



## Application for Works Approval

### Part V Division 3 of the *Environmental Protection Act 1986*

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<b>Works Approval Number</b>	W6673/2022/1
<b>Applicant</b>	Covalent Lithium Pty Ltd
<b>ACN</b>	623 090 139
<b>File number</b>	DWER2022/000129
<b>Premises</b>	Earl Grey Lithium Project Shire of Yilgarn  Legal description Mining tenement G77/137 M77/1066 and M77/1080 As defined by the premises maps attached to the issued works approval
<b>Date of report</b>	28 November 2022
<b>Decision</b>	Works approval granted

#### **A/MANAGER, RESOURCE INDUSTRIES**

an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

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## 1. Decision summary

This decision report documents the assessment of potential risks to the environment and public health from emissions and discharges during the construction and operation of the premises. As a result of this assessment, works approval W6673/2022/1 (W6673) has been granted.

## 2. Scope of assessment

### 2.1 Regulatory framework

In completing the assessment documented in this decision report, the Department of Water and Environmental Regulation (the department; DWER) has considered and given due regard to its regulatory framework and relevant policy documents which are available at <https://dwer.wa.gov.au/regulatory-documents>.

### 2.2 Background

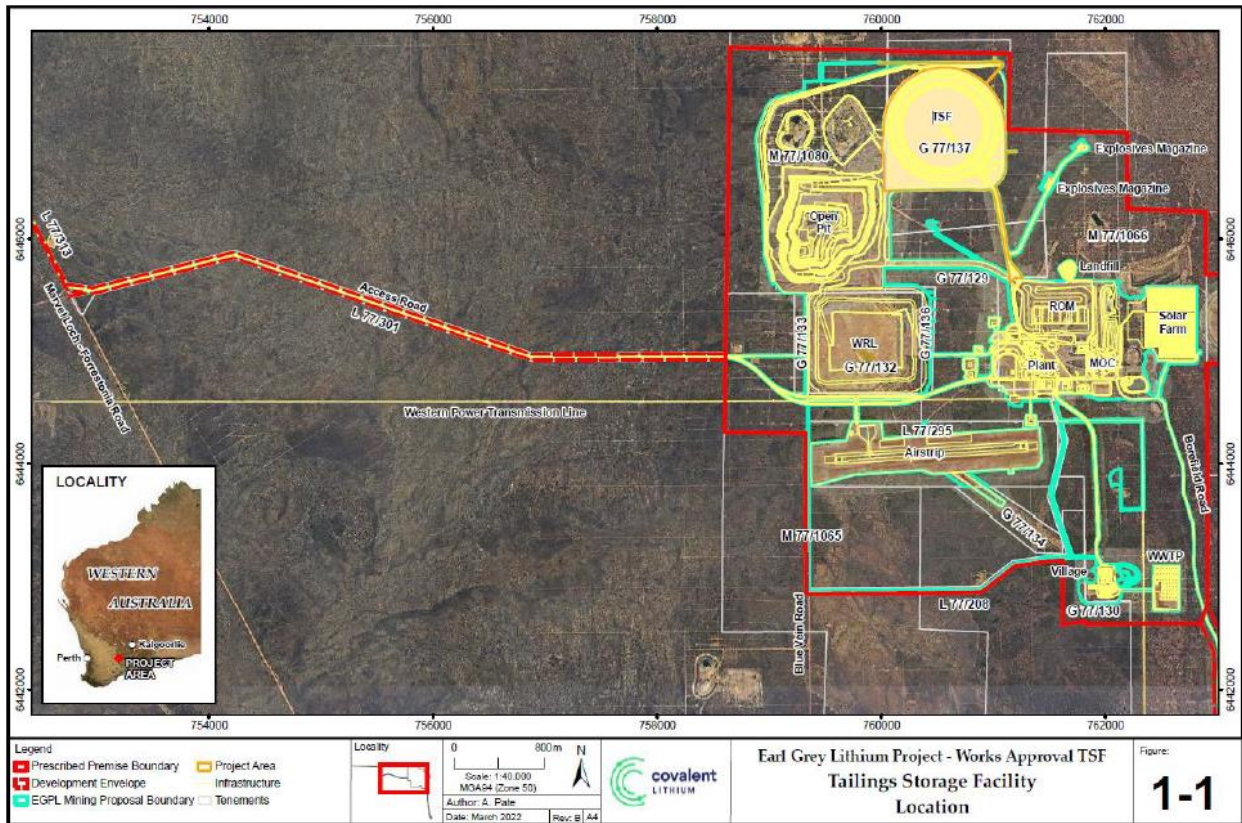
Covalent Lithium Pty Ltd (the applicant, also referred to as 'Covalent') is the managing entity for the Mt Holland Joint Venture; a 50:50 Joint Venture between a related body corporate of Wesfarmers Chemicals, Energy & Fertilisers Limited and a related body corporate of Sociedad Química y Minera de Chile S.A.

Covalent, as manager of the Mt Holland Joint Venture and for and on behalf of the Mt Holland joint venturers MG Gold and Sociedad Química y Minera de Chile S.A, proposes to develop the Earl Grey Lithium Project (the premises, also referred to as 'EGLP') at the historical Bounty Gold mine site near Mount Holland, approximately 100 km south-southeast of the Southern Cross town-site, in the Yilgarn Mineral Field of Western Australia.

The EGLP will comprise the mining and processing of two million tonnes per annum (Mtpa) of spodumene ore to produce approximately 50,000 tonnes per annum (tpa) of battery quality lithium hydroxide (LiOH) at the Covalent Lithium Refinery in Kwinana.

The location of the EGLP is shown on Figure 1.

The EGLP requires an Integrated Waste Landform (IWL) / Tailings Storage Facility (TSF) for the disposal of 1.2 Mtpa of 'wet' tailings per annum. The location of the proposed IWL/TSF is also shown on Figure 1.



**Figure 1: Earl Grey Lithium Project location**

## 2.3 Application summary and overview of premises

On 20 March 2022, Covalent Lithium Pty Ltd (the applicant) applied for a works approval to the department under section 54 of the *Environmental Protection Act 1986* (EP Act).

The application is to undertake works relating to the construction of the Integrated Waste landform (IWL) / Tailings Storage Facility (TSF) for the disposal of 1.2 Mtpa of wet tailings at the premises.

The premises relates to the category and assessed design capacity under Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations) which are defined in works approval W6673/2022/1. The infrastructure and equipment relating to the premises category and any associated activities which the department has considered in line with *Guideline: Risk Assessments* (DWER 2020) are outlined in works approval W6673.

The project will be developed as an IWL/TSF. An IWL comprises an 'inner' TSF surrounded by a waste landform. The waste landform will be constructed as part of mining activities and completed ahead of construction of the inner TSF embankment and tailings deposition into the TSF. Development of the inner TSF embankment will be in stages to suit tailings and clayey mine waste production.

The proposed infrastructure relating to mine waste and tailings storage comprises:

1. A new TSF.
2. Access roads, haul roads and tracks.
3. Tailings delivery pipeline, spigots, and necessary equipment.
4. Decant structure, return water pond, return water pipeline to the processing plant.
5. Mine waste dump.

## 6. Surface water and drainage diversions.

The proposed design of the project is an above-ground facility that will occupy a total area of approximately 82 hectares (ha) (including the external IWL waste landform). The project will contain processed tailings from the Earl Grey Pit for the initial project 10-year life of mine.

The IWF/TSF will be located approximately 230 metres (m) north-east of the open pit and 1.5 km northwest of the new processing plant. Parts of the TSF area (1.8 ha) is situated on previously cleared areas, while the remainder (80.2 ha) extends into vegetated areas.

Construction of the IWF/TSF will require the clearing of native vegetation and priority flora species, which has been assessed and approved (MS 1199) under Part IV of the EP Act.

An existing licence (L9326/2022/1) has been issued to Covalent authorising the operation of a category 54 sewage treatment plant. This licence may be amended in the future to incorporate the ongoing operation of the IWF/TSF, once construction certification requirements have been met.

## 2.4 Design and construction of the IWF/TSF

The applicant states that IWL/TSF designs are in general accordance with the following guidelines as appropriate:

- Australian National Committee on Large Dams (ANCOLD) guidelines (20192), ‘*Guidelines on Tailings Dam Planning, Design, Construction, Operation and Closure*’.
- Department of Mines, Industry Regulation and Safety (DMIRS) (20133), ‘*Code of practice: tailings storage facilities in Western Australia*’; and
- DMIRS (20154), ‘*Guide to the preparation of a design report for Tailings Storage Facilities (TSFs)*’.

