covalent
LITHIUM

Covalent Lithium - Earl Grey Lithium Project

RESPONSE TO SUBMISSIONS
ASSESSMENT NO. 2123

RESPONSE TO SUBMISSIONS ON PUBLIC ENVIRONMENTAL REVIEW

AUGUST 2019

Prepared by Strategen JBS&G Pty Ltd
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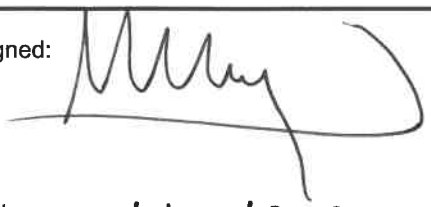
Endorsement:

Mark Fones, Chief Executive Officer, on behalf of Covalent Lithium Pty. Ltd Level 18, 109 St Georges Terrace Perth, WA 6000 Document Control No. COV18584.03 R012 Rev 2 Version 2.0, August 2019	Signed:  Date: 21/08/2019

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Final Report	0	Response to Submissions	Electronic	14/04/2019
Final Report	1	Amended following comments	Electronic	23/7/2019
Final Report	2	Updated Offset Strategy version	Electronic	15/8/19

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1. Introduction

Covalent Lithium (Covalent), the Proponent, proposes to develop the Earl Grey Lithium Project (the Proposal) situated at the previously abandoned Mt Holland Gold Mine located 105 km south of Southern Cross (Shire of Yilgarn). The Proposal involves open cut mining and processing of lithium ore. The Proposal Development Envelope (DE) encompasses 1,984 ha and will require clearing of 386 ha of native vegetation and use 281 ha of existing infrastructure and disturbed areas. The additional clearing is predominately required for expansion of the existing mine pit, waste dumps, Tailings Storage Facility (TSF) and ancillary infrastructure.

The Proposal was referred to the Environmental Protection Authority (EPA) under s 38 of the *Environmental Protection Act 1986* (EP Act), and the EPA determined that the Proposal required assessment at the level of Public Environmental Review (PER) with a four-week public comment period.

The public review period for the Proposal commenced on 11 February 2019 for a period of four weeks, ending on 11 March 2019.

1.1 Purpose and scope of this document

This document has been developed to address agency and public submissions received during the public review period on the PER for the Proposal.

This document is structured around consolidated comments and submissions ordered into themes, as directed by EPA Services.

1.2 Response to submissions

A total of 14 submissions were received, four from regulatory departments, seven from individuals, three from Conservation Groups and one from Native Title Claimants. The key issues raised in the submissions include:

- Cumulative impacts of the Proposal
- Significance of impact on conservation significant flora species
- Application of the mitigation hierarchy to conservation significant flora species
- Assessment of Residual Significant Impact and requirement for Offsets.

The Proponent's response to submissions is provided as per the following:

- Section 2 contains submissions from the Department of Water and Environmental Regulation
- Section 3 contains submission from the Department of Biodiversity, Conservation and Attractions
- Section 4 contains submissions relevant across the ERD
- Section 5 contains submissions relevant to Terrestrial Fauna
- Section 6 contains submissions relevant to Rehabilitation and Closure
- Section 7 contains submissions relevant to Offsets
- Section 8 contains submissions from the Wilderness Society of Western Australian
- Section 9 contains submissions from the National Malleefowl Recovery Group.

2. Department of Water and Environmental Regulation (DWER) EPA Services

Table 1: Department of Water and Environmental Regulation (DWER) EPA Services

Item	EPA Services comment	Proponent Response
Flora and Vegetation		
1-1	Limitation to targeted flora survey - taxonomic identification of several specimens was only confirmed after targeted surveys were conducted in 2018. Therefore, the searches undertaken for some significant flora may still be inadequate, particularly for the following species: 1. *Eremophila verticilata* (Endangered under EPBC, Critically Endangered under BCA). This taxon was recorded in 2017 and 2018 surveys in the W9 vegetation unit. Surveys for the proposal recorded this taxon outside the Development Envelope (DE) but the proposal directly impacts 285 hectares of W9. The Environmental Review Document (ERD) provides inadequate justification for why a population size estimate was not calculated for this taxon, despite 138 records identified adjacent to the DE in a vegetation unit that is proposed to be impacted. Note that Appendix 3A (page 18) incorrectly states the taxon was listed by the WA Herbarium in January 2019; the taxon was a Declared Rare Flora listed in 1997 but the taxonomic identification of the Mattiske specimen(s) were confirmed in January 2019. 2. *Acacia* sp. Mt Holland (Priority 1). This taxon was listed in January 2019. Mattiske recorded this taxon in the W4 vegetation unit outside the DE. The ERD (page 81) states there are impacts to 458 individuals, based on impacts to 0.42% of the W4 unit, however this calculation appears to be incorrect. Table 5-15 (page 85) states 4% of W4 area is impacted, which correlates to over 4000 individuals impacted. 3. *Thysanotus* sp. Yellowdine (Priority 2). This taxon was listed in March 2019. An unidentified Thysanotus species was observed at Earl Grey by Mattiske in 2017 in the W15 vegetation unit which the proposal directly impacts by 7.4 hectares. It appears that Mattiske did not lodge any *Thysanotus* collection so it is not possible to clarify whether this might be the same taxon (Julia Percy-Bower, WA Herbarium Department of Biodiversity, Conservation and Attractions (DBCA) pers. comm. 26 March 2019). The requirement for pre-clearance surveys for significant flora, including but not limited to the above species, needs to be included in the Significant Flora Management Plan (SFMP) with specific mitigation measures to avoid and/or reduce impacts.	1. Targeted surveys for *Eremophila verticilata* occurred, as detailed in the ERD (Table 5-2) with 16.59 ha surveyed as part of this targeted survey (W9 total area of 559 ha). As per ERD Appendix 3 – Earl Grey Lithium Project Conservation Significant Flora Targeted Survey (Mattiske, 2019), *E. verticilata* has not been recorded within the Development Envelope or the Proposed Layout. The location was associated in an elevated position with a powdery, clayey loam soil which has not been identified elsewhere within the Development Envelope (DE) or the W9 vegetation community. Accordingly, the occurrence of *E. verticilata* at one location in W9 vegetation is not considered representative of a wider occurrence of the species in the vegetation community. As per ERD Appendix 3H (updated Priority Flora technical report), Section 4.6, population estimates were made for species where species were recorded in sufficient number and were not calculated where an individual species was only recorded once in the vegetation community (due to an assumption that the species would not likely to be consistently present). This is particularly relevant to *Eremophila verticilata* and the unique location it was recorded. In addition, *Eremophila verticilata* was not recorded within the Development Envelope, therefore no population estimate was conducted. Whilst 285 ha of W9 is located within the DE, only 25.3 ha is expected to be impacted as part of the Proposed Layout which represents 9% of the community within the DE (Table 5-15) and does not reflect the topography or soils of the location where *Eremophila verticilata* was recorded outside the DE. Covalent agrees to undertake further targeted surveys prior to construction as a condition of approval to ensure that there will be no significant impact on the species. The Flora Management Plan has been updated (Revision 5) to highlight the requirement for further targeted surveys prior to construction for this species and future Flora Management Plan revisions will include the required for *Eremophila verticilata* to be included in surveys. The Proponent notes the timing of listing. 2. As per ERD Table 5-12 population estimated (Table 15), *Acacia* sp. Mt Holland would have 458 estimated individuals directly impacted equating to 0.42% of the local population and indirectly impacting 0.28% of the estimated population. ERD Table 5-15 (Response to Submission Table 10) is correct that 4% (0.988 ha) of the W4 vegetation community would be impacted within the DE with a surveyed area of 23.6 ha (noting that 235.8 ha is the total surveyed W4 vegetation community). ERD Table 5-15 is not referring to the number of individuals rather the area (ha) of vegetation community impacted. Table 14 details the population estimate methodology for *Acacia* sp. Mt Holland. It should be noted that a review of the indirect impacted identified 309 recorded individuals at risk of potential indirect impacts, which equates to 13.19% of the recorded population. Due to the level of impact and uncertainty associated with the population estimate, the Proponent will include *Acacia* sp. Mt Holland in the revised Flora Management Plan. This will include preclearance surveys and associated management measures. 3. *Thysanotus* sp. Yellowdine was listed in March 2019, therefore was not detected as part of the desktop assessment for determining the Priority Flora targeted search. The *Thysanotus* sp. identified in the W15 vegetation community was sterile, with no flowers or buds and in poor condition and not able to be attributed to any particular species and therefore the specimen was not vouchered. The W15 vegetation community is located along the borefields access road with 0.5 ha of disturbance required for road widening under the Proposed Layout. If a potential individual is identified, as requested by DBCA, the Proponent shall voucher a specimen if possible. The requirement for targeted surveys for conservation significant flora species was included in the Flora Management Plan (Revision 5) with an updated version to be developed and approved prior to Project commencement. These surveys would cover the Proposed Layout to determine impacts to conservation significant species. Mitigation measures are detailed in the Flora Management Plan.
1-2	Significant vegetation has not been adequately described and defined relative to EPA guidance, including: 1. The W17 vegetation unit is identified as the only significant vegetation that occurs within the DE. It is known only to occur within the DE, but the ERD states that it will not be impacted (page 86). It is noted, that without an exclusion zone there may be a risk to this community. 2. The S3 vegetation unit should be considered significant because it provides habitat for three significant flora (*Banksia sphaerocarpa var. dolichostyla*, *Labichea rossii* and *Microcorys* sp. Mt Holland). The S3 vegetation unit is proposed to be impacted by 12% of its known extent (12.7 hectares of known 106 hectares in survey area). Improved information and analysis would increase confidence and assist in determining the potential significance of impacts to restricted vegetation units.	1. The W17 vegetation community will not be impacted under the current or previous Proposed Layout. W17 is located within proximity to the Borefields access road and a Conservation Significant Flora Exclusion Zone will be implemented, as show in Figure 8 and included in the Flora Management Plan (Revision 5 and updated version to be developed). 1. The S3 vegetation community is considered significant and targeted surveys of S3 will occur within the Development Envelopes prior to construction. In addition, additional surveys will occur outside of the Development Envelope to determine the extent of the vegetation community and conservation significant flora species (*Banksia sphaerocarpa var. dolichostyla*, *Labichea rossii* and *Microcorys* sp. Mt Holland). The S3 vegetation community has been identified outside the Development Envelope with the Proposed Layout impacting 12% of S3 within the local surveyed area. Additional surveys have occurred by Kidman Resources (Mattiske 2019c to 2019h) and Covalent Lithium (Strategen JBS&G 2019; Appendix 3) and identified additional conservation significant flora species as summarised in Table 11 and Table 12 and shown in Figure 4 to Figure 7. The significance of impacts to vegetation communities has been considered in Section 5.3.1 (page 85) of the ERD, with four local vegetation communities to be cleared in excess of 20% of the local surveyed area. These vegetation communities are considered typical in structure and species composition to those mapped in other surveys in the region. Further regional surveys will occur which may identify additional W17 and S3 vegetation communities.

Item	EPA Services comment	Proponent Response
1-3	*Banksia sphaerocarpa var. dolichostyla* (T) - Table 5-11 (page 80) states seven of the 18 known regional populations occur within the DE, but only two will be directly impacted. However, their spatial location is not provided in the ERD (Figure 5-10 is missing). The ERD states that at total of 2,918 plants will be impacted (92 direct and 2,826 indirect) by the proposal which equates to 17.68% of the local population (16,503) and 11.84% of the regional population (24,636). The residual impacts appear high compared with the extent of new clearing of 392 hectares, yet no defined mitigation measures are provided. Additionally, the ERD acknowledges that the there is a significant residual impact to the species, yet concludes that offsets are not required. *Further comment about the proposed "avoidance strategy" is provided below.	The map for *Banksia sphaerocarpa* var. *dolichostyla* was erroneously omitted from the ERD (Figure 5-10), however was included in the Flora Management Plan Revision 4 (Figure 1-3) and has been included in this document (Figure 4). In addition, a regional population of *Banksia sphaerocarpa var. dolichostyla* was included in the ERD Figure 5-7. All regional populations have been included in the Offsets Strategy (Version 1) Figure 7. Based on DBCA and DWER submissions, Covalent Lithium has revised the Proposed Layout as per Figure 1 and Table 16 of this document. These changes include: • Decreasing the area required for the ROM and relocating the ROM to areas of existing disturbance and degraded vegetation resulting in a significantly reduced impact to *Banksia sphaerocarpa var. dolichostyla* individuals • Removal of the lower portion of the old airstrip from the disturbance footprint previously planned for topsoil storage and avoidance of the large southern population of *Banksia sphaerocarpa var. dolichostyla.* • Removal of the southern access road that previously dissected a large *Banksia sphaerocarpa var. dolichostyla* population resulting in significantly reduced direct and indirect impacts. • Reorientation of the Accommodation Village to avoid indirect impacts to *Banksia sphaerocarpa var. dolichostyla.* • Inclusion of the landfill and borrow pit as outlined in the Minor and Preliminary Works (s41A(3) dated 23/05/2019) and other minor Proposed Layout changes as detailed in the submitted s43a application on 19 July 2019. • Decrease of 6 ha in new disturbance and an increase in the use of existing disturbance (as detailed in Table 9) to minimise clearing of native vegetation. The updated Proposed Layout would result in a significant decrease of direct and indirect impacts to *Banksia sphaerocarpa var. dolichostyla* from 92 to 2 individuals directly impacted and from 2,826 to 67 individuals indirectly impacted. This equates to 0.01% direct and 0.40% indirect impact to the local population (16,822) and total (combined) impacts of 0.41% (local population) and 0.27% (regional population, 25,445) as shown in Table 16 of this document. A Section 43A application under the *Environmental Protection Act 1986* (EP Act) has been submitted to Department of Water and Environmental Regulation to account for the Proposed Layout changes. It should be noted that additional flora surveys have been conducted by Kidman Resources (Mattiske 2019c to 2019 h) and the Proponent (Strategen JBS&G 2019; Appendix 3) which identified an additional 319 individuals to the south of the Development Envelope (Table 11) and 490 individuals in the wider region respectively (Table 11and Table 12). These additional individuals have been included in the impact calculations (Table 16). The Proponent acknowledged the DBCA and DWER submission, that residual impacts to *Banksia sphaerocarpa var. dolichostyla* are high and has amended the Proposed Layout accordingly. In addition, given that *Banksia sphaerocarpa var. dolichostyla* is a Vulnerable species, Offsets are proposed to mitigate direct and indirect impacts. An Offsets Strategy (Version 1) has been developed for Flora and Vegetation, and updated Significant Residual Impact table is included in Table 17 and WA Environmental Offsets Table is included in Table 18.
1-4	*Microcorys* sp. Mt Holland (P1) - No quanta is provided about the populations of this taxon. The ERD states that the local population is also considered to be the regional population. Confirmation of the quantum of impacts to populations at a local and regional scale is required. The ERD states that the local/regional population is estimated at 41,492 individuals, and a total of 9,023 plants will be impacted (7,498 direct and 1525 indirect) by the proposal. The total impact equates to 21.7% of the predicted extent of the species. The residual impacts appear high compared with the extent of new clearing of 392 hectares, yet no defined mitigation measures are provided, and it is concluded that offsets are not required. *Further comment about the proposed "avoidance strategy" is provided below.	• The determination of a local and regional population is uncertain given the information available regarding *Microcorys* sp. Mt Holland as a newly discovered species. Given this uncertainty, the ERD adopted a conservative estimate that the local population is reflective of the regional population, which is located within 10 km of the DE. Whilst anecdotal evidence from Mattiske suggests that additional populations should exist (partially due to its association with other conservation significant flora species), there is no empirical evidence beyond the surveys provided in the ERD. Kidman Resources has undertaken additional flora surveys within the local area (approximately 10 km) and identified an additional 2,682 individuals to the south of the Development Envelope. The Mattiske flora surveys (Mattiske 2018a) identified 1,336 individuals to the west of the Development Envelope and within Jilbadji Nature Reserve (Mattiske 2019a) as shown in Table 13. No additional individuals were identified in the regional flora offsets survey (Strategen JBS&G 2019; Appendix 3) as shown in Table 12. As detailed in the Offsets Strategy (Version 1), the Proponent proposes to undertake further targeted regional surveys prior to construction to determine the extent of *Microcorys* sp. Mt Holland species. Based on DBCA and EPA submissions, the Proposed Layout has been amended as per Figure 1 and Table 16 and included: • Decreasing the area required for the ROM and relocating the ROM to areas of existing disturbance and degraded vegetation resulting in a significantly reduced impact to *Microcorys* sp. Mt Holland individuals and the associated MW7 vegetation community. • Removal of a portion of the historical airstrip from the disturbance footprint previously planned for topsoil storage and avoidance of the large southern population of *Microcorys* sp. Mt Holland. • Removal of the southern access road that previously dissected the large southern population of *Microcorys* sp. Mt Holland resulting in significantly reduced direct and indirect impacts. • Reorientation of the Accommodation Village to avoid direct and indirect impacts to *Microcorys* sp. Mt Holland. • Inclusion of the landfill and borrow pit as outlined in the Minor and Preliminary Works (s41A(3) dated 23/05/2019) and other minor Proposed Layout changes as detailed in the submitted s43a application on 19 July 2019. • Decrease of 6 ha in new disturbance and an increase in the use of existing disturbance (as detailed in Table 9) to minimise clearing of native vegetation. The updated Proposed Layout would result in a significant decrease of direct and indirect impacts to *Microcorys sp*. Mt Holland individuals: • A decrease in direct impact to estimated individuals from 7,498 to 6,246 (Table 15) and to recorded individuals from 1,799 to 733 (Table 16). This equates to a direct impact of 14.30% to the local estimated population or a direct impact of 6.75% to the local recorded population. • A decrease in indirect impacts to recorded individuals from 1,525 to 711 (a reduction of 814 recorded individuals). This equates to an indirect impact to 1.63% of the local estimated population or an indirect impact of 6.55% to the local recorded population. • Total impacts (direct and indirect impacts combined) decrease from 21.75% to 15.93% to the local estimated population or from 39.79% to 13.30% to the local recorded population. Additional surveys outside of the Development Envelope resulted in a significant increase in the population of *Microcorys sp.* Mt Holland to 43,676 individuals. These additional populations occur to the south and west of the Development Envelope and within Jilbadji Nature Reserve. The total potential impact of 15.93% to the estimated population is not considered to be significant due to the increased estimated population of 43,676 individuals. The uncertainty in the population estimate and the potential impact to the species conservation listing is acknowledged and consequently Covalent will be undertaking further targeted surveys prior to construction to confirm the population estimate within the Development Envelope to ensure conformance to approved impact thresholds. Regional surveys will also occur to identify additional populations and increase the understanding of the species distribution.

