GOVERNMENT OF WESTERN AUSTRALIA

Environmental Protection Authority

Earl Grey Lithium Project (Revised Proposal)

Covalent Lithium Pty Ltd

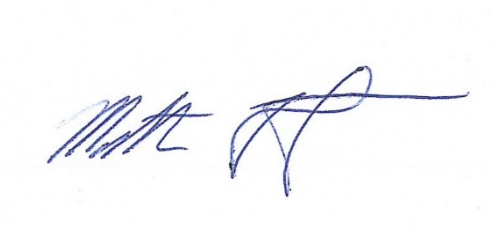
Report 1730

October 2022

This assessment report has been prepared by the Environmental Protection Authority (EPA) under s. 44 of the *Environmental Protection Act 1986* (EP Act). It describes the outcomes of the EPA's assessment of the Earl Grey Lithium Project (Revised Proposal) proposal by Covalent Lithium Pty Ltd.

This assessment report is for the Western Australian Minister for Environment and sets out:

- what the EPA considers to be the key environmental factors identified in the course of the assessment
- the EPA's recommendations as to whether or not the proposal may be implemented and, if it recommends that implementation be allowed, the conditions and procedures, if any, to which implementation should be subject
- other information, advice and recommendations as the EPA thinks fit.



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Summary

Proposal

The Earl Grey Lithium Project, is a proposal approved under Ministerial statement 1118, comprising open cut mining and processing of a pegmatite hosted lithium deposit within a 2,347 hectare (ha) development envelope.

Under the approved proposal, the proponent is authorised to clear up to 386 ha of native vegetation for a mine pit, waste rock dump, integrated waste landform, processing plant, airstrip, accommodation village, water supply pipeline and associated infrastructure.

In May 2021, the Minister for Environment amended the conditions of Ministerial statement 1118 under section 46 of the *Environmental Protection Act 1986*, and a new Ministerial statement (MS 1167) was issued which detailed the changes to Ministerial Statement 1118.

This proposal is for a significant amendment to the approved proposal, to incorporate the following changes:

- Construction and operation of a solar plant to provide renewable energy to the mine operations (additional 32 ha of native vegetation clearing).
- Variation to the airstrip width to accommodate lateral clearance in accordance with Civil Aviation Safety Authority requirements (additional 24 ha of native vegetation clearing).
- Change in the tailings waste disposal methodology from ‘dry’ tailings to ‘wet’ tailings.
- Co-disposal of inert refinery waste generated from the Kwinana Lithium Refinery to the approved waste rock landform, located at the mine operations.
- Modification of flora exclusion areas associated with the flora taxa Ironcaps Banksia (*Banksia sphaerocarpa* var. *dolichostyla*) (listed as vulnerable under *Biodiversity Conservation Act 2016* (BC Act) and *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act)) and *Microcorys elatoides* (priority 1).
- Modification of fauna exclusion areas associated with nest mounds of the fauna taxon malleefowl (*Leipoa ocellata*) (listed as vulnerable under BC Act and EPBC Act).

The proposed changes described above will occur entirely within the existing development envelope approved by MS 1118 and MS 1167.

The original proposal was assessed as an accredited assessment between the EPA and the Commonwealth and received approval under the EPBC Act in 2017 (EPBC2017/7950).

In March 2022, the Commonwealth approved a variation of the conditions of approval for EPBC 2017/7950 which related to the proposed change. Further assessment under the EPBC Act was not necessary for the significant amendment.

The proposal is located approximately 105 kilometres (km) south-southeast of Southern Cross and approximately 350 km east of Perth, Western Australia, in the Shire of Yilgarn.

The proponent for the proposal is Covalent Lithium Pty Ltd.

Context

The Mt Holland mine site is a historic gold mining operation centred on the Bounty mine site, 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 mine site, including the existing Earl Grey mine pit. The site was owned and operated by various companies from 1988, including Aztec Mining, Forrestania Gold, Lion Ore Mining and Viceroy Australia. By 2002 the majority of the tenements had expired or been surrendered and the 'Unconditional Performance Bonds' (financial bonds) were called in by the State Government to fund the closure and rehabilitation of the site. In 2014, Convergent Minerals acquired tenements for the Mt Holland Mine Site and obtained approval of mining operations under the *Mining Act 1978* (Mining Act), however, one year later, the company entered administration and no further mining development occurred (Covalent Lithium 2022A).

The proposal is situated within a number of Mining Lease, General Purpose Lease and Miscellaneous Licence tenements granted under the Mining Act, with the proponent having commercial agreements with the tenement holders to grant land access and authorise mining operations.

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.

Environmental values

Flora and vegetation, and terrestrial fauna are the key environmental factors that may be impacted by the proposal.

Consultation

The EPA published the proponent's referral information for the proposal on its website for seven days public comment from 12 – 18 October 2021. The EPA also published the proponent's additional information on its website for two weeks from 9 – 22 May 2022.

Mitigation hierarchy

The mitigation hierarchy is a sequence of proposed actions to reduce adverse environmental impacts. The sequence commences with avoidance, then moves to minimisation, rehabilitation, and offsets are considered as the last step in the sequence.

The proponent considered the mitigation hierarchy in the development and assessment of its proposal, and as a result has:

1. minimised vegetation clearing through site selection and layout
2. designed the disturbance footprint to avoid all recorded 'recently active' nest mounds for malleefowl (*Leipoa ocellata*), and include a 100 m radius 'exclusion area' to the habitat surrounding recently active nest mounds
3. developed and proposed to implement an internal clearing permit procedure within the development envelope
4. proposed to undertake pre-clearance Light Detection and Ranging (LiDAR) surveys to identify malleefowl mounds
5. proposed to undertake clearing outside of breeding, mound building and egg incubation periods for malleefowl
6. proposed to undertake pre-clearance surveys two weeks prior to clearing, to identify any malleefowl mounds, chuditch dens, or the presence/absence of both species within the area to be cleared
7. limiting vehicles and equipment access to designated roads/access tracks and cleared areas
8. ensure vehicles and equipment are cleaned of soil, vegetative material and seeds on entry/exit to site
9. implement traffic management controls, including minimising driving between dusk and dawn and reduced speed limits, signage for the malleefowl and chuditch and worker awareness training
10. undertake a quarterly weed monitoring and management program following completion of ground disturbance activities
11. undertake dust suppression, including the use of water carts on access roads during construction activities as required
12. consider local drainage features during site design and layout
13. undertake fauna entrapment controls such as trench inspections by qualified fauna specialists and ensure egress ramps will be provided were possible
14. control introduced species, including fencing of landfills and covering putrescible waste
15. offset residual impact to chuditch and malleefowl through the provision of a land covenant

Assessment of key environmental factors

The EPA has identified the key environmental factors (listed below) in the course of the assessment. As the proposal is a significant amendment to an existing proposal the EPA's assessment has been undertaken in the context of the existing proposal, having regard to the combined and cumulative effects on the environment. The EPA has also considered whether to inquire into the implementation conditions for the existing proposal.

Flora and vegetation

Residual impact or risk to environmental value	Assessment finding
Clearing of 56 ha of native vegetation in 'Good to Excellent' condition. The combined effect of the approved Earl Grey Lithium Project (386 ha) and the significant amendment will be up to 442 ha of native vegetation cleared.	There are flora species listed as Priority under the BC Act that will be impacted from the proposal. Clearing of these species may represent a significant residual impact. The environmental outcome is likely to be consistent with the EPA's objective for this factor, subject to: • condition 1 Limitations on the clearing extent • condition 2 Flora and vegetation • condition 4 Offsets • condition 5 Rehabilitation. These conditions require the development and implementation of a flora and vegetation environmental management plan, the provision of offsets and specifications for rehabilitation.
Indirect impacts on the surrounding area from weeds, altered fire regimes, impacts from dust generation and use of hypersaline water for dust suppression.	The environmental outcome is likely to be consistent with the EPA's objective for this factor, subject to: • condition 2 'Flora and vegetation', requiring the development and implementation of a flora and vegetation environmental management plan.

Terrestrial fauna

Residual impact or risk to environmental value	Assessment finding
Clearing of 56 ha of potential habitat for malleefowl and chuditch. The combined effect of the existing Earl Grey Lithium Project (386 ha) and the significant amendment (56	The residual impact of the clearing of 56 ha of habitat for malleefowl and chuditch is likely to be significant, both on its own and in the context of the existing proposal. This vegetation provides habitat for the two conservation significant fauna species.

ha) is up to 442 ha of native vegetation cleared.	Due to the remaining quantity and quality of habitat types in the local area and region, the significant residual impact could be counterbalanced in accordance with the WA *Environmental Offsets Guidelines* (Government of Western Australia 2014). The environmental outcome is likely to be consistent with the EPA's objective for this factor, subject to: • condition 1 'Limitations on clearing extent • condition 3 'Terrestrial fauna' • condition 4 'Offsets' • condition 5 'Rehabilitation'. These conditions require the development and implementation of a fauna management plan, provision of offsets and specifications for rehabilitation.
There is potential direct impact from feral animals on fauna. Indirect impacts on potential habitat from weeds, altered fire regimes, impacts from dust generation and use of hypersaline water for dust suppression.	The environmental outcome is likely to be consistent with the EPA's objective for this factor, subject to: • condition 3 'Terrestrial fauna' requiring the development and implementation of a terrestrial fauna management plan.

Holistic assessment

The EPA recognises that the Great Western Woodlands are an area of important biodiversity. The EPA is also aware of the potential for industry, including the existing Earl Grey Lithium Project and other activities located within Great Western Woodlands to influence the complex interactions between environmental factors. These interactions have the potential to influence the environment in a holistic and non-linear nature, affecting all environmental values.

The EPA considered the connections and interactions between relevant environmental factors and values to inform a holistic view of impacts to the whole environment. The EPA formed the view that the holistic impacts would not alter the EPA's conclusions about consistency with the EPA factor objectives.

Conclusion and recommendations

The EPA has taken the following into account in its assessment of the proposal:

- environmental values which may be significantly affected by the proposal
- residual impacts and effects in relation to the key environmental factors, separately and holistically (this has included considering cumulative impacts of mining on the integrity of the Great Western Woodlands)

- likely environmental outcomes (and taking into account the EPA's recommended conditions), and the consistency of these outcomes with the EPA objectives for the key environmental factors
- the EPA's confidence in the proponent's proposed mitigation measures
- whether other statutory decision-making processes can mitigate the potential impacts of the proposal on the environment
- principles of the EP Act.

The EPA has recommended that the proposal may be implemented subject to conditions recommended in Appendix A.

Other advice

The EPA may, if it sees fit, include other information, advice, or recommendations relevant to the environment in its assessment reports, even if that information has not been taken into account by the EPA in its assessment of a proposal.

The EPA provides the following information for consideration by the Minister.

- Decommissioning and rehabilitation (mine closure) are regulated by the Department of Mines, Industry Regulation and Safety (DMIRS) under the Mining Act, to ensure that mining activities are rehabilitated and closed in a manner that makes them physically safe to humans and fauna, geo-technically stable, geo-chemically non-polluting/non-contaminating and capable of sustaining an agreed post mining land use without unacceptable liability to the State.
- DMIRS advised during consultation that risk of fibrous materials can be assessed and regulated via the mining proposal and mine closure planning process, under the Mining Act, as well as from a worker health perspective under the *Mines Safety and Inspection Act 1994.* The mining proposal and mine closure plan are currently under assessment by DMIRS.
- Emissions and discharges from the existing proposal are regulated by the Department of Water and Environmental Regulation (DWER) under Part V of the EP Act, through operating licence W6460/2020/1. DWER has provided advice that they consider the 'wet' tailings disposal to the Integrated Waste Landform/Tailing Storage Facility can be assessed and regulated under Part V of the EP Act. The EPA considers that the Part V licence can adequately manage and control emissions from the proposal. The EPA considers the impact of emissions and discharges to air and inland waters can be regulated under Part V of the EP Act to meet the EPA's objectives for air quality and inland waters.

1 Proposal

The Earl Grey Lithium Project, located at the previously abandoned Mt Holland Mine Site, was referred to the Environmental Protection Authority (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 proposal was approved in November 2019 under MS 1118 for open cut mining and processing of lithium ore.

Following the EPA report, the Minister for Environment amended MS 1118 approval through the issue of an additional MS 1167 approval under section 46 of the EP Act.

Under the approved proposal, the mine is currently authorised to clear 386 ha of native vegetation within a 2,347 ha development envelope, with a footprint of 755 ha of land.

This proposal is for a significant amendment to the approved proposal, to incorporate the following changes:

- Construction and operation of a solar plant to provide renewable energy to the mine operations (additional 32 ha of native vegetation clearing).
- Variation to the airstrip width to accommodate lateral clearance in accordance with Civil Aviation Safety Authority requirements (additional 24 ha of native vegetation clearing).
- Change in the tailings waste disposal methodology from ‘dry’ tailings to ‘wet’ tailings.
- Co-disposal of inert refinery waste generated from the Kwinana Lithium Refinery to the approved waste rock landform located at the mine operations.
- Modification of flora exclusions areas associated with the flora taxa Ironcaps Banksia (*Banksia sphaerocarpa* var. *dolichostyla*) (listed as vulnerable under the BC Act and EPBC Act) and *Microcorys elatoides* (listed as priority 1 under BC Act).
- Modification of fauna exclusions areas associated with nest mounds of the fauna taxon malleefowl (*Leipoa ocellata*) (listed as vulnerable under BC Act and EPBC Act).

The proposed changes described above will occur entirely within the existing development envelope approved by MS 1118 and MS 1167.

The original proposal was assessed under an accredited assessment. The proposed change has been approved by the Commonwealth through a variation of their original proposal and did not require a further accredited assessment.

The proposal area is located approximately 105 km south-southeast of Southern Cross and approximately 350 km east of Perth, Western Australia, in the Shire of Yilgarn.

The proponent for the proposal is Covalent Lithium Pty Ltd.

The proponent referred the revised proposal to the EPA on 30 August 2021. The referral information was published on the EPA website for seven days public comment. On 1 November 2021, the EPA decided to assess the proposal at the level of referral information with additional information required (2 week public review).

The EPA published the referral information including the updated Environmental Review Document and appended additional information (Covalent Lithium 2022A) on its website for public review for two weeks (from 9 – 22 May 2022).

The proposal is set out in section 1.2 of the proponent's Environmental Review Document (Covalent Lithium 2022A), which is available on the EPA website.

The elements of the proposal which have been subject to the EPA's assessment are included in Table 1. The EPA has not reassessed the original proposal.

Table 1: Location and proposed extent of proposal elements

Proposal element	Location/ description	Existing approved proposal	Significant amendment	Combined proposal
Physical elements				
Mine and associated infrastructure	Figure 2	Clearing of no more than 386 ha of native vegetation, within a development envelope of 2,347 ha	**Increase in disturbance of 56 ha.**	Clearing of no more than **442** ha of native vegetation.
Operational elements				
Mine and associated infrastructure	Figure 2	Mining operations and mining infrastructure including a mine pit, waste rock landforms, tailings storage facility, processing plant, airstrip, accommodation village, water supply pipeline, solar plant and associated infrastructure.	N/A	Mining operations and mining infrastructure including a mine pit, waste rock landforms, tailings storage facility, processing plant, airstrip, accommodation village, water supply pipeline, solar plant and associated infrastructure.
Greenhouse gas emissions				
Greenhouse gas emissions will be reported and regulated in accordance with the *National Greenhouse and Energy Reporting Act 2007*. Estimated greenhouse gas emissions have been modelled: • scope 1 - 70,000 - 84,000 t CO_2-e (annual average, estimated scope 1 emissions) • scope 2 - 44,143 t CO_2-e (annual average, estimated if electricity generated through LNG and solar farm onsite power generation) • scope 3 - 665,000 t CO_2-e (annual average, estimated scope 3 emissions)				
Rehabilitation				

Rehabilitation will be undertaken progressively during mining operations within areas disturbed by the proposal, excluding mine pits. Rehabilitation will seek to restore environmental values by supporting native vegetation comparable to adjacent undisturbed areas.		
Timing elements		
Project life	N/A	Up to 40 years from the date of issue of a Ministerial statement

Units and abbreviations
ha – hectare
tCO_2-e – tonnes of carbon dioxide equivalent

Application of *Environmental Protection Act 1986* amendments to the proposal

The proposal was referred as a revised proposal for the existing Earl Grey Lithium Project, which was approved through MS 1118 and MS 1167. The EPA decided to assess the proposal on 1 November 2021. The EP Act was subsequently amended on 22 October 2021, and one result of the amendments is that the proposal is now considered to be a significant amendment to the existing proposal approved through MS 1118 and MS 1167.