The TSF has been designed to be constructed over a 10-year period and will be constructed in seven stages (Stages 1 to 7). The Stage 1 ‘starter embankment’ will be constructed first, prior to commencement of time limited operations and subsequent operations phases. Location and site layout of the Project can be seen in Figure 4.

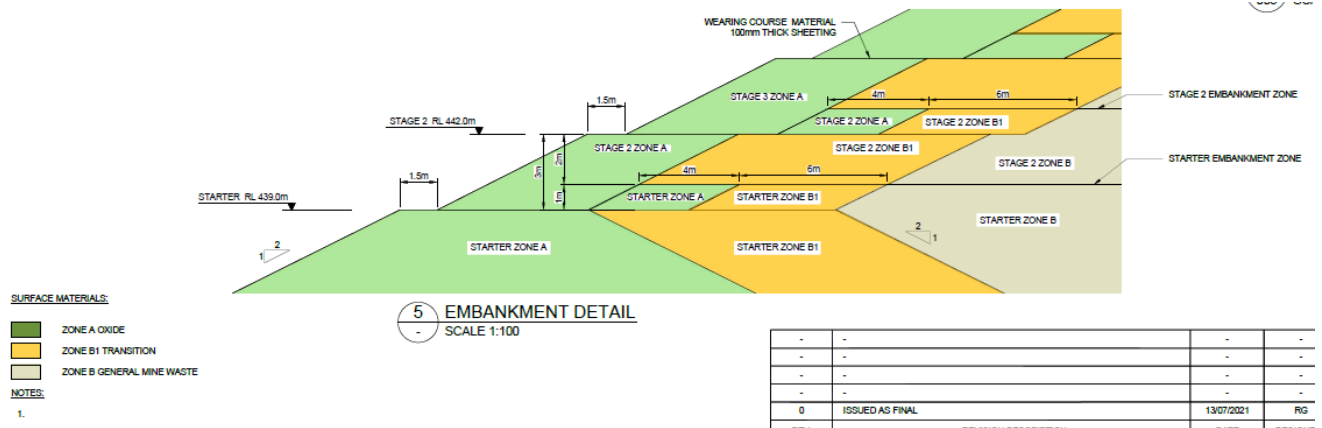
Stages 2 to 4 will be constructed progressively over a five-year period. Covalent Lithium will apply to DWER for a licence amendment to L9326/2022/1 to construct subsequent embankment ‘lifts’ (Stages 5 to 7). The estimated storage capacity, at the various stages of construction and embankment raises detail, is presented in Table 1 and Figure 2.

**Table 1: Estimated TSF storage capacity at staged construction**

Stage	Crest RL (m)	Storage area	Storage volume (Mm <sup>3</sup> )	Cumulative storage volume (Mm <sup>3</sup> )	Cumulative storage capacity (Mt)	Cumulative storage life (years)	Rate of rise (M/year)
Considered as part of this works approval assessment (i.e., first 5 years of construction)							
1	439	42.6	1.29	1.29	1.87	1.6	2.3
2	442	44.4	1.23	2.52	3.66	3.1	2.0
3	445	46.2	1.29	3.82	5.54	4.6	1.9
4	448	48.0	1.35	5.16	7.49	6.2	1.8
To be applied for in future licence amendments							



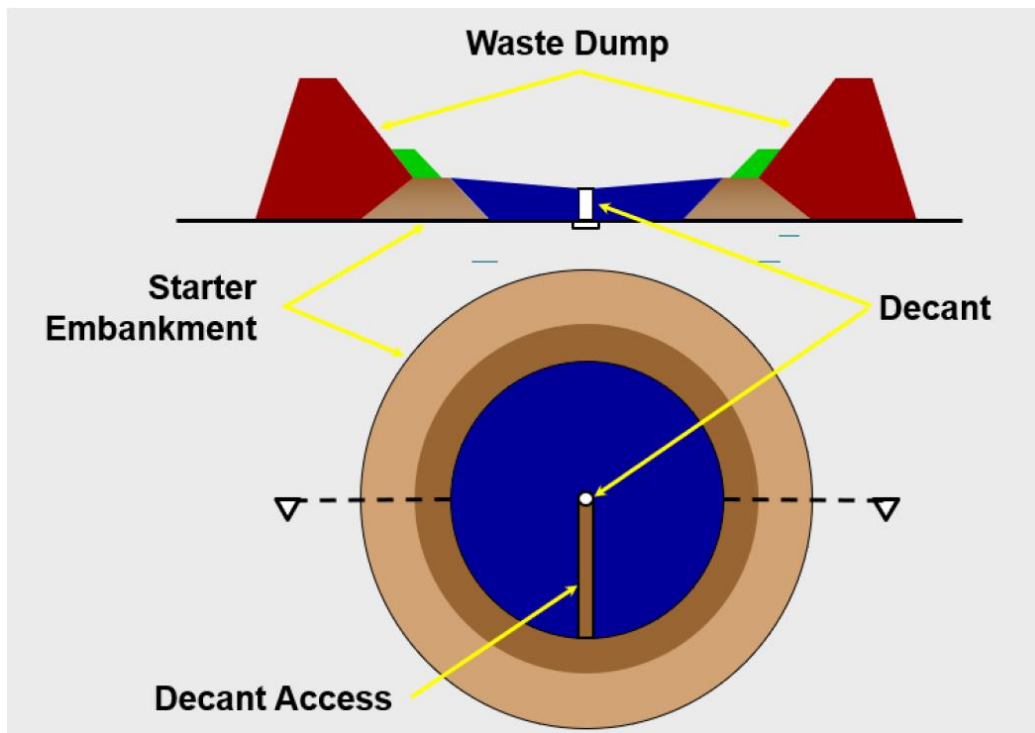
5	451	49.9	1.40	6.56	9.52	7.9	1.8
6	454	51.8	1.45	8.01	11.62	9.7	1.8
7	457	53.7	1.51	9.52	13.80	11.5	1.7



**Figure 2: Embankment raise detail**

The downstream embankment will be constructed continuously with waste rock, as mining progresses. The downstream embankment will be formed ahead of construction of subsequent raises of the upstream clayey core zone (Zone A) (Stages 2 to 3), and ahead of ongoing tailings deposition into the TSF. The development of the upstream core zone will be in stages to suit tailings and clayey mine waste production.

The applicant proposes to construct subsequent raises after the starter embankment downstream (Zone B), to ensure that each raise is laid back against the surrounding mine waste rock storage, see Figure 3.



**Figure 3: Schematic illustration of an IWL/TSF**

## 2.5 Other infrastructure

### 2.5.1 Tailing deposition and return water pipeline

Tailings will be transported from the process plant to the TSF Project Area via large diameter, HDPE distribution pipes (duty and standby). The pipe will divide into two lines (eastern and western) at the perimeter embankment crest to distribute tailings around the facility. The tailings distribution lines will comprise welded HDPE pipes with feed off-takes and be located on the upstream perimeter embankment crest. The tailings will be discharged at nominally 55% solids with estimated tailings slurry flow rate at about 4,000 m<sup>3</sup>/day.