Item	EPA Services comment	Proponent Response
		Cumulative Impacts It is acknowledged that the identified populations of *Microcorys* sp. Mt Holland outside of the Development Envelope occur on Unallocated Crown Land or in conservation reserves that are also covered by mining tenure. The locations of the species within conservation reserves are expected to be at a low risk of impact by mining due to the low likelihood of approval being granted within the Jilbadji Nature Reserve . Covalent is aware of exploration applications that have occurred within the local region and acknowledges the potential impact of mining and exploration activities on conservation significant flora species. As a result of proposed exploration activities, Kidman Resources undertook targeted flora surveys (Mattiske 2019c 2019h) within exploration project areas, with the outcomes are detailed in Table 11. The population estimates for conservation significant flora species (Table 14 and Table 15) include the outcomes of these surveys. As a result of the surveys associated with the potential exploration activities, the following occurred: • Increase in population records *for Banksia sphaerocarpa var. dolichostyla*, *Daviesia sarissa subsp. Redacta*, *Grevillea lissopleura* and *Labichea rossii.* • Increase in population records of *Microcorys* sp. Mt Holland (D. Angus DA2397) and *Eutaxia lasiocalyx* with a potential impact of 3.77% and 2.84% respectively (Table 11) to newly recorded populations within survey search areas. It is expected that any additional exploration, mining or clearing activities would require appropriate approvals whereby the potential project and cumulative impacts on conservation significant flora species would be assessed. In addition, Covalent is committed to undertaking further surveys within the Development Envelope and within the local and regional area to further increase the knowledge of population distribution and size to assist in assessing cumulative impacts in the future. Covalent is committed to the following management actions which will be presented in the updated Flora Management Plan: • Undertaking regional surveys for *Banksia sphaerocarpa* var. *dolichostyla* and Microcorys sp. Mt Holland species and communicating locations to DBCA and tenement holders. • Managing all access within the Development Envelope, including installing signage delineating Conservation Significant Flora Exclusion Zones (Figure 8) within the Development Envelope to ensure tenement holders and any personnel accessing the area are aware of the requirement to avoid exclusion zones. **Offsets** Due to this uncertainty and risk of the population estimate, as detailed in the Offsets Strategy (Version 1) it is proposed that further surveys occur to define the population and identify potential direct offsets. Due to the staggered nature of the Proposal, it is proposed that appropriate offset quantum is confirmed prior to clearing any *Microcorys* sp. Mt Holland individuals. An Offsets Strategy (Version 1) has been developed for Flora and Vegetation, based on an updated Significant Residual Impact table presented in Table 17 and WA Environmental Offsets Policy Table presented in Table 18. It is noted that it is likely that a number of the Offset Strategy initiatives (particularly rehabilitation trials) will be implemented by year five of the Project resulting in a progressive net environmental gain overtime.
1-5	*Labichea rossii* (P1) - the ERD states that 2,153 individuals were estimated to occur within the DE, 189 individuals are estimated to be directly impacted (8.79%). These impacts are based on a population estimate based on correlation with the S3 vegetation unit (12.7 hectares impacted), but this taxon was also recorded within W9 which is proposed to be impacted by a greater amount (21.3 hectares). Justification for this approach is required. The ERD states that the local population is considered as the regional population. It is noted that FloraBase lists two records of this taxon with a total of 100+ plants, both occur within vicinity of the proposal area. Figure 5-12 should be revised to depict the locations of this taxon. The ERD states (page 82) that preclearance surveys will be undertaking to determine populations and an avoidance strategy, but there is no contingency measures should significant impacts be determined.	*Labichea rossii* within the S3 vegetation community was included in the population estimates based on the proportion of area that had been surveyed. It should be noted that *Labichea rossii* was identified in clusters within S3, therefore the population estimate is conservative. Insufficient records of *Labichea rossii* were identified within the W9 vegetation community, therefore population estimates could not be conducted. Further targeted surveys will occur prior to construction to confirm the Proposal impacts. The Kidman Resources (Mattiske 2019c to 2019h) identified an additional 119 individuals within the local area (Table 11). It should be noted that whilst 25.3 ha of the W9 vegetation community would be directly impacted from the Proposed Layout, this represents 5% of the extent of W9 within the local surveyed area (in comparison, S3 would have 12% directly impacted within the local surveyed area, therefore S3 had more targeted surveys conducted and the population was estimated based on the species density within S3. The regional distribution of the species is within proximity to the Development Envelope, which is considered the local population. Figure 5 shows the additional populations along the Borefields access road. The Flora Management Plan will be updated to include contingency measures should significant impacts be determined, including the potential requirement for offsets.
1-6	Impact on vegetation unit MW7 - the ERD proposes 66% impact to its mapped occurrence (41.6 hectares of 63.1 hectares mapped within the survey area). It is also noted that this vegetation unit is also associated with the P1 flora *Microcorys* sp. Mt Holland (D. Angus DA2397). This is a substantial impact on a mapped vegetation unit. It is noted that IUCN listing criteria state that impacts to ecosystems greater than 50% within 50 years are candidates for Endangered listing.	The ERD contained direct impact to 66% of the MW7 vegetation community. Based on the EPA submission, the Proposed Layout was updated to decrease the area required for the ROM and relocated the ROM away from the MW7 vegetation community. This has resulted in a decrease in the direct impact to MW7 from 66% to 33% from the Proposal Layout as shown in Figure 3 and Table 10. In addition, this re-design of the Proposed Layout has increased the use of existing disturbance by 13 ha (to 281 ha) and decreased new disturbance by 6 ha (to 386 ha), to further avoid impacts to vegetation. MW7's unique characteristic was associated with the species grouped together, rather than the species themselves. MW7 consisted of *Eucalyptus capillosa* subsp. *polyclada* mid open mallee woodland over *Allocasuarina spinosissima*, *Callitris canescens*, *Hakea minyma* mid tall sparse shrubland over *Phebalium megaphyllum* low sparse shrubland on orange brown clay soils on flats and slopes. *Microcorys* sp. Mt Holland (D. Angus DA2397) was identified in MW6, MW7, S2, S3, W11, W13 and W9 vegetation communities. Further surveys outside of the Development Envelope will occur prior to construction with the aim of identifying additional areas of MW7 within the local area. The updated Proposed Layout has significantly decreased impacts to 33% of the known areas, which is substantially less than the IUCN listing criteria threshold for ecosystems and may further reduce following further survey results.
1-7	Significant Flora Management Plan - the management and mitigation proposed in the ERD and SFMP (Appendix 4A) is not adequate for the management of impacts to Flora and Vegetation. The outcome based threshold in the SFMP (appendix 4A, page 14) of "no more than 50% mortality from indirect impacts that is statistically different from changes observed at analogue sites based on the following limits ... for *Banksia sphaerocarpa var. dolichostyla* and *Microcorys* sp. Mt Holland..." is not supported. It should instead: • aim for no indirect mortality • measure relative to reference or control sites, not 'analogue' (a mine closure term) • monitor trigger and threshold levels based on the difference between the trend in plant health over time when compared to the trend in plant health over time at control sites, rather than compared to baseline. Plant health and the method of its assessment should be defined. Frequency of monitoring should be high in first few years, then drop to annual. Quarterly monitoring stated in the SFMP requires further information and justification; monitoring should not be conducted in summer months.	The Flora Management Plan has been updated (Revision 5) to reflect EPA submissions, with an updated Flora Management Plan to be developed. The indirect impact threshold has been updated to reflect the rate of mortality for conservation significant flora species that exceeds natural rates due to the impacts caused by the Proposal. In the event this occurs, regulators shall be notified and consulted with and a rehabilitation strategy implemented. In addition, in the event of indirect impacts occurring, the Residual Impact Significance Model shall be updated to reflect impacts and to determine if offsets are required. In addition, the trigger criteria associated with a statistically significant regulation in mean condition ratings has been updated and response actions include monitoring requirements. The trigger and threshold criteria has been updated to reflect changes over time of plant condition against control sites. Frequency is quarterly for the first 12 months then decreases to annually, with annual monitoring not occurring in summer months.

Item	EPA Services comment	Proponent Response
1-8	Mitigation measures - in regard to the proposed management of impacts to significant flora and vegetation, the ERD repeatedly refers to "developing an avoidance strategy" which includes preclearance surveys, and exclusion zones where possible. For the preclearance surveys, the SFMP only proposes to undertake these surveys for Threatened flora and not for any other significant flora species, despite additional significant flora being found in the targeted survey. For the "exclusion zones", in addition to not being specifically committed to, they are not described or shown in the ERD or SFMP. Furthermore, this avoidance strategy is used as the justification in the ERD for concluding that impact to all Threatened and Priority flora and restricted vegetation units is not significant. In order for proposed mitigation measures to be assessed as a counterbalance to the predicted impacts associated with a proposal, they need to be quantified and clearly shown in the ERD and SFMP.	The Flora Management Plan has been updated (Revision 5) to include the requirement for targeted surveys, prior to construction, for the following: • Any Declared Rare or Threatened Flora species considered likely to occur within a vegetation community impacted by the Proposed Layout. • Any Priority 1 or 2 species that have a >10% total impact to the regional population. These surveys will be conducted to ensure the approved direct impacts are not exceeded as shown in Appendix 2 - Table 16 and the Flora Management Plan (Revision 5). If identified, the above species will be avoided if possible with Conservation Significant Flora Buffers Zones implemented (50m) around populations. The current Conservation Significant Flora Exclusion Zones, whereby no development shall occur, are shown in Figure 8. Exclusion Zones and Buffer Zones would continue to be updated based on targeted survey results and population impacts. The southern population of conservation significant flora species has an Conservation Significant Flora Exclusion Zones established after roads and topsoils were removed from the area in the updated Proposed Layout. It should be noted, that targeted regional surveys are expected to further define the known population numbers and it is expected that any further identified populations would decrease the relative impacts for these species. It is hoped that additional populations are not at threat from development, however communication of survey results to regulatory agencies will assist in increasing species population data to minimise any cumulative impacts. In the event that the total impacts remain >10% for any of these species' regional population, the significant residual impacts would be determined for each species and the requirement for offsets would be determined. A revised Flora Management Plan will be developed and approved prior to Project commencement.
Terrestrial Fauna		
1-9	The ERD and Fauna Management Plan (FMP) includes preclearance surveys for terrestrial fauna, which includes trapping and relocation of Chuditch, and eggs of Malleefowl if recorded. The FMP should provide evidence that DBCA has been consulted and approved for the rehabilitation and translocation methods of Chuditch and Malleefowl. The FMP should also state the timing of the pre-clearance surveys e.g. within two weeks prior of clearing.	The Fauna Management Plan (Revision 5) has been updated to reflect DBCA expectations for trapping and relocation methods. Operational procedures will be developed that address trapping, relocation and injured animal management. DBCA and specialist advice would be sought to ensure operational procedures are industry standard. Any trapping or relocation of Chuditch or Malleefowl eggs would be performed by suitably qualitied zoologists and DBCA engagement would occur. Translocation of any threatened fauna will be in accordance with a licence under the Biodiversity Conservation Regulations 2018, issued by DBCA. The Fauna Management Plan has been updated to state that pre-clearance surveys would occur a maximum of two weeks prior to clearing with fauna specialists onsite to relocate any fauna species. A revised Fauna Management Plan will be developed and approved prior to Project commencement.
1-10	Section 6.4.2 states that a 100 metre (m) buffer has been included to avoid disturbance to the active/recently active mounds (section 6.4.2). However, Figure 6-13 illustrates the location of a recently active mound within the indicative footprint. One known active Malleefowl nest in the DE (Figure 6-13), located near the Waste Rock Dump (WRD), appears to be have been avoided by the implementation of a 100m buffer around the nest site (Figure 6-13). The locations of the active and recently active mound sites, with a100m buffer for each, should be included in the FMP.	The Fauna Management Plan (Revision 5) has been updated with a figure showing the currently known mounds and an exclusion buffer around active mounds. The Fauna Management Plan will be utilising the National Malleefowl Recovery Team Monitoring Methods for classification of mound activity. Annual monitoring of mounds will occur to determine mound activity, in addition to preclearance surveys. Clearing of mound will preferentially occur outside of the mound building, breeding and incubation periods. Prior to clearing any active Malleefowl mounds, the 100 m Conservation Significant Flora Exclusion zone will be implemented. Preclearance surveys will confirm the activity status of the eight mounds within the Proposed Layout. The eight mounds within the Proposed Layout are currently planned to be directly impacted, however clearing will occur between March to May, outside of the mound building, breeding and incubation season (June to February). Prior to clearing, the Conservation Significant Flora Exclusion Zone will be implemented. Figure 7 has been updated to include an updated exclusion zone over any active or recently active mounds prior to clearing. Any active malleefowl mound identified within the Development Envelope will have a Conservation Significant Fauna Exclusion Zone implemented. If a mound is found to become inactive based on fauna specialist advice that aligns with the Fauna Management Plan, the Conservation Significant Fauna Exclusion Zone may be amended. A revised Fauna Management Plan will be developed and approved prior to Project commencement.
1-11	The FMP states that accidental clearing will be avoided through 'implementation of an internal clearing procedure' (Table 8-2). The FMP should state how the clearing boundaries will be defined and/or demarcated during clearing activity.	The Fauna Management Plan (Revision 5) has been updated to state that clearing boundaries will be surveyed and marked out with flagging tapes and pegs. In addition, where possible, clearing equipment will be equipped with GPS and clearing boundaries. A revised Fauna Management Plan will be developed and approved prior to Project commencement.
1-12	The ERD does not address potential impacts to terrestrial vertebrate fauna from pit lakes that may form in the waste landform (page 22 of ERD). The proponent should state whether there are potential impacts to terrestrial vertebrate fauna from mine pit lakes during closure and outline the management for these impacts.	A portion of the open pit is expected to be backfilled. The backfilling of the open pit would be dependent on operational factors and the requirement for sterilisation of any potential resources. Potential impacts to terrestrial vertebrate fauna from the development of a pit lake could include: • Entrapment – however as part of the pit closure plan (ERD Appendix 2 - Rehabilitation and Closure Plan), egress would be available in the form of the pit ramp. • Poor quality water impacting health of terrestrial fauna – the pit lake is expected to be hypersaline and at depth below natural ground level, therefore it is not considered a likely water source and would be avoided. As discussed in ERD Appendix 2- Rehabilitation and Closure Plan Section 7.14, a pit lake study would be conducted closer to closure to assess any potential impacts and inform appropriate management. • Creation of a water resource resulting in increased predators – the pit lake is expected to be hypersaline and at depth, therefore it is not considered a likely water source and would be avoided. As discussed in Appendix 2- Rehabilitation and Closure Plan 7.14, a pit lake study would be conducted closer to closure to assess any impacts and inform management. It should be noted that the Earl Grey Project is an existing mine site with other open pits with evidence of pit lakes. Anecdotal evidence from flora and fauna surveys have indicated low impacts from feral species. As part of the Fauna Management Plan, the Proponent is committed to managing the feral animal populations to ensure the protection of Chuditch and Malleefowl individuals. The potential impacts are not considered to be significant and additional studies would be undertaken as confirmation.

Item	EPA Services comment	Proponent Response
1-13	Appendix 3C states that “there are no records of confirmed short range endemic (SRE) species or listed invertebrate species”. It is unclear from the information provided whether the lack of records of SRE invertebrate fauna is due to survey effort. No maps illustrating the locations of SRE survey sites and locations of records are provided in the desktop study (Appendix 3C). The absence of isolated habitats and relatively continuous habitat (Figure 6-16) throughout the DE suggests that the conclusion, that there are no barriers to dispersal and the impacts to any SRE invertebrate species present would be low, is likely to be appropriate, however further information to support this conclusion should be provided.	A desktop assessment was completed by Bennelongia (ERD Appendix 3C SRE and Subterranean Fauna Desktop Assessment 2019) with 48 species belonging to Short Range Endemic (SRE) Groups identified in the search area (100 km by 100 km). However, there were no records of confirmed SRE species or listed invertebrate species. Twenty-three of the species belonging to SRE Groups appear to be widespread, six are unlikely (but potential) SRE species and 19 are potential SREs. The Bennelongia report details a summary of location records. The relatively high proportion of potential SRE species is partially a reflection of data limitations, including the small number of records for each species and limited information about the habitats the species occupy. In reality, most potential SRE species are probably widespread (Bennelongia, 2019). In addition, the size of the Proposed Layout (386 ha) is negligible compared to the likely extensive ranges of the SRE Ground species that may be present. Therefore, the characteristics of the Proposal (both amount of clearing, utilisation of existing disturbance, absence of isolated habitats and relatively continuous habitat) indicates a low likelihood of significant impacts to SREs (relative to the SRE threshold of 10,000 km^2). Therefore, the requirement for further surveys was not considered necessary.