Given the proposal is a significant amendment to an existing proposal, the EPA's assessment has been undertaken in the context of the existing Earl Grey Lithium Project, having regard to combined and cumulative effects on the environment. The EPA has also considered whether to inquire into the implementation conditions for the existing Earl Grey Lithium Project.

Proposal alternatives

Section 2.11 in the proponent's Environmental Review Document (Covalent Lithium 2022A) indicates that alternatives for the revised proposal were considered including:

Processing options

Feasibility studies undertaken for the proposal support an on-site purpose-built processing plant capable of up to 5 million tonnes per annum (Mtpa) throughput.

The proponent has additionally considered a potential short–term option to use the Poseidon Nickel Limited's Lake Johnston processing facility, located approximately 100 km south-east of the proposal. For commercial reasons, this potential option was not advanced, and therefore is not included as a component of the proposal.

Mining options

The location of the Earl Grey Lithium Deposit orebody is fixed, and as such, the location of the mine pit area is also fixed. Whilst noting the above, two different mining approaches have been considered:

- open pit mining with progressive in-pit backfilling of the mine pit to the extent practicable, in combination with disposal to waste rock landforms

- open pit mining with no progressive backfilling and all waste rock disposed to a waste rock landform.

Whilst operationally complex, in-pit backfilling of the mine pit with extracted waste rock has been included as a component of the proposal to minimise the extent of native vegetation clearing which would require additional area for the waste rock landforms. In addition, where practicable, part of the backfilled part of the mine pit may also be rehabilitated; thereby minimising the final area of the unrehabilitated mine pit void at mine closure.

Proposal footprint

The proponent has utilised infrastructure within existing cleared/disturbed land areas of the abandoned Mt Holland mine site where possible, with the proponent agreeing to adopt the closure and rehabilitation liability/risk for the areas which were previously used.

Existing cleared/disturbed lands comprise approximately 43% of the total area of the proposal. This approach results in the following key environmental outcomes for the proposal:

- reduction in native vegetation clearing, with a corresponding reduction in the effect to flora taxa, vegetation units, fauna taxa and fauna habitats.
- restoration of the health and ecological function of the local environment for land areas which have previously been cleared and abandoned.
- closure and restoration of abandoned mine landforms and infrastructure.

The proponent therefore referred the proposal in its current location, and this is the proposal alternative which the EPA is required to assess.

Proposal context

Past mining

The Mt Holland mine site is a historic gold mining operation centred on the Bounty mine site, 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.

The site was owned and operated by various companies from 1988, including Aztec Mining, Forrestania Gold, Lion Ore Mining and Viceroy Australia. By 2002, the majority of the tenements had expired or been surrendered and the ‘Unconditional Performance Bonds’ (financial bonds) were called in by the State Government. Limited rehabilitation has occurred on the site. In 2014, Convergent Minerals acquired tenements for the Mt Holland Mine Site and obtained approval for mining operations under the *Mining Act 1978* (Mining Act) however, one year later, the company entered administration and no further mining development or rehabilitation occurred (Covalent Lithium 2022A).

The proposal is situated within several Mining Lease, General Purpose Lease and Miscellaneous Licence tenements granted under the Mining Act, with the proponent having commercial agreements with the tenement holders to grant land access and authorise mining operations.

Great Western Woodlands

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.

The Great Western Woodlands is the largest intact woodland remaining on Earth, covering an area of almost 16,000,000 ha and is home to more than 20% of all Australia's known plant species. There are a small number of national parks and nature reserves, covering about 13% of the area, and the Ngadju Indigenous Protected Area, proclaimed in 2020, covers about 27%. An additional 20% is grazing lands under pastoral leases.

The Great Western Woodlands environmental values are under a variety of pressures including fires, feral animals, and weeds. Abandoned mining and exploration sites are erosion hazards, preventing the effective restoration of ecological values, and posing a risk to terrestrial fauna.

Original proposal implementation

The Earl Grey Lithium Project proposal was originally approved by MS 1118 which was published on 21 November 2019.

Pursuant to section 45 of the EP Act, as applied by section 46(8), MS 1167 was issued on 14 May 2021 which amended conditions 6-1, 7-1, 8-1 and 8-8 of MS 1118.

On 18 May 2021, the following changes to the proposal were approved by the EPA (under delegation) under s. 45C of the EP Act.

- addition of a water supply pipeline between Moorine Rock and the Earl Grey Lithium Project
- change to the development envelope to accommodate pipeline infrastructure
- amendment to the total footprint (from 667 ha to 755 ha) but no additional clearing.

The proponent advised that construction commenced for this proposal in April 2021. Annual compliance assessment reports have been submitted since February 2021 as required by MS 1118 and MS 1167.