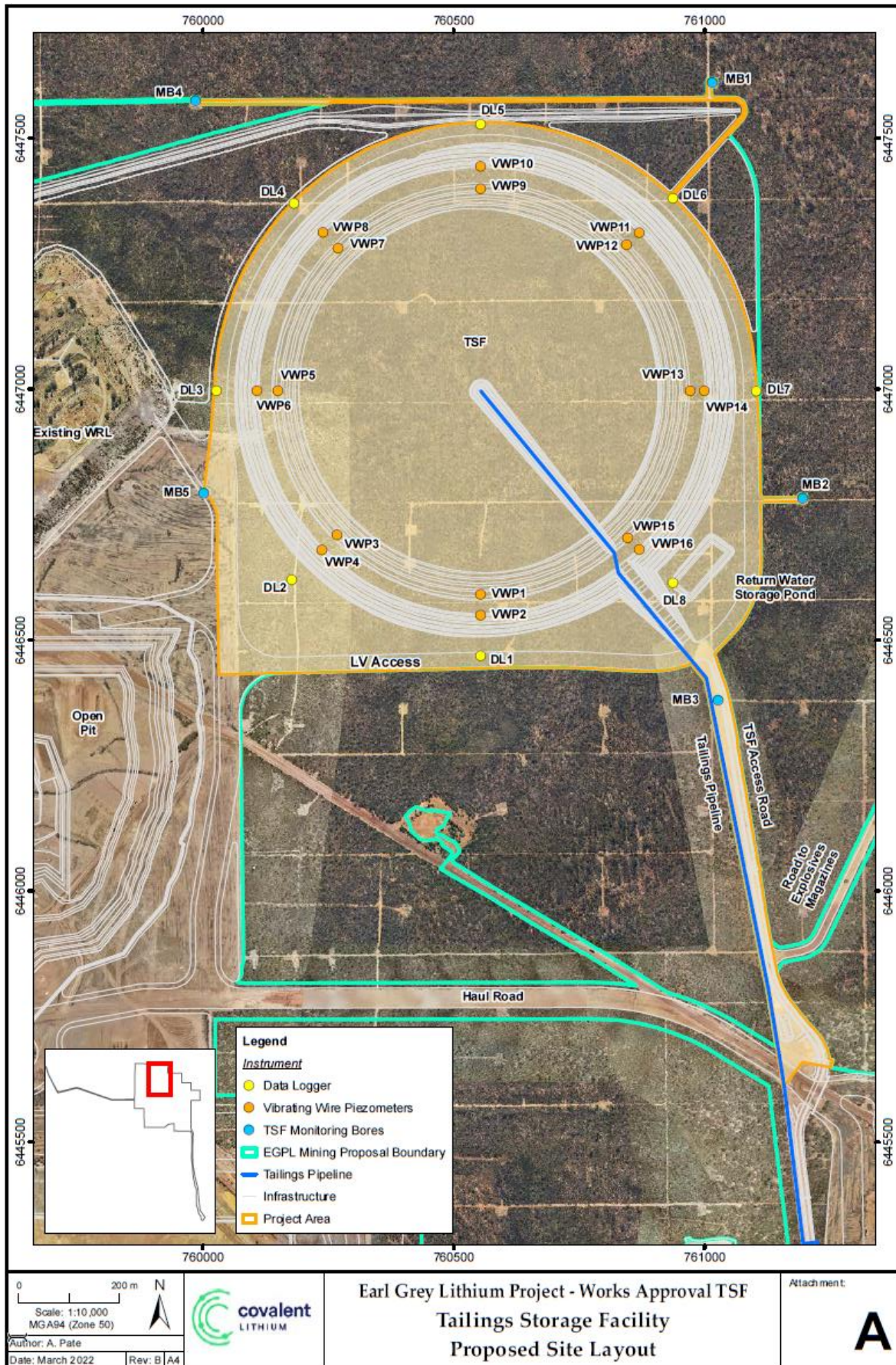
Tailings deposition will occur using subaerial deposition techniques from multiple spigots located around the crest of the embankment. At any one time, deposition will be done from a single spigot group comprising multiple spigots. Once 300 mm thick tailings are deposited over the segment covered by this initial group, tailings deposition will move to the adjacent group. This operation will continue using the spigot group cyclically and progressively around the facility until a uniform nominal tailings thickness of 300 mm is accomplished throughout the facility. By alternating the use of many spigot groups, the applicant believes that drying time of tailings can be maximised.

The applicant has stated that tailings deposition in this manner will enable a free supernatant water pond to pool near the centre of TSF Project Area. The decant water recovery system will comprise a submersible pump located within pre-cast, slotted concrete rings which are surrounded by rockfill of nominal 10 m radius (pump will be designed for flow rate of approximately 20 litre/sec). Access to the pump will be via the decant accessway, with return water pumped back to a process water pond nearer to the ore processing plant for reuse.

A decant pond will be formed which will be equivalent to approximately 10 days' slurry water inflow (approximately 27,000 m<sup>3</sup> in volume). The pond radius will be approximately 110 m with 2% tailings beach slope. The applicant indicates that under normal operating conditions, the pond size will be maintained at less than the 10-day slurry water volume, to ensure a safe distance between the pond edge and perimeter embankment. Detailed design drawings by Coffey (2021), show that the distance of the decant pond (operating under normal conditions) from the embankment is approximately 250 m and 300 m corresponding to Stage 1 and Stage 7, respectively. The applicant suggests a gentler average slope of 1.5% may be adopted, however, the distance between the pond edge and embankment will still be greater than 200 m.

During the initial deposition period the applicant will install a temporary pump within the eastern area of the TSF Project Area to recover supernatant water that will be pumped back to the processing plant.





**Figure 4: TSF proposed site layout**

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IR-T13 Decision report template (short) v3.0 (May 2021)

### 2.5.2 Seepage collection

Groundwater beneath the TSF Project Area is saline to hypersaline and therefore, the applicant believes that little environmental benefit would be gained from implementing stringent seepage control measures to restrict seepage from the TSF Project Area.

The Project design will incorporate a downstream seepage interception system, which will be constructed within the embankment footprint to mitigate seepage during operation of the TSF Project Area and further control the phreatic surface at the perimeter embankment to increase the factor of safety (FoS) against instability.

The seepage collection system will comprise interception drainage pipes (perforated draincoil) connecting to a collector pipe (solid high-density polyethylene [HDPE] pipe). The corrugated pipe will have a stiffness of 8,000 Newton/m corresponding to 5% deflection and will be used in the downstream slope batter of the TSF Project Area. The applicant does not expect this area to be subjected to heavy traffic loads. The drainage pipes will be placed within trenches surrounded by geotextile and backfilled with aggregate. The collector pipe will be placed within a trench with a depth of approximately 3 m and backfilled with aggregate.

Seepage collected via the collection/interception system will drain to a pumped collection sump. The minimum designated fall/gradient of the collection/interception pipe is 0.5%. The collection sump will be located through the lowest bench of the downstream Zone B/waste landform embankment, close to the eastern side of the TSF Project Area. The applicant plans for the sump to be comprised of solid precast concrete well liners (1.2 m internal diameter) stacked vertically on one another. The lower part of the sump will be deepened to approximately 4 m below the surface. The upper part of the sump will be constructed to its full height in line with the waste landform embankment material placement.

Seepage water collected will be recovered via a dedicated pump. The recovered seepage water will be pumped to the return water pond via a dedicated pipeline. The applicant indicates that the return water pond will be located at the south-eastern corner of the IWL/TSF.

The return water pond will have a planned final footprint area of approximately 8,600 m<sup>2</sup>. The enclosed impoundment area is about 5,300 m<sup>2</sup>, at an embankment crest elevation of RL433 m. The design embankment crest level will provide storage capacity of about 10,000 m<sup>3</sup> with allowance for design storm rainfall and 0.5 m freeboard, which is equivalent to the volume of about 5-days water return.

Site clearing of the proposed water pond will be carried out as part of the pond floor excavation and embankment construction. Topsoil and any unsuitable materials will be stripped from the construction footprint and stockpiled for future use.

### 2.5.3 Proposed monitoring network

The monitoring system designed for the TSF Project Area comprises eight groups of two vibrating wire piezometers (VWPs) to monitor the phreatic surface within the embankment. The VWPs will be located at the base of the embankment (i.e., one at the upstream embankment toe and one along the middle of the starter embankment for each VWP group).

The grouped piezometers will be located along the perimeter embankments. The VWP wires will be in a conduit installed in a trench (nominally 0.5 m deep) running under the embankment to terminal data loggers adjacent to the final downstream embankment toe line.

As part of ongoing geotechnical investigations, the applicant has constructed existing groundwater monitoring bore infrastructure (see section 3.2). The applicant proposes to add to this network of monitoring bores located around the TSF Project Area to allow for monitoring of groundwater levels and quality.

The applicant also plans to install five seepage monitoring bores on the downstream side of the TSF Project Area. These bores will be for monthly monitoring of changes in groundwater table



level and composition of the water by field analysis (pH, total dissolved solids, electrical conductivity, and temperature). The bores will be constructed to serve a dual purpose, as recovery bores, to control potential seepage water from the TSF Project Area. Accumulated water from these bores will be pumped back into the TSF Project Area, or directly to the process water pond or plant.

## 2.6 Premises hydrogeology

Based on the hydrogeological investigation undertaken by Groundwater Resource Management in February and October 2017 (GRM 2018), the groundwater sampling and analysis at 11 bores within the EGLP DE recorded the following results:

- The depth to the water table at the bores sampled ranged from 58 to 70 m bgl
- Groundwater was neutral to slightly alkaline with pH values varying between 7.23 and 8.16
- Groundwater was saline to hypersaline with total dissolved solids levels varying between 7,640 milligrams per litre (mg/L) and 119,000 mg/L. The highest salinity groundwater was recorded in the north-eastern part of the proposed pit
- Groundwater was classified as very hard with elevated concentrations of bicarbonate, calcium, and magnesium. Sodium and chloride were identified as the dominant ions
- Slightly elevated concentrations of some metals and metalloids including arsenic, cadmium and copper were recorded. The values remained below the groundwater investigation levels adopted by GRM, which were the livestock drinking water guidelines (i.e., *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* [ANZECC] 2000, now superseded to ANZG 2018).