Item	EPA Services comment	Proponent Response
Offsets (determination and quantification of significant residual impacts of the proposal)		
1-14	The application of the Residual Impact Significance Model (RISM) in Table 8-1 is inconsistent with the WA Environmental Offsets Guideline. The following inconsistencies have been identified for flora and vegetation (in order of importance): 1. Impacts to the threatened flora *Banksia sphaerocarpa var. dolichostyla* (Ironcaps Banksia, listed as Vulnerable under EPBC Act) constitutes a significant residual impact that will require an offset. This impact includes direct impact (loss) of 92 individuals and further indirect impacts to up to 2,826 individuals or approximately 11-17% of the regional population (actual percentage unclear). No offset has been proposed, based on the proposed rehabilitation strategy incorporating translocation of this species and the proponent's conclusion that the scale of impact is insufficient to warrant an offset. Further consideration of the acceptability of the proposed translocation program is necessary. This statement is based on DBCA advice that this is a high-risk strategy with no confidence or evidence of likely success and the ERD states that there is uncertainty associated with the success of the rehabilitation program. 2. Impacts to the Priority 1 flora *Microcorys* sp. Mt Holland constitutes a potentially significant impact which may require an offset. The information provided is slightly inconsistent with other parts of the document, however it appears that the direct impact is around 18% of the regional population (7498 individuals) and the combined direct and indirect impact to this species is -21% (approx. 9,023 individuals). This proposed impact warrants further consideration of offsets or sufficient information to demonstrate that this is not a significant residual impact (SRI). 3. Advice from DBCA indicates that there may be potential impacts to the critically endangered threatened flora species *Eremophila verticulata*. Any impacts to this species will require quantification and consideration of offsets. 4. The proponent states that no Priority ecological communities have been identified within the proposal area, however the ERD also states that the area is within a Priority 3 ecological community. Further information should be provided to determine whether this is a SRI. 5. All impacts to priority flora should be included in Table 8-1.	1. The Proponent has considered the DWER and DBCA's submissions on the Significant Residual Impact on *Banksia sphaerocarpa var. dolichostyla* and acknowledges the uncertainty associated with the rehabilitation strategy. Based on DBCA and DWER submissions, the Proposed Layout has been amended as outlined in Figure 1 and Table 16 resulting in a significant decrease in direct and indirect impacts. Direct impacts have decreased from 92 to 2 individuals with indirect impacts decreasing from 2,826 to 67 individuals. This equates to 0.01% direct and 0.40% indirect impact to the local population (16,822) and total (combined) impacts of 0.41% (local population) and 0.27% (regional population, 25,445) as shown in Table 16. It should be noted that additional flora surveys conducted in 2019 identified an additional 809 *Banksia sphaerocarpa var. dolichostyla* individuals (Table 11, Table 12 and Table 13), increasing the total regional population to 25,445 individuals resulting in a total (combined) regional impact of 0.27%. In addition, given that *Banksia sphaerocarpa var. dolichostyla* is a Vulnerable species, Offsets are proposed to mitigate any impacts. An Offsets Strategy (Version 1) has been developed for Flora and Vegetation, based on an updated Significant Residual Impact table included in Table 17 and WA Environmental Offsets Policy Table included in Table 18. The Proponent intends to implement measures to implement offsets for direct impacts prior to clearing and indirect impacts as triggered by the Flora Management Plan. Investigations into current direct offsets are being undertaken, however as outlined in the Offset Strategy, if 100% direct offsets are not considered feasible, 10% indirect offsets will be implemented. 2. The Proponent has considered the DWER and DBCA's submissions on the Significant Residual Impact on *Microcorys* sp. Mt Holland and acknowledges the potential significance of impact, particularly due to the uncertainty associated with the populate estimate. Based on DBCA and DWER submissions, the Proposed Layout has been amended as per Figure 1 and Table 13 and included: • Decreasing the area required for the ROM and relocating the ROM to areas of existing disturbance and degraded vegetation resulting in a significantly reduced impact to *Microcorys* sp. Mt Holland individuals and the associated MW7 vegetation community. • Removal of a portion of the historical airstrip from the disturbance footprint previously planned for topsoil storage and avoidance of the large southern population of *Microcorys* sp. Mt Holland. • Removal of the southern access road that previously dissected the large southern population of *Microcorys* sp. Mt Holland resulting in significantly reduced direct and indirect impacts. • Inclusion of the landfill and borrow pit as per Minor and Preliminary Works (s41A(3) dated 23/05/2019) and other minor Proposed Layout changes as detailed in the submitted s43a application on 19 July 2019. • Increased use of existing disturbance (as detailed in Table 9, an increase of 13 ha of existing disturbance and a decrease of 6 ha of new disturbance) to minimise new disturbance to vegetation. The updated Proposed Layout would result in a significant decrease of direct and indirect impacts to Microcorys sp. Mt Holland individuals: • A decrease in direct impact to estimated individuals from 7,498 to 6,246 (Table 15) and to recorded individuals from 1,799 to 733 (Table 16). This equates to a direct impact of 14.30% to the local estimated population or a direct impact of 6.75% to the local recorded population. • A decrease in indirect impacts to recorded individuals from 1,525 to 711 (a reduction of 814 recorded individuals). This equates to an indirect impact to 1.63% of the local estimated population or an indirect impact of 6.55% to the local recorded population. • Total impacts (direct and indirect impacts combined) decrease from 21.75% to 15.93% to the local estimated population or from 39.79% to 13.30% to the local recorded population. Additional surveys outside of the Development Envelope has resulted in a significant increase in the population of *Microcorys* sp. Mt Holland to 43,676 individuals. These additional populations occur to the south and west of the Development Envelope and within Jilbadji Nature Reserve. The total potential impact of 15.93% to the estimated population is now not considered to be significant due to the increased estimated population of 43,676 individuals. The uncertainty in the population estimate and the potential impact to the species conservation listing is acknowledged and consequently Covalent will be undertaking further targeted surveys prior to construction to confirm the population estimate within the Development Envelope to ensure conformance to approved impact thresholds. Regional surveys will also occur to identify additional populations and increase the understanding of the species distribution. It is acknowledged that the identified populations of *Microcorys* sp. Mt Holland outside of the Development Envelope occur on Unallocated Crown Land or in conservation reserves that are also covered by mining tenure. The locations of the species within conservation reserves are expected to be at a low risk of impact by mining due to the low likelihood of approval being granted within the Jilbalji Nature Reserve . Due to this uncertainty and risk, an offset strategy is proposed for this future stage of clearing to offset any Significant Residual Impacts and it is considered appropriate that the Offset would be required to be implemented prior to this stage of clearing. An Offsets Strategy (Version 1) has been developed for Flora and Vegetation, based on an updated Significant Residual Impact table presented in Table 17 and WA Environmental Offsets Policy Table presented in Table 18. It is noted that it is likely that a number of the Offset Proposal initiatives will be have implemented by year five of the Project resulting in a progressive net environmental gain over time. 3. Targeted surveys for *Eremophila verticilata* occurred, as detailed in the ERD (Table 5-2) with 16.59 ha surveyed as part of this targeted survey (W9 total area of 559 ha). As per ERD Appendix 3 – Earl Grey Lithium Project Conservation Significant Flora Targeted Survey (Mattiske, 2019), it has not been recorded within the Development Envelope or the Proposed Layout. However, it was recorded in association with the W9 vegetation community within proximity to each other. The location was associated in an elevated position with a powdery, clayey loam soil which has not been identified elsewhere within the Development Envelope (DE) or the W9 vegetation community. Accordingly, the occurrence of *E. verticilata* at one location in W9 vegetation is not considered representative of a wider occurrence of the species in the vegetation. Whilst 285 ha of W9 is located within the DE, only 28.2 ha is expected to be impacted as part of the Proposed Layout which represents 10% of the community within the DE (Table 10) and does not reflect the topography or soils of the location where the species was recorded outside the DE. Covalent agrees to undertake further targeted surveys prior to construction as a condition of approval to ensure that there will be no impact on the species. The Flora Management Plan has been updated (Revision 5) to highlight the requirement for further targeted surveys prior to construction for this species. 4. ERD Table 8-1 states that a qualitative review of species and vegetation complexes of the Ironcap Hills vegetation complexes (Priority 3 Ecological Community) revealed a poor correlation. Further detail is included in ERD Section 5.3.1 (page 86). Consultation with DBCA confirmed this assessment. Therefore, the Proposal is not expected to result in significant impacts to the Ironcap Hills PEC and no offsets are considered. 5. An updated Significant Residual Impact table is included in Appendix 2 - Table 17 that includes Priority flora species.

Item	EPA Services comment	Proponent Response
1-15	The proponent has provided an incomplete WA Environmental Offsets Table (Table 8-2). The following errors are required to be corrected: 1. All SRIs and potential SRIs identified in Table 8-1 should be addressed separately in this table. For clarification, this includes all impacts to threatened and priority flora and PECs, regardless of whether an offset is proposed. Impacts to threatened fauna species should also be addressed separately. 2. The proposed avoidance and mitigation measures within Table 8-2 appears to be inconsistent with the proposed impacts. For example, under "avoidance" the proponent states that all populations of Ironcaps Banksia and *Microcorys* sp. Mt Holland will be avoided. 3. Table 8-2 concludes that there is a significant residual impact for the proposed rehabilitation strategy of translocation trials for *Banksia sphaerocarpa var. dolichostyla*, but no offset is provided.	An updated Significant Residual Impact table is included in Appendix 2 - Table 17 that includes separated SRI for threatened and priority flora, PECs and threatened fauna species. An updated WA Environmental Offsets Table is included in Appendix 2 Table 18 with updated avoidance and mitigation measures and an assessment that offsets is required for Ironcaps Banksia and *Microcorys* sp. Mt Holland. An updated Offsets Strategy (Version 1) has been provided to address the determination that Flora and Vegetation offsets are required.
1-16	The proponent's assessment concludes that impacts to habitat for Malleefowl and Chuditch (both threatened fauna) constitutes significant residual impacts which require an offset. Although not acknowledged in Table 8-1, the SRI should specifically identify that the impact is to potential breeding habitat for Chuditch and Malleefowl, including active mounds.	An updated Significant Residual Impact table is included in Appendix 2 - Table 17 that specifies that the impact is to potential breeding habitat for Chuditch and Malleefowl, including active mounds.
1-17	The EPA Strategy and Guidance branch request that a meeting is organised with the proponent and DBCA to discuss the above issues, after consideration of appropriate further mitigation (consistent with offsets principle 1).	The Proponent has undertaken further consultation with EPA and DBCA to discuss the above issues, with outcomes incorporated into the Response to Submissions, updated Flora and Fauna Management Plan (with further revisions expected) and Offsets Strategy (Version 1).
Offsets (Acceptability of proposed offsets)		
1-18	The proponent has not proposed an offset for impacts to Flora and Vegetation, despite potentially significant impacts proposed to Threatened and Priority flora as identified above. It is recommended that the proponent provide an offset proposal for SRIs for flora and vegetation (after further consultation has been undertaken with DWER and DBCA).	The Proponent has considered the EPA and DBCA's submissions on the Significant Residual Impact on *Banksia sphaerocarpa* var. *dolichostyla*. The Proponent acknowledges the uncertainty associated with the rehabilitation strategy, therefore Offsets are proposed as presented in the Offset Strategy. The Proponent acknowledges the EPA submission that *Microcorys* sp. Mt Holland residual impacts are high and has amended the Proposed Layout accordingly. The updated Proposed Layout would result in a significant decrease of direct and indirect impacts to Microcorys sp. Mt Holland individuals: • A decrease in direct impact to estimated individuals from 7,498 to 6,246 (Table 15) and to recorded individuals from 1,799 to 733 (Table 16). This equates to a direct impact of 14.30% to the local estimated population or a direct impact of 6.75% to the local recorded population. • A decrease in indirect impacts to recorded individuals from 1,525 to 711 (a reduction of 814 recorded individuals). This equates to an indirect impact to 1.63% of the local estimated population or an indirect impact of 6.55% to the local recorded population. • Total impacts (direct and indirect impacts combined) decrease from 21.75% to 15.93% to the local estimated population or from 39.79% to 13.30% to the local recorded population. The estimated population impacts are considered more conservative and therefore has been used for offset calculations. It is acknowledged that additional locations of *Microcorys* sp. Mt Holland are on Unallocated Crown Land or conservation reserves that are covered by mining tenure and at risk to development, however any impacts would be assessed at the time of approvals applications. The locations of the species on conservation reserve are expected to be at a low risk of development given the presumption against development and approvals process required to develop on a Class C reserve. Irrespective of the potential for other (as yet un-approved) developments in the region, the size of the population minimises the risk of a change to conservation significance rating. In addition, the Proponent acknowledges the uncertainty associated with the population estimate and whilst regional surveys would be undertaken, proposes an Offset Strategy to mitigate Significant Residual Impacts. An Offsets Strategy (Version 1) has been developed for Flora and Vegetation, based on an updated Significant Residual Impact table presented in Table 14 and WA Environmental Offsets Policy Table presented in Table 15.
1-19	The proponent proposes an offset of land acquisition of up to 2000 ha of land containing Malleefowl and Chuditch habitat. DBCA has indicated that the proposed land acquisition sites may be available for purchase, however no further information has been provided by the proponent in regards to purchasing the sites (consultation undertaken with landowners etc). Site surveys need to be undertaken to confirm the extent and quality of habitat on both site 1 and site 2. Given the limited options for acquisition of sites of this size and quality in this region, it is recommended that this offset is secured as a priority and, if required to increase the quantum of the offset, retain the option to undertake additional on-ground actions through an offset strategy. The proponent has completed the offset calculator, however no advice can be provided on the adequacy of figures used until site surveys have been completed. Please note that the excel versions of the completed offsets assessment guide should be provided. It is noted that a research offset is proposed if the above quantum cannot be met (ERD page 159). At this stage, research offsets are not considered appropriate. Any research offsets must be consistent with the requirements set out on page 13 of the WA offsets guidelines.	The Proponent will continue with implementing the Offset Strategy (Version 1) with the expectation that an Offsets Management Plan would be developed and approved prior to Project commencement, which will include site surveys and completion of the offsets calculator to secure the sites (if appropriate) as a priority. As detailed in the Fauna Offsets Strategy (submitted to EPA and DoEE 21st January 2019) and the Offsets Strategy (Version 1), the priority is on land acquisition for direct offsets.

Item	EPA Services comment	Proponent Response
1-20	The proponent is required to submit a Land Acquisition Offsets Strategy for impacts to Malleefowl and Chuditch (and any other offsets that require it). The following information is required: 1. Provide details of the proposed offset including but not limited to: a. objectives and intended outcomes b. description of actions to be undertaken c. specific and measurable success criteria d. timelines and milestones e. monitoring to assess offset implementation f. reporting details and timing g. financial arrangements h. risks and contingency measures i. Governance arrangements including responsibilities and legal obligations. 2. Provide evidence of consultation on offset with relevant stakeholders. 3. Discuss how the proposed offset is appropriate to counterbalance the significant residual impact and demonstrates consideration of the six offsets Principles outlined in the WA Environmental Offset Policy & WA Environmental Offset Guideline. Outline how the offset aligns with relevant plans and policies (e.g. recovery plans). 4. Evidence that supports the success or viability of the offset (include as an appendix where required).	A Land Acquisitions Offsets Strategy will be submitted once site surveys and offsets calculations are completed.

3. Department of Biodiversity, Conservation and Attractions (DBCA)

Table 2: Department of Biodiversity, Conservation and Attractions (DBCA)

Item	Submission and/or issue	Response
Flora and Vegetation		
2-1	General Recommendation 1: That if following clarification on the impacts of the proposal on conservation significant flora the Proposal is considered acceptable, clearly defined limits to impacts on conservation significant flora species and their habitat (for which vegetation associations may be appropriate to use as surrogates) is made a condition of approval. Discussion: There are challenges in interpreting of confirming information in the ERD due to limited information on the nature, scale and significance of impacts. For example: 1. Recently where significant predicted impacts on threatened, Priority 1 or restricted flora species, supplementary investigations have been completed on the impacts. 2. Population estimates and proportional impact calculations vary in relation to level of uncertainty, therefore it is challenging to provide advice on impacts. Different population estimation methods were used for *Banksia sphaerocarpa* var. *dolichostyla* and *Microcorys* sp. Mt Holland (D. Angus DA2397). 3. The Proposal footprint appears to be indicative which limits the certainty of impacts. 4. The ERD does not provide adequate information on indirect impacts for individual species/circumstances, for example, changes of surface hydrology on flora populations (recent work by Raiter *et al.* has not been cited). 5. Indirect impacts have been calculated on a 50 m distance from the impact zone with no information on the basis for this distance and there is a basis for considering indirect impacts would occur outside 50 m. The ERD does not map recorded populations at risk of indirect impacts. 6. Comments on wider distribution of species, however without evidence (survey data) these statements should be not used to determine significance of impacts. 7. Data in figures is not easy to interpret. 8. No map presented showing *Banksia sphaerocarpa* var. *dolichostyla* or *Eutaxia lasiocalyx.* 9. Shapefiles were not provided. 10. If further information is made available, DBCA could provide further advice.	The Proponent agrees that a defined limit of impact to conservation significant flora species should be a condition of approval based on the potential impacts to the known populations within the Development Envelope. It is requested that the limit of impact is presented as a percentage of the population within the Development Envelope to account for uncertainty associated with population estimates. The Flora Management Plan (Revision 5) details the acceptable threshold the Proponent considers realistic, with an updated Flora Management Plan to developed in consultation with DBCA. The Proposal impacts to conservation significant flora species have been quantified and is stated in the following locations: 1. Section 5.3.1 of the ERD details the direct impacts on the number of individuals of conservation significant flora species within the Development Envelope and the Proposed Layout and presents this as a percentage of known local and regional populations in Table 5-11 and 5-12 and impacts to vegetation communities in Table 5-15. 2. Section 5.3.2 of the ERD details the indirect impacts on number of individuals of conservation significant flora species and presents this as a percentage of known local and regional populations in Table 5-17 and 5-18. 3. Updated impacts based on additional surveys and updated Proposed Layout is presented in Table 15 and Table 16. Based on DBCA and EPA submissions, the Proposed Layout has been amended as per Figure 1 and Table 16 and included: 4. Decreasing the area required for the ROM and relocating the ROM to areas of existing disturbance and degraded vegetation resulting in a significantly reduced impact to individuals. 5. Removal of a portion of the historical airstrip from the disturbance footprint previously planned for topsoil storage and avoidance of the large southern population. 6. Removal of the southern access road that previously dissected the large southern population of resulting in significantly reduced direct and indirect impacts. 7. Reorientation of the Accommodation Village to avoid direct and indirect impacts. 8. Inclusion of the landfill and borrow pit as outlined in the Minor and Preliminary Works (s41A(3) dated 23/05/2019) and other minor Proposed Layout changes as detailed in the submitted s43a application on 19 July 2019. 9. Decrease of 6 ha in new disturbance and an increase in the use of existing disturbance (as detailed in Table 9) to minimise clearing of native vegetation. The Proposed Layout would result in a significant decrease of total impacts as shown in Table 16. It should be noted that additional flora surveys have been conducted by Kidman Resources (Mattiske 2019c to 2019h) and the proponent (Strategen JBS&G 2019) which identified additional conservation significant flora as outlined in Table 11 and Table 12. These additional individuals are included in Table 13 which summarises the populations within the Development Envelope, local and regional areas. Where a population estimate has been used, the methodology is detailed in Table 14 and resulting population impacts detailed in Table 15. The recorded local and regional population numbers of conservation significant flora in Table 16. Additional records from Kidman Resources surveys and Strategen JBS&G (2019) surveys have been included in population assessments (both recorded and estimated local and regional populations). The challenges identified in interpreting information have been addressed as follows (numbered for each example by DBCA): 1. Whilst previous assessment for conservation significant flora species (particularly those associated with greenstone or banded iron formation geology) have included supplementary investigations into Proposal impacts, this was not considered necessary in this circumstance. The Development Envelope lacks geological formations (similar to banded ironstone formations) that would result in isolated populations. This is discussed in Section 5.3.1 (page 86 of the ERD) regarding the lack of correlation with the Ironcap Hills Vegetation Complexes Priority Ecological Community. It should be noted that sub-populations of conservation significant flora species are not predicted to be lost (Table 5-11) and targeted surveys prior to construction will assist in identification of species to ensure approved total impacts are as per approved thresholds in the Flora Management Plan. In addition, the level of impact for conservation significant flora species has been decreased due to Proposed Layout changes. Rehabilitation, translocation and seeding trials will be undertaken for *Banksia sphaerocarpa* var. *dolichostyla* and *Microcorys* sp. Mt Holland (D. Angus DA2397) as part of the Offsets Strategy (Version 1) to provide additional species information and population health monitoring will be undertaken. 2. Different population methods are used for *Banksia sphaerocarpa* var. *dolichostyla* (Section 5.2, page 45) and *Microcorys* sp. Mt Holland (D. Angus DA2397) (Section 5.2, page 45 – 46) due to the different level of surveys. The *Banksia sphaerocarpa* var. *dolichostyla* population estimate was applied to populations outside the Development Envelope and was based on a population boundary and individual density. The number of estimated individuals were 6,083 and it should be noted that direct and indirect impacts were based on the known recorded population (excluding estimated individuals). Other conservation significant flora species population estimates were extrapolated based on individual occurrences within an adequately surveyed vegetation community (*Acacia* sp. Mt Holland (B. Ellery BE1147), *Acacia undosa, Labichea rossii and Microcorys* sp. Mt Holland (D. Angus DA 2397)) as shown in Table 14. The assumption of uniform occurrence results in a conservative estimate for these species, however targeted surveys prior to construction would assist in confirming these estimates. Both methodologies are considered to be conservative and industry practise for mining developments in data deficient areas. Two methods of calculating indirect impacts have been used: • *Banksia sphaerocarpa* var. *dolichostyla* – targeted surveys had occurred throughout the Development Envelope with locations of individuals recorded. Indirect impacts were determined as any individual recorded within 50 m of the Proposed Layout. • Priority Flora species – targeted surveys had occurred in representative locations throughout the Development Envelope. Survey areas were determined by the vegetation communities which were predominately impacted by the Proposed Layout. If Priority Flora individuals were identified as part of the targeted Priority Flora Survey (ERD Appendix 3H) or through other flora surveys, the locations were recorded. Indirect impacts were determined as any individual records within 50 m of the Proposed Layout. It is noted that some species had population estimates completed if sufficient data was available (Table 14). Direct impacts were calculated based on population estimates for these species, however this was not considered feasible for indirect impacts, therefore the calculation methodology for direct and indirect impacts for these species differs. Further preclearance surveys are expected to confirm any potential indirect impacts and will be detailed in the updated Flora Management Plan.

