Government of Western Australia
Department of Water and Environmental Regulation

Works Approval

Works approval number	W6460/2020/1
Works approval holder	Covalent Lithium Pty Ltd
ACN	623 090 139
Registered business address	Level 17 109 St Georges Terrace PERTH WA 6000
DWER file number	DER2020/000521
Duration	12/02/2021 to 11/02/2026
Date of issue	12/02/2021
Date of Amendment	21 April 2023
Premises details	Earl Grey Lithium Project – Concentrator Southern Cross, WA Mining tenements: G77/129, G77/130, G77/131, G77/133, G77/134, G77/136, L77/205, L77/207, L77/208, L77/295, L77/296, L77/298, L77/313, L77/322, L77/323, M77/1065, M77/1066 and M77/1080 As defined by the coordinates in Schedule 2

Prescribed premises category description (Schedule 1, *Environmental Protection Regulations 1987*)	**Assessed production capacity**
Category 5: Processing or beneficiation of metallic or non-metallic ore	2,000,000 tonnes per annual period.
Category 12: Screening etc. of material	500,000 tonnes per annual period

This works approval is granted to the Works Approval Holder, subject to the attached conditions, on 21 April 2023, by:

Lauren Edmands
Digitally signed by Lauren Edmands
Date: 2023.04.21 10:55:09 +08'00'

Lauren Edmands
MANAGER, RESOURCE INDUSTRIES
REGULATORY SERVICES

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

Interpretation

In this works approval:

(a) the words ‘including’, ‘includes’ and ‘include’ in conditions mean “including but not limited to”, and similar, as appropriate;

(b) where any word or phrase is given a defined meaning, any other part of speech or other grammatical form of that word or phrase has a corresponding meaning;

(c) where tables are used in a condition, each row in a table constitutes a separate condition;

(d) any reference to an Australian or other standard, guideline, or code of practice in this works approval:

  (i) if dated, refers to that particular version; and

  (ii) if not dated, refers to the latest version and therefore may be subject to change over time;

(e) unless specified otherwise, any reference to a section of an Act refers to that section of the EP Act; and

(f) unless specified otherwise, all definitions are in accordance with the EP Act.

NOTE: This works approval requires specific conditions to be met but does not provide any implied authorisation for other emissions, discharges, or activities not specified in this works approval.

Works approval conditions

The works approval holder must ensure that the following conditions are complied with:

Construction phase

Infrastructure and equipment

1. The works approval holder must:

(a) construct the infrastructure;

(b) in accordance with the corresponding design and construction requirements; and

(c) at the corresponding infrastructure location.

as set out in Table 1.

Table 1: Design and construction requirements

	Infrastructure	Design and construction requirements	Infrastructure location
1.	Concentrator (Stage 1) Primary and Secondary Crushing Circuit	• Concentrator (Stage 1) Primary and Secondary Crushing Circuit comprised of the following infrastructure and equipment: - Run of Mine (ROM) Pad - ROM bin - Crushing plant circuit • Water sprays to be installed at the ROM bin and transfer points in the crushing circuit. • Two insertable type dust collectors to be installed at the primary crusher and the screen within crushing circuit.	
2.	Concentrator (Stage 2) Processing plant and associated infrastructure.	• Concentrator (Stage 2) Processing plant comprised of the following infrastructure and equipment: - Tertiary crushing circuit, including bag house style dust collectors installed at the crushed ore stockpile reclaim tunnel feeders to conveyor transfer points, and classification and mica removal circuit. - Dense medium circuit - Grinding and magnetic separation circuit (grinding and desliming, magnetic removal) - Flotation circuit - Product handling circuit; and - Reagent storage area~~s~~, including hydrocarbon and water treatment plant reagents storage, containment areas. • Layout of concentrator infrastructure to be constructed in accordance with Schedule1, Figure 2.	Schedule 1, Figure 2.