Groundwater within the TSF Project Area was found to be chloride and sodium dominant. Based on findings by GRM 2018, the applicant believes that salinity may fluctuate over the seasons; however, as the water table is deep (> 50 m bgl), and there is a significant thickness of saprolite (> 5 m), there is likely to be limited recharge from the surface, and water chemistry and electrical conductivity/total dissolved solids are likely to be constant. This was supported by more recent investigation by SRK Consulting (SKR 2021).

## 2.7 Premises hydrology

The project site was previously heavily disturbed for historic mining activities between 1988 and 2001. Construction of numerous earth bunds form effective drainage diversions around most of the EGLP site. The applicant states that a review of recent aerial imagery indicates no new watercourses or significant erosion gullies have formed because of these diversion structures, which have been in place for 20 years or more (Kidman and Blueprint 2017).

The natural terrain surrounding the TSF Project Area ranges approximately 430 m RL AHD and 440 m RL AHD, with a natural drainage path running west to east and then trending northeast. Drainage lines within the TSF Project Area are ephemeral, flowing only during periods of high rainfall (Kidman and Blueprint 2017).

Flow from the TSF Project Area will initially be directed eastward and then flow in a north-easterly direction (Coffey 2021a).

## 2.8 Tailings chemical properties

An assessment of tailings geochemistry for the project was carried out by Martinick Bosch Sell Pty Ltd (MBS Environmental, 2017). Coffey (2021) reviewed the assessment results relevant to the IWL/TSF design and these are summarised below:

- The tailings will be non-acid forming (NAF) due to the absence of detectable sulphides

(Chromium Sulphides, CrS<0.005%), with minor residual alkalinity.

- Seepage from the IWL/TSF is predicted to be moderately alkaline (pH 8 - 8.5) and non-saline (unless saline groundwater is used in the process plant) in the long-term.
- As the processing plant is using oleic acid as the spodumene flotation agent, tailings seepage may contain some low levels of dissolved organic carbon.
- The tailings are enriched in some elements including lithium, rubidium and possibly beryllium. However, the corresponding solute concentrations of these elements remain low across a wide range of pH values, suggesting that they are likely to remain in the solid form and therefore do not pose a risk to groundwater quality.

As part of the scope of work for the proposed IWL/TSF design, Coffey commissioned Graeme Campbell & Associates Pty Ltd (GCA) to conduct a geochemical characterisation of a process-tailings slurry sample and to assess implications for tailings management. The study indicated:

#### Tailings-Solid Sample

- The tailings-solids sample was classified as non-acid forming (NAF), reflective of 'negligible-sulphides' (Total-S < 0.01%).
- The sample had contents of minor-elements below or close to those typically recorded for soils, sediments and bedrocks derived from unmineralized terrain.
- Enrichment in Lithium, with a Lithium content of ca. 0.26% predominantly due to residual spodumene; and
- Enrichments also occurred in Arsenic, Boron, Molybdenum, Bismuth, and Thallium to a lesser degree varying from slight to moderate.

#### Tailings-Slurry-Water

- The tailings-slurry-water sample was neutral-to alkaline (pH 7-8) and of low salinity.
- The concentrations of minor-elements were tightly constrained, reflective of the benign nature of the ore stream, and minimal use of reagents during metallurgical recovery; and
- The water sample conformed to livestock drinking water quality (ANZECC, 2000<sub>s</sub>).

## 2.9 Part IV of the EP Act

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

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

Ministerial statement 1118 was approved for the project and includes conditions which involve the development of environmental management plans and exclusion zones for the protection of conservation significant flora and fauna, and offsets to counterbalance the significant residual impact to flora species *Banksia sphaerocarpa* var. *dolichostyla*, *Microcorys* sp. Mt Holland (Priority 1) and fauna species chuditch and malleefowl.

The applicant submitted a revised proposal to the EPA that included significant amendment to MS 1118, to incorporate construction and operation of a solar plant (including an added 32 ha of native vegetation clearing), variation to the airstrip width (including an added 24 ha of native vegetation clearing), changes to the tailing waste disposal methodology from 'dry' to 'wet' tailings, co-disposal of inert refinery waste generated from the Kwinana Lithium Refinery to the

approved waste rock landform, and modification to flora and fauna exclusion areas. Ministerial Statement for the Revised Proposal 1199 was published on 23 November 2022.

### 3. Risk assessment

The department assesses the risks of emissions from prescribed premises and identifies the potential source, pathway, and impact to receptors in accordance with the *Guideline: Risk Assessments* (DWER 2020).

To establish a risk event there must be an emission, a receptor which may be exposed to that emission through an identified actual or likely pathway, and a potential adverse effect to the receptor from exposure to that emission.

#### 3.1 Source-pathways and receptors

##### 3.1.1 Emissions and controls

The key emissions and associated actual or likely pathway during premises construction and operation which have been considered in this decision report are detailed in Table 2 below. Table 2 also details the control measures the applicant has proposed to assist in controlling these emissions, where necessary.

**Table 2: Proposed applicant controls**

Emission	Sources	Potential pathways	Proposed controls
<b>Construction</b>			
Dust	Vehicle and machinery activity on disturbed ground and unsealed roads Cleared work areas, disturbed ground, and unsealed roads Earthworks	Air / windborne	<ul style="list-style-type: none"> <li>Dust suppression (e.g., water trucks) will be used on unsealed roads and access tracks, cleared areas and at locations of high dust risk, and where dust generation is visible</li> <li>Vehicles will comply with site Traffic Management Plan, which includes vehicle speed limits on haul roads, work, and camp sites (Speed limits will be reduced where necessary to minimise dust emissions)</li> <li>Vehicles will remain within the designated roads and tracks, and park only in allocated areas</li> <li>Monthly compliance audits and inspections will be undertaken</li> <li>Incident and hazard reporting will be undertaken where there this is non-compliance with these requirements</li> </ul>
Noise	Earthworks (i.e. placement/land formation, excavation, and compaction), site clearing, and use of	Air / windborne	<ul style="list-style-type: none"> <li>All equipment will be fitted with appropriate noise reduction devices (where necessary) to comply with Project Health, Safety and Environment (HSE) and regulatory requirements</li> <li>Monthly compliance audits and inspections will be undertaken</li> <li>Incident and hazard reporting will be undertaken in case of non-compliance</li> </ul>
Artificial light	mobile equipment,	Air	<ul style="list-style-type: none"> <li>Lights will be positioned to directly focus on the intended target</li> </ul>

Emission	Sources	Potential pathways	Proposed controls
	heavy machinery, and generators		<ul style="list-style-type: none"> <li>• Lighting with beam characteristics will be used when applicable to the specific task at hand</li> <li>• Lighting will be switched off when deemed not essential to personnel safety and when not in use</li> <li>• Lighting will not be directed into surrounding native vegetation areas, minimising impacts to fauna species such as the Chuditch</li> <li>• Monthly compliance audits and inspections will be undertaken</li> <li>• Incident and hazard reporting will be undertaken in case of non-compliance</li> </ul>
Solid waste	General construction activities	Air / windblown	<ul style="list-style-type: none"> <li>• All rubbish and scrap will be progressively disposed of</li> <li>• Windblown waste will be cleaned up around the work sites regularly</li> <li>• Waste skips and bins will have lids and will be kept closed to contain litter and prevent animal access</li> <li>• All controlled waste will be transported off site via a licensed controlled waste carrier <ul style="list-style-type: none"> <li>○ All receipts and tracking numbers will be always maintained on site for audit and inspection purposes</li> </ul> </li> <li>• Visual inspection of worksites, waste storage and disposal facilities will be conducted for littering and inappropriate waste disposal</li> <li>• Incident and hazard reporting will be undertaken where there is non-compliance with these requirements.</li> </ul>
Hydrocarbons	Accidental spills and/or leaks of hydrocarbons from mobile equipment or temporary storage areas.	Overland flow / infiltration	<ul style="list-style-type: none"> <li>• All temporary chemical and hydrocarbon storage tanks will be double skinned and self-bunded, or provided with bunding capable of holding 110% of the whole tank's contents</li> <li>• All secondary containment facilities will have a minimum capacity of 110% of the largest storage vessel within the containment facility, plus 25% of the capacity of all stored individual containers</li> <li>• All equipment holding &gt;20 L of hydrocarbons or chemicals (e.g. generators, welders, stationary engines, lighting stands, pumps, refuelling trailers, service/fuel trucks) will be secondarily contained to 110% capacity of the total hydrocarbons or chemicals contained in the equipment except where all of the following are demonstrated: <ol style="list-style-type: none"> <li>a) There is an internal bund with 110% capacity of the maximum total hydrocarbon or chemical capacity of the equipment, any spillage in the tray can be readily seen and</li> </ol> </li> </ul>