Figure 1: Project location

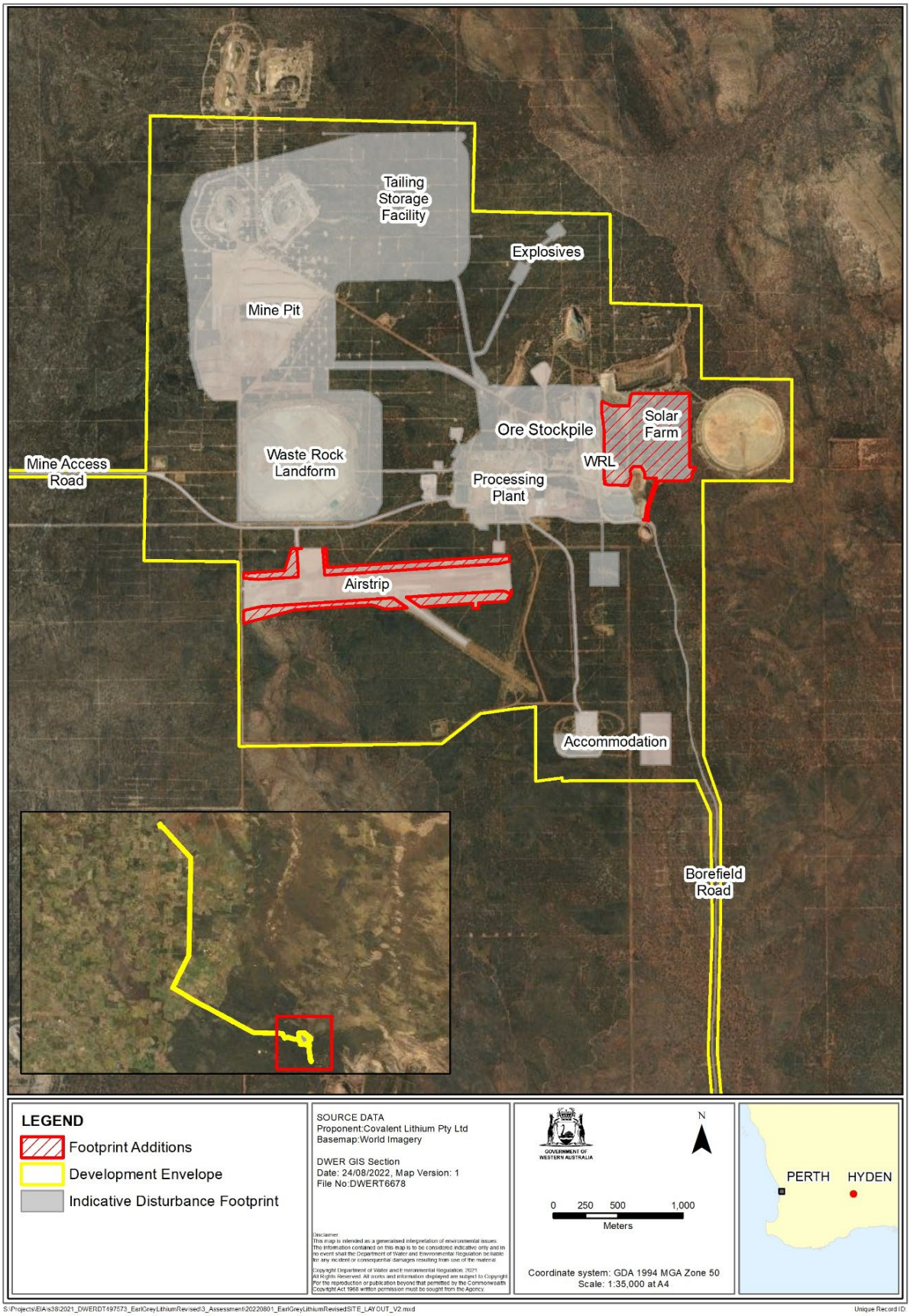

Figure 2: Development envelope and disturbance footprint

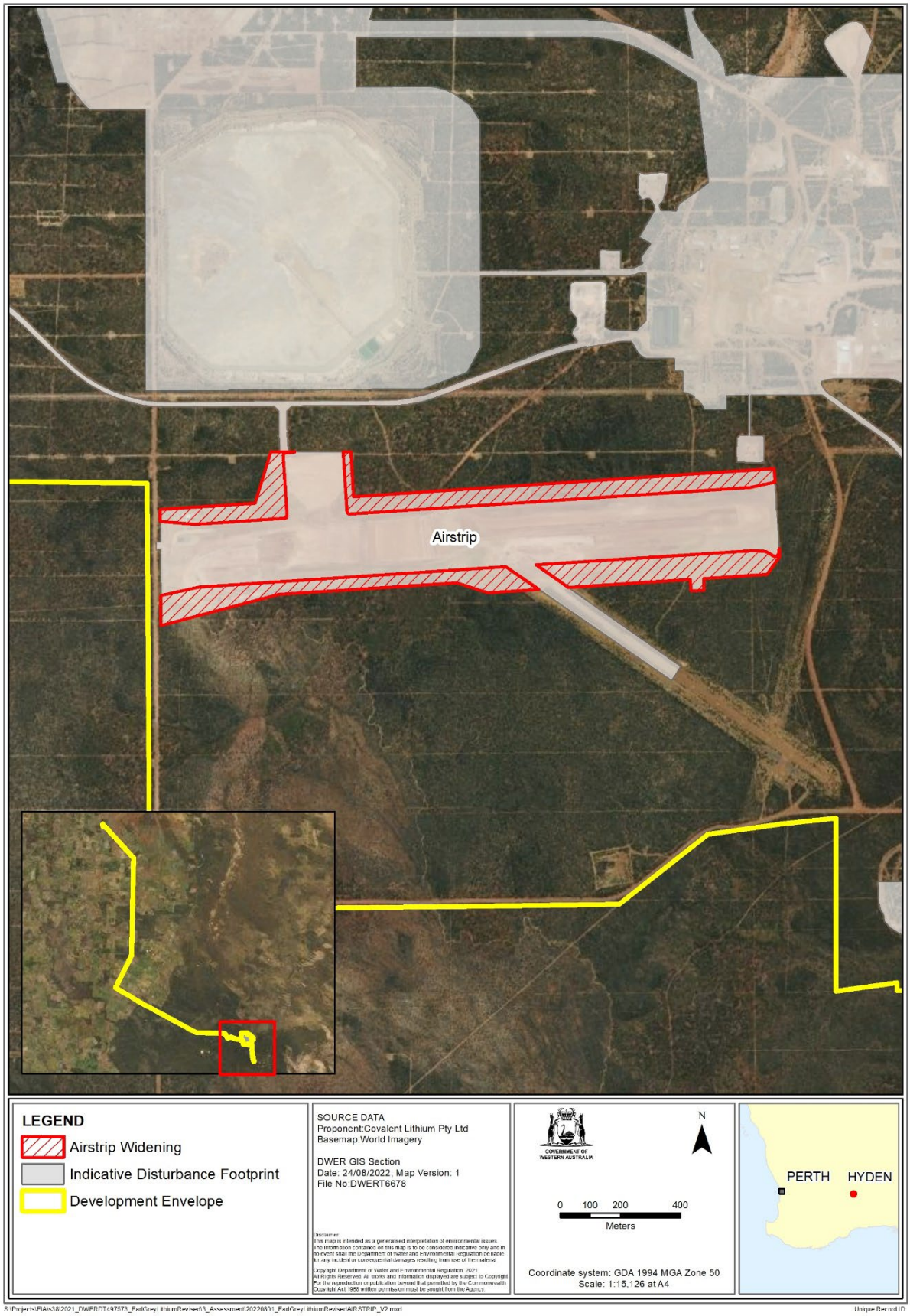

Figure 3: Variation to airstrip

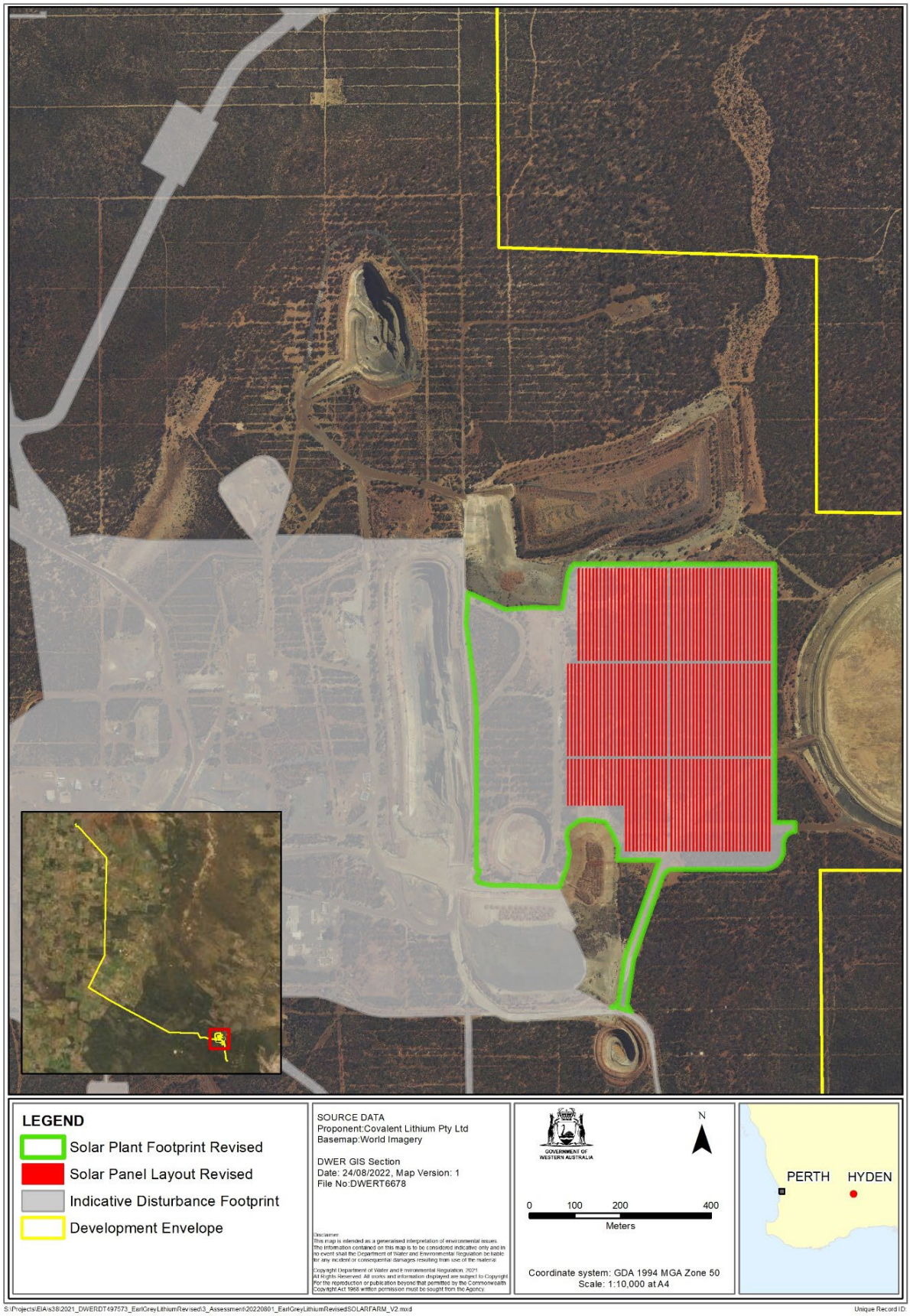

Figure 4: Solar farm

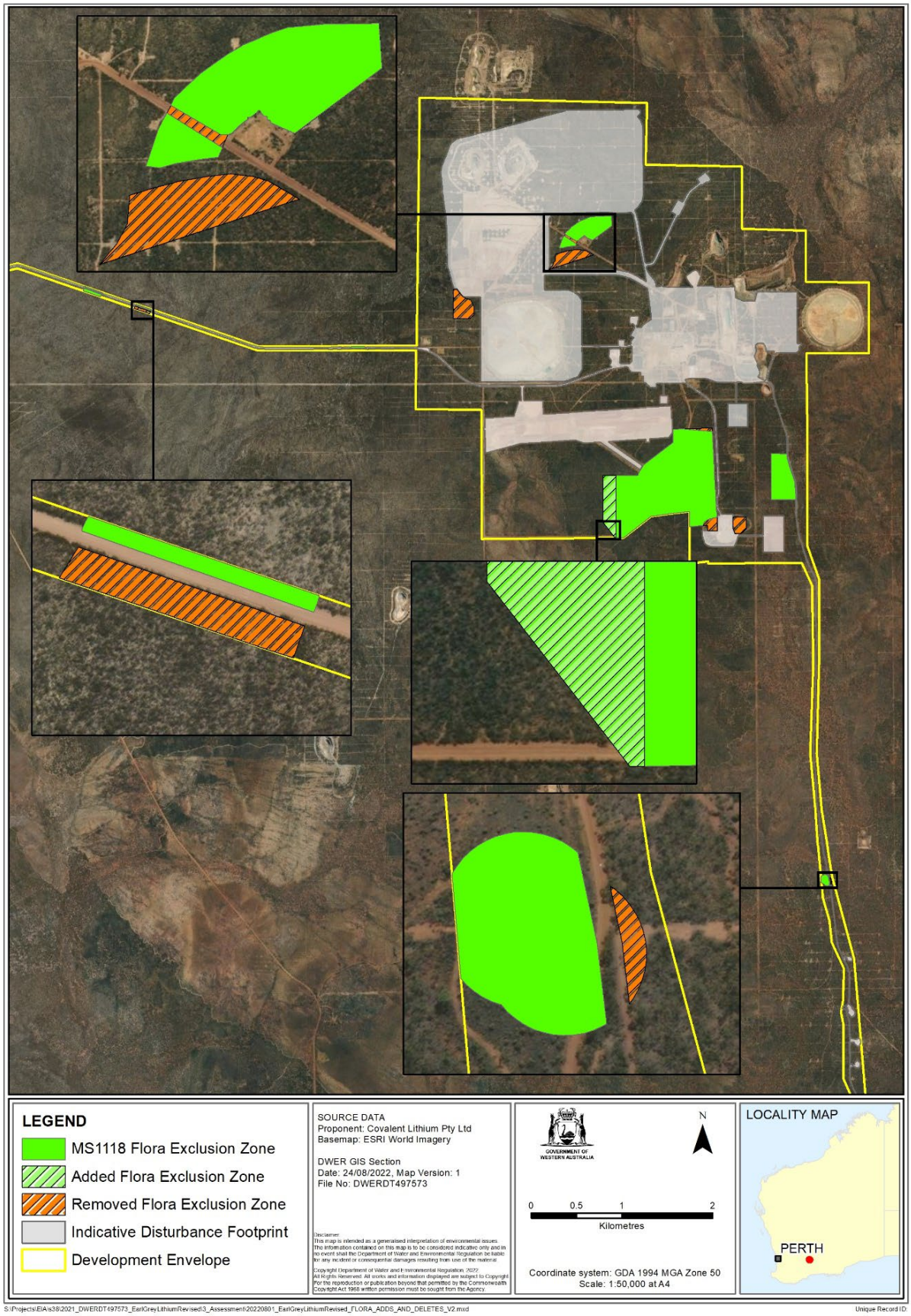

Figure 5: Flora exclusion zones

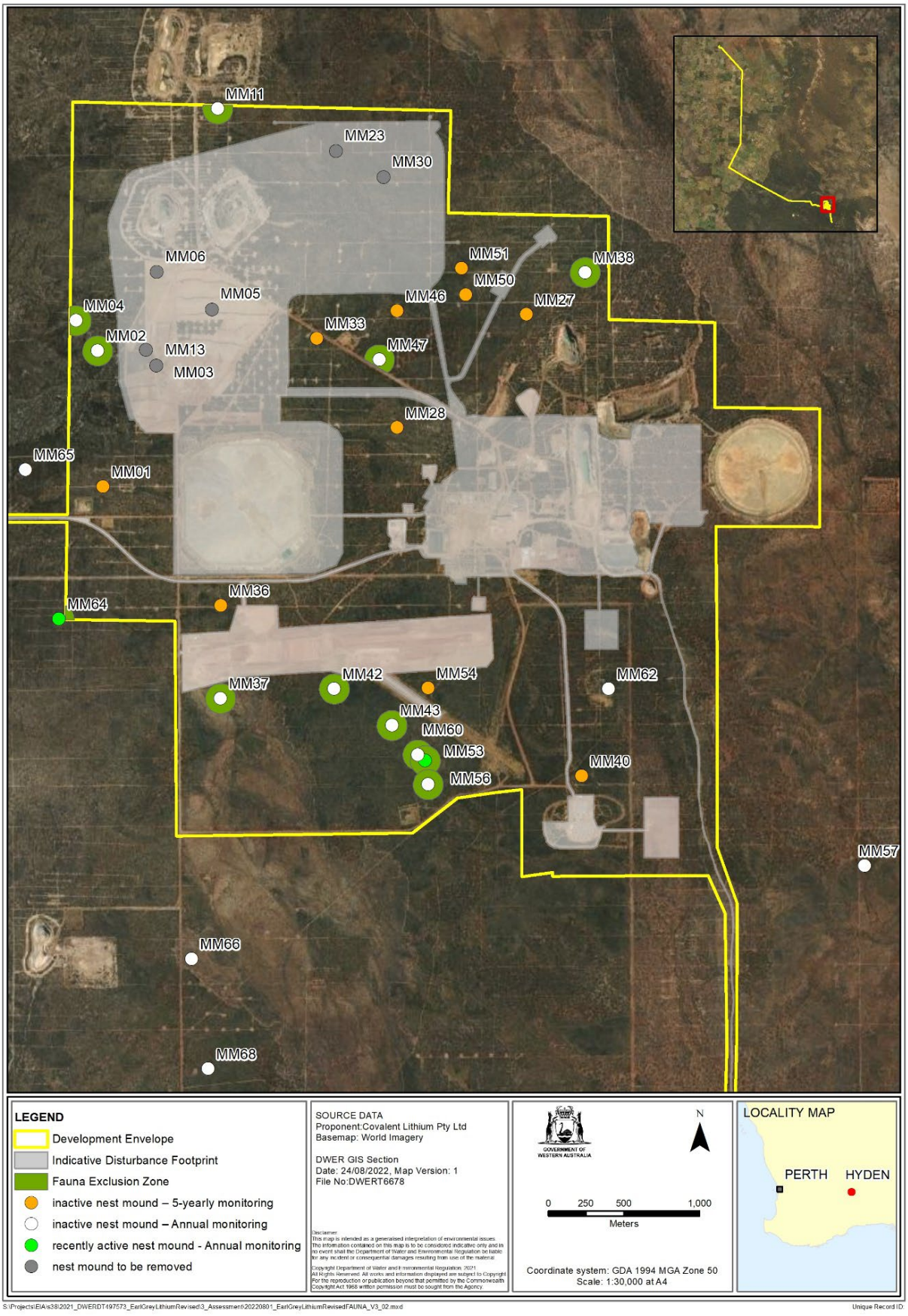

Figure 6: Fauna exclusion zones

2 Assessment of key environmental factors

This section includes the EPA's assessment of the key environmental factors. The EPA also evaluated the impacts of the proposal on other environmental factors and concluded these were not key factors for the assessment. This evaluation is included in Appendix D.

The EPA has assessed the proposal in the context of the approved proposal (MS 1118 and MS 1167) while having regard to the combined and cumulative effect that the implementation of the approved proposal may have on the following environmental factors.

2.1 Flora and vegetation

2.1.1 Environmental objective

The EPA environmental objective for flora and vegetation is *to protect flora and vegetation so that biological diversity and ecological integrity are maintained* (EPA 2016A).

2.1.2 Investigations and surveys

The EPA advises the following investigations and surveys were used to inform the assessment of potential impacts to flora and vegetation:

- Mattiske Consulting Pty Ltd 2021a, *Earl Grey Lithium Project Vegetation Condition Monitoring Transect Establishment,* Mattiske Consulting Pty Ltd.
- Mattiske Consulting Pty Ltd 2021b, *Memorandum: Earl Grey Lithium Project Field Survey 14th – 21st March 2021. Vegetation health monitoring transects,* Mattiske Consulting Pty Ltd.
- Mattiske Consulting Pty Ltd 2021c, *Threatened and Priority Flora Assessment Earl Grey Lithium Project Pre-Clearance Surveys*, Mattiske Consulting Pty Ltd.

The DWER has advised that the surveys have been conducted in accordance with the *Technical guidance – Flora and vegetation surveys for environmental impact assessment* (EPA 2016F).

The EPA considers that it has sufficient information to assess impacts on flora and vegetation.

2.1.3 Assessment context – existing environment

The proposal is in the Southern Cross subregion of the Coolgardie Bioregion, based on the Interim Biogeographic Regionalisation for Australia classifications. The Southern Cross subregion is characterised by subdued relief, comprising gently undulating uplands dissected by broad valleys with bands of low greenstone hills and numerous saline playa lakes.

Two regional vegetation system associations mapped by Beard (1980) are represented within the development envelope, being 'Forrestania 511' and 'Skeleton Rock 519'. Forrestania 511 is characterised by salmon gum and morrel medium woodland. Skeleton Rock 519 is characterised by shrublands and mallee scrub dominated by *Eucalyptus eremophila.*

The proposal is located within a region of largely intact native vegetation (except for a few operating and abandoned mines), with more than 70,000 ha of native vegetation occurring within a 10 km radius of the proposal. The nearest conservation reserve is the Jilbadji Nature Reserve, approximately 5 km north of the proposal.

There have been a large number of surveys of the broader region as a part of this proposal. Biological surveys identified the region contains a variety of flora and vegetation values, comprising of more than 350 native vascular flora taxa occurring within more than 30 vegetation units. The native flora taxa include 'Threatened' flora taxa, including Ironcaps Banksia (*Banksia sphaerocarpa var. dolichostyla)*, listed as vulnerable under BC Act and EPBC Act); a number of flora taxa classified 'Priority' and a 1 Priority Ecological Community (PEC). Table 5-1 in the proponents ERD identifies the conservation significant species found during the surveys (Covalent Lithium 2022A).

2.1.4 Consultation

The level of assessment determined for this proposal was 'Referral Information with additional information required under section 40(2)(a) of the EP Act'.

Matters raised during stakeholder consultation and the proponent's responses are provided in the proponent's the response to submission document (Covalent Lithium 2022B). Public consultation on the proposal raised concerns about the loss of native flora during construction, some of which are rare and threatened, and the possible need for additional flora offsets.

2.1.5 Potential Impacts

The revised proposal has the potential to impact on flora and vegetation through the:

- clearing of 56 ha of native vegetation within the development envelope
- introduction and/or spread of weeds, altered fire regimes, impacts from dust generation and the use of hypersaline water for dust suppression.

The issue raised during the public consultation about potential impacts to rare and threatened flora has been considered in this assessment.

2.1.6 Avoidance measures

The proponent has designed the proposal to avoid impacts to flora and vegetation by:

- utilizing existing cleared / disturbed land areas associated with the abandoned Mt Holland mine site as much as possible
- proposing exclusion zones to avoid priority flora species.

2.1.7 Minimisation measures (including regulation by other DMAs)

The proponent has proposed the following measures to minimise impacts to flora and vegetation:

- minimise vegetation clearing through site selection and layout
- develop and implement internal clearing permit procedure within the development envelope
- undertake a weed monitoring program to minimise potential spread of weeds and dieback into development envelope
- vehicles and equipment access limited to designated roads/access tracks and cleared areas
- vehicles and equipment to be inspected and cleaned of soil, vegetative material, and seeds on entry/exit to site
- quarterly weed monitoring and management program will be implemented following completion of ground disturbance activities
- dust suppression, including the use of water carts on access roads will be implemented during construction activities as required
- local drainage features to be considered during site design and layout.

2.1.8 Rehabilitation measures

The proponent has proposed that areas of new land disturbance will be rehabilitated with native vegetation. The rehabilitation works would include on-contour ripping of compacted areas and the respreading of rehabilitation materials that were removed and stockpiled during initial vegetation clearing.

In accordance with the Mining Act, the proponent would be required to prepare a Mine Closure Plan consistent with the *Statutory Guidelines for Mine Closure Plans* (DMIRS 2020) which includes requirements for rehabilitation and revegetation of land, which meets closure objectives and criteria.

2.1.10 Assessment of impacts to environmental values

The EPA considered that the key environmental values for flora and vegetation likely to be impacted by the proposal are locally significant vegetation communities and priority flora species.

The EPA has assessed the proposal in the context of the approved proposal (MS 1118 and 1167) while having regard to the combined and cumulative effect that the implementation of the approved proposal may have on Flora and Vegetation.

Removal of flora exclusion zones

The proponent proposes to modify the flora exclusions areas to ensure the implementation of the proposal is not unreasonably restricted. The proponent considers the effect of these changes will not result in any reduction in the protection of *Banksia sphaerocarpa var. dolichostyla* or *M. elatoides*; with the total number of

Banksia sphaerocarpa var. dolichostyla within the revised flora exclusion areas remaining at 5,246 individuals, and the total number of individuals of *M. elatoides* increasing slightly to 13,553 individuals. The changes will not reduce the protection of vegetation unit W17 (which is not of listed conservation significance), as no change to the flora exclusion area covering this vegetation community is proposed – with 3 ha of vegetation W17 remaining protected.

While the changes to the exclusion zones will not impact the above-mentioned species and vegetation community, changes will impact on some priority species such as *Labichea rossii* (discussed further in next section). The changes will not impact on most priority flora species. The Department of Biodiversity Conservation and Attractions (DBCA) noted during its review of the proposal, that an indicative disturbance footprint (rather than a defined footprint extent) would increase the risk of potential direct and indirect impacts to priority flora such as *L. rossii*.