	Infrastructure	Design and construction requirements	Infrastructure location
		• Bag house style dust collector installed at the crushed ore stockpile reclaim tunnel feeders to conveyor transfer points.	
		• Bunded containment areas as depicted in blue within Schedule 1, Figure 4 to be concrete lined. • Bunded containment areas as depicted in green within Schedule 1, Figure 4 to have a compacted hardstand with the following properties: - Modified maximum dry density: 95% - Liquid limit: <30% max - Plasticity index: 8 - 15% - Linear Shrinkage: 2 - 8% - Permeability: 5 x 10^{-8} to 5 x 10^{-6} m/s. • Bunded containment areas as depicted in green in Schedule 1, Figure 4 to be graded so that any run-off is captured by a sump. • Hydrocarbons and water treatment plant reagents to be stored within self-bunded tanks or within a bunded concrete lined area with a minimum capacity of 110% of the largest container stored within it or 25% of the volume of all containers, whichever is larger.	Schedule 1, Figure 4
3.	Stormwater management infrastructure	• Stormwater management berms, culverts and drainage channels to be constructed in the locations outlined within Schedule 1, Figure 3. • Stormwater management berms, culverts and drainage channels to be constructed to divert clean surface water flow into the stormwater settlement basins.	Schedule 1, Figure 3.
		• Stormwater settlement basins constructed in the locations outlined in Schedule 1, Figure 2. • Combined design capacity of the three stormwater settlement ponds to be sized to contain a 1% AEP 24-hour rain fall event. • Each pond to have a freeboard capacity of 300 – 500 mm to the embankment crest.	Schedule 1, Figure 2.
4.	Crushing and screening plant	• Crushing and screening plant to comprised of: - Vibrating grizzly with 150 mm aperture; and - Jaw crusher.	Schedule 1, Figure 1

	Infrastructure	Design and construction requirements	Infrastructure location
		• Crushing and screening plant to be located within the orange outlined area depicted within Schedule 1, Figure 1. • Water sprays to be installed at crushing and screening points. • Crushing and screening plant and associated stockpiles to be located within a bunded area which will contain any potentially contaminated stormwater runoff.	
5.	RO Brine discharge pipeline between the south ventilation raise and the RO Plant	• Pipeline to be constructed from HDPE, and installed to meet the relevant Australian Standards (AS/NZS 4130, AS/NZS 4131 and AS2033) • Pipeline to be installed underground within trenches. Pipeline constructed above ground to be installed within secondary containment adequate to contain any spill for a period equal to the time between routine inspections.	Schedule 1, Figure 2.

Compliance reporting

2. The works approval holder must within 30 calendar days of an item of infrastructure required by condition 1 being constructed:

(a) undertake an audit of their compliance with the requirements of condition 1; and

(b) prepare and submit to the CEO an Environmental Compliance Report on that compliance.

3. The Environmental Compliance Report required by condition 2, must include as a minimum the following:

(a) certification by a suitably qualified and experienced Engineer (eligible for membership of the Institute of Engineers, Australia) that the items of infrastructure or component(s) thereof, as specified in condition 1, have been constructed in accordance with the relevant requirements specified in condition 1;

(b) as constructed plans and a detailed site plan for each item of infrastructure or component of infrastructure specified in condition 1; and

(c) be signed by a person authorised to represent the works approval holder and contains the printed name and position of that person.

Environmental commissioning phase

Environmental commissioning requirements

4. The works approval holder may only commence environmental commissioning of the concentrator processing plant once the Environmental Compliance Report has been submitted for that item of infrastructure in accordance with condition 3 of this works approval.

5. Any environmental commissioning activities undertaken for an item of infrastructure specified in Table 2 may only be carried out:

(a) in accordance with the corresponding commissioning requirements; and

(b) for the corresponding authorised commissioning duration.

Table 2: Environmental commissioning requirements

	Infrastructure	Commissioning requirements	Authorised commissioning duration
1.	Concentrator (Stage 1 and Stage 2) processing plant and associated infrastructure.	• Dust suppression water sprays to be tested to ensure they are functional • Dust collectors to be tested to ensure they are operating as per manufactures specifications • During testing phase where ore is being processed dust suppression water sprays must be operating • Stormwater is to be managed so contaminated or potentially contaminated stormwater is captured to prevent release into the environment • Spills or leaks of hydrocarbons/ chemicals / reagents must be cleaned up immediately • Concrete bunds and sumps shall be leak tested • Any process control alarms for loss of containment shall be tested • Any reagent / chemical or hydrocarbon pipelines shall be hydrotested • Any pipeline flow meters or pressure meters shall be calibrated	For a period not exceeding 10 months

Environmental commissioning report

6. The works approval holder must submit to the CEO an Environmental Commissioning Report within 60 calendar days of the completion date of environmental commissioning for each item of infrastructure specified in Table 2.