Item	Submission and/or issue	Response
2-1		The local and regional population estimates presented in the ERD have been revised. The outcomes of the Kidman Resources exploration flora surveys and Covalent Lithium flora offsets surveys are detailed in Table 11 and Table 12. These additional records are incorporated into Table 13 and resulting estimated populations included in Table 15. Table 16 confirms the recorded regional and local known populations based on the outcomes of the Kidman Resources exploration surveys (Mattiske Consulting), Covalent Lithium flora offsets surveys (Strategen JBS&G), Covalent Lithium targeted *Banksia sphaerocarpa* var. *dolichostyla* surveys (Mattiske) and Covalent Lithium Conservation Significant Flora species survey (Mattiske). It should be noted that for species that had a population estimate completed (Table 14), the local and regional populations include estimated individuals within the Mattiske survey area in addition to any other recorded individuals outside the survey area. 3. The impacted areas associated with the Proposed Layout (updated in Table 9) are maximums and will not be exceeded (as detailed in the Flora Management Plan Revision 5) without further assessment and approval by the EPA. The Proposed Layout is indicative to allow minor operational changes as required and for the avoidance of any conservation significant flora identified in targeted surveys prior to construction or that may recruit new areas. Significant changes (for example waste rock landform or large area relocation) would not occur without further approval under the EP Act. This aligns with the intent of a Development Envelope and Proposed Layout. However, the management actions detailed in Section 5.4, in addition to the requirement for targeted surveys prior to construction (Section 5.5.1) would assist in the identification of conservation significant flora species and allow the mitigation hierarchy to be applied. 4. Section 5.3.6 addresses changes to vegetation structure and composition through altered surface drainage flow pathways, within minimal surface water drainage lines present within the Development Envelope (as is typical given the arid climate). Dust impacts are detailed in Section 5.3.3, habitat fragmentation impacts in Section 5.3.1 and habitat integrity due to weed impacts in Section 5.3.7. These indirect impacts have been included and mitigation measures included in Section 5.4 if required. 5. Section 5.3.2 (page 88) details the basis for a 50 m distance from the Proposed Layout as determination of indirect impacts. The distance is based on the DWER Clearing Regulation Fact Sheet 24: Environmentally Sensitive Area (August 2014). Based on an understanding of similar industries and mitigation measures (dust suppression and road bunds to prevent saline water movement), this distance is considered suitable and conservative. The flora monitoring programme detailed in the Flora Management Plan will be utilised to monitor any indirect impacts. In the event indirect impacts do occur, the extent (50 m buffer) would be further investigated as part of preventative actions. It should be noted that the Earl Grey Project is an existing mine with no impact to conservation significant flora species identified. An analysis of the source, pathway and receptors model is provided below: • Dust emissions - are expected to low for the majority of areas due to dust suppression and traffic movement on roads. The potential for dust sources as a result of pit blasting and waste rock placement have been assessed and the 50 m buffer is considered adequate in comparison to similar mining operations, particularly when dust management measures (dust suppression including water carts) are implemented. Little is known about the susceptibility of the conservation significant flora species to dust impacts, therefore the monitoring program will identify any impacts. Monitoring locations have been established to include conservation significant flora populations within proximity to roads and waste rock landforms or pit blasting. • Surface hydrology - no permanent drainage systems exist within the Development Envelope. Utilisation of existing disturbance minimises impacts to surface hydrology. Where required, culverts and diversion drains would be installed to maintain natural surface water movement. The open pit and waste rock landform are the more significant new disturbance footprints, therefore monitoring of adjacent flora populations will occur to identify any impacts from surface hydrology. • Fragmentation - the use of existing disturbance minimises the potential for fragmentation. In addition, given the Earl Grey Project is an existing mine site, minimal impacts due to fragmentation have been identified as a result of flora surveys. Conservation significant flora populations significantly impacted by the Proposal (*Banksia sphaerocarpa var. dolichostyla* and *Microcorys* sp. Mt Holland) are widespread throughout the local area and anecdotal evidence indicates the species are active recruiters, even in disturbed areas. 6. Following discussions with EPA and DBCA, information regarding regional populations of conservation significant flora species were included. In addition, targeted surveys for *Banksia sphaerocarpa* var. *dolichostyla* and *Microcorys* sp. Mt Holland (D. Angus DA 2397)) were undertaken outside the Development Envelope. Anecdotal evidence of additional populations is included, however the impact assessment is based on known populations. 7. Presentation of data is provided within figures in the ERD and the technical reports included in the Appendix. If amendments to figures is required, these can be supplied upon request. 8. The map for *Banksia sphaerocarpa var. dolichostyla* was erroneously omitted from the ERD (Figure 5-10), however is included in the Flora Management Plan (Figure 1-3) and has been included in this document (Figure 4). Additional identified individuals from Kidman Resources (currently being drafted) surveys to the south of the Development Envelope have been included. In addition, a regional population of *Banksia sphaerocarpa var. dolichostyla* is included in Figure 5-7. *Eutaxia lasiocalyx* is included in Figure 5-11, however there is an error in the legend. An updated figure is included in Figure 5. Data compliant with IBSA requirements were submitted to the IBSA Registrar and EPA with the ERD submissions. Copies can be provided upon request.

Item	Submission and/or issue	Response
2-2	Threatened flora *Banksia sphaerocarpa* var. *dolichostyla* Recommendation 2: That there are further investigations applying the mitigation hierarchy to reduce the risk of the proposal on the threatened *B. sphaerocarpa* var. *dolichostyla*. The predicted impacts are significant to the species, and further consideration with the intention to reduce the risk to and residual impact on the species is required. Recommendation 3: That DBCA is consulted further on the impacts of the proposal on *B. sphaerocarpa* var. *dolichostyla* following further investigations and application of the mitigation hierarchy as identified in Recommendation 2. Recommendation 4: Noting the previous recommendations, if the residual impact of the proposal is considered acceptable, a condition of approval is applied that restricts the approved impact (direct and indirect) of the proposal on *B. sphaerocarpa* var. *dolichostyla* to a clearly defined limit agreed by the Minister for Environment. Discussion: The level of impact on the *B. sphaerocarpa* var. *dolichostyla* is potentially significant, especially if indirect impacts are not appropriately managed because a significant portion of the species is located in and around the Development Envelope. Further efforts to understand, avoid, minimise, manage and mitigate (including offset, if the reduced impacts are considered acceptable) is required. The following would assist in understanding the risk of the Proposal impacts: • Mapping to show proposal footprint and *B. sphaerocarpa* var. *dolichostyla* individuals and sub-populations • Analysis of the impact on the viability on individual sub-populations and populations • Investigation with where elements of proposal can be amended to avoid or minimise impacts • Investigations into habitat (occupied and unoccupied) for the species • Investigations into ecosystem function, including pollination, and an assessment on implications.	Based on DBCA and EPA submissions, the Proposed Layout has been amended to avoid *Banksia sphaerocarpa* var. *dolichostyla* impacts as per Figure 1 and Table 16 and included: • Decreasing the area required for the ROM and relocating the ROM to areas of existing disturbance and degraded vegetation resulting in a significantly reduced impact to individuals. • Removal of a portion of the historical airstrip from the disturbance footprint previously planned for topsoil storage and avoidance of the large southern population. • Removal of the southern access road that previously dissected the large southern population of resulting in significantly reduced direct and indirect impacts. • Reorientation of the Accommodation Village to avoid direct and indirect impacts. • Inclusion of the landfill and borrow pit as outlined in the Minor and Preliminary Works (s41A(3) dated 23/05/2019) and other minor Proposed Layout changes as detailed in the submitted s43a application on 19 July 2019. • Decrease of 6 ha in new disturbance and an increase in the use of existing disturbance (as detailed in Table 9) to minimise clearing of native vegetation. The updated Proposed Layout would result in a significant decrease of direct and indirect impacts to Banksia sphaerocarpa var. dolichostyla from 92 to 2 individuals directly impacted and from 2,826 to 67 individuals indirectly impacted. This equates to 0.01% direct and 0.40% indirect impact to the local population (16,822) and total (combined) impacts of 0.41% (local population) and 0.27% (regional population, 25,445) as shown in Table 16 of this document. A Section 43A application under the Environmental Protection Act 1986 (EP Act) has been submitted to Department of Water and Environmental Regulation to account for the Proposed Layout changes. It should be noted that additional flora surveys have been conducted by Kidman Resources (Mattiske 2019 c to 2019h) which identified an additional 319 individuals (Table 11) to the south of the Development Envelope. Additional surveys by the Proponent identified 490 individuals (Table 12) within the region. These additional individuals are summarised in Table 13 and included in population numbers in Table 16. The Proponent acknowledged the EPA submission that residual impacts are high and has amended the Proposed Layout accordingly. In addition, given that *Banksia sphaerocarpa var. dolichostyla* is a Vulnerable species, Offsets are proposed to mitigate any impacts. An Offsets Strategy has been developed for Flora and Vegetation, which includes further research and trials into rehabilitation, translocation and seeding. As part of further project development, investigations (targeted surveys prior to construction) are occurring to further define *Banksia sphaerocarpa* var. *dolichostyla* populations. Mitigation actions are detailed in Section 5.4 and further consultation will occur with DBCA regarding avoidance strategies as detailed in the Flora Management Plan. Covalent agrees with Recommendation 4 that a condition of approval should restrict the approved impact. Mapping of impact has been completed, the map for *Banksia sphaerocarpa* var. *dolichostyla* was erroneously omitted from the ERD (Figure 5-10), however is included in the Flora Management Plan (Figure 1-3) and has been included in this document (Figure 4). In addition, a regional population of *Banksia sphaerocarpa* var. *dolichostyla* is included in Figure 5-7. Further investigations are not considered necessary based on the mitigation hierarchy application (including offsets and associated rehabilitation research). However, in the event the ongoing monitoring identifies an unacceptable impact to *Banksia sphaerocarpa* var. *dolichostyla*, further investigations or mitigation actions may be required. The Proponent is committed to undertaking the rehabilitation strategy detailed in the ERD.
2-3	Threatened flora Eremophila verticillata Recommendation 5: That through the assessment of the Proposal, confidence is provided that there will be no risk of direct or indirect impact on the threatened *Eremophila verticillate*. This could include additional targeted surveys to ensure that the development will not impact on the species (or its habitat), and a condition of approval to ensure that there will be no impact on the species. Discussion: *Eremophila verticillata* has been identified in the W9 vegetation community on the southern border of the Development Envelope, with 21.3 ha of W9 is proposed to be cleared. The new location is the second extant location for the species with it presumed extinct in three other previously recorded locations. The other location is a highly altered or degraded landscape with multiple threats, therefore this location is very significant for species conservation. Confidence is required to ensure no individuals are impacted. Clarification on adequacy of surveys is required to identify individuals and extent of species (including an assessment of occupied and unoccupied habitat). If, following further information, additional survey is required, there is a lack of certainty or there is a risk to the species, further consultation with DBCA is required and/or application a condition of approval.	Targeted surveys for *Eremophila verticilata* occurred, as detailed in the ERD (Table 5-2) with 16.59 ha surveyed as part of this targeted survey (W9 total area of 559 ha). As per ERD Appendix 3 – Earl Grey Lithium Project Conservation Significant Flora Targeted Survey (Mattiske, 2019), it has not been recorded within the Development Envelope or the Proposed Layout. However, it was recorded in association with the W9 vegetation community within proximity to each other. The location was associated in an elevated position with a powdery, clayey loam soil which has not been identified elsewhere within the Development Envelope (DE) or the W9 vegetation community. Accordingly, the occurrence of *E. verticilata* at one location in W9 vegetation is not considered representative of a wider occurrence of the species in the vegetation. Whilst 285 ha of W9 is located within the DE, only 28.2 ha is expected to be impacted as part of the Proposed Layout which represents 10% of the community within the DE (Table 10) and does not reflect the topography or soils of the location where the species was recorded outside the DE. Covalent agrees to undertake further targeted surveys prior to construction as a condition of approval to ensure that there will be no impact on the species. The Flora Management Plan has been updated (Revision 5) to highlight the requirement for further targeted surveys prior to construction for this species.

Item	Submission and/or issue	Response
2-4	Priority 1 *Microcorys* sp. Mt Holland (D. Angus DA2397) Recommendation 6: That there are further investigations applying the mitigation hierarchy to reduce the risk of the proposal on the threatened *Microcorys* sp. Mt Holland (D. Angus DA2397). The predicted impacts are considered significant and further consideration of measures to reduce the risk and residual impact on the species is required. Recommendation 7: That DBCA is consulted further on the impacts of the proposal on *Microcorys* sp. Mt Holland (D. Angus DA2397) following further investigations and application of the mitigation hierarchy as identified in Recommendation 2. Recommendation 8: Noting the previous recommendations, if the residual impact of the proposal is considered acceptable, a condition of approval is applied that restricts the approved impact (direct and indirect) of the proposal on *Microcorys* sp. Mt Holland (D. Angus DA2397) to a clearly defined limit agreed by the Minister for Environment. Discussion: The ERD suggest the level of impact on the *Microcorys* sp. Mt Holland (D. Angus DA2397) is not significant, however DBCA considers the impact is high (significant) due to a restricted range and at risk of cumulative impacts. Further efforts to understand, avoid, minimise, manage and mitigate (including offset, if the reduced impacts are considered acceptable) is required. This is particularly relevant to the proportion of the direct impact associated with the waste dump location and pre-clearance surveys to define population may still be required.	Based on DBCA and EPA submissions, the Proposed Layout has been amended to avoid *Microcorys* sp. Mt Holland as per Figure 1 and Table 16 and included: • Decreasing the area required for the ROM and relocating the ROM to areas of existing disturbance and degraded vegetation resulting in a significantly reduced impact to *Microcorys* sp. Mt Holland individuals and MW7 vegetation community. • Removal of a portion of the historical airstrip from the disturbance footprint previously planned for topsoil storage and avoidance of the large southern *Microcorys* sp. Mt Holland population. • Removal of the southern access road that previously dissected the large southern population of *Microcorys* sp. Mt Holland resulting in significantly reduced direct and indirect impacts. • Reorientation of the Accommodation Village to avoid direct and indirect impacts to *Microcorys* sp. Mt Holland. • Inclusion of the landfill and borrow pit as outlined in the Minor and Preliminary Works (s41A(3) dated 23/05/2019) and other minor Proposed Layout changes as detailed in the submitted s43a application on 19 July 2019. • Decrease of 6 ha in new disturbance and an increase in the use of existing disturbance (as detailed in Table 9) to minimise clearing of native vegetation. The updated Proposed Layout would result in a significant decrease of direct and indirect impacts to Microcorys sp. Mt Holland individuals: • A decrease in direct impact to estimated individuals from 7,498 to 6,246 (Table 15) and to recorded individuals from 1,799 to 733 (Table 16). This equates to a direct impact of 14.30% to the local estimated population or a direct impact of 6.75% to the local recorded population. • A decrease in indirect impacts to recorded individuals from 1,525 to 711 (a reduction of 814 recorded individuals). This equates to an indirect impact to 1.63% of the local estimated population or an indirect impact of 6.55% to the local recorded population. • Total impacts (direct and indirect impacts combined) decrease from 21.75% to 15.93% to the local estimated population or from 39.79% to 13.30% to the local recorded population. Kidman Resources has undertaken additional flora surveys (Mattiske 2019c to 2019h) within the local area and identified an additional 2,682 individuals to the south of the Development Envelope. The Proponent undertook additional regional surveys (Strategen JBS&G 2019), however no additional individuals were identified. These additional individuals are included in population estimates (Table 15) and population records (Table 16). The Proponent proposes to undertake further targeted regional surveys prior to construction to determine the extent of *Microcorys* sp. Mt Holland species. The Proponent acknowledges the submission that residual impacts are high and has amended the Proposed Layout accordingly. The updated impacts of 15.93% (6,957 individuals) is based on a population estimate of 43,676 individuals as a result of survey efforts. The recorded individuals reflect total impacts of 13.30% (1,444 individuals) based on a recorded population of 10,856 individuals, however this is considered an under-estimate. A significant increase in population size has occurred due to the Proposal. Populations have been identified outside of the Development Envelope. The 15.93% impact to the estimated population is not considered to be significant due to the estimated population size (43,676), however, uncertainty does exist with the population estimate. Due to the uncertainty of the population size, Covalent will be undertaking targeted surveys prior to Project commencement to confirm the population estimate and conformance to approved total impacts. Regional surveys will occur to identify additional populations. It is acknowledged that additional locations of *Microcorys* sp. Mt Holland are on Unallocated Crown Land or conservation reserves that are covered by mining tenure and at risk to development, however any impacts would be assessed at the time of approvals applications. The locations of the species on conservation reserve are expected to be at a low risk of development given the presumption against development and approvals process required to develop on a Class C reserve. Due to this uncertainty and risk, an Offset Strategy (Version 1) is proposed for this future stage of clearing to offset any Significant Residual Impacts and it is considered appropriate that the Offset would be required to be implemented prior to this stage of clearing. An Offsets Strategy has been developed for Flora and Vegetation, based on an updated Significant Residual Impact table presented in Table 17 and WA Environmental Offsets Policy Table presented in Table 18. It is expected that an Offsets Management Plan would be a condition of Project approvals and the Proponent will undertake development and approval prior to Project commencement. As part of further project development, further investigations (targeted surveys prior to construction) are occurring to further define *Microcorys* sp. Mt Holland (D. Angus DA2397) populations. Mitigation actions are detailed in Section 5.4 and further consultation will occur with DBCA regarding avoidance strategies as detailed in the Flora Management Plan. Covalent agrees with Recommendation 8 that a condition of approval should restrict the approved impact.