Emission	Sources	Potential pathways	Proposed controls
			<p>there is a mechanism for removal of any spillage in the tray</p> <p>b) The refuelling point is within the perimeter of the internal spill tray and, in the event of overfilling, all spillages will return to the internal spill tray</p> <ul style="list-style-type: none"> <li>• All hydrocarbon and chemical transfer points will be secondarily contained</li> <li>• All storage tanks and associated pipelines will be located above ground where possible <ul style="list-style-type: none"> <li>○ Below ground pipelines that are unavoidable will be contained within a secondary duct and containment facility</li> <li>○ The duct and containment facility will be designed to facilitate pipeline inspection, leak and rupture detection and will allow for recover for any leakage that may occur</li> </ul> </li> <li>• Current safety data sheets (SDS) will be readily available at all chemical or hydrocarbon storage areas</li> <li>• Any leaks will be controlled and repaired as soon as possible</li> <li>• Service trucks, re-fuelling trailers and other vehicles used for the transportation of hydrocarbons and chemicals will be fitted with spill kits and drip trays</li> <li>• All drains or valves in bunds, drip trays and other containment equipment will be normally closed</li> <li>• Storm water within bunding/spill trays will be removed immediately after a rain event <ul style="list-style-type: none"> <li>○ The contents of bunding/spills trays will be disposed offsite to an appropriate facility</li> </ul> </li> <li>• Appropriate equipment will be available on site to remove water from bunds and other containment areas</li> <li>• In the event of a spill, contaminated soil or surface water will be removed immediately, contained in a designated area, removed from site and disposed of to an offsite licensed facility</li> <li>• Spill management equipment and emergency response equipment appropriate to the volume and type of hydrocarbons or chemicals being stored will be available, clearly labelled and highly visible at each chemical / hydrocarbon storage location</li> <li>• Liners and drip trays will be used under drill rigs to minimise risk of hydrocarbon spillage</li> <li>• Only biodegradable surfactants will be used in response to hydrocarbon spillage <ul style="list-style-type: none"> <li>○ Surplus or discarded surfactant concentrate will be disposed of into solid</li> </ul> </li> </ul>

Emission	Sources	Potential pathways	Proposed controls
			<p>general waste bins, not into the sewage system</p> <ul style="list-style-type: none"> <li>• All spillage and rainwater collected from fuel transfer points and from within the bunded area will be collected and passed through a separator system to recover hydrocarbon materials <ul style="list-style-type: none"> <li>○ The remaining oil materials will be disposed off-site</li> <li>○ The treated wastewater will achieve a water quality (hydrocarbon content &lt; 5 parts per million) suitable for reuse onsite</li> </ul> </li> <li>• Site inspections of facilities and dangerous goods licence compliance inspections will be conducted weekly</li> <li>• Quarterly compliance audits and inspections will be undertaken</li> <li>• Incident and hazard reporting in case of non-compliance will be undertaken.</li> </ul>
Sediment laden stormwater	Stormwater potentially containing sediments	Overland flow / runoff Infiltration	<ul style="list-style-type: none"> <li>• No works or structures will cause obstructions to the free flow of drainage lines in rainfall events</li> <li>• Surface water diversion structures will be designed, installed, and managed to enable clean water to be directed around disturbed areas and areas of construction</li> <li>• Potentially contaminated surface water (e.g. runoff which contains hydrocarbons &gt; 5 ppm total petroleum hydrocarbons) will not be discharged into the environment</li> <li>• Surface water and sedimentation control devices will be inspected monthly for damage or blockages, and repaired where required</li> <li>• Compliance audits and inspections will be undertaken monthly to determine compliance with these requirements</li> <li>• Incident and hazard reporting will be undertaken</li> </ul>
<b>Operation</b>			
Dust	Vehicle activity on disturbed ground and unsealed roads Operation of machinery	Air / windborne	<ul style="list-style-type: none"> <li>• The same controls detailed for the construction and commissioning of the IWL/TSF will be implemented during operation of the IWL/TSF.</li> </ul>
Noise	Operation of machinery, light vehicles, raising of the embankments and	Air / windborne	<ul style="list-style-type: none"> <li>• Noise attenuation methods will be considered for plant and equipment</li> <li>• Mobile equipment will be operated and serviced in line with the manufacturer's specifications</li> <li>• Maximum sound power levels specified for equipment (if required)</li> </ul>

Emission	Sources	Potential pathways	Proposed controls
	maintenance activities		<ul style="list-style-type: none"> <li>Complaints relating to noise will be recorded and investigated as per the Covalent Incident Management Procedure.</li> </ul>
Artificial light		Air	<ul style="list-style-type: none"> <li>Lighting required for the operation of the Project is expected to be limited to lighting towers to aid inspection/maintenance checks of the facility during night-time hours.</li> <li>Illumination will be directed away from sensitive receptors and roads in the vicinity of the TSF Project Area.</li> <li>Where possible, lighting will also be installed to ensure directional downward illumination to minimise excessive light glare and potential impacts to fauna.</li> </ul> <p>Given that the closest receptor (the accommodation village) is more than 2 km away from the TSF Project Area, the applicant considers the expected ongoing impact of light emissions on residents and fauna during operations to be negligible.</p>
Tailings / water potentially containing elements of environmental significance (Li, Rb, and Be).	IWL/TSF	<p>Seepage / Infiltration of supernatant water through basin and pit walls</p> <p>Ingestion by fauna (from surface of TSF)</p> <p>Seepage daylighting / surface expression (phreatic surface daylighting)</p>	<p>The design of the IWL/TSF incorporates the following seepage management controls:</p> <ul style="list-style-type: none"> <li>Vibrating wire piezometers (VWPs) will provide a warning against any unlikely rise of groundwater level within the TSF Project Area</li> <li>An upstream underdrainage piping system around the perimeter upstream toe and a central underdrainage piping network around the decant rock ring</li> <li>Decant water will be continually removed from the facility and the decant pond size will be maintained to be less than 110 m radius</li> <li>During deposition, evaporative drying will result in a partially saturated tailings deposit</li> <li>Due to evaporation, there will be a limited water pond on the facility.</li> <li>Monitoring bores will be installed surrounding the TSF to monitor groundwater chemistry and SWL.</li> </ul>
Dry tailings (particulates) on exposed beaches potentially containing concentrations of elements with environmental significance (Li, Rb, and		Air / windborne	<ul style="list-style-type: none"> <li>Tailings have a high moisture content when deposited and form a crust as they dry. The applicant will manage tailings deposition to maximise wet areas and to ensure that the surface of the TSF Project Area remains sufficiently wet to reduce the potential of fine particulate dust emissions.</li> </ul>