The EPA considered the likely residual impacts of changing the flora exclusion zones might be significant to some local priority species such as *L. rossii* but not other priority species. To address these impacts, the EPA considers that the environmental outcome is likely to be consistent with the EPA objective for flora and vegetation, provided there is a clear limit on the extent of clearing (recommended condition 2), a limit on the percentage of priority species which could be impacted (recommended condition 2), and a revision of the flora and vegetation management plan. The revised management plan would then need to show the types of measures (other than flora exclusion zones) that would be implemented to meet the meet the EPA's objectives. This is discussed further in section 2.1.11.

Priority flora

The following priority flora species might be impacted as a result of the significant amendment. The combined impact is considered in the context of the significant amendment and approved proposal (MS 1118 and 1167), with the percentage loss being to known populations. It is noted that the impact to some species has reduced or not changed from the original proposal. As the proposal has an indicative disturbance footprint, indirect impacts for the proposal were calculated by the number of individuals occurring within 50 m of the indicative site layout. This was a conservative approach undertaken by the EPA during the assessment of the approved proposal (EPA Report 1651, Assessment No.2123):

Table 2: Priority flora species impacted by significant amendment (proponent information)

Species	Priority	Significant amendment	Combined (potential indirect impact)	Percentage regional impact
Labichea rossii	Priority 1	267	400 (276)	5%
Microcorys elatoides	Priority 1	512	7,579 (2,740)	9%
Microcorys sp. Mt Holland broad-leaf	Priority 1	33	377 (164)	6%
Daviesia sarissa ssp. Redacta	Priority 2	17	18 (15)	>1%
Eutaxia lasiocalyx	Priority 2	1,380	8,595 (2,424)	5%
Acacia undosa	Priority 3	447	12,684 (3434)	9%
Teucrium diabolicum	Priority 3	123	485 (34)	1%

Labichea rossii (Priority 1)

The proponent's ERD indicates that the significant amendment will require the additional removal of 267 individuals of *Labichea rossii.* The original proposal authorised the clearing of 133 individuals, which combined results in a total impact to 400 individuals, with an additional 276 estimated to be impacted indirectly. A total of 7,694 individuals were identified across the survey area, with 7,384 occurring within the development envelope (Covalent Lithium 2022A).

Microcorys elatoides (Priority 1)

The proponent's ERD indicates that the significant amendment will require the additional removal of 512 individuals of *M. elatoides.* The original proposal authorised the clearing of 7,067 individuals, which combined results in a total impact to 7,579 individuals, with an additional 2,740 estimated to be impacted indirectly (e.g. dust impacts). A total of 85,415 individuals were identified across the survey area, with 43,011 occurring within the development envelope (Covalent Lithium 2022A). This species is known from five location records, within a range of more than 10km. The percentage impacts to this species as a result of additional surveys undertaken by the proponent has reduced from 15% to 9%.

The EPA notes that the proponent is required by Ministerial statement 1167 to offset the impact to 9,732 individuals of *M. elatoides.* It is noted that the number of recorded individuals have increased since the original assessment and the requirement for an offset may have also reduced against the *WA Environmental Offset Guidelines*. This requirement is discussed further in section 4 'Offsets'.

Microcorys sp. Mt Holland broad-leaf (Priority 1)

The proponent's ERD indicates that the significant amendment will require the removal of an additional 33 individuals of *Microcorys sp. Mt Holland broad-leaf.* The original proposal authorised the clearing of 341 individuals, which combined results in a total

impact to 377 individuals, with an additional 164 estimated to be impacted indirectly. A total of 6,565 individuals were identified across the survey area, with 3,545 occurring within the development envelope (Covalent Lithium 2022A). This species is known from five location records. The changes to proposal have reduced the proposed impacts to this species when compared to the original approval.

Daviesia sarissa subsp. *Redacta* (Priority 2)

The proponent's ERD indicates that the significant amendment will require the additional removal of 17 individuals of *Daviesia sarissa* subsp*. Redacta.* The original proposal authorised the clearing of one individual, which combined results in a total impact to 18 individuals, with an additional 15 estimated to be impacted indirectly. A total of 1,516 individuals were identified across the survey area, with 1,016 occurring within the development envelope (Covalent Lithium 2022A). This species is known from eight location records, within a range of approximately 20km.

Eutaxia lasiocalyx (Priority 2)

The proponent's ERD indicates that the significant amendment will require the additional removal of 1,380 individuals of *Eutaxia lasiocalyx.* The original proposal authorised the clearing of 7,215 individuals, which combined results in a total impact to 8,595 individuals, with an additional 2,424 estimated to be impacted indirectly. A total of 163,747 individuals were identified across the survey area, with 31,225 occurring within the development envelope (Covalent Lithium 2022A). This species is known from 12 location records, within a range of approximately 70km.

Acacia undosa (Priority 3)

The proponent's ERD indicates that the significant amendment will require the additional removal of 447 individuals of *Acacia undosa.* The original proposal authorised the clearing of 12,237 individuals, which combined results in a total impact to 12,684 individuals, with an additional 3,434 estimated to be impacted indirectly. A total of 141,500 individuals were identified across the survey area, with 22,880 occurring within the development envelope (Covalent Lithium 2022A). This species is known from 26 location records within a range of approximately 280 km.

Teucrium diabolicum (Priority 3)

The proponent's ERD indicates that the significant amendment will require the removal of an additional 123 individuals of *Teucrium diabolicum.* The original proposal authorised the clearing of 362 individuals, which combined results in a total impact to 485 individuals, with an additional 88 estimated to be impacted indirect impacts. More than 50,000 individuals were identified across the survey area, with 28,149 occurring within the development envelope (Covalent Lithium 2022A). This species is known from 18 location records within a range of approximately 240 km.

The proponent has an approved *Earl Grey Lithium Project Flora and Vegetation Environmental Management Plan* (Covalent Lithium 2021A), as required under MS 1118, which includes measures to avoid and minimise impacts to priority flora, within defined exclusion zones.

The EPA consulted with DBCA regarding the potential impacts to flora and vegetation. DBCA advised that given the proposal site layout is indicative, and the management plan provisions are limited to individuals within the flora exclusion zones, there is a risk of impacts, direct and indirect, on priority species.

DBCA noted that flora exclusion areas do not appear to consider priority flora species other than *Banksia sphaerocarpa var. dolichostyla* and *M. elatoides* or provide adequate monitoring and management measures to provide a high level of confidence that impacts to other species are able to be suitably mitigated. DBCA outlined in their submission the importance of implementation conditions which specify clear limits of impact.

The EPA recommends the flora and vegetation environmental management plan be updated to address impacts to the additional priority flora species that would be impacted through the revised proposal. The EPA notes that due to the additional survey effort of the proponent, the known impacts to priority species have reduced overall. The EPA notes that the majority of flora species impacted are not listed as Threatened.

The EPA has recommended specific limits on the number of individuals of *M. elatoides* that can be removed, and the percentage of known populations of the remaining priority 1 flora species that will be directly impacted by the proposal.

The EPA advises that the residual impacts to priority flora can be regulated through recommended conditions 1 (Extent of the development envelope and clearing extent), 2 (Limit on individuals and percentage impacts; and Flora and Vegetation Environmental Management Plan), 4 (Offsets) and 5 (Rehabilitation) so that the environmental outcome is likely to be consistent with the EPA objective for flora and vegetation. See section 4 of this report for the EPA's assessment of offset requirements.

2.1.11 Summary of key factor assessment and recommended regulation

The EPA has considered the likely residual impacts of the proposal in the context of the approved proposal (MS 1118 and 1167) on flora and vegetation environmental values. In doing so, the EPA has considered whether reasonable conditions could be imposed, or other decision-making processes can mitigate potential inconsistency with the EPA factor objective. The EPA assessment findings are presented in Table 3.

While the Mine Closure Plan required by DMIRS includes requirements for rehabilitation and revegetation, the proposal would have an impact on priority flora species that are only found in the Great Western Woodlands. As these ecological values should be maintained and restored, the revegetation measures considered to be required to demonstrate the effective restoration are beyond the implementation requirements of the *Statutory Guidelines for Mine Closure Plans* (DMIRS 2020). Therefore, the EPA has recommended conditions for rehabilitation to restore these values. This condition requires the proponent to demonstrate the long-term viability of *Banksia sphaerocarpa var. dolichostyla* and priority listed flora species impacted from proposal, to ensure that the flora and vegetation of rehabilitated areas reflects the environmental values of the Great Western Woodlands. Additionally, the condition

requires the proponent to demonstrate progressive rehabilitation outcomes so that efficacy of closure plans and other restoration management measures can be demonstrated.

The EPA has considered the impact of the proposal in context of its cumulative impact on the Great Western Woodlands. While 56 ha of clearing of vegetation is very small within the largely intact of Great Western Woodlands, this ecosystem may be under a variety of pressures. With implementation conditions that clearly specify limits on impact and extent; and the requirement for rehabilitation to demonstrate that environmental values can be restored, the cumulative impacts of the proposal and its effect on the Great Western Woodlands can be managed so that it is consistent with the EPAs environmental factor objective.

The EPA has also considered the principles of the EP Act in assessing whether the residual impacts will be consistent with its environmental factor objective (see Appendix C) and whether reasonable conditions can be imposed (see Appendix A).

Table 3: Summary of assessment for flora and vegetation

Residual impact or risk to environmental value	Assessment finding	Recommended conditions and DMA regulation
Clearing of 56 ha of native vegetation in 'Good to Excellent' condition. The combined effect of the approved Earl Grey Lithium Project (386 ha) and the significant amendment will be up to 442 ha.	There are seven flora species listed as Priority that will be impacted from the proposal. The environmental outcome is likely to be consistent with the EPA's objective for this factor, subject to limitations on the proposal clearing extent (recommended condition 1) and recommended conditions 2, 4, and 5 respectively. These conditions limit the percentage impact on priority species, the development and implementation of a flora and vegetation management plan, provision of offsets, and rehabilitation.	Regulated through recommended conditions: • Condition 1 – Limit on the extent of the proposal (development envelope and clearing extent within the disturbance footprint) • Condition 2 – flora and vegetation limit on individuals; percentage impacts; and flora and vegetation management plan • Condition 4 – Offsets • Condition 5 – Rehabilitation.
Indirect impacts on the surrounding area from weeds, altered fire regimes, impacts from dust generation and use of hypersaline water for dust suppression.	The environmental outcome is likely to be consistent with the EPA's objective for this factor, subject to limitations on the proposal footprint; development and implementation of a flora and vegetation management plan; and provision of offsets.	Regulated through recommended conditions: • Condition 1 – Limits on the extent of the proposal (development envelope and clearing within the disturbance footprint)

Residual impact or risk to environmental value	Assessment finding	Recommended conditions and DMA regulation
		• Condition 2 – Flora and vegetation environmental management plan

2.2 Terrestrial fauna

2.2.1 Environmental objective

The EPA environmental objective for terrestrial fauna is *to protect terrestrial fauna so that biological diversity and ecological integrity are maintained* (EPA 2016E).

2.2.2 Investigations and surveys

The EPA advises the following investigations, surveys were used to inform the assessment of the potential impacts to flora and vegetation:

- Western Wildlife (2017) *Earl Grey Lithium Project: Level 2 Vertebrate Fauna Survey with Targeted Chuditch and Malleefowl Surveys, 2016 – 2017*. Report prepared by Wilcox J of Western Wildlife for Kidman Resources Ltd. December 2017.
- Ecoscape Australia Pty Ltd (2020) *2020 Mt Holland Chuditch Monitoring*. Report prepared by Turner B of Ecoscape Australia Pty Ltd for Covalent Lithium Pty Ltd. Final. August 2020.
- Ecoscape Australia Pty Ltd (2021) *2020 Malleefowl Monitoring.* Report prepared by Turner B of Ecoscape Australia Pty Ltd for Covalent Lithium Pty Ltd. Revision 1. November 2021.

The DWER has advised that the surveys have been conducted in accordance with the *Technical guidance – Terrestrial vertebrate fauna surveys for environmental impact assessment* (EPA 2020C).

The EPA considers that it has sufficient information to assess impacts on terrestrial fauna.

2.2.3 Assessment context: existing environment

The proposal is in the Southern Cross subregion of the Coolgardie Bioregion, based on the Interim Biogeographic Regionalisation for Australia (IBRA) classifications. The Southern Cross Subregion of the Coolgardie Bioregion is characterised by subdued relief, comprising gently undulating uplands dissected by broad valleys with bands of low greenstone hills and numerous saline playa lakes.

The proposal is located within a region with largely intact native vegetated (except for operating and abandoned mines), with greater than 70,000 ha of native vegetation occurring within a 10 km radius of the proposal. Clearing of the vegetation associations to date has been limited, with a notable extent of these vegetation associations protected within conservation reserves. The nearest conservation reserve is the Jilbadji Nature Reserve, approximately 5 km north of the proposal.

The results of the biological surveys identify the region of the proposal and surrounds comprise greater than 120 native vertebrate fauna taxa. The native fauna taxa include two conservation significant species, malleefowl (*Leipoa ocellata,* vulnerable under BC Act and EPBC Act) and chuditch (*Dasyurus geoffroii,* vulnerable under BC Act and

EPBC Act), as well as other conservation significant fauna taxa including the western brush wallaby (*Notamacropus irma*, Priority 4).

2.2.4 Consultation

The level of assessment determined for this proposal was 'Referral Information with additional information required under section 40(2)(a) of the EP Act'. A two-week public review of the additional information was undertaken between 9 to 22 May 2022.

Matters raised during stakeholder consultation and the proponent's responses are provided in the Response to submissions document (Covalent Lithium 2022B).

Public consultation on the proposal raised concerns about the loss of malleefowl and chuditch habitat during construction and operation.

2.2.5 Potential impacts from the proposal

The proposal has the potential to impact on terrestrial fauna through the:

- clearing of 56 ha of native vegetation which coincides with potential breeding a foraging habitat for malleefowl and chuditch
- removal of exclusion zones for malleefowl mounds
- fragmentation of native vegetation, vehicle strikes, introduction of feral animals, altered fire regimes, impacts from dust generation and use of hypersaline water for dust suppression.

The issues raised during the public consultation regarding potential impacts to malleefowl habitat and impacts to chuditch have been considered in this assessment.

2.2.6 Avoidance measures

The proponent has designed the proposal to avoid impacts to terrestrial fauna habitat by:

- utilizing existing cleared / disturbed land areas associated with the abandoned Mt Holland mine site
- disturbance footprint for the proposal avoids all recorded 'recently active' nest mounds for malleefowl, with a 100 m radius 'exclusion area' additionally applied to the habitat surrounding the nest mounds.

2.2.7 Minimisation measures (including regulation by other DMAs)

The proponent has proposed measures to minimise impacts to terrestrial fauna:

- develop and implement internal clearing permit procedure within the development envelope
- 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
- implementing 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
- management of dust using watercarts.

2.2.8 Rehabilitation measures

The proponent has proposed that areas of new land disturbance will be rehabilitated with native vegetation. The rehabilitation works will include on-contour ripping of compacted areas and the respreading of rehabilitation materials that were removed and stockpiled during the initial vegetation clearing. While the focus of rehabilitation is on native vegetation, the ground cover will provide habitat for terrestrial fauna and ecological linkage within the development envelope.

In accordance with the Mining Act, the proponent would be required to prepare a Mine Closure Plan consistent with the *Statutory Guidelines for Mine Closure Plans* (DMIRS 2020) which includes requirements for rehabilitation and revegetation of land as well as the need to meet agreed closure objectives and criteria.

2.2.9 Assessment of impacts to environmental values

The EPA considers the key environmental values likely to be significantly impacted by the proposal are conservation significant fauna species including chuditch and malleefowl. These species are likely to utilise the habitats within the development envelope that will be disturbed.

The EPA has assessed the proposal in the context of the approved proposal (MS 1118 and 1167) while having regard to the combined and cumulative effect that the implementation of the approved proposal may have on Terrestrial Fauna environmental values.

