrial Fauna Environmental Management Plan, or

(2) shall review and revise the Terrestrial Fauna Environmental Management Plan as and when directed by the CEO.

7-8 The proponent shall implement the latest revision of the Terrestrial Fauna Environmental Management Plan, which the CEO has confirmed by notice in writing, satisfies the requirements of condition 7-4.

8 Offsets

8-1 The proponent shall undertake offsets with the objective of counterbalancing the significant residual impact on the following environmental values:

(1) 386 ha of foraging and breeding habitat for malleefowl (*Leipoa ocellata*);

(2) 386 ha of foraging and potential breeding habitat for chuditch (*Dasyurus geoffroii*);

(3) 69 individuals of Iron Caps Banksia (*Banksia sphaerocarpa* var. *dolichostyla)*; and

(4) 6,957 individuals of *Microcorys* sp. Mt. Holland (D. Angus DA2397),

as a result of the implementation of the proposal, as defined in Table 2 of Schedule 1 and delineated by coordinates in Schedule 2.

Threatened Fauna Land Acquisition Strategy

8-2 Within twelve (12) months of the publication of this Statement, the proponent shall prepare and submit a Threatened Fauna Land Acquisition Strategy to the requirements of the CEO.

8-3 The Threatened Fauna Land Acquisition Strategy, as required by condition 8-2, shall:

(1) identify an initially unprotected area, or areas, to be acquired and protected for conservation that contains malleefowl and chuditch foraging and breeding habitat, in consultation with the Department of Biodiversity, Conservation and Attractions;

(2) demonstrate how the proposed offset counterbalances the significant residual impact to 386 ha of foraging and breeding habitat for malleefowl, and 386 ha of foraging and potential breeding habitat for chuditch, as identified in condition 8-1, through application of the principles and completion of the WA Offsets Template, as described in the WA Environmental Offsets Guidelines 2014, and the *Environment Protection and Biodiversity Conservation Act 1999* Environmental Offsets Policy Assessment Guide (October 2012), or any approved updates of these guidelines, to demonstrate how the proposed offset counterbalances the significant residual impact malleefowl and chudith, as identified in condition 8-1;

(3) demonstrate how the proposed offset aligns with the *National Recovery Plan for Malleefowl Leipoa ocellata* and the *Chuditch (Dasyurus geoffroii) Recovery Plan*, or any subsequent revisions of these plans;

(4) identify the environmental values of the offset area(s);

(5) identify and commit to a protection mechanism for any area(s) of land acquisition, being either the area(s) is ceded to the Crown for the purpose of management for conservation, or the area(s) is managed under other suitable mechanisms for the purpose of conservation as agreed by the CEO;

(6) if any land is to be ceded to the Crown for the purpose of management for conservation, the proponent will identify:

(a) the quantum of, and provide funds for, the upfront works associated with establishing the conservation area;

(b) the quantum of, and provide a contribution of funds for, the management of this area for seven (7) years after completion of purchase; and

(c) an appropriate management body for the ceded land;

(7) detail the monitoring, reporting and evaluation mechanisms for management and/or rehabilitation actions; and

(8) define the role of the proponent and/or any relevant management authority.

8-4 Within (6) months of receiving notice in writing from the CEO, on advice of the Department of Biodiversity, Conservation and Attractions, that the Threatened Fauna Land Acquisition Strategy satisfies the requirements of conditions 8-2 and 8-3, the proponent shall implement the approved Threatened Fauna Land Acquisition Strategy.

8-5 The proponent:

(1) may review and revise the Threatened Fauna Land Acquisition Strategy; or

(2) shall review and revise the Threatened Fauna Land Acquisition Strategy as and when directed by the CEO.

8-6 The proponent shall implement the latest version of the Threatened Fauna Land Acquisition Strategy, which the CEO has confirmed by notice in writing, satisfies the requirements of condition 8-3.

Flora Offset strategy

8-7 Within twelve (12) months of the publication of this Statement, the proponent shall prepare and submit a Flora Offset Strategy to the requirements of the CEO.