Emission	Sources	Potential pathways	Proposed controls
Be).			
Tailings / water potentially containing elements of environmental significance (Li, Rb, and Be).	IWL/TSF - overtopping due to insufficient freeboard capacity	Uncontrolled release / overland flow / infiltration	<ul style="list-style-type: none"> <li>• Minimum 500 mm total freeboard, comprising a minimum operational freeboard (vertical height between the tailings beach at the perimeter embankment and embankment crest level) of 300 mm and minimum beach freeboard (vertical height between the 100 AEP water level above the normal operating pond and top of tailings beach) of 200 mm</li> <li>• Minimum crest width of 21 m (6 m wide for Zone A and 15 m wide for Zones B + B1), resulting in a factor of safety (FoS) against instability &gt;1.6 for both short-term and long-term conditions</li> <li>• The downstream embankment crest width (Zone B) from the north-western up to the south-eastern side of the TSF must be constructed at least 10 m wider than the minimum required width</li> <li>• Zone A and Zone B/B1 materials forming the TSF embankment will comprise well-compacted clayey material and mine waste rock respectively</li> <li>• Pipelines will be inspected for pipe breakage and checks for signs of erosion</li> <li>• The size of the water pond will be minimised to control the seepage rate</li> <li>• The well-compacted, low permeability material used for Zone A will be keyed into the foundation soil (cut-off trench) which will mitigate potential for excessive seepage</li> <li>• VWPs to provide a warning against any unlikely rise of groundwater level within the TSF Project Area</li> <li>• Erosion-resistant material will be used for piping which will be compacted to 95% standard maximum dry density (SMDD)</li> <li>• A 10 m wide transition zone (Zone B1) will be constructed to reduce the risk of piping erosion</li> </ul>
Tailings / water potentially containing elements of environmental significance (Li, Rb, and Be).	Tailings / water pipelines (leaks of rupture)	Uncontrolled release / overland flow / infiltration	<ul style="list-style-type: none"> <li>• Visual inspections will be made 6-hourly (i.e., twice per shift) and any fault reported promptly for repair or replacement</li> <li>• Monitoring will be conducted for tailings line pressure and flow meter readings</li> <li>• Vegetation will be kept clear of poly pipelines to mitigate potential fire damage (e.g., in the event of bushfire)</li> <li>• Hourly monitoring of tailings pump power draw to give a general indication of pipeline condition</li> <li>• If an alert to hazard arises from the control room instrumentation (drop in delivery line pressure),</li> </ul>

Emission	Sources	Potential pathways	Proposed controls
			<p>the line will be immediately inspected to locate and assess the leakage</p> <ul style="list-style-type: none"> <li>• If the automatic shutdown/diversion of tailings flow has not occurred, the Process Operator will arrange appropriate shutdown or diversion</li> <li>• If an alert to the hazard alert arises from inspection, the Process Operator will be advised immediately to arrange appropriate shutdown or diversion</li> <li>• At the leak location, the Mine Superintendent will inspect the site and arrange appropriate additional containment and/or clean up in coordination with the Environmental Advisor</li> <li>• The Mine Superintendent will ascertain the root causes of the leakage/burst and institute procedures or measures to minimise the risk of recurrence</li> </ul>
Stormwater potentially containing sediments, and/or hydrocarbons.	Rainfall event	Overland flow / runoff Groundwater	<ul style="list-style-type: none"> <li>• The same controls detailed for the construction and commissioning of the IWL/TSF will be implemented during operation of the IWL/TSF.</li> </ul>

### 3.1.2 Receptors

In accordance with the *Guideline: Risk Assessment* (DWER 2020), the Delegated Officer has excluded the applicant's employees, visitors, and contractors from its assessment. Protection of these parties often involves different exposure risks and prevention strategies and is provided for under other state legislation.

Table 3 below provides a summary of potential human and environmental receptors that may be impacted because of activities upon or emission and discharges from the prescribed premises (*Guideline: Environmental Siting* (DWER 2020)).

**Table 3: Sensitive human and environmental receptors and distance from prescribed activity**

Human receptors	Distance from prescribed activity
Town of Southern Cross	100 km north-northwest of the premises <b>Screened out as a receptor. Separation distance considered too great.</b>
Environmental receptors	Distance from prescribed activity
Groundwater	Beneath the Project Area, approximately 65-70 mbgl.
Surface water, specifically minor non-perennial surface water body	Approximately 3.9 km west of the Project Area. <b>Screened out as a receptor. Separation distance considered too great</b>

General native vegetation	Immediately surrounding the Project Area.
Threatened and Priority fauna (i.e. including Malleefowl, western quoll, Western rosella)	Within and near the Project Area.
Threatened and Priority flora – T, P2 and P3	Approximately 350 m east, and 480 m south of the Project Area.
PEC - P3 Ironcap Hills vegetation assemblages (Mt Holland, Middle, North and South Ironcap Hills, Digger Rock and Hatter Hill) (greenstone ranges)	The Project Area is located entirely within the boundary of the PEC. Managed under MS1118 and MS1167.

### 3.2 Geotechnical review (DMIRS)

The applicant commissioned a geotechnical investigation at the proposed IWL/TSF site by SRK Consulting in 2020 (SRK 2021, referenced in Coffey 2021), to inform the basis of design for the IWL/TSF. The scope of the investigation comprised:

- 59 test pits to depths ranging between 0.5 and 4.0 m and collection of disturbed samples for laboratory testing.
- 33 dynamic cone penetrometer (DCP) tests, to depths of up to 1.8 m.
- 10 geotechnical boreholes, to depths ranging between 7.5 and 22 m, with standard penetration tests (SPTs) in each borehole at 1.5 m intervals.
- 5 monitoring bores to depths ranging between 88 and 131 m; and
- 11 constant head permeameter tests.

The application and supporting documentation were supplied to Department of Mines, Industry Regulation and Safety (DMIRS) for comment, and analysis on the geotechnical aspects of the project, specifically related to the TSF stability.

DMIRS noted that:

- 1) DMIRS is currently assessing a Mining Proposal (MP) and Mine Closure Plan (MCP) for the Earl Grey Lithium Project that includes an IWL/TSF (REG ID 101345). Further information in relation to this proposal was to be requested from Covalent by DMIRS.
- 2) The mining proposal REG ID 101345 included an IWL/TSF Design Report that was prepared by Coffey Consulting, and an independent peer review of the IWL/TSF Design prepared by ATC Williams. A DMIRS geotechnical inspector has reviewed these reports in relation to the information provided in the MP and was overall comfortable with the IWL/TSF design, but did require some additional information in relation to:
  - The projected zone of pit instability near the TSF and location of abandonment bunds,
  - The feasibility of the projected 35-year pit plan in relation to upgraded TSF design,
  - Clarification around earthquake induced settlement and TSF freeboard,
  - Updates to the TSF operation manual/mine planning design criteria guideline in relation to construction on the TSF embankments ahead of tailings deposition,
  - Erosional stability of material used to build the TSF embankments, and
  - Inclusion of works to reduce the impact a dam break.
- 3) REG ID 101345 includes an application for “Co-disposal of inert refinery waste from the associated Kwinana Refinery to the waste rock landforms at the EGLP site”. DMIRS will



be seeking clarification from Covalent as to exactly where this waste is planned to be disposed of onsite, but from the current information it appears to be to the Southern Waste Rock Landform and the ROM.

- 4) Fifty-one percent (51%) of the waste at this mine is indicated to have a fibrous materials risk, and 59% a dispersive materials risk. It is therefore likely that DMIRS will be requesting further information from Covalent in relation to the closure landform design of the IWL/TSF, specific to the encapsulation of any fibrous or dispersive material in the long-term, and the achievement of the DMIRS rehabilitation and mine closure objective.

As part of the applicant review of the draft documents, Covalent noted that the Mining Proposal and Mine Closure Plan (point 1) are still under assessment by DMIRS. An RFI response that satisfied the requirements outlined in points 2, 3 and 4, has been provided to DMIRS. The revised information will be included in the REG ID 101345 Mining Proposal and Mine Closure Plan.

### 3.3 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020) for each identified emission source and considers potential source-pathway and receptor linkages as identified in Section 3.1. Where linkages are in-complete they have not been considered further in the risk assessment.

Where the applicant has proposed mitigation measures/controls (as detailed in Section 3.1), these have been considered when determining the final risk rating. Where the delegated officer considers the applicant's proposed controls to be critical to maintaining an acceptable level of risk, these will be incorporated into the works approval as regulatory controls.

Additional regulatory controls may be imposed where the applicant's controls are not deemed sufficient. Where this is the case the need for additional controls will be documented and justified in Table 4.

Works approval W6673/2022/1 that accompanies this decision report authorises construction and time-limited operations. The conditions in the issued works approval, as outlined in Table 4 have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

A licence is required following the time-limited operational phase authorised under the works approval to authorise emissions associated with the operation of the premises i.e. Category 5 activities. A risk assessment for the operational phase has been included in this decision report, however licence conditions will not be finalised until the department assesses the licence application.