7. The works approval holder must ensure the Environmental Commissioning Report required by condition 6 of this works approval includes the following:

(a) a summary of the environmental commissioning activities undertaken, including timeframes;

(b) a summary of the environmental performance of each item of infrastructure or equipment as constructed or installed.

(c) a review of the works approval holder's performance and compliance against the conditions of this works approval; and

(d) where they have not been met, measures proposed to meet the manufacturer's design specifications and the conditions of this works approval, together with timeframes for implementing the proposed measures.

Time limited operations phase

Commencement and duration

8. The works approval holder may only commence time limited operations for an item of infrastructure identified in condition 1:

(a) where the item of infrastructure is not authorised to undertake environmental commissioning, the Environmental Compliance Report as required by condition 2 has been submitted by the works approval holder for that item of infrastructure; and

(b) where the item of infrastructure is authorised to undertake environmental commissioning under condition 4, the Environmental Commissioning Report for that item of infrastructure as required by condition 6 has been submitted by the works approval holder.

9. The works approval holder may conduct time limited operations for an item of infrastructure specified in condition 1:

(a) for a period not exceeding 180 calendar days from the day the works approval holder meets the requirements of condition 8 for that item of infrastructure: or

(b) until such time as a licence for that item of infrastructure is granted in accordance with Part V of the Environmental Protection Act 1986, if one is granted before the end of the period specified in condition 9(a)

Time limited operations requirements and emission locations

10. During time limited operations, the works approval holder must ensure that the premises infrastructure and equipment listed in Table 3 and located at the corresponding infrastructure location is maintained and operated in accordance with the corresponding operational requirement set out in Table 3.

Table 3: Infrastructure and equipment requirements during time limited operations

	Site infrastructure and equipment	Operational requirement	Infrastructure location
1	Concentrator (Stage 1 and Stage 2) processing plant and associated infrastructure.	Dust suppression water sprays to be operating when processing plant is operating Dust collectors to be operating when processing plant is operating and are to be maintained as per manufacturers specifications Stormwater is to be managed so contaminated or potentially contaminated stormwater is captured to prevent release into the environment.	As shown in Figure 1 of Schedule 1
2	Pipelines (tailings and return water) between processing plant and tailings facility	Must be inspected daily for visual integrity and leak assessment and a written log maintained with each inspection signed off by the person who conducted the inspection	Not shown

	Site infrastructure and equipment	Operational requirement	Infrastructure location
3	Stormwater management infrastructure	Stormwater settlement ponds/basins to have a minimum of 300 mm freeboard maintained.	As shown in Figure 2, of Schedule 1
4	Crushing and Screening plant	Dust suppression water sprays to be operating when plant is operating. Stormwater is to be managed so contaminated or potentially contaminated stormwater is captured to prevent release into the environment.	As shown in Figure 1 of Schedule 1
5	RO Plant.	Brine to be monitored via online instrumentation Discharge to the South Ventilation Raise allowed up to 120,000 µS/cm, with online readings >120,000 µS/cm confirmed by laboratory analysis prior to amendment of discharge location Brine >120,000 µS/cm to be diverted to other approved discharge locations in accordance with condition 11.	As shown in Figure 2 of Schedule 1
6	RO Brine discharge pipeline between the south ventilation raise and the RO Plant	Pipeline to be inspected daily for visual integrity and leak assessment and a written log maintained with each inspection signed off by the person who conducted the inspection	

11. During time limited operations, the works approval holder must ensure that the emission(s) specified in Table 4 are discharged only from the corresponding discharge point(s) and only at the corresponding discharge point location(s).