8-8 The Flora Offset Strategy required by condition 8-7 shall:

(1) identify an area, or areas, to be protected, managed and/or rehabilitated for conservation that contains the flora values identified in condition 8-1 on advice of the Department of Biodiversity, Conservation and Attractions;

(2) demonstrate how the proposed offset counterbalances the significant residual impact to 69 individuals of *Banksia sphaerocarpa var. dolichostyla* and 6957 individuals of *Microcorys* sp. Mt Holland (D. Angus DA2397), as identified in condition 8-1 through application of the principles and completion of the WA Offsets Template, as described in the WA Environmental Offsets Guidelines 2014, and the *Environment Protection and Biodiversity Conservation Act 1999* Environmental Offsets Policy Assessment Guide (October 2012), or any approved updates of these guidelines;

(3) identify the environmental values of the offset area(s);

(4) identify and commit to a protection mechanism for any area(s) of land acquisition, being either the area(s) is ceded to the Crown for the purpose of management for conservation, or the area(s) is managed under other suitable mechanisms for the purpose of conservation as agreed by the CEO;

(5) if any land is to be ceded to the Crown for the purpose of management for conservation, the proponent will identify:

  (a) the quantum of, and provide funds for, the upfront works associated with establishing the conservation area;

  (b) the quantum of, and provide a contribution of funds for, the management of this area for seven (7) years after completion of purchase; and

  (c) an appropriate management body for the ceded land;

(6) where rehabilitation and/or other on-ground actions are proposed, state the objectives and targets to be achieved, including completion criteria, which demonstrate;

  (a) how on-ground management or rehabilitation actions will result in a tangible improvement to the environmental value(s) being offset; and

  (b) the consistency of the objectives and targets with the objectives of any relevant Recovery Plans or area management plans;

(7) detail the management and/or rehabilitation actions and a timeframe for the actions to be undertaken;

(8) detail any funding arrangements and timing of funding for conservation activities;

(9) detail the monitoring, reporting and evaluation mechanisms for management and/or rehabilitation actions; and

(10) define the role of the proponent and/or any relevant management authority.

8-9 Within twelve (12) months of receiving notice in writing from the CEO, on advice of the Department of Biodiversity, Conservation and Attractions, that the Flora Offset Strategy satisfies the requirements of conditions 8-7 and 8-8, the proponent shall substantially commence implementation of the actions within the approved Flora Offset Strategy.

8-10 The proponent shall continue to implement the approved Offset Strategy until the CEO has confirmed by notice in writing that it has been demonstrated that the objectives and targets in the Flora Offset Strategy have been met and therefore the implementation of the actions is no longer required.

8-11 The proponent:

(1) may review and revise the Flora Offset Strategy; or

(2) shall review and revise the Flora Offset Strategy as and when directed by the CEO.

8-12 The proponent shall implement the latest version of the Flora Offset Strategy, which the CEO has confirmed by notice in writing, satisfies the requirements of condition 8-8.

Schedule 1

Table 1: Summary of the Proposal

Proposal Title	Earl Grey Lithium Project
Short Description	The proposal is to develop a pegmatite-hosted lithium deposit at the abandoned Mt Holland Mine Site, in a Development Envelope of 1,984 ha. The mining proposal involves a footprint of 667 ha of land, including new clearing of up to 386 ha of native vegetation, for a mine pit, waste rock dump, integrated waste landform, processing plant, airstrip, accommodation village and associated infrastructure.

Table 2: Location and authorised extent of physical and operational elements

Column 1	Column 2	Column 3
Element	**Location**	**Authorised Extent**
Physical elements		
Mine and associated infrastructure	Figure 2	Clearing of no more than 386 ha of native vegetation, within a development envelope of 1,984 ha
Operational elements		
Mining	Figure 2	Earl Grey open cut pit

Table 3: Abbreviations and Definitions

Acronym or Abbreviation	Definition or Term
Adverse	Impacts likely to change the conservation status or significantly change the local population numbers of a species
CEO	The Chief Executive Officer of the Department of the Public Service of the State responsible for the administration of section 48 of the *Environmental Protection Act 1986*, or his delegate.
EP Act	*Environmental Protection Act 1986*
ha	Hectare
Ground Disturbing Activity	Activities that are associated with the substantial implementation of a proposal including but not limited to, digging (with mechanised equipment), blasting, earthmoving, vegetation clearance, grading, gravel extraction, construction of new or widening of existing roads and tracks.
km	kilometres
LIDAR	A remote sensing technology which uses the pulse from a laser to collect measurements which can then be used to create 3D models and maps of objects and environments. LIDAR is an acronym of Light Detection and Ranging
m	Metre

Threatened Flora and Fauna	Flora and Fauna listed as Threatened under the *Environment Protection and Biodiversity Conservation Act 1999* or *Biodiversity Conservation Act 2016.*