Item	Submission and/or issue	Response
2-5	Other Priority Flora Comment: There are records of Priority flora outside the 50 m indirect impact zone and there is uncertainty if any disturbance footprint amendments would result in populations within the indirect impact zone or if these populations could be at risk of indirect impact, therefore further consideration is required. This is particularly relevant to *Brachyloma stenolobium*, *Stylidium sejunctum* and *Davesia newbeyi.* Comments: *Eutaxia lasiocalyx* has been listed as Priority 2 for ten years with low number of records may be indicative of genuine rarity, rather than being poorly collected, therefore the conservation status is being reviewed. Efforts should be made to minimise impacts wherever possible.	The Proposed Layout is indicative to allow minor operational changes as required and for the avoidance of any conservation significant flora identified in preclearance surveys or that may recruit in new areas. However, the management actions detailed in Section 5.4, in addition to the requirement for targeted surveys prior to construction (Section 5.5.1) would assist in the identification of conservation significant flora species and allow the mitigation hierarchy to be applied (particularly avoidance where possible). The Flora Management Plan has been updated (Revision 5) to include the requirement for targeted surveys prior to construction of: • Any Declared Rare or Threatened Flora species considered likely to occur with a vegetation community impacted by the Proposed Layout. • Any Priority 1 or 2 species that have a >10% total impact to the regional population. These preclearance surveys will be conducted to ensure the approved direct impacts are not exceeded as shown in Appendix 2 - Table 16 and the Flora Management Plan (revision 5). If identified, the above species will be avoided if possible with Conservation Significant Flora Buffers Zones implemented (50m) around populations. The current Conservation Significant Flora Exclusion Zones, whereby no development shall occur, are shown in Figure 8. Exclusion Zones and Buffer Zones would continue to be updated based on targeted survey results and population impacts. The southern population of conservation significant flora species has an Conservation Significant Flora Exclusion Zones established after roads and topsoils were removed from the area in the updated Proposed Layout. It should be noted, that targeted regional surveys are expected to occur to further define the known population numbers and it is expected that any further identified populations would decrease the total impacts for these species. It is hoped that additional populations are not at threat from development, however communication of survey results to regulatory agencies will assist in increasing species population data to minimise any cumulative impacts. In the event that the total impacts remain >10% for any of these species, the significant residual impacts would be determined for each species and the requirement for offsets would be determined. Opportunistic surveys will occur for: • Any Priority 3 or 4 species. • Any Priority 1 or 2 species that have a <10% total impact to the regional population. *Eutaxia lasiocalyx* has one recorded individual within the Proposed Layout. Efforts will be made to minimise impacts where possible, however an additional 15,013 individuals have been identified outside the Proposed Layout (Mattiske 2019c to 2019h; Table 11). Preclearance surveys may identify additional individuals which will be avoided if possible, as detailed in the updated Flora Management Plan (Revision 5). It should be noted that as a result of updated population impacts, *Acacia* sp. Mt Holland has a potential indirect impact to 309 recorded individuals, resulting in indirect impacts to 13.19% of the recorded regional population (Table 15) or 0.28% of the estimated regional population (Table 16). A Conservation Significant Flora Exclusion Zone has been placed around this population along the Project access road and will be included in the updated Flora Management Plan. Further preclearance surveys will confirm the population estimate.
2-6	Monitoring Comment: Baseline monitoring and pre-clearance surveys are proposed and it is usually recommended that baseline monitoring is conducted for as long as possible prior to development (over at least an entire year). Information on monitoring programme is limited and an assessment of adequacy is not able to be made. Further information on any monitoring plan during construction, operation and closure to inform impact assessment and management requirements should be required.	Baseline monitoring of vegetation health will be conducted prior to clearing as per the Flora Management Plan. Given that monitoring assessments will be based on analogue sites outside of the Development Envelope, one baseline monitoring event is considered sufficient. Further details on the monitoring program are provided in the Flora Management Plan and will include monitoring and control sites.
2-7	Flora Management Plan Recommendation 9: That if the proposal is considered acceptable, a condition of approval that requires the development and implementation (and at regular intervals review) of a conservation significant flora management plan in consultation with DBCA. Discussion: A review of the Flora Management Plan has occurred with the following comments: 1. Quantitative objectives, triggers and thresholds are required given species significance. 2. It is recommended the Plan addresses other Priority flora at risk and the surrounding habitat. 3. The 50% mortality level as an environmental criterion should be an appropriate trigger for early identification of potential impacts that can be reversible. 4. Quantifiable criteria are proposed to be refined as the Plan is updated. Triggers and thresholds should be defined as Plan development, relative to significance and risk to the values. Trigger and threshold criteria should be based on SMART (specific, measurable, attainable, relevant, timely) and BACI (before, after, control, impact) principles. 5. The list of pathways is limited and does not include changes to surface hydrology, changes in ecological function (fragmentation and pollination) and pit lake development. These pathways should be considered. 6. Proposed further surveys will provide critical data for assessment and should be provided to the relevant agencies. 7. Proposed rehabilitation and translocation activities for *B. sphaerocarpa* var. *dolichostyla* and *Microcorys* sp. Mt Holland are considered high risk without confidence or evidence and further information is required. 8. Trigger and threshold criteria are based on percentage impact, rather than number of plants. DBCA and EPA Services need to consider if this approach is acceptable. 9. Trigger and threshold criteria appear to be using statistically different changes from analogue sites. Information regarding proposed analysis and level of confidence to determine statistical significant is not included. 10. Design and method of monitoring and data analysis is not specific enough for review and comment. 11. Information on sample sizes and locations of monitoring sites is not provided for review with no maps. 12. Response and notification actions are not always time bound. 13. Definitions for health is not included and weed should not be described as feral species. 14. Weed target should be to ensure no new weed species are introduced, existing weed occurrences are not increased or spread. 15. Plan revision should require re-submission to EPA.	Further development has occurred with an updated Flora Management Plan (Revision 5) provided, further consultation with DBCA is expected and a revised Flora Management Plan developed and approved prior to Project commencement. It addressed DBCA comments in the following manner: 1. Outcomes based provisions (Section 2.1) have been provided where possible with quantitative triggers and thresholds developed as per EPA guidance. A justification is provided in Section 2.1.1. As per Section 2, for Management based provisions, quantifiable targets are not currently able to be developed based on the level of monitoring data available. However, as monitoring progresses (Section 2.4) the Flora Management Plan will be updated based on regulator consultation (Section 3.3). 2. *Eutaxia lasiocalyx* and *Acacia undosa* have been included in the Flora Management Plan (Revision 5) as the Proposal has the potential to impact more than 10% of the regional population. *Acacia* sp. Mt Holland and *Eremophila verticillate* will be included in the updated Flora Management Plan. In addition, any Declared Rare or Threatened Flora located within the Development Envelope will be included in the Flora Management Plan (Section 1). The potential impact to other Priority species has been assessed as not significant, particularly as they are predominately isolated populations with marginal impacts. The intent of the Flora Management Plan is to monitor indirect impacts and maintain compliance to direct impact thresholds. The Flora Management Plan has been updated (Revision 5 – Section 1) to include the requirement for targeted surveys prior to construction of: • Any Declared Rare or Threatened Flora species considered likely to occur with a vegetation community impacted by the Proposed Layout. • Any Priority 1 or 2 species that have a >10% total impact to the regional population. These surveys will be conducted to ensure the approved direct impacts are not exceeded as shown in Appendix 2 - Table 16 and the Flora Management Plan (revision 5). If identified, the above species will be avoided if possible with Conservation Significant Flora Buffers Zones implemented (50m) around populations. The current Conservation Significant Flora Exclusion Zones, whereby no development shall occur, are shown in Figure 8. Exclusion Zones and Buffer Zones would continue to be updated based on targeted survey results and population impacts. The southern population of conservation significant flora species has an Conservation Significant Flora Exclusion Zones established after roads and topsoils were removed from the area in the updated Proposed Layout. It should be noted, that targeted regional surveys are expected to occur to further define the known population numbers and it is expected that any further identified populations would decrease the total impacts for these species. It is hoped that additional populations are not at threat from development, however communication of survey results to regulatory agencies will assist in increasing species population data to minimise any cumulative impacts. In the event that the total impacts remain >10% for any of these species' regional populations, the significant residual impacts would be determined for each species and the requirement for offsets would be determined. Opportunistic surveys will occur for: • Any Priority 3 or 4 species. • Any Priority 1 or 2 species that have a <10% total impact to the known local population.

Item	Submission and/or issue	Response
2-7		3. An updated trigger has been established in the Flora Management Plan (Revision 5 Table 2-2) of a statistically significant reduction in mean condition ratings of *Banksia sphaerocarpa var. dolichostyla*, *Microcorys* sp. Mt Holland (D. Angus DA 2397), *Eutaxia lasiocalyx* or *Acacia undosa* using BACI design. An updated threshold criterion of a rate of mortality which exceeds natural rates due to impacts caused by the Proposal has been included. Once monitoring progresses, further refinement of the triggers is expected to be more quantifiable. 4. As detailed in Flora Management Plan Section 1.4.3, it is agreed that quantifiable criteria will be refined as the Plan is updated and the triggers and thresholds will develop dependant on monitoring results and risk. 5. The pathways are discussed in the ERD (excluding pit lake development) and are included in the Flora Management Plan Section 1.4.3 as potential impacts and management actions included where appropriate. The risk of flora and vegetation impacts from pit lake development given the depth to groundwater from natural ground level is considered low. 6. Further surveys and monitoring results will be incorporated into the Flora Management Plan Section 2.4 and future revisions will continue refining monitoring requirements. 7. It is agreed that there is uncertainty and risk associated with the rehabilitation strategy. Based on DBCA feedback on the significance of impacts, an offset for Flora and Vegetation is been proposed. As part of the offset strategy, and adaptive management strategy for rehabilitation will be developed. 8. Covalent believes that the trigger and threshold criteria is based on a percentage of the known Development Envelope population for *Microcorys* sp. Mt Holland (D. Angus DA2397) and a number of individuals for *Banksia sphaerocarpa var. dolichostyla*. As per Table 2-1, field observations indicate a high level of ongoing recruitment within existing *Microcorys* sp. Mt Holland (D. Angus DA2397) and *Banksia sphaerocarpa var. dolichostyla* populations in areas that have been subject to disturbance demonstrating the ability of this taxon to readily recruit and rapidly recover. As ongoing recruitment has the potential to occur in areas that may be directly or indirectly impacted it is considered appropriate that the thresholds for direct and indirect impact to *Microcorys* sp. Mt Holland (D. Angus DA2397) be based on a percentage of the known Development Envelope population at the time of loss. In addition, given *Microcorys* sp. Mt Holland (D. Angus DA2397) is based on a population estimate, it allows confirmation of population numbers as part of targeted surveys prior to clearance and the acceptable impact to be correlated appropriately. 9. The trigger and thresholds shall be reviewed in comparison to the monitoring programme for consistency. The Flora Management Plan Table 2-2 details the response actions associated with monitoring requirements. 10. Further information on monitoring and data analysis has been provided in the Flora Management Plan (Revision 5) Section 2.4 and includes monitoring locations and control sites. Further refinement of the monitoring program is expected once targeted surveys prior to construction are completed and baseline monitoring is completed. 11. Further information on sampling sizes and monitoring locations is included in the Flora Management Plan (Revision 5) Section 2.4. 12. Response and notification actions have time limits included where appropriate in the Flora Management Plan Section 2.5. It should be noted that some reporting requirements will only occur after an event, however time limits have been included where possible. 13. A definition for health has been included in the Flora Management Plan Section 5 and 'feral species' terminology removed. 14. Weed target has been amended in the Flora Management Plan Table 2-2 and a monitoring programme established (Section 2.4.4). 15. Consultation regarding the Flora Management Plan will continue with DBCA and re-submission to EPA will occur for any changes. Details are provided in the Flora Management Plan Section 3.3.
2-8	Conclusion Comment: The conclusion in the ERD that the Proposal poses a relatively low risk to key environmental factors may not fully recognise the significant of impacts and risk to conservation significant flora and may overestimate the positive outcomes and adequacy of management and mitigation measures.	Covalent acknowledges DBCA feedback and accepts that the impact to Flora and Vegetation may be significant, therefore an offset is proposed in additional to the mitigation measures (avoidance, minimisation, rehabilitation and offsets) summarised in the ERD and detailed in the Flora Management Plan.
Terrestrial Fauna		
2-9	Threatened fauna Recommendation 10: That if the proposal is considered acceptable, a condition of approval is applied that requires the implementation (and at regular intervals review) of a conservation significant fauna management plan. Discussion: A review of the Fauna Management Plan has occurred with the following comments: 1. Quantitative objectives, triggers and thresholds are required. 2. Triggers should be appropriate for early identification of potential impacts that can be reversible. 3. Quantifiable criteria are proposed to be refined as the Plan is updated. Triggers and thresholds should be defined as Plan development, relative to significance and risk to the values. Trigger and threshold criteria should be based on SMART (specific, measurable, attainable, relevant, timely) and BACI (before, after, control, impact) principles. 4. The list of pathways is limited and does not include pit lake development. This pathway should be considered. 5. The link between objectives, criteria (trigger and threshold), response actions and monitoring could be improved. 6. Design and method of monitoring and data analysis is not specific enough for review and comment. 7. Information on sample sizes and locations of monitoring sites is not provided for review with no maps. 8. Response and notification actions are not always time bound. 9. Early response triggers appear to be using statistically different changes from analogue sites. Information regarding proposed analysis and level of confidence to determine statistical significance is not included. 10. Definitions for health is not included and introduced animals should not be described as feral species. 11. Plan revision should require re-submission to EPA.	Further development of the Fauna Management Plan (Appendix 4) has occurred based on DBCA submission and a revised Flora Management Plan developed and approved prior to Project commencement It addresses the DBCA comments in the following manner: 1. Outcomes based provisions have been provided where possible with quantitative triggers and thresholds developed as per EPA guidance. For Management based provisions, quantifiable targets are not currently able to be developed based on the level of monitoring data available. However, as monitoring progresses the Fauna Management Plan will be updated based on regulator consultation. 2. The triggers developed are below the impacts specified in the ERD and thresholds align with the impacts specified in the ERD. 3. It is agreed that quantifiable criteria will be refined as the Plan is updated and the triggers and thresholds will develop dependant on monitoring results and risk. 4. The pathways associated with pit lake development is discussed in Item 2-12. 5. Clarification on the link between objectives, criteria, response actions and monitoring has been clarified. 6. Further information on monitoring and data analysis is provided and will include monitoring locations and analogue sites. 7. Further information on sampling sizes and monitoring locations is provided. 8. Response and notification actions have time limits associated where possible. 9. The trigger and thresholds have been reviewed in comparison to the monitoring programme and ensured are consistent. 10. A definition for health is included and 'feral species' terminology removed. 11. Consultation regarding the Fauna Management Plan will continue with DBCA and re-submission to EPA will occur for any changes.
2-10	Malleefowl eggs Comment: Avoidance of active malleefowl mounds should occur and mounds not removed when there is a risk to eggs or un-emerged chicks. Relocation and rehabilitation are not recommended and would only be supported if there was sufficient justification as to why the mound could not be left to undergo natural processes.	Covalent considers the likelihood for the requirement to remove an active Malleefowl mound as low, given the staggered clearing schedule in Table 2-2 and other management actions including preferential clearing outside of the breeding and incubation season (Section 6.4 and Appendix 4). As per the ERD and Fauna Management Plan (Revision 5), consultation with DBCA and NMRT will occur if this activity is required and specialists will be involved.
2-11	Notifications The Proponent should be made aware of the following notifications: • DBCA to be notified within 24 hours of any threatened and specially protected fauna is injured or abandoned. • All fauna found decreased, accidentally killed or euthanised due to injury should be offered to WA Museum as specimens. Opportunistic sighting of conservation significant fauna should be made to DBCA.	The Fauna Management Plan (Appendix 4) Section 2.5 has been amended to include these notification requirements.

Item	Submission and/or issue	Response
Rehabilitation and Closure		
2-12	Recommendation 11: That the assessment considers the implications of the proposed closure outcomes of a water filled pit lake on conservation significant flora, vegetation and fauna. The preferential approach would be backfilling of the pit to above standing groundwater table. Discussion: The ERD does not identify any risks associated with proposed water filled voids on conservation significant flora species, nor does it include action to manage and mitigate those risks. Risks are associated with a water resource been created with poor water quality that is a risk to native fauna health or that supports introduced fauna that impact through predation or herbivory. Backfilling the pit above the groundwater level would mitigate these risks. Alternatively, additional information for a pit lake should include: • Investigations to predict water quality and quantity changes. • Consideration of final landform design (slumping and entrapment). • Investigations into risk for native fauna and flora. Investigations into monitoring, management and mitigation for native fauna and flora.	Table 9-3 of the Rehabilitation and Closure Plan identifies that a pit lake hydrogeological study is required to assess pit lake hydrology. In addition, Section 2.3.4 of the ERD details that backfilling of the pit to the maximum extent practical. A portion of the open pit is expected to be backfilled. The backfilling of the open pit would be dependent on operational factors and the requirement for sterilisation of any potential resources. It should be noted that the Earl Grey Project is an existing mine site with other open pits with evidence of pit lakes. Anecdotal evidence from flora and fauna surveys have indicated low impacts from feral species. As part of the Fauna Management Plan, the Proponent is committed to managing the feral animal populations to ensure the protection of Chuditch and Malleefowl individuals The impacts to flora are considered unlikely considering the depth to groundwater. The impacts to fauna are considered unlikely due to hypersaline nature of the groundwater excludes it as a potential water resource and the high evaporation rate. In addition, the pit ramp would act as an egress. The completion of the pit lake study as part of Mine Closure Planning would determine any risks to flora, vegetation and fauna and mitigation measures put in place if required.
Offsets		
2-13	Flora and Vegetation Comment: The ERD concludes Significant Residual Impacts are anticipated for *B. sphaerocarpa* var. *dolichostyla*, however the scale is not considered significant to require an offset and Significant Residual Impact are not anticipated for *Microcorys* sp. Mt Holland. This conclusion may not be consistent with application of the WA Offsets Policy and WA Offsets Guideline. DBCA considers the impact to *B. sphaerocarpa* var. *dolichostyla* and *Microcorys* sp. Mt Holland as significant and the rehabilitation proposal is high risk without confidence or evidence that the likely outcomes will be successful. In addition, a change in threat category is not an appropriate threshold for significant or acceptability of an impact for conservation significant flora. *Microcorys* sp. Mt Holland was recently listed with limited targeted surveys and there is likely to be insufficient information to support a nomination as threatened flora at this stage. Following further clarification of Proposal impacts and application of mitigation hierarchy, if the Proposal is considered acceptable, further consultation on an appropriate offsets strategy could occur.	The Proponent has considered the EPA and DBCA's submissions on the Significant Residual Impact on *Banksia sphaerocarpa var. dolichostyla* and acknowledges the uncertainty associated with the rehabilitation strategy. Based on DBCA and EPA submissions, the Proposed Layout has been amended as per Figure 1 and Table 16. The updated Proposed Layout would result in a significant decrease of direct and indirect impacts to Banksia sphaerocarpa var. dolichostyla from 92 to 2 individuals directly impacted and from 2,826 to 67 individuals indirectly impacted. This equates to 0.01% direct and 0.40% indirect impact to the local population (16,822) and total (combined) impacts of 0.41% (local population) and 0.27% (regional population, 25,445) as shown in Table 16 of this document. It should be noted that additional flora surveys conducted in 2019 identified an additional 809 *Banksia sphaerocarpa var. dolichostyla* individuals (Table 11, Table 12 and Table 13), increasing the total regional population to 25,445 individuals resulting in a total (combined) regional impact of 0.27%. In addition, given that *Banksia sphaerocarpa var. dolichostyla* is a Vulnerable species, Offsets are proposed to mitigate any impacts. An Offsets Strategy (Version 1) has been developed for Flora and Vegetation, however updated Significant Residual Impact table is included in Table 17 and WA Environmental Offsets Table is included in Table 18. The Proponent intends to obtain direct offsets for direct impacts prior to clearing and indirect impacts if required as per the Flora Management Plan. Investigations into current direct offsets are being undertaken, however as per the Offset Strategy, if direct offsets are not considered feasible, indirect offsets would be considered. The Proponent has considered the EPA and DBCA's submissions on the Significant Residual Impact on *Microcorys* sp. Mt Holland and acknowledges the significance of impact. Based on DBCA and EPA submissions, the Proposed Layout has been amended as per Figure 1 and Table 16. The population estimates for the updated Proposed Layout was recalculated and is shown in Table 14. The updated Proposed Layout would result in a significant decrease of direct and indirect impacts to Microcorys sp. Mt Holland individuals: • A decrease in direct impact to estimated individuals from 7,498 to 6,246 (Table 15) and to recorded individuals from 1,799 to 733 (Table 16). This equates to a direct impact of 14.30% to the local estimated population or a direct impact of 6.75% to the local recorded population. • A decrease in indirect impacts to recorded individuals from 1,525 to 711 (a reduction of 814 recorded individuals). This equates to an indirect impact to 1.63% of the local estimated population or an indirect impact of 6.55% to the local recorded population. Total impacts (direct and indirect impacts combined) decrease from 21.75% to 15.93% to the local estimated population or from 39.79% to 13.30% to the local recorded population. The Proponent acknowledges the EPA submission that residual impacts are high and has amended the Proposed Layout accordingly. The updated impacts of 15.93% (6,957 individuals) is based on a population estimate of 43,676 individuals. It is acknowledged that additional locations of Microcorys sp. Mt Holland are on Unallocated Crown Land or conservation reserves that are covered by mining tenure and at risk to development, however any impacts would be assessed at the time of approvals applications. The locations of the species on conservation reserve are expected to be at a low risk of development given the presumption against development and approvals process required to develop on a Class C reserve. The Proponent acknowledges the uncertainty associated with the population estimate and whilst regional surveys would be undertaken, proposes an Offset Strategy (Version 1) to mitigate Significant Residual Impacts. An Offsets Strategy has been developed for Flora and Vegetation, based on an updated Significant Residual Impact table presented in Table 14 and WA Environmental Offsets Policy Table presented in Table 15.