Malleefowl exclusion zones

The significant amendment includes removal of some exclusions areas which currently target the protection of nest mounds for malleefowl. A review by Ecoscape (2021) has identified that several of the current Fauna Exclusion Areas do not contain recently active malleefowl nest mounds; and accordingly, they consider that these Fauna Exclusion Areas should be removed as they do not protect identified locations of malleefowl breeding.

DBCA provided advice during the public submission period that malleefowl are more likely to renovate old mounds rather than construct new ones (National Malleefowl Recovery Team, 2019), and without evidence provided for the removal of the exclusion

zone surrounding mound MM40, DBCA considered that the existing exclusion zone requirement should be maintained.

In its response to submissions (Covalent Lithium 2022B), the proponent provided evidence that malleefowl mound MM40 had been long unused; had no profile of excavated soil; had native vegetation growing within the mound; and was highly unlikely to be used by malleefowl. The proponent also provided significant evidence to support the claims (Covalent Lithium 2022B).

The proponent has submitted a Terrestrial Fauna Environmental Management Plan (Covalent Lithium 2022C) which aims to ensure there are no proposal-related direct or indirect significant adverse impacts to malleefowl, malleefowl mounds and chuditch within the development envelope, and no removal of malleefowl mounds within exclusion zones.

The management plan contains triggers and thresholds for both malleefowl and chuditch abundance and population numbers. The EPA considers these triggers and thresholds require further refinement to ensure that population and abundance for these species is not adversely affected by the implementation of the proposal.

The EPA recommends the Terrestrial Fauna Environmental Management Plan be updated to ensure that impacts to terrestrial fauna can be managed to meet the EPAs objective for terrestrial fauna. This plan shall include triggers and thresholds as well as controls and contingency actions, to ensure that that biological diversity and ecological integrity of conservation significant fauna are maintained. The EPA considers that the potential impact is likely to be able to be regulated through reasonable conditions so that malleefowl and chuditch are protected; and the environmental outcome is consistent with the EPA objective for terrestrial fauna.

Conservation significant species

The proponent's ERD indicates that the significant amendment will require the clearing of 56 ha of native vegetation, that coincides with the following conservation significant species:

Table 4: Conservation significant terrestrial fauna habitat within disturbance footprint

Common name	Species	Priority or Listing under BC Act	Listing under EPBC Act
Malleefowl	*Leipoa ocellata*	Vulnerable	Vulnerable
Chuditch	*Dasyurus geoffroii*	Vulnerable	Vulnerable
Peregrine falcon	*Falco peregrinus*	Specially Protected Species under the BC Act	N/A
Rainbow bee-eater	*Merops ornatus*	Specially Protected Species under the BC Act	N/A
Western brush wallaby	*Notamacropus irma*	Priority 4	N/A
Inland western rosella	*Platycercus icterotis xanthogenys*	Priority 4	N/A

While peregrine falcon, rainbow bee-eater, western brush wallaby, and inland western rosella have been recorded with the proposal, the proponent asserts that material impacts on these species are unlikely. The proponent asserts that these species are highly mobile, and with pre-clearance surveys and the implementation of a terrestrial fauna management plan, the direct impacts should be minimal.

The EPA considers that the environmental outcome is likely to be consistent with the EPA's objective for this factor, subject to limitations on the proposal's clearing extent and recommended conditions requiring an update to, and implementation of the Terrestrial Fauna Management Plan.

Malleefowl

The significant amendment will require the clearing of 56 ha of potential breeding and foraging malleefowl habitat which is in 'Good to Excellent' condition. The original proposal required the clearing of 380 ha - therefore the combined effect of clearing within the development envelope will be 436 ha of potential foraging and breeding habitat. A total of 2,918 ha was identified across the survey area, with 1,239 occurring within the development envelope (Covalent Lithium 2022A).

Chuditch

The significant amendment will require the clearing of 56 ha of potential breeding and foraging chuditch habitat which is in 'Good to Excellent' condition. The original proposal required the clearing of 386 ha, therefore the combined effect of clearing within the development envelope will be 442 ha of potential foraging and breeding habitat. A total of 3,771 ha was identified across the survey area, with 1,481 occurring within the development envelope (Covalent Lithium 2022A).

The proponent has an approved Terrestrial Fauna Management Plan, as a requirement for MS 1118 which includes measures to avoid and minimisation impact to priority fauna, as detailed in section 2.3.6 and 2.3.7 of this report.

The proponent is currently required to provide offsets for both species as part of the approval of the original proposal (MS 1118 and 1167). The proponent has provided a strategy for additional offsets to counteract significant impacts to chuditch and malleefowl (section 4).

The EPA recommends this plan be updated to address impacts to the additional conservation significant fauna species that would be impacted through the revised proposal, including any potential impacts as a result of the removal of fauna exclusion zones.

The EPA has assessed there to be a significant residual risk to malleefowl and chuditch due to the impact of the significant amendment. This is consistent with the *WA Environmental Offsets Guidelines* (Government of Western Australia 2014) definition of significant residual impact regarding rare and endangered animals. It is also consistent with the EPA finding with the original proposal which required the proponent to provide an offset for malleefowl and chuditch under condition 8 (MS 1118).

The EPA advises that the significant residual impact is likely to be able to be regulated through reasonable conditions and counter-balanced by offsets so that malleefowl and chuditch are protected; and the environmental outcome is consistent with the EPA objective for Terrestrial Fauna. See section 4 of this report for the EPA's assessment of offset requirements.

2.2.10 Summary of key factor assessment and recommended regulation

The EPA has considered the likely residual impacts of the proposal in the context of the approved proposal (MS 1118 and 1167) on terrestrial fauna environmental values. In doing so, the EPA has considered whether reasonable conditions could be imposed, or other decision-making processes can mitigate potential inconsistency with the EPA factor objective. The EPA assessment findings are presented in Table 5.

While the Mine Closure Plan required by DMIRS includes requirements for rehabilitation and revegetation, the proposal has the potential to have a significant impact on conservation significant species within the Great Western Woodlands. As these ecological values need to be maintained and restored, the revegetation measures considered to be required to demonstrate the effective restoration are beyond the implementation requirements of the *Statutory Guidelines for Mine Closure Plans* (DMIRS 2020). Therefore, the EPA has recommended conditions for rehabilitation to demonstrate restoration of these values. The rehabilitation conditions require the proponent ensure that the flora and vegetation of rehabilitated areas reflects the environmental values of the surrounding natural ecosystem and provides appropriate habitat for fauna. Additionally, the conditions require the proponent to demonstrate progressive rehabilitation outcomes so that efficacy of closure plans and other restoration management measures can be demonstrated.

The EPA has considered the impact of the proposal in context of its cumulative impact on the Great Western Woodlands. While 56 ha of clearing of malleefowl and chuditch is minimal within the largely intact of Great Western Woodlands, this ecosystem may be under a variety of pressures. With implementation conditions that specify clear

limits on impact, and the requirement for rehabilitation to restore environmental values, the cumulative impacts of the proposal on the Great Western Woodlands will be consistent with its environmental factor objectives. The EPA has also considered the principles of the EP Act in assessing whether the residual impacts will be consistent with its environmental factor objectives (see Appendix C) and whether reasonable conditions can be imposed (see Appendix A).

Table 5: Summary of assessment for terrestrial fauna

Residual impact	Assessment finding	Recommended conditions and DMA regulation
Clearing of 56 ha of potential malleefowl and chuditch habitat. The combined effect of the existing Earl Grey Lithium Project (386 ha) and the significant amendment will be up to 442 ha.	The residual impact on 56 ha of malleefowl and chuditch habitat is likely to be significant, both on its own and in the context of the existing proposal. This vegetation provides habitat for the two conservation significant fauna species. Due to remaining quantity and quality of habitat types in the local area and region, the significant residual impact could be counterbalanced in accordance with the *WA Environmental Offsets Guidelines*. The environmental outcome is likely to be consistent with the EPA's objective for this factor, subject to limitations on the proposal footprint through condition 1 and recommended conditions 3, 4, and 5 respectively. These conditions require the development and implementation of a terrestrial fauna management plan, provision of offsets, and rehabilitation.	Regulated through recommended conditions: • Condition 1 – Limits on the extent of the proposal (development envelope and clearing within the disturbance footprint) • Condition 3 – Terrestrial fauna environmental management plan • Condition 4 – Offsets • Condition 5 – Rehabilitation.
Indirect impacts on the surrounding area from weeds, feral animals altered fire regimes, impacts from dust generation and use of	The environmental outcome is likely to be consistent with the EPA's objective for this factor, subject to limitations on the proposal	Regulated through recommended conditions: • Condition 1 – Limits on the extent of the proposal

Residual impact	Assessment finding	Recommended conditions and DMA regulation
hypersaline water for dust suppression.	footprint through condition 1 and conditions 3 requiring the development and implementation of a terrestrial management plan.	(development envelope and clearing extent) • Condition 3 – Terrestrial Fauna Environmental Management Plan

3 Holistic assessment

While the EPA assessed the impacts of the proposal against the key environmental factors and environmental values individually in the key factor assessments above, given the link between flora and vegetation, and terrestrial fauna, the EPA also considered connections and interactions between them to inform a holistic view of impacts to the whole environment.

Figure 5 illustrates the connections and interactions between the key environmental factors described in Appendix D, to inform the EPA's holistic assessment.

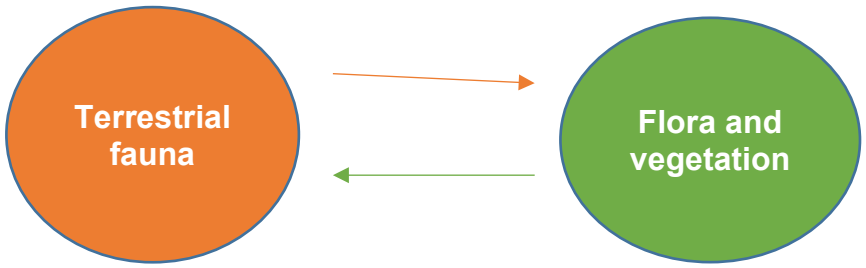

Figure 7: Intrinsic interactions between environmental factors

Flora and vegetation and terrestrial fauna

The EPAs holistic impact has considered the connections and interactions between impacts to flora and vegetation and terrestrial fauna, and the overall impact of the proposal on the environment, in particular the impacts to the Great Western Woodland.

Terrestrial fauna has a key reliance on flora and vegetation for habitat. The 56 ha of native vegetation, which is proposed to be cleared for the proposal, provides foraging and breeding habitat for EPBC Act and BC Act listed fauna species including malleefowl and chuditch.

The EPA has considered the direct impact of feral animals on fauna, however notes that feral animals can also impact on vegetation composition, cover and health, and has recommended that feral animals be managed through the implementation of the terrestrial fauna management plan.

The EPA is also aware of the potential for new and emerging industry, including the existing Earl Grey Lithium Project and other activities located within Great Western Woodlands to influence the complex interactions between environmental factors. These interactions have the potential to influence the environment in a holistic and non-linear nature, affecting all environmental values. As such, the EPA has conditioned rehabilitation to ensure that the area is rehabilitated/ restored to a level which reflects the environmental values of the surrounding natural ecosystem of the Great Western Woodlands, and that the efficacy of planned rehabilitation can be demonstrated.

The impact on flora and vegetation and terrestrial fauna has been assessed as significant and is required to be counterbalanced through the provision of offsets. The EPA considers that the proposed mitigation measures and recommended conditions for impacts to flora and vegetation and terrestrial fauna are likely to be consistent with the EPA's environmental factor objectives.

Summary of holistic assessment

The EPA recognises that the Great Western Woodlands are an area of important biodiversity. The EPA is also aware of the potential for industry, including the existing Earl Grey Lithium Project and other activities located within Great Western Woodlands to influence the complex interactions between environmental factors. These interactions have the potential to influence the environment in a holistic and non-linear nature, affecting all environmental values.

When the separate environmental factors and values affected by the proposal were considered together in a holistic assessment, the EPA formed the view that the impacts from the proposal would not alter the EPA's views about consistency with the EPA's factor objectives as assessed in section 2.

4 Offsets

Environmental offsets are actions that provide environmental benefits which counterbalance the significant residual impacts of a proposal.

Consistent with the *WA Environmental Offsets Guidelines* (Government of Western Australia 2014), the EPA may consider the application of environmental offsets to a proposal where it determines that the residual impacts of a proposal are significant, after avoidance, minimisation and rehabilitation have been pursued.

In the case of this proposal, likely (and potential) significant impacts are:

- clearing of 56 ha of 'Good to Excellent' condition native vegetation including foraging and breeding habitat for EPBC Act and BC Act listed malleefowl and chuditch
- removal of 512 individuals of *M. elatoides* (Priority 1).

Environmental offsets are not appropriate in all cases. In this case the EPA considers offsets are appropriate for flora and vegetation and fauna values given the:

- proponent's application of the mitigation hierarchy to reduce potential impacts (principle 1 of the *WA Environmental Offsets Policy*).
- magnitude of the likely significant residual impacts on environmental biodiversity values facing increasing pressures, such as threatened fauna habitat (principle 2 of the *WA Environmental Offsets Policy*).
- residual impacts can be counterbalanced by the provision of significant additional offsets that are likely to have a long-term strategic benefit and demonstrated environmental benefit (principle 6 of the *WA Environmental Offsets Policy*).

The proponent advertised its Fauna Offset Strategy (Revision 4) during the public review period for the proposal. The EPA's view on whether these offsets are likely to address the significant residual impacts is presented under these categories.

The proponent's Flora Offset Plan was provided after the public review period and is yet to be endorsed.

4.1 Fauna offsets

The proponent has proposed a land acquisition to fully counterbalance the significant residual impacts to malleefowl and chuditch. The proponent has identified four potential sites that have been identified containing foraging and breeding habitat for malleefowl and chuditch:

- Site 5 (506 ha of native vegetation)
- Site 8 (758 ha of native vegetation)
- Site 12 (2,181 ha of native vegetation)
- Site 13 (796 ha of native vegetation).

The proponent will be acquiring one or more of the potential offset sites listed above, to fulfill the offset requirements to counterbalance significant residual impacts (Appendix 4, Covalent Lithium 2022A). By having four options, the proponent has provided contingency in case one site cannot be secured.

The EPA notes that surveys of the above sites have confirmed the presence and extent of the fauna habitat values for malleefowl and chuditch (Appendix 4, Covalent Lithium 2022A). The vegetation condition within these sites varied from Very Good to Good condition (as per the scale of Keighery 1994) with only minor existing disturbances. All sites are connected to large adjoining areas of native vegetation, including nature reserves, which is similarly expected to provide suitable fauna habitat for malleefowl and chuditch. This is consistent with principle 4 of the *WA Environmental Offsets Policy,* which states that offsets should be based on sound environmental information and knowledge.

In assessing the suitability of these offsets, the EPA notes that the area of fauna habitat impacted by the significant amendment is 56 ha, with the area proposed to be acquired and offset is over 220 ha for the affected species. This proposed offset, in conjunction with the Fauna Offset Strategy for MS 1118 will result in a cumulative offset total of 2,008 ha of habitat for chuditch and malleefowl.

The acquisition and protection of sites, particularly sites that can contribute to the creation of ecological linkages is important, given that fragmentation is identified as a key threatening process for both key species.

The EPA will require ongoing site management to ensure long term conservation. Site works identified by the proponent include access management, firebreak establishment, on-going feral animal control and targeted weed control to protect environmental values.

Where a third party such as DBCA or the local Shire agrees to take responsibility for the site, the EPA will require the proponent to commit to funding ongoing site management for 20 years. With the transfer of these acquired lands to secure tenure and ongoing site management, the EPA considers the outcome of these offsets will improve connectivity of chuditch and malleefowl habitat and assist in ensuring a net gain in their populations, within conservation tenure. This will ultimately contribute to the long-term conservation of environmental values impacted by this proposal. Without the proposed offsets, it is likely that the condition and health of the remnant communities and fauna habitats would decline over time from existing threats and pressures.