Figures (attached)

Figure 1 Regional Location
Figure 2 Earl Grey Lithium Project development envelope and proposal footprint
Figure 3 Conservation Significant Flora Exclusion Zones
Figure 4 Malleefowl Mound Exclusion Zones

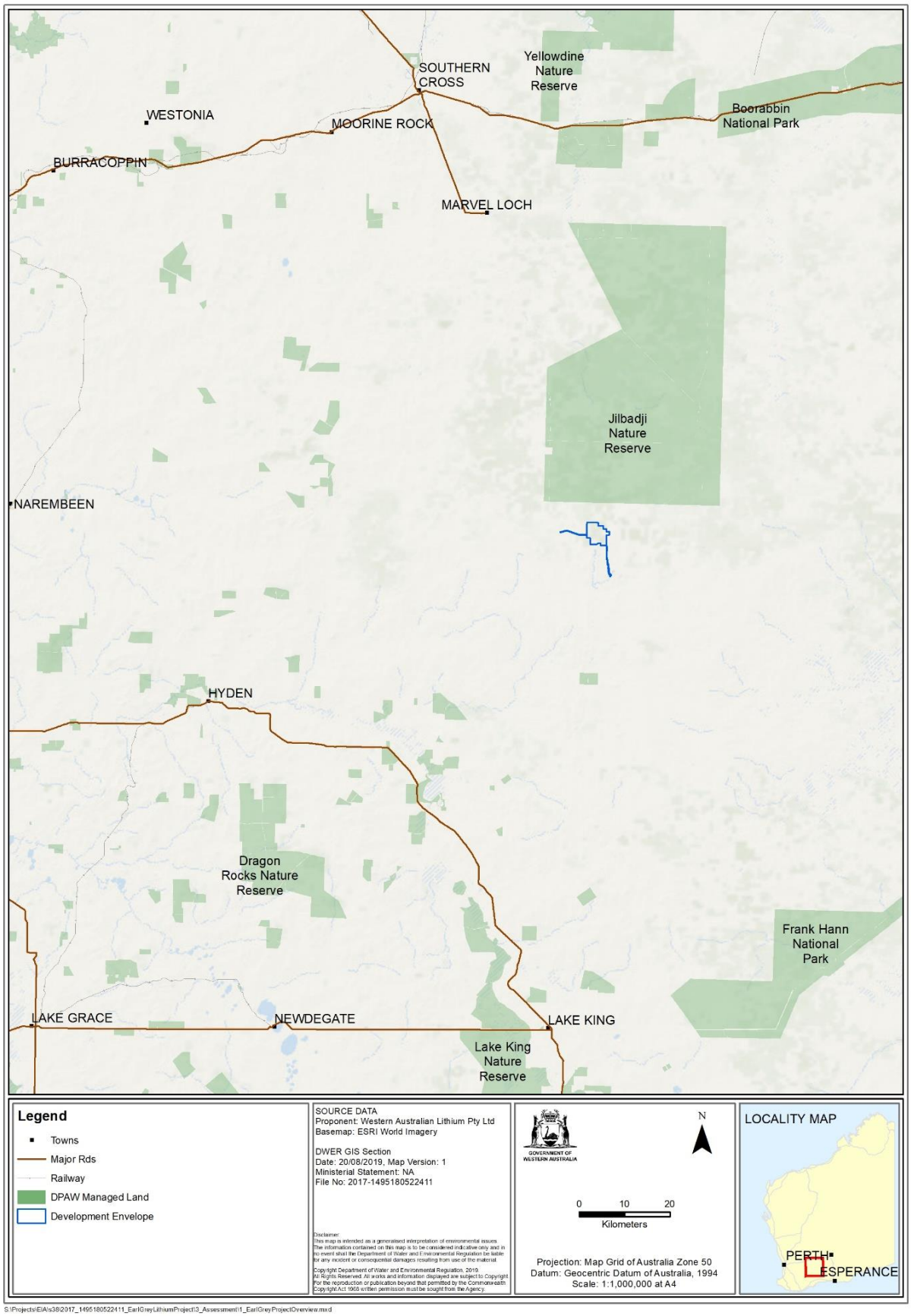

Figure 1: Regional Location

Figure 2: Earl Grey Lithium Project development envelope and indicative footprint