Item	Submission and/or issue	Response
2-14	Comment: *B. sphaerocarpa* var. *dolichostyla* rehabilitation and translocation is considered to be a high risk mitigation strategy. There is currently a lack of supporting evidence to infer success would be likely, or that there is adequate understanding of the species and its requirements to identify that there is adequate suitable unoccupied habitat available for rehabilitation trials. Utilising seed and other material of threatened species in rehabilitation of artificial landforms with the attendant artificial and potentially novel soil profiles is likely to present a high risk of wasting valuable propagation material. The BC Regulations require a licence authorising the taking of flora if the flora is to be translocated, and the where, when and how the translocation must occur. The approval is for the CEO to determine. There is inadequate information in the ERD to support an authorisation for the taking of flora or a translocation proposal. Caution is recommended on this matter and DBCA advises that translocation as a mitigation measure is a high risk strategy with a low likelihood of success, especially where basic information on the species biology and ecology is unknown. Due to the high risk of failure of the rehabilitation and offset (translocation) efforts, an alternative offset is likely to require further investigation to improve the certainty for this species.	The Proponent has considered the EPA and DBCA's submissions on the Significant Residual Impact on *Banksia sphaerocarpa var. dolichostyla* and acknowledges the uncertainty associated with the rehabilitation strategy. Based on DBCA and EPA submissions, the Proposed Layout has been amended as per Figure 1 and Table 16. The updated Proposed Layout would result in a significant decrease of direct and indirect impacts to *Banksia sphaerocarpa var. dolichostyla* from 92 to 2 individuals directly impacted and from 2,826 to 67 individuals indirectly impacted. This equates to 0.01% direct and 0.40% indirect impact to the local population (16,822) and total (combined) impacts of 0.41% (local population) and 0.27% (regional population, 25,445) as shown in Table 16 of this document. It should be noted that additional flora surveys conducted in 2019 identified an additional 809 *Banksia sphaerocarpa var. dolichostyla* individuals (Table 11, Table 12 and Table 13), increasing the total regional population to 25,445 individuals resulting in a total (combined) regional impact of 0.27%. In addition, given that *Banksia sphaerocarpa var. dolichostyla* is a Vulnerable species, Offsets are proposed to mitigate any impacts. An Offsets Strategy has been developed for Flora and Vegetation, and an updated Significant Residual Impact table is included in Table 17 and WA Environmental Offsets Table is included in Table 18. The Proponent intends to obtain direct offsets for direct impacts prior to clearing and indirect impacts if required as per the Flora Management Plan. Investigations into current direct offsets are being undertaken, however as per the Offset Strategy, if direct offsets are not considered feasible, indirect offsets would be implemented. It is expected that an Offsets Management Plan would be developed and approved prior to Project commencement.
2-15	Land acquisition In January 2018, DBCA was approached to provide general advice on properties supporting native vegetation that DBCA had an interest in acquiring in the eastern Wheatbelt. Without any detailed knowledge or reference to the impacts of the Proposal, the DBCA officer identified two land parcels that were considered priority land purchase targets for the Avon-Wheatbelt. Discussions on these parcels did not significant progress and formal agreements or contact with the landowners did not occur. The Avon-Wheatbelt is significantly impacted by extensive clearing and associated impacts. The purchase of remaining large patches of native vegetation, particularly when they provide connectivity with existing conservation reserves is a strategic priority for conservation reservation. The two parcels identified are consistent with this strategy. DBCA confirms it would be willing to accept these land parcels into DBCA management. Protection, reservation and management for conservation purposed in perpetuity would be highly beneficial to conservation of biodiversity in the region. Further information regarding the parcels have been provided. The Proponent has included in its offsets that these parcels would become conservation reserves. It is recognised these parcels would be very useful and important additions to the formal conservation reserve system. However, decisions to create reserves is a Government matter and the Proponent cannot be made responsible for the reserve creation. The Proponent can only be responsible for the cost of acquisition to DBCA and potentially additional funds to address encumbrances, together with potential funds to support management of the land for conservation. Further detailed discussion with DBCA on the proposed land acquisition offsets would be welcomed.	Covalent acknowledges the consultation that has occurred with DBCA regarding land acquisition for offsets (pers. Comm. Sandra Thomas 20 November 2018). It should also be noted that as per the Offsets Strategy (Version 1), the proposed offset sites are considered to support habitat for both Malleefowl and Chuditch, with Malleefowl having been recorded within 2 km and Chuditch within 30 km of the sites. This indicates that the species occur in the area and are likely to use the proposed offset sites. The proposed offset sites contain remnant vegetation in a landscape that has a low representation of Conservation Reserves and high levels of fragmentation. Covalent will undertake further consultation with DBCA regarding the land acquisition process as detailed in the Offsets Strategy (Version 1).

4. General comments

Table 3: The Proposal - General comments

Item	Submitter	Submission and/or issue	Response
3-1	Individual 1 – ANON-V2QW-U89M-3	The submitter queries the requirement for any clearing for Project development. The submitter has concerns regarding cumulative impacts due to the lack of a register of vegetation associations and groundwater abstraction licences. Therefore, is concerned that information has not been made available for the public review period.	281 ha of existing disturbance will be utilised and 386 ha of proposed disturbance is required for the Project. The ERD has detailed the disturbance associated with the Project in relation to regional vegetation system associations and Great Western Woodlands (GWW) in Table 5-13 and Table 5-14 respectively. State statistics on vegetation associations are available. Where possible, Covalent has used existing disturbance to the maximum extent practicable. The existing disturbance is from a historical gold mine with historical approvals. This new development requires additional areas for the open pit, waste rock landforms and associated infrastructure. The ERD addresses the key environmental factors as determined by the EPA in the Environmental Scoping Document (ESD), which were determined to be Flora and Vegetation and Terrestrial Fauna. Additional approvals will be submitted to cover other potential environmental impacts, including groundwater abstraction which will be available on the DWER Water Register. The cumulative impacts on Flora and Vegetation have been considered by determining the potential impacts to significant flora species within the Development Envelope in addition to the local and regional area. In addition, the Project is located within a regional vegetation associated with less than 2% clearing of total vegetation cover, which incorporates State statistics on clearing and reservation. In addition, Section 5.3.9 details the potential cumulative impacts to conservation significant flora species.
3-2	Individual 2 – ANON-V2QW-U89R-8	The submitter supports the Project based on the plans to protect and avoid or minimise impacts to flora and fauna and associated habitat. Rehabilitation plans are noted and that land management activities will occur (for example feral animal monitoring). The submitter believes a balance between environmental protection and economic improvement is required, which the Project will meet. The benefits of lithium batteries on the environment is acknowledged by the Submitter and refers to recent state government policy statements.	Covalent agrees with the Submitter, particularly regarding the economic benefits of the Project. The ERD details the management actions associated with any potential impact.
3-3	Individual 3 – ANON-V2QW-U89A-Q	The submitter states that the environmental impact is excessive and the Project should not proceed.	The Proponent has updated the Proposed Layout to minimise impact to conservation significant flora species and associated vegetation associations. This included increased use of existing disturbance and a 6 ha decrease in new clearing. It should be noted that the existing disturbance is associated with a historic mine which is currently a liability of the State Government. Covalent has assessed the residual significant impact and determined that a significant residual impact exists for Terrestrial Fauna due to Malleefowl and Chuditch habitat impacts. However, the offsets strategy will compensate for any residual significant impact.
3-4	Individual 5 – ANON-V2QW-U89X-E	The Submitter states that careful consideration is required for the Project and associated environmental impact. Concerns are regarding the cumulative clearing with a comparison to the Murray Darling Basin and states Project should not proceed.	The Proponent has updated the Proposed Layout to minimise impact to conservation significant flora species and associated vegetation associations. This included increased use of existing disturbance and a 6 ha decrease in new clearing. It should be noted that the existing disturbance is associated with a historic mine which is currently a liability of the State Government rather than a Greenfields area. 281 ha of existing disturbance will be utilised and 386 ha of proposed disturbance is required for the Project. The ERD has detailed the disturbance associated with the Project. Where possible, Covalent has used existing disturbance to the maximum extent practicable. The existing disturbance is from a historical gold mine with historical approvals. This new development requires additional areas for the open pit, waste rock landforms and associated infrastructure. The cumulative impacts on Flora and Vegetation have been considered by determining the potential impacts to conservation significant flora species within the Development Envelope in addition to the local and regional area (Section 5.3.9). State statistics for clearing and conservation reserve have been used with the Project located within a regional vegetation associated with less than 2% clearing of total vegetation cover. In comparison, the broadscale agricultural clearing of the Murray Darling Basin is not valid for this region (Great Western Woodlands). In addition, the clearing is being undertaken for a proportionally higher economic return per hectare cleared in comparison to agriculture. The cumulative impacts on the Malleefowl and Chuditch are discussed in Section 6.3.6 in relation to the regional scale and impacts to continuous habitat.
3-5	Central West Goldfields People/Kaparn Native Title Claimant Group – ANON-V2QW-U897-D	The Submitter states they are the Traditional Owners of the Project area with an active interest in the area. It is noted that the Department of Aboriginal Affairs is listed as a key stakeholder in the preliminary ERD submitted (Blueprint Environmental Strategies 2017), however Table 9 does not show any consultation with DPLH or any traditional owners regarding any potential impacts to potential archaeological sites. Expresses concern that the NTC Group was not engaged and suggests that no consultation occurred with DPLH or Traditional Owners either. This was due to the potential for archaeological sites and the requirement for surveys. The Submitter acknowledges a 2004 ethnographic survey with three Aboriginal groups has occurred with no ethnographical sites of significant identified. Concern is stated of the potential for archaeological sites or unknown ethnographical significant sites, in addition to the lack of consultation for the project. Therefore, surveys are required as this would not have been possible in 2004. There is no mention of management actions for Aboriginal objects and sites to prevent offences under s17 of the Aboriginal Heritage Act (AHA) as no detailed surveys have occurred. The Submitter states that an Aboriginal heritage survey should be conducted with the Central West Goldfields People/Kaparn Group to identify any sites under the AHA.	The ERD addresses the key environmental factors as determined by the EPA in the Environmental Scoping Document (ESD), which were determined to be Flora and Vegetation and Terrestrial Fauna. Additional approvals will be submitted to cover other potential environmental impacts, including potential impacts to Aboriginal sites which are protected under the *Aboriginal Heritage Act 1972*. Any disturbance to Aboriginal sites will be in accordance with Section 18 of the *Aboriginal Heritage Act 1972*. Archaeological and ethnographical surveys have occurred to those specified in the referral Environmental Review document (Blueprint Environmental Strategies 2017), however have not been included in the ERD as are not considered a key environmental factor or other factor as per the ESD. Covalent is committed to transparent consultation with key stakeholders, Additional stakeholder engagement will occur prior to commencement of construction and throughout Project development in relation to Heritage and Native Title matters.

Item	Submitter	Submission and/or issue	Response
3-5	Individual 6 – ANON-V2QW-U89C-S	The Submitter states that the ERD does not address holistic environmental impacts, including transport infrastructure, and does not address cumulative environmental impacts or greenhouse gas emissions and climate change. Therefore, the Project is not supported. Section 10 (Holistic impact assessment) is stated to address the impacts to the Project area, rather than the broader landscape, processes and other developments. Therefore, the Project does not meet EPAs guidance. The transport of lithium and associated environmental impacts are not included, therefore due to the lack of disclosure the Submitter states the Project should not proceed. The cumulative impacts of climate change and potential impacts are not accounted for within the ERD. If future impacts are unknown, the ERD should propose adaptive management strategies. The Submitter recommends the following: • Project is not assessed in isolation and holistically assessed. • Impacts of greenhouse gas emissions is assessed. • An adaptive management plan is developed to minimise impact from climate change and climate change mitigation measure developed.	The ERD addresses the key environmental factors as determined by the EPA in the Environmental Scoping Document (ESD), which were determined to be Flora and Vegetation and Terrestrial Fauna. The ERD addresses the scope of the proposal as defined in the referral and the ESD which comprises the mine pit and infrastructure. Additional approvals will be submitted to cover other potential environmental impacts, including transport of lithium. The transport of lithium is included as an activity in the ERD, however minimal impact to the key environmental factors (Flora and Vegetation and Terrestrial Fauna) is expected, given lithium concentrate will be transported on existing roads. Lithium concentrate is not classified as a Dangerous Goods as defined by the Australian Dangerous Goods Code. The holistic impact assessment (Section 10) is against the key environmental factors (Flora and Vegetation and Terrestrial Fauna). The local and regional impacts to key environmental factors are determined within the ERD and the Cumulative Impacts Section 5.3.9 takes into consideration climate change impacts on conservation significant flora species. Regarding greenhouse gas emissions, the ESD determined that Air Quality (Greenhouse Gas emissions) was not a key environmental factor and the EPA does not assess Scope 2 and Scope 3 Greenhouse Gas emissions of Proposals. The EPA identified Air Quality as another environmental factor relevant to the proposal that is addressed in Section 7 (Table 7-1). As discussed in Section 2.3.5, electricity will be sourced from the State grid to supply the Project. The majority of the Scope 1 Greenhouse Gas emissions are expected to be associated with the mobile equipment fleet. The Project is not expected to be significant in the context of climate change and the site has been designed to minimise Greenhouse Gas emissions as much as possible, including minimising haulage routes. In addition, the Proposal is associated with the development of lithium for batteries associated with renewable energy technology (including electric vehicles) which is expected to contribute to decreasing greenhouse gas emissions. In addition, the Proposal utilises an existing mine site and associated disturbance. As discussed in Section 5.3.9, the cumulative impacts of climate change, including rainfall and fire regime changes, is unknown in relation to Flora and Vegetation. However, based on the *Banksia sphaerocarpa var. dolichostyla* and *Microcorys* sp. Mt Holland (D. Angus DA 2397) field observations of active recruitment of different ages, even within burnt areas, indicates these species are resilient to changed fire regimes. Ongoing monitoring of conservation significant flora and fauna species should identify any population changes over time and if appropriate, management actions will be developed. The Proposal is unlikely to substantially interfere with any fauna or vegetation migrations (including gene flow) over time in response to climate change, due to the compact nature of the disturbance and presence of large areas of intact vegetation in the vicinity. The Proposal utilises existing disturbance where possible. The risk of bushfires will be minimised through a Bushfire management plan.
3-7	Individual 7 – ANON-V2QW-U89J-Z	The Submitter states that the ERD is inadequate as it does not address the transport and delivery of lithium concentrate. The cumulative impact of the Proposal with other potential Projects has not been assessed. The submission states that a large percentage of greenhouse gas emissions would be associated with the transport of lithium concentrate and that insufficient details have been included in the ERD for assessment.	The ERD addresses the key environmental factors as determined by the EPA in the Environmental Scoping Document (ESD), which were determined to be Flora and Vegetation and Terrestrial Fauna. Additional approvals will be submitted to cover other potential environmental impacts, including transport of lithium. The transport of lithium is included as an activity in the ERD, however minimal impact to the key environmental factors (Flora and Vegetation and Terrestrial Fauna) is expected, given lithium concentrate will be transported on existing roads. Lithium concentrate is not classified as a Dangerous Goods as defined by the Australian Dangerous Goods Code. The cumulative impacts on Flora and Vegetation have been considered by determining the potential impacts to conservation significant flora species within the Development Envelope in addition to the local and regional area (Section 5.3.9). In addition, the Project is located within a regional vegetation associated with less than 2% clearing of total vegetation cover. The cumulative impacts on the Malleefowl and Chuditch are discussed in Section 6.3.6 in relation to the regional scale and impacts to continuous habitat. Regarding greenhouse gas emissions, the ESD determined that Air Quality (Greenhouse Gas emissions) was not a key environmental factor and the EPA does not assess Scope 2 and Scope 3 Greenhouse Gas emissions of Proposals. The EPA identified Air Quality as an other environmental factor relevant to the proposal that is addressed in Section 7 (Table 7-1). As discussed in Section 2.3.5, electricity will be sourced from the State grid to supply the Project. The majority of the Scope 1 Greenhouse Gas emissions are expected to be associated with the mobile equipment fleet. The Project is not expected to be significant in the context of climate change and the site has been designed to minimise Greenhouse Gas emissions as much as possible, including minimising haulage routes. In addition, the Proposal is associated with the development of lithium for batteries associated with renewable energy technology (including electric vehicles) which is expected to contribute to decreasing greenhouse gas emissions.
3-8	Individual 4 – ANON-V2QW-U896-C	The Submitter refers to the West Australian newspaper report 13/2/19 regarding rare fauna. It is requested that requirements are put in place for the safe removal, maintenance and re-establishment of all of the Flora and Fauna located within the Project. The Submitter is comfortable with the Project development if a rehabilitation strategy for pre-mining land use is demonstrated.	Section 5.4 of the ERD and the Flora Management Plan (Appendix 4) details the mitigation actions associated with clearing and minimising flora impact. Section 6.4 of the ERD and the Fauna Management Plan (Appendix 4) details the mitigation actions associated with minimising fauna impact. Covalent is committed to implementing these controls. In addition, as detailed in Section 5.4.1, the Rehabilitation and Closure Plan (ERD Appendix 2) and Offsets Strategy (Version 1), a rehabilitation strategy will be developed for *Banksia sphaerocarpa var. dolichostyla*. The RCP also details the interim completion criteria and post-mining land use for rehabilitation. Further development of the rehabilitation strategy will occur as the Mine Closure Plan is refined as the project develops.

5. Terrestrial Fauna

Table 4: Terrestrial Fauna

Item	Submitter	Submission and/or issue	Response
4-1	Northern Valleys Wildlife Support – ANON-V2QW-U898-E	The Submitter states that the Project should only proceed if the Project will improve or maintain environmental outcomes. The broader landscape needs to be taken into consideration given the seasonal movements of fauna. The Project should show biodiversity corridors that prevent habitat fragmentation. Clearing of healthy vegetation does not improve or maintain environmental outcomes. The Submitter states that biodiversity corridors must be substantial and consistent. States that Project should be assessed on a regional landscape to consider fauna seasonal movements. Project should show consistent biodiversity corridors not just preserved patches to ensure the integrity of species' habitats and free movement is maintained.	Section 6.3.1 of the ERD assesses the impacts associated with habitat loss and fragmentation. Less than 2% of the Project's vegetation associated within the Southern Cross subregion has been historically cleared. The Project utilises existing disturbance where possible to prevent further habitat fragmentation. The Great Western Woodlands (8.5 million hectares of woodland) has generally continuous woodlands and shrublands and the impacts of development have been investigated. The previous Mt Holland Project includes drill lines and infrastructure therefore the fauna habitats are already fragmented. Proposed disturbance covers previous infrastructure and drill lines. The clearing associated with the Project would result in an addition 0.03% of clearing within the GWW. Extensive areas of intact vegetation will remain in the vicinity of the Proposal and the region, which will allow for local and regional fauna movements and flora propagation. Fauna surveys have identified Chuditch and Malleefowl within and outside the Development Envelope indicating fauna movement across the Project area.