4.2 Flora offsets

The proponent has outlined in their Response to Submissions document (Covalent Lithium 2022B) that they consider environmental effect of the revised proposal to *M.elatoides* is not environmentally significant to the extent that the representation, diversity, viability, or ecological function of the taxa would be adversely affected. The proponent has outlined that they have undertaken more regional surveys for the species since the original proposal was approved and the impacts as a percentage have reduced and the viability of the species is now known to be higher.

As part of the original proposal, MS 1167 required the proponent to offset impacts to 9,732 individuals of flora species *M. elatoides.* Under the WA *Environmental Offsets Guidelines*, these impacts do not have a direct requirement to be offset, as the species is a priority species and its conservation listing is unlikely to change since the original assessment.

To meet their offset requirements under MS 1167, the proponent provided a strategy for land restoration and translocation as the basis for meeting offset requirements of condition 8-8 with respect to significant residual impacts to priority flora *M. elatoides*. The proponent proposed translocation to areas within the development envelope they plan to rehabilitate. The rehabilitation area is within the airstrip from the previous mine site and is not part of the clearing associated with this proposal. Following the success of these trials, the proponent proposes to translocate 9,732 individuals to the Jilbadji Nature Reserve.

The proponent's flora offset management plan had been reviewed by DBCA. The offset condition did not require the endorsement of DBCA but their advice was to be considered. The DBCA has provided general advice that translocations are considered to be a relatively high-risk mitigatory approach and are not considered a reliable mechanism for protection. In the case of *M. elatoides,* there is significant uncertainty regarding the likely success of translocation to establish stable, viable populations as the target species are of restricted occurrence with low prior knowledge of specific habitat and ecological requirements.

Given the uncertainty with the proposed approach, it is premature to recommend that offset outcomes rely solely on translocation. There are proposals where translocations have been considered suitable as an offset for listed Threatened species by the EPA. In some of these examples, evidence of germination and translocation success was provided for assessment.

DBCA has provided advice that offset requirements could be met through an additional indirect offset in the form of research into *M. elatoides*. The research component of the offsets should aim at understanding the requirements and techniques for re-establishing *M. elatoides* in disturbed areas and give confidence in the offset approach. Given the requirement for an offset under the WA offset guidelines provides some discretion in this case, and the previous proposal did require an offset, this approach seems reasonable and practicable.

The EPA considers the provision of an additional indirect offset should be a new condition. As part of this offset strategy, it is suggested that the revised flora offset strategy include a plan specific to the conservation of *M. elatoides* and contain contingencies should research or translocation trials show that the option is not feasible.

4.3 Summary of offsets

The EPA has considered and assessed the offsets proposed and whether they would result in a net environmental benefit. The anticipated outcome from the offsets is:

- protection of foraging and breeding habitat for malleefowl and chuditch
- net gain in malleefowl and chuditch populations within secure conservation tenure
- reduction in regional fragmentation of habitat for malleefowl and chuditch
- further understanding of the requirements and techniques for re-establishing *M. elatoides* in disturbed areas
- conservation and management of *M. elatoides* disturbed by the proposal to ensure its conservation status is maintained.

The EPA considers that the protection and conservation of significant fauna habitat and priority flora species, through the provision and implementation of offsets, is likely to be consistent with the EPA's objectives for these factors and will therefore result in a net environmental benefit.

The EPA has recommended condition 4 'Offsets' that requires the proponent to undertake offset measures to counterbalance the significant residual impact of direct and indirect impacts to the relevant environmental values. Condition 4 sets out the offset locations, the type of offset measures to be implemented and the extent of the offset location that should be subject to the offset measures. To demonstrate that the objective to counterbalance the significant residual impacts will be met, condition 4-2 requires the proponent to prepare and submit an offset management plan which is to include the offset measures to be implemented.

Further, where on-ground management or revegetation is proposed, the offset management plan is to include targets to be achieved, including targets for completion criteria and vegetation condition, which will result in a tangible improvement to the environmental values being offset.

5 Recommendations

The EPA has taken the following into account in its assessment of the proposal:

- environmental values likely to be significantly affected by the proposal
- assessment of key environmental factors, separately and holistically (this has included considering cumulative impacts of the proposal where relevant
- EPA's confidence in the proponent's proposed mitigation measures
- likely environmental outcomes which can be achieved with the imposition of conditions
- consistency of environmental outcomes with the EPA's objectives for the key environmental factors
- whether other statutory decision-making processes can mitigate the potential impacts of the proposal on the environment
- principles of the EP Act.

The EPA recommends that the proposal may be implemented subject to the conditions recommended in Appendix A.

6 Other advice

The EPA may, if it sees fit, include other information, advice, or recommendations relevant to the environment in its assessment reports, even if that information has not been taken into account by the EPA in its assessment of a proposal.

The EPA provides the following information for consideration by the Minister.

- Decommissioning and rehabilitation (Mine Closure) is regulated by the Department of Mines, Industry Regulation and Safety (DMIRS) under the Mining Act, to ensure that mining activities are rehabilitated and closed in a manner to make them physically safe to humans and fauna, geo-technically stable, geo-chemically non-polluting/noncontaminating and capable of sustaining an agreed post mining land use without unacceptable liability to the State. The EPA considered that with the impacts posed to flora and vegetation, and terrestrial fauna, that additional conditions were required to provide demonstrated evidence that ecological values in the Great Western Woodland can be restored (Sections 2.1.11 and 2.2.10).
- The EPA notes this regulation is expected to achieve the DMIRS principal objective for environmental regulation which is that *'Resource industry activities are designed, operated, closed, decommissioned and rehabilitated in an ecologically sustainable manner, consistent with agreed environmental outcomes and post-mining land-uses without unacceptable liability to the State'* (DMIRS 2020b). The EPA considers terrestrial environmental quality could be regulated by DMIRS to meet the EPA's objective.
- DMIRS advised during consultation, that risk of fibrous materials can be assessed and regulated via the mining proposal and mine closure planning process under the Mining Act, as well as from a worker health perspective under the *Mines Safety and Inspection Act 1994.* The mining proposal and mine closure plan are currently under assessment by DMIRS. The EPA considers the impact of fibrous material to human health could be regulated by DMIRS to meet the EPA's objective for human health
- Emissions and discharges from the existing proposal are regulated by the DWER under Part V of the EP Act, through operating licence (W6460/2020/1). DWER has provided advice that the 'wet' tailings disposal to the Integrated Waste Landform/Tailing Storage Facility can be assessed and regulated under Part V of the EP Act. The EPA considers that the Part V licence can adequately manage and control emissions from the proposal. The EPA considers the impact of emissions and discharges to air and inland waters can be regulated under part V of the EP Act, to meet the EPA's objective for air quality and inland waters.

Appendix A: Recommended conditions

Section 44(2)(b) of *Environmental Protection Act 1986* 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.

STATEMENT THAT A SIGNIFICANT AMENDMENT TO AN APPROVED PROPOSAL MAY BE IMPLEMENTED
***(Environmental Protection Act 1986*)**

EARL GREY LITHIUM PROJECT (SIGNIFICANT AMENDMENT)

Proposal: The proposal is to amend the existing Earl Grey Lithium Project.

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

Proponent Address: Level 17, 109 St Georges Terrace

Assessment Number: 2315

Report of the Environmental Protection Authority: 1730

Previous Assessment Numbers: 2123 and 2279

Previous Reports of the Environmental Protection Authority: 1651 and 1697

Previous Statement Numbers: 1118 and 1167

Pursuant to section 45 of the *Environmental Protection Act 1986*, read with section 45A of the Act, it has been agreed that:

1. the significant amendment to the approved proposal described in section 1 of the proponent's section 38 Referral Supporting Document (Revision 3, April 2022) may be implemented; and

2. the implementation of the significant amendment to the approved proposal to which the above reports of the Environmental Protection Authority relate is subject to the following conditions and procedures, which replace and supersede all previous conditions and procedures of Statement 1118 and 1167.

1 Limitations and Extent of Proposal

1-1 When implementing the proposal, the proponent shall ensure the proposal does not exceed the following extents:

Physical elements	Location	Maximum extent or range
Development envelope	Figure 2	2,347 ha
Indicative Disturbance Footprint	Figure 2	882 ha
Clearing Extent	Figure 2	Clearing of no more than 442 ha of native vegetation
Operational elements		
Mine and associated infrastructure	Figure 2	Mining operations and mining infrastructure including a mine pit, waste rock landforms, tailings storage facility, processing plant, airstrip, accommodation village, water supply pipeline, solar plant, and associated infrastructure.
Timing elements		
Project life	-	Up to 40 years from the date of this statement

2 Flora and Vegetation

2-1 The proponent shall implement the proposal to meet the following environmental outcomes:

(1) **clearing** of no more than 442 ha of native vegetation;

(2) no direct or indirect disturbance to flora and vegetation in the exclusion zones as shown on Figure 3;

(3) no more than 9,732 individuals of *Microcorys elatoides* and two (2) individuals of *Banksia sphaerocarpa var. dolichostyla* to be subject to direct disturbance inside the development envelope;

(4) The loss of no more than:

- 7% of the **known population** of *Labichea rossii*;
- 7% of the **known population** of *Microcorys sp. Mt Holland broad-leaf*;
- 5% of the **known population** of *Acacia lachnocarpa;*
- 2% of the **known population** of any other priority 1 flora species.

2-2 The proponent shall implement the proposal to achieve the following environmental objectives:

(1) avoid, where practicable, and otherwise minimise direct disturbance to **priority flora species** outside the flora exclusion zones detailed on Figure 3; and

(2) avoid, where practicable and otherwise minimise indirect impacts to flora and vegetation including but not limited to impacts from clearing, dust, weeds and fire.

2-3 Prior to clearing within the areas subject to the significant amendment as described in section 1 of the proponent's section 38 Referral Supporting Document (Revision 3, April 2022), the proponent must undertake pre-clearance vegetation and flora survey(s), in accordance with *Technical guidance – Flora and vegetation surveys for environmental impact assessment,* or any approved updates of these guidelines.

2-4 In order to meet the outcomes of condition 2-1, and the objectives of condition 2-2, within six (6) months of the date of this statement, the proponent shall update the *Earl Grey Lithium Project Flora and Vegetation Environmental Management Plan* (July 2022). This plan shall:

(1) include details of the timing, methods, limitations, and results of the pre-clearance surveys required by condition 2-3 and demonstrate how the findings of the survey(s) have been considered, including provision of mitigation measures;

(2) describe how impacts to threatened and **priority flora species** outside the flora exclusion zones will be avoided where possible, and/or minimised;

(3) include actions to ensure that dust, weeds, and fire are appropriately managed within the development envelope;

(4) specify trigger criteria that must provide an early warning that the threshold criteria identified in condition 2-4(5) may not be met;

(5) specify threshold criteria to demonstrate compliance with the environmental outcomes specified in condition 2-1;

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

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

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

(9) provide contingency measures and adaptive management techniques to ensure the outcomes of conditions 2-1 and 2-2 are met, and include options for changes to operations and reductions in disturbance; and

(10) provide the format and timing for the reporting of monitoring results against trigger criteria and threshold criteria to demonstrate that the outcome of condition 2-1 and the objectives of condition 2-2 have been met over the reporting period in the Compliance Assessment Report required by condition 8-6.

2-5 The proponent must not commence clearing exceeding the extent of the original authorised proposal until the CEO has confirmed by notice in writing that the Earl Grey Lithium Project Flora and Vegetation Environmental Management Plan satisfies the requirements of condition 2-4.

2-6 The proponent must implement the most recent version of Flora and Vegetation Environmental Management Plan confirmed for implementation by the **CEO**, with the objective of ensuring the outcomes of condition 2-1 and objectives of condition 2-2 are achieved/met, until the **CEO** has confirmed by notice in writing that the proponent has demonstrated that the environmental outcomes in condition 2-1 have been achieved and the objectives of 2-2 have been met.

2-7 In the event that monitoring, or investigations indicates exceedance of threshold criteria specified in the confirmed Flora and Vegetation Environmental Management Plan, the proponent shall:

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

(2) implement the threshold contingency actions specified in the Flora and Vegetation Environmental Management Plan within twenty-four (24) hours of the exceedance being reported as required by condition 2-7 (1) and continue implementation of those actions until the CEO has confirmed by notice in writing that it has been demonstrated that the threshold criteria are being met and the implementation of the threshold contingency actions is no longer required;

(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 2-7(1). The report shall include:

(a) details of threshold contingency actions implemented;

(b) the effectiveness of the threshold contingency actions implemented, against the threshold criteria;

(c) the findings of the investigations required by conditions 2-7(3) and 2-7(4);

(d) measures to prevent the threshold criteria being exceeded in the future;

(e) measures to prevent, control or abate the environmental harm which may have occurred; and

(f) justification of the threshold remaining, or being adjusted based on better understanding, demonstrating that objectives will continue to be met.

2-8 The proponent shall make the Flora and Vegetation Environmental Management Plan required by condition 2-4 publicly available.

2-9 The proponent:

(1) may review and revise the confirmed Flora and Vegetation Environmental Management Plan and submit it to the **CEO**; and

(2) shall review and revise the confirmed Flora and Vegetation Environmental Management Plan and submit it to the **CEO** as and when directed by the **CEO** by a notice in writing.

2-10 The proponent shall implement the latest revision of the Flora and Vegetation Environmental Management Plan, which the **CEO** has confirmed by notice in writing, satisfies the requirements of condition 2-4.

3 Terrestrial Fauna

3-1 The proponent shall implement the proposal to meet the following environmental outcomes and objectives:

(1) no direct or indirect impacts to malleefowl mounds within the exclusion areas as shown on Figure 4;

(2) no direct or indirect adverse impacts to malleefowl and chuditch within the development envelope;

(3) no removal of active malleefowl mounds within the development envelope; and

(4) minimise proposal-related direct or adverse indirect impacts to malleefowl from feral animals within the development envelope.

3-2 In order to meet the requirements of condition 3-1, within six (6) months of approval of this statement, the proponent shall update the Earl Grey Lithium Project Terrestrial Fauna Environmental Management Plan (April 2022). This 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 outcomes and objectives identified in condition 3-1 may not be met;

(4) specify threshold criteria to demonstrate compliance with the environmental outcomes and objectives specified in condition 3-1;

(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;

(8) provide contingency measures and adaptive management techniques to ensure the outcomes of conditions 3-1 are met, and include options for changes to operations and reductions in disturbance; and

(9) provide the format and timing for the reporting of monitoring results against trigger criteria and threshold criteria to demonstrate that condition 3-1 has been met over the reporting period in the Compliance Assessment Report required by condition 8-6.

3-3 The proponent must not commence clearing exceeding the extent of the original authorised proposal until the **CEO** has confirmed by notice in writing that the *Earl Grey Lithium Project Terrestrial Fauna Environmental Management Plan* satisfies the requirements of condition 3-2.

3-4 The proponent must implement the most recent version of Terrestrial Fauna Environmental Management Plan until the CEO has confirmed by notice in writing that the proponent has demonstrated that the environmental outcomes and objectives in condition 3-1 have been met.

3-5 In the event that monitoring or investigations indicate 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 twenty-four (24) hours of the exceedance being reported as required by condition 3-5(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 3-5(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 3-5(3) and 3-5(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.

3-6 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**.

3-7 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 3-2.

4 Offsets

4-1 The proponent must implement offsets to counter-balance the significant residual impacts of the proposal on the following environmental values:

(1) 436 ha of foraging and breeding habitat for malleefowl (*Leipoa ocellata*);

(2) 442 ha of foraging and potential breeding habitat for chuditch (*Dasyurus geoffroii*);

(3) 2 individuals of Ironcap Banksia (*Banksia sphaerocarpa var. dolichostyla*); and

(4) 9,732 individuals of *Microcorys elatoides*,

as a result of the implementation of the proposal and the significant amendment to the approved proposal described in section 1 of the proponent's section 38 Referral Supporting Document.