**Table 4: Risk assessment of potential emissions and discharges from the premises during construction, commissioning, and operation**

Risk events					Risk rating <sup>1</sup> C = consequence L = likelihood	Applicant controls sufficient?	Conditions <sup>2</sup> of works approval	Justification for additional regulatory controls							
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls											
<b>Construction</b>															
Vehicle and machinery activity on disturbed ground and unsealed roads	Dust	Air / windborne	Native vegetation immediately surrounding the Project Area. Threatened and Priority flora – T, P2 and P3 ~350 m east, and 480 m south of the Project Area, and MS1118 exclusion zones. Threatened and Priority fauna within and near the Project Area.	Refer to section 3.1.1	C = Minor L = Rare <b>Low Risk</b>	Y	Condition 1	The Delegated Officer considers that construction works are temporary and that the provisions of the <i>Environmental Protection (Noise) Regulations 1997</i> and section 49 of the EP Act are sufficient to regulate noise and dust emissions during construction of the TSF embankments.							
Earthworks (i.e. placement/land formation, excavation, and compaction), site clearing, and use of	Noise	Air / windborne	Threatened and Priority fauna within and near the Project Area.	Refer to section 3.1.1	C = Slight L = Possible <b>Low Risk</b>	Y	N/A								
Diesel powered vehicles, mobile equipment, heavy machinery, and generators	Artificial light	Air	Threatened and Priority fauna within and near the Project Area.	Refer to section 3.1.1	C = Slight L = Unlikely <b>Low Risk</b>	Y	N/A		The Delegated Officer considers that given that the closest receptor is more than 2 km away from the TSF Project Area, the impact of light emissions on fauna during operations is expected to be negligible.						
General construction activities	Solid waste	Air / windblown	Threatened and Priority fauna within and near the Project Area.	Refer to section 3.1.1	C = Slight L = Unlikely <b>Low Risk</b>	Y	N/A	The Delegated Officer believes that the prevention of discharges offsite will be through management measures put in place by Covalent. The operation of the Project must comply with the <i>Environmental Protection (Unauthorised Discharges) Regulations 2004</i> .							
Accidental spills and/or leaks of hydrocarbons from mobile equipment or temporary storage areas.	Hydrocarbons	Overland flow / infiltration	Land and soils beneath and surrounding the Project Area.	Refer to section 3.1.1	C = Moderate L = Possible <b>Medium Risk</b>	Y	N/A	The Delegated Officer considers the controls proposed by the applicant to be adequate in managing spills and/or leaks of hydrocarbons.							
Stormwater potentially containing sediments	Sediment laden stormwater	Overland flow / runoff	Native vegetation immediately surrounding the Project Area. Threatened and Priority flora – T, P2 and P3 ~350 m east, and 480 m south of the Project Area, and MS1118 exclusion zones.	Refer to section 3.1.1	C = Minor L = Unlikely <b>Medium Risk</b>	Y	N/A	The Delegated Officer believes that the prevention of discharges offsite will be through management measures put in place by Covalent. The operation of the Project must comply with the <i>Environmental Protection (Unauthorised Discharges) Regulations 2004</i> .							
<b>Operation (including time-limited-operations operations)</b>															
Vehicle activity on disturbed ground and unsealed roads	Dust	Air / windborne	Native vegetation immediately surrounding the Project Area. Threatened and Priority flora – T, P2 and P3 ~350 m east, and 480 m south of the Project Area, and MS1118 exclusion zones. Threatened and Priority fauna within and near the Project Area.	Refer to section 3.1.1	C = Minor L = Likely <b>Medium Risk</b>	Y	Condition 1	The Delegated Officer considers that the provisions of the <i>Environmental Protection (Noise) Regulations 1997</i> and section 49 of the EP Act are sufficient to regulate noise and dust emissions during operation of the TSF							
Operation of machinery, light vehicles, raising of the embankments and maintenance activities									Noise	Air / windborne	Threatened and Priority fauna within and near the Project Area.	Refer to section 3.1.1	C = Slight L = Possible <b>Low Risk</b>	Y	N/A
									Artificial light	Air	Threatened and Priority fauna within and near the Project Area.	Refer to section 3.1.1	C = Slight L = Unlikely <b>Low Risk</b>	Y	N/A
IWL/TSF	Tailings / water potentially	Seepage / Infiltration of supernatant	Native vegetation immediately surrounding the Project Area. Threatened and Priority flora – T, P2 and P3	Refer to section 3.1.1	C = Moderate L = Possible	Y	Condition 1 - 3, 6, 11, 12	The Delegated Officer has imposed the requirement to conduct ambient groundwater monitoring for a comprehensive suite of parameters during time limited							

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Risk events					Risk rating <sup>1</sup> C = consequence L = likelihood	Applicant controls sufficient?	Conditions <sup>2</sup> of works approval	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
	containing elements of environmental significance (Li, Rb, and Be).	water through basin and pit walls	~350 m east, and 480 m south of the Project Area, and MS1118 exclusion zones. Groundwater ~65-70 mbgl.		<b>Medium Risk</b>		Condition 14	operations phases to establish background conditions and allow monitoring for any changes in physical or chemical properties during operations.
		Seepage daylighting / surface expression (phreatic surface daylighting)	Native vegetation immediately surrounding the Project Area. Land and soils beneath and surrounding the Project Area.	Refer to section 3.1.1	C = Moderate L = Possible <b>Medium Risk</b>	Y	Condition 1 - 3, 6, 11 and 12	N/A
IWL/TSF	Dry tailings (particulates) on exposed beaches potentially containing concentrations of elements with environmental significance (Li, Rb, and Be).	Air / windborne	Native vegetation immediately surrounding the Project Area. Threatened and Priority flora – T, P2 and P3 ~350 m east, and 480 m south of the Project Area, and MS1118 exclusion zones. Threatened and Priority fauna within and near the Project Area.	Refer to section 3.1.1	C = Minor L = Possible <b>Medium Risk</b>	Y	Condition 9	N/A
IWL/TSF - overtopping due to insufficient freeboard capacity	Tailings / water potentially containing elements of environmental significance (Li, Rb, and Be).	Uncontrolled release / overland flow / infiltration	Groundwater ~65-70 mbgl. Threatened and Priority fauna within and near the Project Area. Land and soils beneath and surrounding the Project Area.	Refer to section 3.1.1	C = Major L = Rare <b>Medium Risk</b>	Y	Condition 1, 4, 5 Condition 9	The applicant proposes a condition, to maintain the decant pond at a minimum of 110 m from the perimeter embankment, and have set a maximum volume of 27,000 m <sup>3</sup> and to maintain a freeboard.
Tailings / water pipelines (leaks of rupture)	Tailings / water potentially containing elements of environmental significance (Li, Rb, and Be).	Uncontrolled release / overland flow / infiltration	Groundwater ~65-70 mbgl. Native vegetation immediately surrounding the Project Area. Threatened and Priority flora – T, P2 and P3 ~350 m east, and 480 m south of the Project Area, and MS1118 exclusion zones. Land and soils beneath and surrounding the Project Area.	Refer to section 3.1.1	C = Minor L = Unlikely <b>Medium Risk</b>	Y	Condition 1 and condition 9	N/A
Rainfall event	Stormwater potentially containing sediments, and/or hydrocarbons.	Overland flow / runoff	Native vegetation immediately surrounding the Project Area. Threatened and Priority flora – T, P2 and P3 ~350 m east, and 480 m south of the Project Area, and MS1118 exclusion zones.	Refer to section 3.1.1	C = Minor L = Unlikely <b>Medium Risk</b>	Y	Condition 1 and 9	N/A

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the *Guideline: Risk Assessments* (DWER 2020).

Note 2: Proposed applicant controls are depicted by standard text. **Bold and underline text** depicts additional regulatory controls imposed by department.

## 4. Consultation

Table 5 provides a summary of the consultation undertaken by the department.

**Table 5: Consultation**

Consultation method	Comments received	Department response
Application advertised on the department's website on 13 May 2022	None received	N/A
Local Government Authority advised of proposal on 12 May 2022	No comment from Shire of Yilgarn	N/A
Department of Mines, Industry Regulation and Safety (DMIRS) advised of proposal 12 May 2022	A comment was received from DMIRS on 24 August 2022.	DMIRS comments is summarised in section 3.2
Applicant was provided with draft documents on 13 October 2022	A response was received from the applicant on 1 November 2022. Refer to Appendix 1	Refer to Appendix 1

## 5. Conclusion

Based on the assessment in this decision report, the delegated officer has determined that a works approval will be granted, subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

## References

1. Covalent Lithium Pty Ltd 2022, *COV\_TSF\_WAA Works approval application form*, Perth, Western Australia
2. Covalent Lithium Pty Ltd 2022, *Earl Grey Lithium Project Works Approval Application Supplementary Information Document*, Perth, Western Australia
3. Coffey Services Australia Pty Ltd (Coffey) 2021, *Covalent Lithium Pty Ltd Mt Holland Lithium Project IWL/TSF Design Report*, Perth, Western Australia
4. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
5. Department of Water and Environmental Regulation (DWER) 2020, *Guideline: Environmental Siting*, Joondalup, Western Australia.
6. DWER 2020, *Guideline: Risk Assessments*, Joondalup, Western Australia.
7. Environmental Protection Authority (EPA) 2020, *Environmental Impact Assessment (Part IV Divisions 1 and 2) Procedures Manual*, Environmental Protection Authority, Joondalup, Western Australia.