6. Rehabilitation and Closure

Table 5: Rehabilitation and Closure

Item	Submitter	Submission and/or issue	Response
5-1	Department of Mines, Industry Regulation and Safety (DMIRS)	Completion Criteria Interim completion criteria have been provided and are generally acceptable for the Environmental Assessment Stage of the operation. Completion criteria will need to be further developed and refined as the project progresses. The proponent is encouraged to discuss completion criteria with DMIRS prior to submission of the MCP for assessment under the Mining Act, as some refinement may be required.	The Proponent acknowledges that the interim completion criteria (Section 2.3.10 and Appendix 2) are considered acceptable for this stage. Further refinement of the Completion Criteria will occur as the Project progresses and will be presented to DMIRS in updated Mine Closure Plans. Consultation with DMIRS is planned as part of this process for approval under the Mining Act.
5-2	Department of Mines, Industry Regulation and Safety (DMIRS)	Collection and Analysis of Closure Data Climate Presentation of Rare Intensity Frequency Duration design rainfall events will allow assessment of the adequacy of proposed closure designs. The proponent's attention is drawn to the requirements of 'Guide to the preparation of a design report for tailings storage facilities (TSFs)' (Department of Mines and Petroleum 2015) for relevant rainfall and flood events post closure.	As part of further approvals required for the Project, further Tailings Storage Facility design work will be completed which will align with the 'Guide to the preparation of a design report for tailings storage facilities (TSFs)' (Department of Mines and Petroleum 2015). Outcomes from technical studies will be presented to DMIRS as part of the Mining Proposal submission for approval under the Mining Act.
5-3	Department of Mines, Industry Regulation and Safety (DMIRS)	Collection and Analysis of Closure Data Waste Characterisation Information provided is brief, however, indicates low risk from the anticipated mining waste. Assessment of risk and adequacy of the testing program is unable to be assessed as no supporting information has been provided. Additional information regarding waste characterisation and anticipated volumes of each lithology will be required to be presented, and relevant supporting information provided, as part of the MP and MCP submitted for assessment under the Mining Act.	As part of further approvals required for the Project, further waste rock and tailings characterisation work will be completed which will align with current industry and regulatory standards. Outcomes from technical studies will be presented to DMIRS as part of the Mining Proposal submission for approval under the Mining Act.
5-4	Department of Mines, Industry Regulation and Safety (DMIRS)	Closure Implementation Information related to Waste Landform design provided within the ERD and the appended Rehabilitation and Closure Plan is contradictory. Further evidence will be required to be presented justifying proposed post closure landform designs in Mining Act approvals. It is strongly recommended that consultation occurs with DMIRS regarding landform design prior to the submission of the MP and MCP for assessment under the Mining Act.	As part of further approvals required for the Project, further waste rock landform design work will be completed which will align with current industry and regulatory standards. Outcomes from technical studies will be presented to DMIRS as part of the Mining Proposal submission. Consultation with DMIRS is planned as part of this process.

7. Offsets

Table 6: Offsets

Item	Submitter	Submission and/or issue	Response
6-1	Individual 7 – ANON-V2QW-U89J-Z	The Submitter states that the offset information is deficient with the Proposal impacting on species that are not conservation significant species. Offsets should be assessed for environmental impacts, not just conservation significant species.	The offsets have been developed to take into account the Western Australian Government's Environmental Offsets Guideline (Government of Western Australia 2014) and EPBC Act Offsets Assessment Guide for use in determining offsets under the EPBC Act, (October 2012). As per Table 8-1, the residual significant impact was considered for rare flora, threatened ecological communities, conservation areas, high biological diversity in addition to habitat for fauna and remnant vegetation. Remnant vegetation impact included clearing 386 ha of remnant vegetation, which includes all vegetation species. The residual impacts for remnant vegetation was not significant, therefore no offsets are proposed.
6-2	Department of Environment and Energy (DoEE)	Malleefowl and Chuditch The Department considers the purchase of an offset site(s) of at least 1920 ha would be acceptable to offset the residual significant impact on the Chuditch and Malleefowl provided the offset site(s) contains habitat suitable for both the Chuditch and Malleefowl. The offset site(s) would need to be of the same quality or better than the impact site.	Based on DoEE confirmation that the direct offset strategy is acceptable for Terrestrial Fauna (Section 8.2.2), engagement will commence with DBCA to progress the direct offset strategy. Feedback from DBCA on land parcels is detailed in Table 2.

Item	Submitter	Submission and/or issue	Response
6-3		Ironcaps Banksia The Department notes the proposal would result in the direct impacts to 92 Ironcaps Banksia and the potential to indirectly impact on an additional 2,826 individuals. The Department also notes that the proponent is proposing a rehabilitation strategy to achieve a no net loss of individuals. The Department considers a rehabilitation strategy is appropriate to achieve a no net loss. However, if the Department determines this approach is an offset rather than mitigation, during the assessment phase, then the rehabilitation strategy would need to achieve a conservation gain rather than the replacement of those individuals of Ironcaps Banksia lost through either direct or indirect impacts. The rehabilitation strategy is likely to form part of the EPBC Act conditions, in the event the proposal was approved. Although, the proponent has outlined an overview of what will be contained in the rehabilitation strategy the Department would need to review and approve the final rehabilitation strategy, with all details included, prior to any clearing taking place. The Department also notes the Environment Review Document states "there is no scientific evidence that the rehabilitation strategy would achieve the desired outcome of no net loss". Given this, there will need to be an alternative approach to offset the loss of the Ironcaps Banksia in the event the rehabilitation is not successful. This alternative approach will need to be discussed at the appropriate time. This alternative would also likely form part of the Commonwealth conditions, in the event the proposal was approved.	Covalent acknowledges DoEE feedback that if the rehabilitation strategy approach is a requirement for offsets, then net gain would be required. Based on DBCA and EPA advice on the requirement for offsets for Flora and Vegetation, Covalent will be progressing the offset strategy to include offsets for Banksia sphaerocarpa var. dolichostyla and Microcorys sp. Mt Holland (D. Angus DA 2397). The offset strategy will be developed with DoEE, EPA and DBCA and other relevant stakeholders with an Offsets Management Plan developed and approved prior to Project commencement. A direct offset (land acquisition and management) is being investigated, with indirect offsets included due to the lack of freehold land available for acquisition. If the rehabilitation strategy is determined to be a requirement as part of the offset strategy, further details could be provided prior to clearing any individuals associated with Significant Residual Impacts.

8. The Wilderness Society of Western Australia (TWSWA)

Table 7: The Wilderness Society of Western Australia (TWSWA)

Item	Submission	Response
7-1	Land Clearing The Submitter is concerned as the impact of clearing are underestimated. The Great Western Woodlands assist in mitigating greenhouse gas concentration, which contribute to climate change. A 20% decrease in rainfall in the southwest, with studies showing that cleared areas impact the rainfall probability negatively. Secondly, management measures associated with fire regimes, dust and weed propagation are included in the ERD. An additional impact is land clearing and secondary salinity which is not addressed, although no watercourses are present, the high salinity of land and irrigation water may disturb surrounding flora and vegetation. Whilst 1,000 ha of direct offsets would compensate for impacts, other impacts (climate change and secondary salinity) should be addressed.	The ESD determined that Air Quality (Greenhouse Gas emissions) was not a key environmental factor and the EPA does not assess Scope 2 and Scope 3 Greenhouse Gas emissions of Proposals. The EPA identified Air Quality as an other environmental factor relevant to the proposal that is addressed in Section 7 (Table 7-1). In addition, the Project is located within a regional vegetation associated with less than 2% clearing of total vegetation cover. The clearing associated with the Project would result in an addition 0.03% of clearing within the GWW, which is not expected to be substantial enough to significantly change rainfall patterns. The Proposal is not comparable to the effect of broadscale clearing for agriculture or forestry in the South West region of Western Australian. Secondary salinity is discussed in Section 5.3.4 as a result of use of hypersaline water for dust suppression. Mitigation actions proposed include use of water that is <5,000 mg/L TDS on roads and other infrastructure areas and use of hypersaline water only within mine pit areas using dribble bars to prevent overspray. The potential impacts associated with land clearing and secondary salinity are considered to be low due to the lack of watercourses present. In addition, progressive rehabilitation and post-closure rehabilitation will occur with the intent of revegetation (Section 2.3.10 and Appendix 2). Ongoing vegetation monitoring (Section 5.5.2) is expected to identify any indirect impact and response actions developed. It should be noted that approximately 1,800 ha of direct offsets are proposed to compensate for impacts to fauna habitat. The Proposal is unlikely to substantially interfere with any fauna or vegetation migrations (including gene flow) over time in response to climate change, due to the compact nature of the disturbance and presence of large areas of intact vegetation in the vicinity. The Proposal utilises existing disturbance where possible. The risk of bushfires will be minimised through a Bushfire management plan.
7-2	Terrestrial fauna The Submitter states that the ERD presents the environmental benefits of the Project which include lithium's use in environmentally friendly energy resources, Mt Holland mine rehabilitation and further scientific knowledge. However, the Submitter believes the impacts to fauna are not mitigated by the development of renewable energy. Habitat fragmentation and clearing of fauna habitat is not justified through scientific knowledge to be made. The ERD is contradictory as it acknowledges significant impact to terrestrial fauna, particularly the Malleefowl and Chuditch, however after offsets are applied it is assessed to end in a beneficial impact. Mitigation actions for feral animal management will occur, however proposed infrastructure increases risk of feral fauna which is a contradictory statement that adds to the complexity of assessing impact. Concern is raised over the cumulative impacts of mining in the GWW with many small developments leading to larger degradation. The current and planned developments impact to the region need to be assessed. The Submitter recommends is it obligatory for every proposal to include mapping of other developments within the region and how the Proposal adds to existing impact assessments. The Australian Government initiated an action plan in 2015, Australia's Threatened Species Strategy, aimed at protecting and recovering threatened animals and plants, which includes the Malleefowl. The 20 Mammals by 2020 strategy includes the Chuditch/Western Quoll. This action plan is not mentioned to in the ERD. The Proposal has been thorough in its assessments of the risks and impacts on the two vulnerable species in the Development Envelope. Both species had national distribution which have decreased and are mainly threatened by habitat reduction, fragmentation and degradation as well as feral fauna elements, and both seemingly prefer unburnt terrain.	Whilst Covalent considers that there are significant environmental benefits to this project, these do not offset the impact to fauna, therefore in Section 8 an offset strategy for significant impacts to fauna habitat is proposed. The intent of offsets is to compensate for environmental impact, which is why a net benefit is expected. The potential for increased feral animal introduction is acknowledged (Section 6.3.3) and therefore feral animal management actions are proposed to minimise this risk (Section 6.4.7). The cumulative impacts have been considered in Section 6.3.6 with the Project being located within a regional vegetation associated with less than 2% clearing of total vegetation cover. State statistics on clearing and conservation reserve have been used in this assessment. The cumulative impacts on the Malleefowl and Chuditch are discussed in relation to the regional scale and impacts to continuous habitat. It is expected that any other mining developments would be assessed by the EPA, however there is not a high density of proposed developments in the area which the Proponent is aware of. The National Recovery Plan for Malleefowl is referenced in Section 9.3.1 as guidance in the assessment of potential impacts and mitigation measures. The Chuditch Recovery Plan is referenced in Section 9.4.1. However, the Threatened Species Strategy is not referenced and has been incorporated into the Fauna Management Plan to ensure the management actions align with the Strategy.

Item	Submission	Response
7-3	Other significant species The Proposal fauna assessment lists another five species that are likely to occur in the Development Envelope. This potential occurrence raises further concern that this site may be rather significant from a biodiversity aspect and sensitive to the Proposal. Recommendations The Submitter queries if the terrestrial fauna impacts and the associated offsets are a sustainable strategy for local, regional and national conservation and restoration of significant fauna species. The Submitter believes any Proposal that includes impacts on flora and fauna species whose welfare is currently a priority in federal or state action programmes should incorporate these action plans into their risk and mitigation assessment and planning. The proponent should endeavour to address how the impacts limit the potential success of the governmental action plans and how this can be mitigated. It is a concern that the 40 year life of mine will occur in an area where the Malleefowl forages, breeds and nests. Any removal of active mounds is suggested to be done by specialists, However, the long term impacts of any active mounds on the adults' continuous behaviour and the nesting process are unknown. Considering the vulnerability and distribution of the Chuditch, the Submitter are concerned about Proposal impact on the species. The GWW is a region that should be the focus of a discussion of protection measures based on the confines of the GWW, not offset areas on the fringes. The offset strategy does not include an assessment of the other five significant species listed as likely to occur and should be included. However, the idea that offsets are an alternative route when protection measures are not in place is not one that the Submitter are prepared to readily support when it concerns the GWW region.	The other potentially occurring fauna species are discussed in Section 6.2.4 and include: • Peregrine Falcon (Falco peregrinus). • Carnaby's Black-Cockatoo (Calyptorhynchus latirostris). • Fork-tailed Swift (Apus pacificus). • Rainbow Bee-eater (Merops ornatus). • Red-tailed Phascogale (Phascogale calura). The Rainbow Bee-eater and Peregrine Falcon were recorded within the Development Envelope. However, these species were assessed as not at significant risk from the Proposal. Covalent acknowledges the ecological significance of the GWW and Development Envelope, hence the mitigation measures (Section 6.4) and proposed offsets (Section 8) are included as part of the mitigation hierarchy. The offsets have been developed to take into account the Western Australian Government's Environmental Offsets Guideline (Government of Western Australia 2014) and EPBC Act Offsets Assessment Guide for use in determining offsets under the EPBC Act, (October 2012). As per Table 8-1, the residual significant impact was considered for rare flora, threatened ecological communities, conservation areas, high biological diversity in addition to habitat for fauna and remnant vegetation. Further consultation with relevant stakeholders will occur to ensure an appropriate offset is developed. The National Recovery Plan for Malleefowl (Section 9.3.1), Chuditch Recovery Plan (Section 9.4.1) and Conservation Advice for Banksia sphaerocarpa var. dolichostyla (Section 9.2.1) and other guidance is referenced and used in the assessment of potential impacts and mitigation measures. The Flora and Fauna Management Plans included in Appendix 4 incorporate management actions that align with these guidance materials and ongoing consultation with relevant stakeholders (DBCA and relevant conservation groups) is expected throughout the Project. Covalent considers the likelihood for the requirement to remove an active Malleefowl mound as low, given the staggered clearing schedule in Table 2-2 and other management actions (Section 6.4 and Appendix 4). As per the ERD and Fauna Management Plan, consultation with DBCA and NMRT will occur if this activity is required and specialists will be involved.
7-4	Terrestrial flora. The Submitter summarises the potential impact listed in the ERD: Loss and fragmentation of native vegetation and habitat, including impacts to *Banksia sphaerocarpa var. dolichostyla* and nine Priority Flora species. Vehicle or earth movements have the potential to spread existing weed species and to introduce new weed species, particularly if the equipment is not adequately inspected and cleaned prior to arrival or departure from the site. Activities that disturb native vegetation (such as clearing) can create favourable conditions for weeds to establish. Mining activities can cause accidental fires, that can destroy the habitat of the local fauna. Dust deposition on vegetation from mining and related activities. Deposition of mining, quarry and road dust on vegetation canopies has been observed to inhibit plant growth and reduce photosynthesis when dust burdens are dense and or daily dust deposition rates are high. Moreover, the vegetation and in particular the population of *Banksia sphaerocarpa var. dolichostyla* surrounding the Development Envelope would be at risk from vehicle trips to and from the accommodation village and the airstrip, plus intermittent dust from aircraft landings at the airstrip. Changes to vegetation structure and composition through altered surface drainage flow patterns. Operations can result in modified hydrology (e.g. creek diversions or impoundment of flows) resulting in deterioration of plant health through either inundation or reduced water supply. Impact to flora and vegetation from spillage of tailings, hypersaline water and hydrocarbons. Spillages of hydrocarbons and hypersaline water (used for reducing dust) from pipelines can potentially result in large scale vegetation death. Even though "the Proposal has been designed to minimise direct impacts on remaining *Banksia sphaerocarpa var. dolichostyla* local population to the maximum extent practicable", direct loss of this this Declared Rare Flora will occur, as well as of other conservation significant species. For these reasons, the Submitter think the Proposal is not compliant with the EPA (2016) objective "To protect flora and vegetation so that biological diversity and ecological integrity are maintained". Recommendations. The Submitter does not recommend the commencement of the Proposal, in order to protect endangered flora and prevent habitat loss for local wildlife.	The ERD includes the potential impacts to Flora and Vegetation and also includes the mitigation actions detailed in Section 5.4, which includes: • Conservation significant flora species specific management measures including buffers and exclusion zones. • Worker awareness training. • Dust suppression. • Spill prevention. • Fire management. • Weed control. The potential impacts on Flora and Vegetation should take into consideration the mitigation actions. In addition, following feedback Covalent proposes to develop offsets for Flora and Vegetation to further mitigate any potential impacts. Monitoring detailed in Section 5.5 will be undertaken to identify any unacceptable impact to Flora and Vegetation.