Threatened Fauna Land Acquisition Strategy

4-2 In order to meet the requirements of condition 4-1 (1) and 4-1(2), the proponent shall submit for approval, the Earl Grey Lithium Project Fauna Offset Strategy within six (6) months of the date of this statement. This strategy 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 436 ha of foraging and breeding habitat for malleefowl, and 436 ha of foraging and potential breeding habitat for chuditch, as identified in condition 4-1, 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 to malleefowl and chuditch, as identified in condition 4-1;

(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) identify how the ongoing performance of the offset measures, and whether they are achieving the outcomes in conditions 4-1(1) and 4-1(2), will periodically be made publicly available;

(7) 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;

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

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

4-3 Within six (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 4-1 and 4-2, the proponent shall implement the approved **Threatened Fauna** Land Acquisition Strategy.

4-4 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**.

4-5 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 4-2.

Flora Offset Strategy

4-6 The proponent must, in consultation with Department of Biodiversity, Conservation and Attractions, prepare a Flora and Vegetation Offset Strategy that demonstrates how the following environmental outcome will be achieved, and how this achievement will be substantiated, and submit it to the **CEO**:

(1) counterbalance the significant residual impacts listed in condition 4-1(3) and 4-1(4).

4-7 The Flora and Vegetation Offset management Plan must:

(1) identify an area, or areas, to be protected, managed and/or rehabilitated for conservation that contains the flora values identified in conditions 4-1(3) and 4-1(4) on advice of the Department of Biodiversity, Conservation and Attractions;

(2) identify an area, or areas for **on-ground management**;

(3) demonstrate how the environmental values within the **Proposed Offset Conservation Areas** will be maintained and improved in order to counterbalance the significant residual impact to the environmental values in condition 4-1 and achieve the environmental outcomes condition 4-6(1);

(4) demonstrate application of the principles of the WA Environmental Offsets Policy, the *WA Environmental Offsets Metric* and the WA Offsets Template, as described in the *WA Environmental Offsets Guidelines,* and *the Environmental Protection and Biodiversity Conservation Act 1999 Environmental Offsets Policy Assessment Guide*, or any subsequent revisions of these documents;

(5) identify how the ongoing performance of the offset measures, and whether they are achieving the outcomes in condition 4-6, will periodically be made publicly available;

(6) identify how the Proposed Offset Conservation Areas will be protected, being either the sites are ceded to the Crown for the purpose of management for conservation, or the sites are managed under other

suitable mechanism for the purpose of conservation as agreed by the **CEO** by notice in writing; and

(7) for offsets acquired specify:

(a) a timeframe and works associated with establishing the **Proposed Offset Conservation Areas**, including a contribution for maintaining the offset for at least twenty (20) years after completion of purchase;

(b) identify the relevant management body for the on-going management of the **Proposed Offset Conservation Areas**, including its role, and the role of the proponent, and confirmation in writing that the relevant management body accepts responsibility for its role.

***Microcorys elatoides* Conservation Plan**

4-8 The proponent shall fund and undertake an offset for *Microcorys elatoides* to meet the following outcome:

(1) ensure the long-term viability of *Microcorys elatoides*.

4-9 Within twelve (12) months of the date of this Statement, or as otherwise agreed in writing by the **CEO**, as part of the Flora Offset Strategy, the proponent shall prepare and submit to the **CEO** a *Microcorys elatoides* Conservation Plan, for the offset required by condition 4-8, which identifies on-ground conservation and research projects to be undertaken that contribute to long-term conservation outcomes for the species. The plan shall be to the satisfaction of the **CEO** on advice of the Department of Biodiversity, Conservation and Attractions.

4-10 The *Microcorys elatoides* Conservation Plan shall:

(1) On ground management

(a) state the targets to be achieved, including completion criteria, which will result in a tangible improvement to the environmental values being offset;

(b) demonstrate the consistency of the targets with environmental outcomes in conditions 4-6(1) and 4-8, and the objectives of any relevant guidance, including but not limited to, recovery plans or area management plans;

(c) detail the on-ground management actions, with associated timeframes for implementation and completion, to achieve the targets identified in conditions 4-6(1) and 4-8; and

(d) detail the monitoring, reporting and evaluation mechanisms for the targets and actions identified under condition 4-10(1)(a).

(2) Where research is proposed, prepare a research program that:

(a) identifies the objectives and intended outcomes, and specifies the deliverables and competition criteria;

(b) identifies how the research will result in a positive conservation outcome, and will either improve management and protection, address priority knowledge gaps that have been identified as a research priority needed to improve management and protection, for the environmental values identified in condition 4-1(4);

(c) demonstrate consistency of the objectives in condition 4-10(2) with any relevant guidance, including but not limited to, recovery plans or area management plans, the principles of the *WA Environmental Offsets Policy,* the *WA Environmental Offsets Guidelines*, or any subsequent revisions of these documents;

(d) identifies and justifies the proportion and allocation of resources for each specific offset addressed by the Flora and Vegetation Offset Strategy;

(e) provides an implementation and reporting schedule, including an outline of key activities, all deliverables, stages of implementation, reporting of research results (including interim results), reporting on implementation status, and milestones towards completion criteria;

(f) identifies the governance arrangements including responsibilities for implementing, and oversight of, the research program, agreements with government agencies, agreements with any third parties, and contingency measures;

(g) identify how a research program summary, and the results (including interim results) of the research program will be communicated and/or published in an open access format; and

(h) identifies the third party to carry out the work required to meet the outcomes of conditions 4-1(4) and 4-8 who is satisfactory for the role to the **CEO**. In applying to the **CEO** for endorsement of the selected third parties, the proponent shall provide:

- demonstration of the track record, experience, qualifications and competencies of the proposed third party to carry out the work and achieve the outcomes.

4-11 Within six (6) months of receiving notice in writing from the **CEO** that the *Microcorys elatoides* Conservation Plan satisfies the requirements of conditions

4-9 to 4-10, the proponent shall commence the implementation of the conservation plan.
The proponent shall make the *Microcorys elatoides* Conservation Plan required by condition 4-10 publicly available.

5 Rehabilitation

5-1 The proponent must implement the proposal to ensure the following environmental outcomes are achieved:

(1) rehabilitated areas are capable of sustaining the long-term viability of *Banksia sphaerocarpa var. dolichostyla* and *Microcorys elatoides* impacted from the proposal;

(2) rehabilitated landforms are stable and do not cause pollution or environmental harm;

(3) rehabilitated vegetation is self-sustaining; and

(4) rehabilitated areas are consistent with the species diversity and abundance of native vegetation within comparative analogue or reference sites.

5-2 In order demonstrate the outcomes of condition 5-1 can be met, the proponent shall commence rehabilitation trials within twelve (12) months of the date of this Statement, or as otherwise agreed in writing by the **CEO**.

5-3 The proponent shall submit annually to the **CEO**, with the annual compliance assessment report required by condition 8-6, a rehabilitation trial progress report, which identifies:

(1) results of rehabilitation trials; and

(2) contingency measures and actions in the event trials indicate the rehabilitation objective may not be achieved.

5-4 The proponent shall continue to implement the rehabilitation trials required by condition 5-2 until the proponent has demonstrated that the outcomes of condition 5-1 will be met, or as otherwise agreed by the **CEO**.

6 Environmental Performance Report

6-1 The proponent shall submit an Environmental Performance Report to the Minister every five (5) years.

6-2 The first Environmental Performance Report shall be submitted within three months after five (5) years from substantial commencement, or such other time as may be approved by the **CEO**.

6-3 Each Environmental Performance Report shall report on proposal impacts on the following environmental values:

(1) state of flora and vegetation;

(2) state of terrestrial fauna; and

(3) state of the holistic environment.

6-4 The Environmental Performance Report must include:

(1) a comparison of the environmental values identified in condition 6-3 at the end of the five (5) year period; against the state of each environmental value at the beginning of the five (5) year period;
(2) a comparison of the environmental values identified in condition 6-3 at the end of the five (5) year period; against the state of the environmental values identified in first Environmental Performance Report submitted in accordance with condition 6-2; and
(3) proposed adaptive management and continuous improvement strategies.

6-5 The Environmental Performance Report may be in whole, or part prepared in conjunction with other proponents where there are cumulative impacts from their proposals.

7 Contact Details

7-1 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.

8 Compliance Reporting

8-1 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 8-6, or prior to implementation of the proposal, whichever is sooner.

8-2 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.

8-3 After receiving notice in writing from the **CEO** that the Compliance Assessment Plan satisfies the requirements of condition 8-2 the proponent shall assess compliance with conditions in accordance with the Compliance Assessment Plan required by condition 8-1.

8-4 The proponent shall retain reports of all compliance assessments described in the Compliance Assessment Plan required by condition 8-1 and shall make those reports available when requested by the **CEO**.

8-5 The proponent shall advise the **CEO** of any potential non-compliance within seven (7) days of that non-compliance being known.

8-6 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 8-1.

9 Public Availability of Data

9-1 Subject to condition 9-2, 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.

9-2 If any data referred to in condition 9-1 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.

Table 1: Abbreviations and definitions

Acronym or abbreviation	Definition or term
CEO	The Chief Executive Officer of the Department of the Public Service of the State responsible for the administration of section 48 of the *EP Act*, or the CEO's delegate.
EP Act	*Environmental Protection Act 1986*
Clearing	Has the same meaning as in section 51A of the *Environmental Protection Act 1986*
Ground disturbing activities	Any ground disturbing activity undertaken in the implementation of the proposal, including any clearing, civil works, or construction, other than preliminary works to which approval has been given under the EP Act.
ha	Hectare
known population	Number of individuals for species as defined by *Earl Grey Lithium Project Revised Proposal Environmental Review Document* (Rev 3, April 2022) or by any biological field survey that is undertaken subsequent to the *Earl Grey Lithium Project Revised Proposal Environmental Review Document* (Rev 3, April 2022) that has been submitted to the CEO.
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
On-ground management	This includes revegetation (re-establishment of native vegetation in degraded areas) and rehabilitation (repair of ecosystem processes and management of weeds, disease or feral animals) with the objective to achieve a tangible improvement to the environmental values in the offset area.
Priority flora species	As defined in the Conservation Codes for Western Australian Flora and fauna
Threatened fauna	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 Indicative Disturbance Footprint
Figure 3 Conservation Significant Flora Exclusion Zones
Figure 4 Malleefowl Mound Exclusion Zones

Figure 1: Regional location

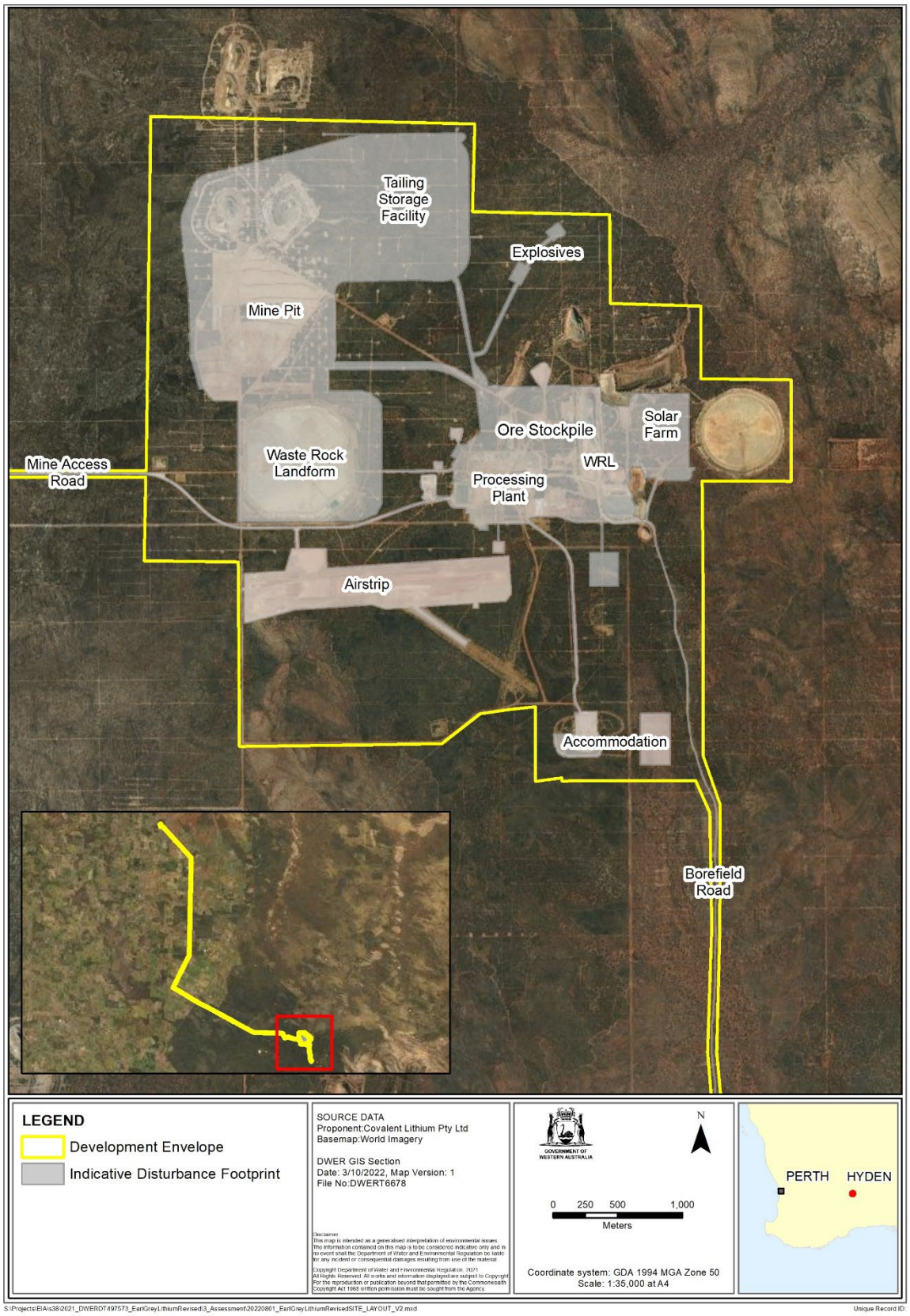

Figure 2: Earl Grey Lithium Project development envelope and disturbance footprint