## Appendix 1: Summary of applicant's comments on risk assessment and draft conditions

Condition	Summary of applicant's comment	Department's response
Works approval, front page	Covalent has moved from Level 18, 109 St Georges Terrace to Level 17, 109 St Georges Terrace, Perth	This changes has been accepted
Works approval, front page	Premises mining tenements for the IWL/TSF should also include M77/1066 which covers TSF pipeline location	This changes has been accepted
Works approval, Schedule 1	A high-quality site layout / prescribed premises boundary map is now available. Please replace Figure 1 in Schedule 1: Maps with the new version (supplied)	This changes has been accepted
Works approval, Table 4	Note 4 of Table 4 requires metals to be monitored as total metals. The applicant notes that existing works approval (W6499/2021/1) allow for baseline ambient groundwater quality to be analyzed as dissolved metals and that a 'chemical suite' has been developed for this. The applicant requests that note 4 be removed so that ambient groundwater quality can be tested as dissolved metals.	This changes has been accepted
Works approval, Table 1, Item 1, final dot point	To ensure consistency of language, the applicant requests that reference to "compacted clayey fill" be amended to "backfilled with aggregate".	This changes has been accepted
Works approval, Table 1, Item 2, Decant dot point 3	To make a clear distinction between various 'pieces' of infrastructure, the applicant has refined the language that was in the works approval application, so that the IWL/TSF decant pond is "formed" rather than "constructed". The applicant proposes that text be amended.	This changes has been accepted
Works approval, Table 5, throughout	Three references to IWL/TSF as "TSF4" should be changed to "IWL/TSF" to be consistent with the rest of the works approval	This changes has been accepted
Decision report, front	Premises mining tenements for the IWL/TSF should also include	This changes has been accepted

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Condition	Summary of applicant's comment	Department's response
page	M77/1066 which covers TSF pipeline location	
Decision report, Section 2.3	The applicant has confirmed that total area of the IWL/TSF project will be 82 hectares and has clarified that 1.8 ha has been previously cleared (not 4.24 ha) and that 80.2 ha remains to be cleared (not 110.68 ha).	This changes has been accepted
Section 2.5.1, final paragraph	To make a clear distinction between various 'pieces' of infrastructure, the applicant has refined the language that was in the works approval application, so that the IWL/TSF decant pond is "formed" rather than "constructed".  The applicant proposes that text be amended.	This changes has been accepted
Decision report, Section 2.5.2, 3 <sup>rd</sup> paragraph	To ensure consistency of language, the applicant requests that reference to "compacted clayey fill" be amended to "backfilled with aggregate".	This changes has been accepted
Decision report, Table 2 IWL/TSF	The applicant notes that tailing deposition after evaporative drying is better described as "partially saturated", rather than "unsaturated". The applicant requests a change in terminology related to the IWL/TSF tailing deposition.	This changes has been accepted
Decision report, Section 3.2	Regarding the stakeholder consultation response from DMIRS, Covalent has provided an RFI response that covers items outlined in section 3.2.	This is noted by the Delegated Officer and details have been included in section 3.2 of this Decision Report

## Appendix 2: Application validation summary

SECTION 1: APPLICATION SUMMARY	
<b>Application type</b>	
Works approval	<input checked="" type="checkbox"/>
Date application received	20/03/2022
<b>Applicant and Premises details</b>	
Applicant name/s (full legal name/s)	Covalent Lithium Pty Ltd
Premises name	Earl Grey Lithium Mine
Premises location	The TSF Project Area will be located on mining tenements G77/137 and M77/1080.
Local Government Authority	Shire of Yilgarn
<b>Application documents</b>	
HPCM file reference number:	DER2022/000129-3, A2090931
Key application documents (additional to application form):	<p>Supporting document, containing:</p> <ul style="list-style-type: none"> <li>• Ministerial statements</li> <li>• Design Report (including relevant attachments/studies/investigations)</li> <li>• Operations Manual</li> <li>• Detailed Design Drawings</li> <li>• Zone A Laboratory Testing and Density Specification</li> <li>• Construction Environmental Management Plan.</li> </ul>
<b>Scope of application/assessment</b>	
Summary of proposed activities or changes to existing operations.	<p>Construction of a new Integrated Waste Landform (IWL) / Tailings Storage Facility (TSF) for the disposal of 1.2 Mtpa of 'wet' tailings, including the following supporting infrastructure:</p> <ul style="list-style-type: none"> <li>• Access roads, haul roads and tracks</li> <li>• Tailings delivery pipeline, spigots and associated equipment including groundwater monitoring bores and instrumentation</li> <li>• Decant structure, return water pond, and return water pipeline to the processing plant</li> <li>• Mine waste rock landform</li> <li>• Surface water and drainage diversions.</li> </ul>

**Category number/s (activities that cause the premises to become prescribed premises)**

**Table 1: Prescribed premises categories**

Prescribed premises category and description	Proposed production or design capacity	Proposed changes to the production or design capacity (amendments only)
<p>Category 5: Processing or beneficiation of metallic or non metallic ore: Prescribed Premises on which:</p> <ul style="list-style-type: none"> <li>a) Metallic or non metallic ore is crushed, ground, milled or otherwise processed; or</li> <li>b) Tailings from metallic or non metallic ore are reprocessed; or</li> <li>c) Tailings or residue from metallic or non metallic ore are discharged into a containment cell or dam.</li> </ul>	1.2 Mtpa	N/A

**Legislative context and other approvals**

as the applicant referred, or do they intend to refer, their proposal to the EPA under Part IV of the EP Act as a significant proposal?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Referral decision No: N/A Managed under Part V <input type="checkbox"/> Assessed under Part IV <input checked="" type="checkbox"/>
Does the applicant hold any existing Part IV Ministerial Statements relevant to the application?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Ministerial statement No: MS1118 and MS1167 EPA Report No: 1651 and 1697 respectively.
Has the proposal been referred and/or assessed under the EPBC Act?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Reference No: Assessment number 2017-7950
Has the applicant demonstrated occupancy (proof of occupier status)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Certificate of title <input type="checkbox"/> General lease <input checked="" type="checkbox"/> Expiry: G77/137 – 18/02/2042 (holder MH Gold Pty Ltd). Note: this tenement was not listed in Attachment 1A, however I double checked holder). Mining lease / tenement <input checked="" type="checkbox"/> Expiry: M77/1080 – 12/12/2025 (holders Montague Resources Australia Pty Ltd and SQM Australia Pty Ltd). Other evidence <input type="checkbox"/> Expiry:
Has the applicant obtained all relevant planning approvals?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	Approval: Expiry date: If N/A explain why? Managed under Part IV (MS1118 and MS1167) and Part V of the EP Act, and the Mining Act (Mining Proposal).
Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	CPS No: N/A Approximately 82 ha proposed to be cleared. Clearing approved under Part IV MS 1118.
Has the applicant applied for, or have an existing CAWS Act clearing licence in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Application reference No: N/A Licence/permit No: N/A
Has the applicant applied for, or have an existing RIWI Act licence or permit in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Application reference No: N/A Licence/permit No: N/A Licence / permit not required.

<p>Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>Name: N/A  Type:  Has Regulatory Services (Water) been consulted?  Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>  Regional office:  Note: The project area is located within the Westonia Groundwater Area (Status – To be developed). Waste will be discharged to the TSF.</p>
<p>Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>Name: N/A  Priority: N/A  Are the proposed activities/ landuse compatible with the PDWSA (refer to <a href="#">WQPN 25</a>)?  Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/></p>
<p>Is the Premises subject to any other Acts or subsidiary regulations (e.g. <i>Dangerous Goods Safety Act 2004, Environmental Protection (Controlled Waste) Regulations 2004, State Agreement Act xxxx</i>)</p>	<p>Yes <input type="checkbox"/> No <input type="checkbox"/></p>	<p>Mining Act 1978  Part IV EP Act</p>
<p>Is the Premises within an Environmental Protection Policy (EPP) Area?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>N/A</p>
<p>Is the Premises subject to any EPP requirements?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>N/A</p>
<p>Is the Premises a known or suspected contaminated site under the <i>Contaminated Sites Act 2003</i>?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>Classification: N/A  Date of classification: N/A</p>