Item	Submission	Response
7-5	Subterranean Fauna. Covalent Lithium proposes to mine lithium at the Earl Grey deposit through an open pit. The Proposal area is located approximately 105 km south-southwest of Southern Cross, in the Shire of Yilgarn, which has only recently gained recognition for the diversity of its subterranean fauna (Guzik et. al. 2011; Halse 2018). The total project area is 610 ha of which more than half (365 ha) is undisturbed land. Additionally, 166 ha of land will be excavated for mine pit to depths of 250-300 mbgl with a projected groundwater abstraction of 0.8–1.0 GL/year and 130 ML/year dewatering of pit. In consideration of the subterranean fauna, a desktop review assessment has been conducted as part of the environmental assessment. The document predicts the unlikelihood of an occurrence of stygofauna and troglofauna in the proposed pit and borefield on the basis of "…a few surveys and generally poor prospectivity of the hydrogeological landscape in the vicinity of the Proposal…" (Earl Grey Lithium Project Subterranean Fauna Desktop Assessment, 2018). Similarly, the connectivity between calcrete aquifers and fractured rock aquifers at the proposed pit and borefield is stated to be low based on the results of numerical modelling. Even though the report takes into account the occurrence of micro caverns within the three possible areas of impact (proposed pit, borefield and regional calcrete), it dismisses the impact on subterranean communities beyond the scope of the project area that might be connected to groundwater aquifers taken into consideration. Likewise, for a conclusion whose key basis has been derived from secondary sources dated in the recent past and virtual simulation, the anticipated condition is susceptible to change in scenario. Still, no consideration has been given to the development of a mitigation or risk management plan in order to establish accountability towards possible impacts. Also, most of the subterranean fauna found in Australia are considered to be unique to the continent, which makes them especially vulnerable to negative external impacts (Halse, 2018). As such, Halse suggests a need to further investigate understanding ecological services and in realising measures to mitigate impacts of projects on the fauna in order to better protect them. Yet, the desktop report does not contain an in-depth analysis of the possible effects of secondary impacts on the fauna community due to lack of detailed information about mine operations. Among these secondary impacts, groundwater contamination has been regarded as a pressing issue in the mining industry by researchers which only increases after mines are closed while taking years to normalise (Wright et al., 2018; Lewis and Lewis 2015). This poses a serious risk to the existence of all groundwater communities within its network of aquifers in addition to plausible impacts of other secondary impacts mentioned in the Annex section of the desktop report (Lewis and Lewis 2015; Halse 2018). Thus, with an evident lack of a sense of accountability in the way the analysis has be conducted, the proposed project must not be approved. Recommendations. In the absence of an in-depth analysis of impacts of the project on subterranean fauna inhabiting in saturated micro caverns and around groundwater acquires connected to those within project area and a mitigation plan for said impacts, the Proposal should be rejected.	The Environmental Scoping Document (ESD) determined that Subterranean Fauna was not a key environmental factor. The EPA identified Subterranean Fauna as an other environmental factor relevant to the proposal that is addressed in Section 7 (Table 7-1). Bennelongia (2018) conducted a desktop assessment in accordance with EPA Guidelines to inform the likelihood of the presence of Subterranean Fauna in the project area and the requirement for further investigations. The desktop assessment found it unlikely that Stygofauna would occur in the mine area due to depth to groundwater (58-70 mbgl) and the salinity of the groundwater (17,000-120,000 mg/L). Similarly, Stygofauna are unlikely to occur in the borefield area due groundwater salinity (100,0000-120,000 mg/L). Stygofauna are most likely to occur in Calcretes 5km to the east of the project area, however the geologic and hydrological condition make it unlikely there is connectivity between the Calcrete and mine and borefield areas. The potential for impacts on stygofauna communities in calcretes is also unlikely with predicted drawdowns from the mine and Borefield extending less than 1km. Thus, further investigation for Stygofauna were not considered necessary. The desktop assessment found it unlikely Troglofauna occurred in the mine area due to the geology being unfavourable. While the geology of the borefield area may be suitable for troglofauna the high-water levels limit space available for Troglofauna. If Troglofauna occur, the operation of the borefield is unlikely to affect their habitat and therefore their persistence. Thus, further investigation for Troglofauna were not considered necessary. Therefore, the Proposal would not affect subterranean fauna values as unsuitable geologies, high salinities, and in the case of the proposed pit, large depth to the water table do not provide habitat for stygofauna and local geology is unsuitable for troglofauna (Bennelongia 2018). Therefore, the level of assessment is considered acceptable.
7-6	In conclusion, TWSWA wishes to put forward the following viewpoints: 1. The reasoning behind the environmental benefits that may arise within the scope of this project is questionable, especially in the light of assessments and concessions made in the Proposal to the opposite effect. 2. The concerns for negative impacts on the fauna in the local area as presented in the study highlights the need for any Proposal of this kind, especially when in close proximity to state/national parks or other public protected area, to put this negative local impact into a cumulative analysis by: a. Making it a necessary and obligatory item in each application to provide a mapping of all other commercial explorative/exploitative undertakings in the region, and b. Making it a necessary and obligatory item in each application to provide a connection of the application to existing governmental projects aimed at recovery and/or restoration of species impacted by the application. 3. The risks put forwards to the Malleefowl and Chuditch species are significant and the timeline of the project which extends to up to 40 years will likely have very negative effects, maybe even decrease or eliminate the occurrence of these species in the Development Envelope. 4. The fact that other environmentally significant, even endangered, species are likely to occur in the Development Envelope makes it an ecologically sensitive area that should prompt a larger discussion of increased protection within the GWW, not increased mining exploration that stretches over decades. The offset mitigation process should include these species too. 5. In the absence of an in-depth analysis of impacts of the project on subterranean fauna inhabiting in saturated micro caverns and around groundwater aquifers connected to those within project area and a mitigation plan for said impacts, the Proposal should be rejected. 6. The suggested offset mitigation process does not include an assessment of the other five significant species listed as likely to occur in the Development Envelope. It is our view that it should have been included. However, the idea that offsets are an alternative route when protection measures are not in place is not one that we are prepared to readily support when it concerns the GWW region; and the offset proposed to compensate for the impact of the development might ensure the quality of 1,000 ha of GWW, by securing an essential area of woodlands. However, it is imperative that other impacts aforementioned might be addressed since the location is a critical environmental asset due to its ecosystem.	Covalent acknowledges the conclusions and responds accordingly: 1. Covalent considers environmental benefit would occur because of the Proposal (through renewable energy resources and associated greenhouse gas emissions, land management activities and offsets), however environmental impact is expected. Through the application of the mitigation hierarch (avoid, minimise, rehabilitation and offset) the Project impacts are considered acceptable. The Proposal location is considered acceptable given existing mining disturbance and is located away from high rainfall, significant water resources, sensitive receptors and agriculture. Existing disturbance has been utilised with the updated Proposed Layout maximising previous disturbance and significant efforts have been made to avoid conservation significant flora species and minimise clearing. 2. Section 10 summarises the cumulative impacts of the Project, with the Project utilising an existing mine site that is previously disturbed. The ERD addresses the risk to the key environmental factors as required. An assessment of the regional significance on clearing has occurred with greater than 98% of regional vegetation remaining. State publicly available statistics (which are updated by government) have been utilised for the determination of clearing and conservation reserves, as is industry practise in Western Australia, which indicates no cumulative impacts. 3. The impacts to Malleefowl and Chuditch have been considered and mitigation and offset measures proposed accordingly. Ongoing monitoring will be undertaken and as per the Fauna Management Plan (Appendix 4), if Environmental Objectives are not met, further measures will be undertaken. 4. Other significant species have been considered in the ERD and are not considered to be at significant risk from the Proposal. The offsets assessment has been undertaken as per Western Australian Government's Environmental Offsets Guideline (Government of Western Australia 2014) and EPBC Act Offsets Assessment Guide for use in determining offsets under the EPBC Act, (October 2012). 5. It was determined the Proposal would not affect subterranean fauna values as unsuitable geologies, high salinities, and in the case of the proposed pit, large depth to the water table do not provide habitat for stygofauna and local geology is unsuitable for troglofaunal (Bennelongia 2018). Therefore, the level of assessment is considered acceptable. 6. The offsets assessment has been undertaken as per Western Australian Government's Environmental Offsets Guideline (Government of Western Australia 2014) and EPBC Act Offsets Assessment Guide for use in determining offsets under the EPBC Act, (October 2012). A Significant Residual Impact was determined for fauna habitat to be cleared (386 ha) therefore an offset was proposed. Significant Residual Impact for Flora and Vegetation has been determined and an Offset Strategy (Version 1) developed.

9. National Malleefowl Recovery Group (NMRG)

Table 8: National Malleefowl Recovery Group (NMRG)

Item	Submission and/or issue	Response
8-1	General Proposed vegetation clearing of nearly 400 hectares of intact bushland is a significant area of land disturbance. The number of mounds found in surveys of the mine site development envelope (37 total mounds – 2 active, 4 recently active) is indicative of good Malleefowl habitat and the National Malleefowl Recovery Team are keen to see a net gain for Malleefowl as a result of this ERD proposal. The NMRT would like to be assured that environmental monitoring conditions are appropriate and any offsets are suitable as quality habitat for Malleefowl. In summary; NMRT would like the following actions/changes applied to its ERD in relation to Malleefowl conservation: • The clearing of land proposed for the (392 hectare) development envelope to be considered once LiDAR surveying has more fully determined the Malleefowl population. • Annual monitoring of all Malleefowl mounds in the development envelope, neighbouring surveyed areas and offset landscapes in accordance (and partnership) with NRMT and its monitoring processes. • Proposed traffic speed controls at sensitive Malleefowl locations be implemented on access roads within and around the development envelope. • Clearing of land in April when Malleefowl mounds are seasonally inactive. • A net gain for Malleefowl as a result of this ERD proposal demonstrated through the direct and indirect offset prioritisation process and any offset outcome.	Covalent acknowledges the potential impact to the Malleefowl and habitat. The ERD and Fauna Management Plan (Appendix 4) currently includes the following: • Annual LiDAR survey to identify mounds (Section 6.5 and Appendix 4 Table 5). • Preferential clearing from April to June (6.4.2 and Appendix 4 Table 2-3). • Reduced speed limits and signage (6.4.4 and Appendix 4 Table 2-3). The Fauna Management Plan has been updated to include the following: • Undertake LiDAR surveys prior to clearing to confirm the Malleefowl population. • Annual Malleefowl mound monitoring within the Development Envelope and surrounding area and offset area in accordance and partnership with NRMT. • Decreased traffic speed controls around any identified Malleefowl sensitive areas. • Clearing of land to preferentially occur in March to May. • A net gain through the offsets strategy. • The Fauna Management Plan shall be re-submitted to relevant stakeholders for review.
8-2	Malleefowl mound surveying (Section 5.5) The survey technique used to locate Malleefowl mounds in the mine site development envelope is likely to under-represent the number present. The NMRT would recommend LiDAR surveying (accompanied with walking transects) as a more proficient technique to determine the number of Malleefowl mounds in the proposed Development Envelope prior to any further mine site proposal development. On-ground pre-clearance surveys should also occur, as proposed, and annual monitoring of all mounds (see below). Once the number of Malleefowl mounds likely to be affected by the mine site clearing is determined a strategy for avoiding Malleefowl breeding habitat should be developed. The NMRT would also expect that any proposed offset properties be fully searched for the presence of Malleefowl (including both active and long unused mounds) to establish how suitable such properties would be to enable the number of Malleefowl to increase and offset the loss from the mine footprint. This information should be assessed by appropriate expertise.	The ERD and Fauna Management Plan currently includes annual LiDAR monitoring (Section 6.5 and Table 5 respectively), however has been updated to specify that walking transects will be included, as part of pre-clearance surveys. Annual monitoring will still occur and the Fauna Management Plan has been revised (in consultation with relevant stakeholders) to take into account monitoring results. As part of the direct offset strategy, further environmental studies will occur to confirm the appropriateness of the proposed land parcels as mentioned in Section 8.2.2, which will include Malleefowl surveys.
8-3	Land clearing (avoid Malleefowl Breeding) (Section 6.4.2) The Great Western Woodlands Jilbadji Nature Reserve lies directly north of the proposed mine-site and the expired Mt Holland Mine is an existing 'scar' on the landscape that should have been rehabilitated. Covalent Lithium Earl Grey Lithium mine propose an increase to this clearing and offer a full rehabilitation and revegetation of cleared lands post-operation. NMRT would like to be reassured that future expansion of mine site clearing in this environmentally sensitive area is restricted and there are no cumulative impacts on the Great Western Woodlands (from additional mining operations in the area). It has been stated that only two Malleefowl mounds were found to be active in the development envelope and four were found to be recently active. At no time should an active Malleefowl mound be cleared or need to be cleared during a 40-year mine site operation for the life of the mine operation. Whole-scale clearing of all vegetation, such as that proposed in this ERD can be modified to avoid environmental assets without affecting the mine operation – such as the 100-metre buffer and reduction of clearing within the development envelope. Given the staggered nature of the clearing proposed, a modified clearing strategy might be feasible over the 40-year life of the mine site operation, but has not been suggested. The NMRT would like Covalent Lithium to be mindful of the annual breeding cycle of Malleefowl. In stark contrast to that described in the ERD, Malleefowl mound building, breeding, and egg incubation period occurs between May and March each year. Mound building preparation starts in May, eggs are laid around August, incubating by early summer (September to January) and chicks hatch 60 days later – i.e. November to March. Therefore, to avoid removing seasonally active mounds, land clearing would need to occur between March and May. Malleefowl often return to a previous year's mound to breed and so an active mound will have a higher percentage of being active the following year compared to neighbouring inactive mounds. Malleefowl preferences can change however, and inactive mounds can become active after many years lying dormant. Clearing later than August could result in killing live eggs. The NMRT assumes that in the event that an active mound is located within the permitted clearing area (after pre-clearance surveys are completed) any intended clearing in this area will take place during April when all mounds are seasonally inactive. Mound surveys should take place between September and January to determine seasonally active mounds using the prescribed NMRT monitoring techniques (described below). If land clearing occurs during April this will also avoid the need for other nesting bird species to be adversely affected. For the Malleefowl that reside within the development envelope and surrounding bushland, it is well known that fatalities from vehicle traffic on mine site access roads is high risk, for a bird renowned for its 'terrible' road-sense. Mine site access-road speed restrictions will be important as a precautionary measure near where Malleefowl are known to inhabit.	The cumulative impacts have been considered throughout the ERD and summarised in Section 10, by determining the potential impacts within the Development Envelope in addition to the local and regional area. In addition, the Project is located within a regional vegetation associated with less than 2% clearing of total vegetation cover. State statistics associated with clearing and conservation reserve have been used to determine the potential cumulative impacts, as is industry practice in Western Australian. The Proposal is utilising a previously disturbed minesite which is a liability of the State Government. The Project would be developed within limits set within approvals. Covalent considers the likelihood for the requirement to remove an active Malleefowl mound as low, given the staggered clearing schedule in Table 2-2 and other management actions (Section 6.4 and Appendix 4). As per the ERD and Fauna Management Plan, consultation with DBCA and NMRT will occur if this activity is required and specialists will be involved. Section 6.4.2 and the Fauna Management Plan included a preferential clearing period of April to June, however will be updated to include the additional information provided regarding the Malleefowl annual breeding cycle. Therefore, land clearing will preferentially occur between March to May and preclearance monitoring will confirm mound activity. Mound surveys will take place between September and January using NMRT monitoring techniques. Speed restrictions shall be placed in areas where Malleefowl are known to habitat.

Item	Submission and/or issue	Response
8-4	Annual Malleefowl monitoring (Section 6.5) As part of this ERD Malleefowl monitoring is proposed to ensure that the mining operation is not adversely impacting the neighbouring Malleefowl population. The NMRT would propose that the Covalent Lithium mine site environmental conditions and all offset sites include annual monitoring of all mounds in accordance with the National Malleefowl monitoring, a process overseen by the WA Malleefowl Recovery Group and NMRT. A Cybertracker software program is used for all annual Malleefowl monitoring across Australia. This program is freely available and updated annually. Malleefowl monitoring data is submitted to the National Malleefowl Monitoring Database (NMMD) and exclusively accessible to the groups and organisations that provide data. This monitoring data contributes directly to long-term Malleefowl population trend analyses, as well as The National Malleefowl Recovery Plan. The NMRG is available for contracting to do annual monitoring.	The ERD (Section 6.5) and Fauna Management Plan details monitoring requirements including annual monitoring. The Fauna Management Plan has been updated to include: • Annual monitoring of the Development Envelope and surrounding areas. • Monitoring will be undertaken as per NMRT methodology, tools and data input into the National Malleefowl Monitoring Database. Annual monitoring of the offset site will be negotiated with the DBCA as part of the land acquisition process.
8-5	Offset Proposal (Section 8.2) Covalent Lithium have proposed 'an offset site located in the Shire of Yilgarn and the Shire of Westonia, with both located adjacent to two nature reserves, identified by DBCA after a review of conservation targets within the Eastern Wheatbelt to assist in conservation of threatened species' (p.158). The NMRT has sought to identify the conservation targets used in this selection of site, as they are not stated in the ERD. 'The proposed offset sites are suggested to support habitat for both Malleefowl and Chuditch, with Malleefowl having been recorded within 2 km and Chuditch within 30 km of the sites. This indicates that the species occur in the area and are likely to use the proposed offset sites. The proposed offset sites contain remnant vegetation in a landscape that has a low representation of Conservation Reserves and high levels of fragmentation' (p.158). NMRT would promote that choice of offset land should not be solely reliant on the WA Department of Biodiversity Conservation and Attractions (DBCA) Conservation Targets or singular fauna observations, as appears to have been the case in the choice of offset in this ERD. A direct offset determined as suitable Malleefowl habitat to the land being cleared would ideally not include cleared landscapes, as proposed. Offsets must deliver an 'overall conservation outcome that improves or maintains the viability of the protected matter' according to the EPBC Act Environmental Offsets Policy (2012) with the goal to "…achieve no net loss and preferably a net gain of biodiversity on the ground…" according to Megan Evans, Zoe Stone, Victoria Hemming & Martine Maron (2018) Using expert elicitation to improve biodiversity offsetting, Presentation at Ecological Society of Australia Annual Conference, Brisbane, Australia. The NMRT would like the proponent to demonstrate an offset that is equal or greater in value to land being cleared, which would ideally need to be in uncleared landscapes for suitable Malleefowl and Chuditch habitats, managed beyond the life of the mine proposal. Revegetation of cleared landscapes has not been demonstrated to be of higher Malleefowl habitat value, with only one example in WA to date where Malleefowl have built a mound on such land. Quality habitat by vegetation improvements (as specified through the approval process determined by the Commonwealth) has been presumed. The ERD proposed a number of offset land connectivity activities. These appear to be reliant on access to and management of proposed offset land. Direct management of private land is most feasible if this land can be purchased and managed by a third party. Management on Conservation Estate land precludes purchase, and can be managed through DBCA. The NMRT question the value of a proposed offset land determined as suitable Malleefowl habitat that cannot be directly managed. The NMRT would like to see a much greater effort, transparency and equity of process in the choice and management of both the direct and indirect offsets by Covalent Lithium Earl Grey Lithium mine proposal. The ERD appears to provide a plethora of indirect offset options at this time without clarity on their actual value as an offset for displaced and removed native species from the mine-site envelope. NMRT propose an example of an indirect offset that would contribute to the future conservation of Malleefowl populations. Predator control in Malleefowl habitat and its impact on Malleefowl populations is currently being examined through a national-scale predator control experiment, in partnership with National Environment Science Program researchers. The NMRT invite Covalent Lithium to become a partner in this project and contribute to its findings.	As per ERD Section 8.2, the offset site would not include cleared landscapes and will be of equal or better value. The proposed land parcels consist of remnant vegetation and as part of the offset strategy, further environmental studies will occur to confirm the appropriateness of the proposed land parcels. Environmental studies will include Malleefowl surveys and consultation will occur with relevant stakeholders. The Offsets calculator will be completed to ensure that the offset site is of equal or greater value to the impact site. The direct offset strategy will involve consultation with DBCA regarding the purchase and management of the land, with DBCA being the managing body. If indirect offsets are required, consultation with relevant stakeholders to ensure suitable indirect offsets are established.

10. References

Bennelongia (2017). Earl Grey Lithium Project SRE and Subterranean Fauna Desktop Assessment. Report 2017/298, Bennelongia Environmental Consultants, Jolimont WA, 26 pp.

Mattiske Consulting (2018a). Flora and Vegetation Assessment Earl Grey Lithium Project. Unpublished report to Kidman Resources Limited.

Mattiske Consulting (2019a). Earl Grey Lithium Project Conservation Significant Flora Targeted Survey. Unpublished report to Covalent Lithium.

Mattiske Consulting (2019b). Earl Grey Lithium Project, *Banksia sphaerocarpa* var. *dolichostyla* – Targeted Survey. Unpublished report to Covalent Lithium.

Mattiske Consulting (2019c). Threatened and Priority Flora Assessment Tenement M77/1065 Proposed Tracks and Drill Hole Locations. Unpublished report to Covalent Lithium.

Mattiske Consulting (2019d). Threatened and Priority Flora Assessment Tenement M77/1068 Proposed Tracks and Drill Hole Locations. Unpublished report to Covalent Lithium.

Mattiske Consulting (2019e). Threatened and Priority Flora Assessment Tenement M77/215 Proposed Tracks and Drill Hole Locations. Unpublished report to Covalent Lithium.

Mattiske Consulting (2019f). Threatened and Priority Flora Assessment Tenement M77/478 Proposed Tracks and Drill Hole Locations. Unpublished report to Covalent Lithium.

Mattiske Consulting (2019g). Threatened and Priority Flora Assessment Tenement M77/542 Proposed Tracks and Drill Hole Locations. Unpublished report to Covalent Lithium.

Mattiske Consulting (2019h). Threatened and Priority Flora Assessment Tenement M77/1067 Proposed Tracks and Drill Hole Locations. Unpublished report to Covalent Lithium.

Strategen JBS&G (2019). Covalent Lithium Earl Grey Lithium Mine Regional Flora survey. Unpublished report to Covalent Lithium.