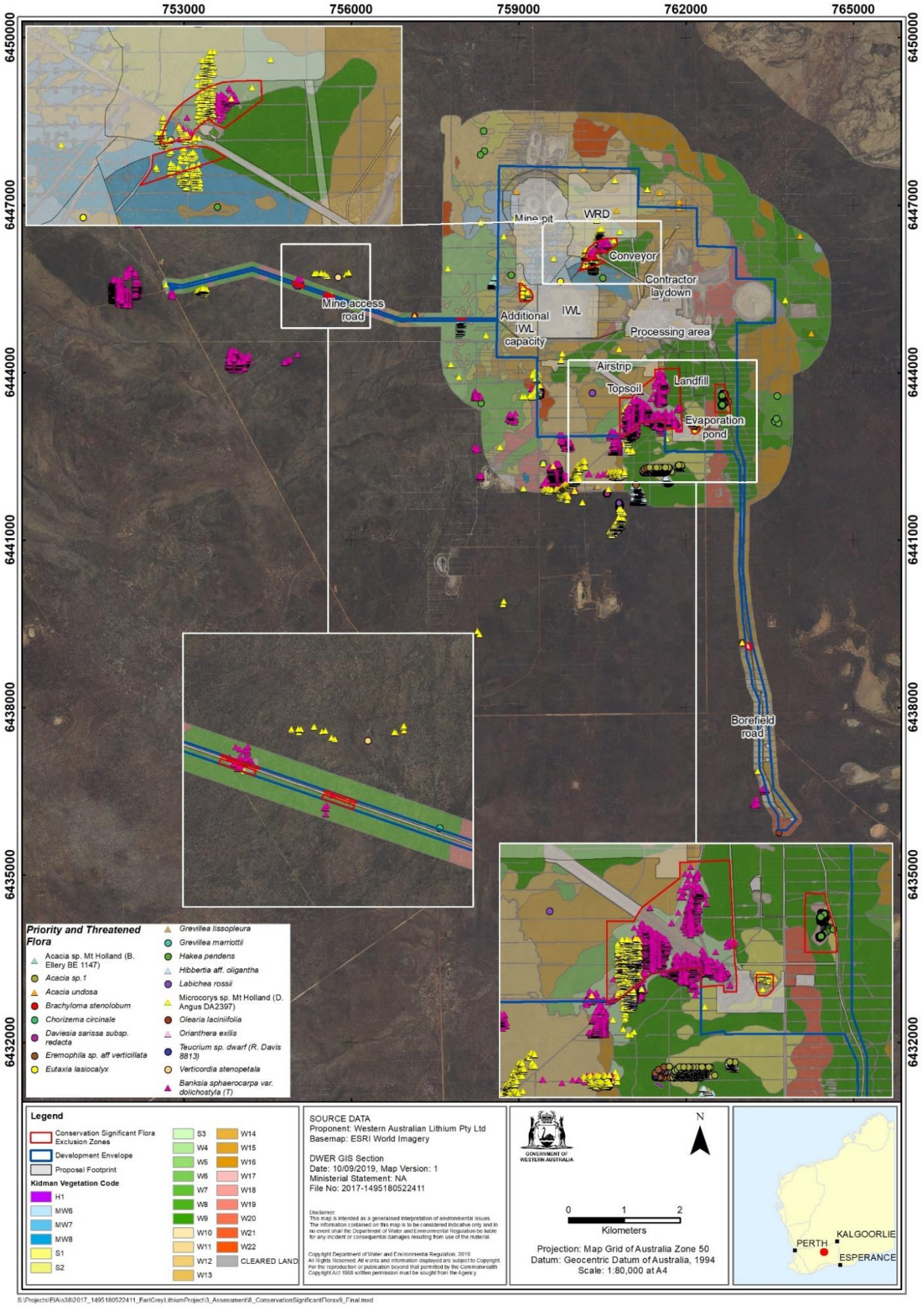

Figure 3: Conservation Significant Flora Exclusion Zones

Figure 4: Malleefowl Mound Exclusion Zones

Schedule 2

All co-ordinates are in metres, listed in Map Grid of Australia Zone 50 (MGA Zone 50), datum of Geocentric Datum of Australia 1994 (GDA94).

Co-ordinates defining the areas shown in Figures 3 and 4 of Schedule 1, and referred to in Ministerial Conditions 6 and 7 are held by the Department of Water and Environmental Regulation under the following reference numbers:

Development Envelope DWERDT199591

Conservation Significant Flora Exclusion Zones DWERDT199595

Malleefowl Mound Exclusion zones DWERDT208081