Figure 3: Conservation significant flora exclusion zones

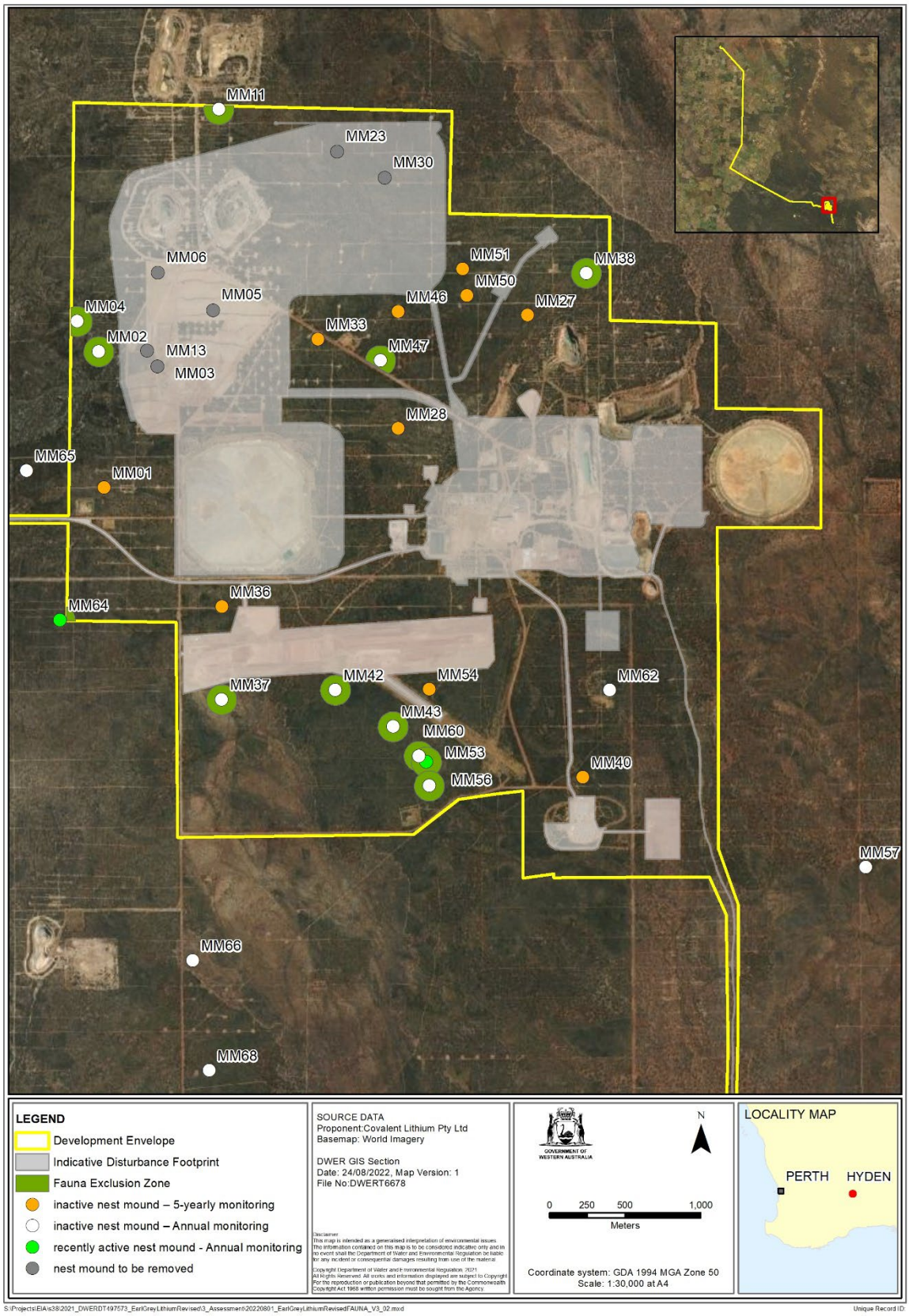

Figure 4: Malleefowl mound exclusion zones

Appendix B: Decision-making authorities

Table B1: Identified relevant decision-making authorities for the proposal

Decision-Making Authority	Legislation (and approval)
16. Minister for Environment	*Biodiversity Conservation Act 2016* - section 40 authority to take or disturb threatened species
17. Minister for Mines and Petroleum	*Mining Act 1978* – Mining proposal and mine closure plan
18. Minister for Water	*Rights in Water and Irrigation Act 1914* - groundwater abstraction licence - licence to construct bores
19. Chief Dangerous Goods Officer Department of Mines, Industry Regulation and Safety	*Dangerous Goods Safety Act 2004* - storage and handling of dangerous goods
20. Executive Director Resource and Environmental Compliance, Department of Mines, Industry Regulation and Safety	*Mining Act 1978* - mining proposal
21. State Mining Engineer, Department of Mines, Industry Regulation and Safety	*Mines Safety and Inspection Act 1994* - mine safety
22. Chief Executive Officer, Department of Water and Environmental Regulation	*Environmental Protection Act 1986* - part V works approval and licence

Appendix C: Environmental Protection Act principles

Table C1: Consideration of principles of the *Environmental Protection Act 1986*

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.*	The EPA has considered the precautionary principle in its assessment and has had regard to this principle in its assessment of flora and vegetation. The impacts to priority flora and vegetation and fauna have been considered and mitigation proposed to avoid and minimise impacts. Where offsets are required under the WA offset guidelines to counterbalance impacts to species, they have been proposed. Offsets for listed fauna species are achievable and viable. Where possible impacts have been limited to provide certainty that irreversible damage is avoided. There remains some uncertainty around the potential availability of suitable offsets for *Microcorys sp*.; however, an offset has been proposed. The proponent has provided contingency actions and agreed to continue consultation with DBCA and DWER to confirm the appropriateness of the proposed offsets. The EPA is satisfied that these additional actions, if implemented, would mean that the Proposal is not likely to be inconsistent with the EPA's objectives and that the measures are consistent with the precautionary principle.
2. The principle of intergenerational equity *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 has considered the principle of intergenerational equity in its assessment and has had particular regard to this principle in its assessment of flora and vegetation, and terrestrial fauna. The assessment of these impacts is provided in this report. 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 are implemented, including avoidance of impacts and maintenance of conservation status of *Microcorys sp*, 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.

EP Act principle	Consideration
3. The principles of the conservation of biological diversity and ecological integrity *Conservation of biological diversity and ecological integrity should be a fundamental consideration.*	The EPA has considered the principle of conservation of biological diversity and ecological integrity in its assessment and has had particular regard to this principle in its assessment of flora and vegetation and terrestrial fauna. Flora and vegetation, and terrestrial fauna The EPA has considered to what extent the potential impacts from the proposal to flora and vegetation and terrestrial fauna can be ameliorated to ensure consistency with the principle of conservation of biological diversity and ecological integrity, including the provision of offsets. The EPA has concluded that given the nature of the impacts to the areas of vegetation and habitat for conservation significant fauna that will be cleared, offsets are required to counter-balance the impacts of the loss of biological diversity and ecological integrity.
4. Principles relating to improved valuation, pricing, and incentive mechanisms ▪ *Environmental factors should be included in the valuation of assets and services.* ▪ *The polluter pays principle — those who generate pollution and waste should bear the cost of containment, avoidance, or abatement.* ▪ *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 wastes.* ▪ *Environmental goals, having been established, should be pursued in the most cost effective way, by establishing incentive structures, including market mechanisms, which enable those best placed to maximise benefits and/or minimise costs to develop their own solutions and responses to environmental problems.*	In considering this principle, the EPA notes that the proponent will bear the costs relating to implementing the proposal to achieve environmental outcomes, and management and monitoring of environmental impacts during construction, operation, and decommissioning of the proposal. The EPA has had particular regard to this principle in considering the residual impacts of the proposal on flora and vegetation and terrestrial fauna.
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 states waste would be minimised by adopting the hierarchy of waste controls; avoid, minimise, reuse, recycle and safe disposal. Planning for the Proposal has sought to minimise wastes through the use of cleared materials (topsoil/subsoil and vegetation) in post-exploration rehabilitation works, and through appropriate collection, removal and disposal of all other waste materials. Accordingly, the Proposal is considered to meet the objectives of the 'Principle of Waste Minimisation'.

Appendix D: Other environmental factors

Table D1: 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 that 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 wet tailings on the existing western TSF resulting in contaminant leaching.	DMIRS provided advice during the public submission period that they had received a revised Earl Grey Lithium Project Mining Proposal for Stage 2 on 11 February 2022 (Reg. ID 101345) that proposes an IWL/TSF with a TSF design report (Coffey 2021 and Graeme Campbell & Associates 2021) comprising an 'inner' TSF surrounded by waste rock storage. These documents have been assessed by a DMIRS Geotechnical Engineer.	The key pathway for surface contaminants to the receiving environment is through surface and groundwater. Covalent Lithium proposes to maximise the use of existing cleared / disturbed lands as far as practicable in order to minimise the disturbance of land and soils associated with new land clearing. The use of existing cleared / disturbed lands includes the proposed reuse of the existing Western Tailings Storage Facility, which following use by the proposal, would enable this facility to be covered and closed appropriately. The proposed TSF does not intercept any major drainage or creek lines and groundwater occurs at a depth of greater than 50 meters, with no groundwater dependent vegetation present. Geochemical assessments have been conducted which concluded that that the tailings would be environmentally benign (Coffey Services 2021 and Graeme Campbell & Associates 2021). Geochemical characterisation has also show that the majority of waste rock materials are non-acid forming and unlikely to present a risk to surrounding land, soils, and groundwater (Covalent 2022).

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
			DMIRS have confirmed in their submission on 2 June 2022 (REG ID 111150) that operational and closure impacts of the IWL/TSF can be regulated by the mining proposal and mine closure plan. Accordingly, the EPA did not consider the factor terrestrial environmental quality to be a key environmental factor at the conclusion of its assessment.
Water			
Inland waters	The proposal will result in an alteration of local surface water drainage within the Development Envelope through the construction of landforms such as Mine Pits, Waste Rock Landforms and Tailings Storage Facilities, as well as through construction of minor infrastructure components including roads and earthen bunds. The change from dry to wet tailings will change the water balance of the proposal, however the Regional Water Branch has reviewed the documents and had no concerns	DWER provided advice during the public submission period that a works approval application to construct a new Integrated Waste Landform (IWL) / Tailings Storage Facility (TSF) for the disposal of 1.2 Mtpa of 'wet' tailings was submitted to Industry Regulation for assessment on 20 March 2022. DWER noted that the change to 'wet' deposition consists of the tailings slurry being transported via pipelines for disposal to the TSF. DWER also noted that the mass and volume of the 'wet' tailings will be greater due to the liquid component remaining within the tailings slurry. The change to a 'wet' tailings approach will alter the proposal's water balance, and the emission risk profile of the proposal, including the need for seepage management (water removal and recycling) and groundwater monitoring around the TSF.	The proposal does not intersect any major surface water drainage lines or creek lines, and there are no identified groundwater dependent ecosystems within the development envelope. Groundwater occurs at greater than 50 metres below ground level and is typically saline to hypersaline. The proponent will be required to obtain a groundwater licence under the *Rights in Water and Irrigation Act 1914* (RiWI Act) to abstract water for the proposal. The proponent proposes to use standard seepage minimisation measures to control seepage from the TSF including water removal and recycling via decant pump, and a cut-off trench beneath the perimeter embankment. The Tailings Storage Facility will be designed and constructed consistent with the DMIRS (2013) document *Code of Practice: Tailings Storage Facilities in Western Australia.* The proponent has committed to an operational management program which includes water quality

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
			sampling of both surface and groundwater, and bores are to be sited around the TSF. Part V have confirmed that 'wet' tailings disposal to the IWL/TSF can be assessed, managed and regulated under Part V licence to meet the EPAs objective for Inland Water. DMIRS have confirmed in their submission on 2 June 2022 (REG ID 111150) that operational and closure impacts of the IWL/TSF can be regulated by the mining proposal and mine closure plan. Accordingly, the EPA did not consider the factor inland waters to be a key environmental factor at the conclusion of its assessment.
Air			
Air quality	Air emissions of dust from mining operations occur from activities including land clearing, drilling, blasting, excavation, loading and unloading of ore and waste rock, vehicle movements on unsealed roads, and from wind passing over cleared land areas. Dust has the potential to detrimentally affect the health of flora and vegetation through shading, limiting gaseous transfer and/or an increase leaf temperature.	DMIRS provided advice during the public submission period that they had received a revised Earl Grey Lithium Project Mining Proposal for Stage 2 on 11 February 2022 (Reg. ID 101345), The mining proposal states the mining voids and landforms at Earl Grey contain fibrous (mostly non-asbestiform) materials.	There are no existing land uses or residential dwellings in the vicinity of the proposal that could be affected by changes in air quality. In order to manage the general environmental effects of the proposal, Covalent Lithium has prepared the following EMP for to manage the environmental effects of the proposal: Construction EMP (Covalent Lithium 2020b) and Mine Closure Plan (Covalent Lithium 2021d). The proponent proposed to use existing disturbed areas to minimise the extent of clearing, dust suppression through dampening with groundwater, water sprays and emissions control on processing equipment, vehicle

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 proponent notes that approximately half of the waste rock may contain naturally-occurring fibrous materials (amphibole minerals, in the form of non-asbestiform actinolite and anthophyllite), which will require management in their handling and disposal. However, the potential airborne exposure risk is low.		speed limits on unsealed roads, and the rehabilitation of cleared/disturbed lands. DMIRS confirmed the impacts of fibrous materials can be assessed and regulated by DMIRS via the mining proposal and mine closure plan in further consultation with the proponent, together with application of the DMIRS guideline for Management of Fibrous Minerals in Western Australian Mining Operations, Second Edition (2015). Accordingly, the EPA did not consider the factor of air quality to be a key environmental factor at the conclusion of its assessment.
Greenhouse gas emissions (GHG)	Emission released to the atmosphere have the potential to contribute to GHG emissions. Estimated GHG emissions have been modelled as Scope 1 - 70,000 - 84,000 t CO2-e (annual average, estimated Scope 1 emissions)	No comments were received for this factor during consultation.	As part of considering the context of the existing Earl Grey Lithium Project and cumulative effects, the EPA considered whether the conditions of existing approval MS 1118 should be subject to an inquiry related to the management of proposal air emissions. The EPA notes that the significant amendment will result in a reduction to GHG emissions due to the installation of a solar plant. Based on recent GHG assessments, emissions are unlikely to be more than 100,000 tonnes per annum (Covalent 2021B). Accordingly, the EPA did not consider the factor of greenhouse gas emissions to be a key environmental factor at the conclusion of its assessment.

Appendix E: Relevant policy, guidance, and procedures

The EPA had particular regard to the policies, guidelines and procedures listed below in the assessment of the proposal.

- *WA Environmental Offsets Policy* (Government of Western Australia 2011)
- *WA Environmental Offsets Guidelines* (Government of Western Australia 2014)
- *Environmental factor guideline – Flora and vegetation* (EPA 2016A)
- *Environmental factor guideline – Human health* (EPA 2016B)
- *Environmental factor guideline – Social surroundings* (EPA 2016C)
- *Environmental factor guideline – Terrestrial environmental quality* (EPA 2016D)
- *Environmental factor guideline – Terrestrial fauna* (EPA 2016E)
- *Technical guidance – Flora and vegetation surveys for environmental impact assessment* (EPA 2016F)
- *Environmental factor guideline – Inland waters* (EPA 2018)
- *Environmental factor guideline – Air quality* (EPA 2020A)
- *Environmental factor guideline – Greenhouse gas emissions* (EPA 2020B)
- *Technical guidance – Terrestrial vertebrate fauna surveys for environmental impact assessment* (EPA 2020C).
- *Environmental impact assessment (Part IV Divisions 1 and 2) procedures manual* (EPA 2021A)
- *Statement of environmental principles, factors, objectives and aims of EIA* (EPA 2021B)

Appendix F: List of submitters

7-day comment on referral

Organisations and public

- Two comments were received from the public during 7-day public comment period. One raised concern regarding impacts to flora and vegetation and the second submitter supported the project, citing the global need for lithium.

Government agencies

- Department of Biodiversity, Conservation and Attractions
- Department of Mines, Industry Regulation and Safety
- Department of Water and Environmental Regulation

Public review of proponent information

Government agencies

- Department of Biodiversity, Conservation and Attractions
- Department of Mines, Industry Regulation and Safety
- Department of Water and Environmental Regulation

Appendix G: Assessment timeline

Date	Progress stages	Time (weeks)
27/10/2021	EPA decided to assess – level of assessment set	
16/11/2021	EPA requested additional information	2.5
29/04/2022	EPA received additional information	21
02/05/2022	EPA accepted additional information	1
09/05/2022	EPA released additional information for public review	1
23/05/2022	Public review period for additional information closed	2
27/07/2022	EPA received final information for assessment	9
18/08/2022	EPA completed its assessment	3
07/09/2022	EPA received additional information for assessment	3
06/10/2022	EPA provided report to the Minister for Environment	4
11/10/2022	EPA report published	3 days
01/11/2022	Appeals period closed	3

Timelines for an assessment may vary according to the complexity of the proposal and are usually agreed with the proponent soon after the 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.

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