Table 4: Authorised discharge points

Emission	Discharge point	Discharge point location
Tailings	Earl Grey IWL/TSF	As shown on Schedule 1: Maps
RO Plant Brine	Earl Grey mine pit South Ventilation Raise	

Compliance reporting

12. The works approval holder must submit to the CEO a report on the time limited operations within 60 calendar days of the completion date of time limited operations or 30 calendar days before the expiration date of the works approval, whichever is the sooner.

13. The works approval holder must ensure the report required by condition 12 includes the following:

(a) a summary of the time limited operations, including timeframes and amount of material processed.

(b) a summary of the environmental performance of all infrastructure as constructed or installed (as applicable).

(c) a review of performance and compliance against the conditions of the works approval and the Environmental Commissioning Report; and

(d) where the manufacturer's design specifications and the conditions of this works approval have not been met, what measures will the works approval holder take to meet them, and what timeframes will be required to implement those measures.

Records and reporting (general)

14. The works approval holder must record the following information in relation to complaints received by the works approval holder (whether received directly from a complainant or forwarded to them by the Department or another party) about any alleged emissions from the premises:

(a) the name and contact details of the complainant, (if provided);

(b) the time and date of the complaint;

(c) the complete details of the complaint and any other concerns or other issues raised; and

(d) the complete details and dates of any action taken by the works approval holder to investigate or respond to any complaint.

15. The works approval holder must maintain accurate and auditable books including the following records, information, reports, and data required by this works approval:

(a) the works conducted in accordance with condition 1; and

(b) complaints received under condition 14.

16. The books specified under condition 15 must:

(a) be legible;

(b) if amended, be amended in such a way that the original version(s) and any subsequent amendments remain legible and are capable of retrieval;

(c) be retained by the works approval holder for the duration of the works approval; and

(d) be available to be produced to an inspector or the CEO as required.

Definitions

In this works approval, the terms in Table 5 have the meanings defined.

Table 5: Definitions

Term	Definition
AEP	Annual exceedance probability.
AS 2033	AS 2033-1980 Installation of polyethylene pipe systems. This Standard covers installation and jointing techniques for above and below ground pipes for pressure applications, soil waste and vent (SWV), sewer and drain, and as liners.
AS/NZS 4130	AS/NZS 4130:2018 Polyethylene pipe for pressure applications This Standard provides a standard specification for manufacturers and purchasers of polyethylene pipes used for pressure applications.
AS/NZS 4131	AS/NZS 4131:2010 Polyethylene compounds for pressure pipes and fittings Specifies requirements for polyethylene compounds (PE 80 and PE 100) suitable for manufacturing polyethylene pipes and fittings for pressure applications. Minimum requirements are given for materials, additives and long-term pressure performance.
annual period	a 12-month period commencing from 1 January until 31 December of the immediately following year.
books	has the same meaning given to that term under the EP Act.
CEO	means Chief Executive Officer. CEO for the purposes of notification means: Director General Department administering the *Environmental Protection Act 1986* Locked Bag 10 Joondalup DC WA 6919 info@dwer.wa.gov.au
Department	means the department established under section 35 of the *Public Sector Management Act 1994* and designated as responsible for the administration of Part V Division 3 of the EP Act.
discharge	has the same meaning given to that term under the EP Act.
emission	has the same meaning given to that term under the EP Act.
Environmental Compliance Report	means a report to satisfy the CEO that the conditioned infrastructure has been constructed in accordance with the works approval.
EP Act	*Environmental Protection Act 1986* (WA).
EP Regulations	*Environmental Protection Regulations 1987* (WA).

Term	Definition
HDPE	High-density polyethylene
premises	the premises to which this licence applies, as specified at the front of this licence and as shown on the premises map (Figure 1) in Schedule 1 to this works approval.
prescribed premises	has the same meaning given to that term under the EP Act.
works approval	refers to this document, which evidences the grant of the works approval by the CEO under section 54 of the EP Act, subject to the conditions.
works approval holder	refers to the occupier of the premises being the person to whom this works approval has been granted, as specified at the front of this works approval.

END OF CONDITIONS

Schedule 1: Maps

Premises map

The boundary of the prescribed premises is shown in the map below (**Figure 1**).

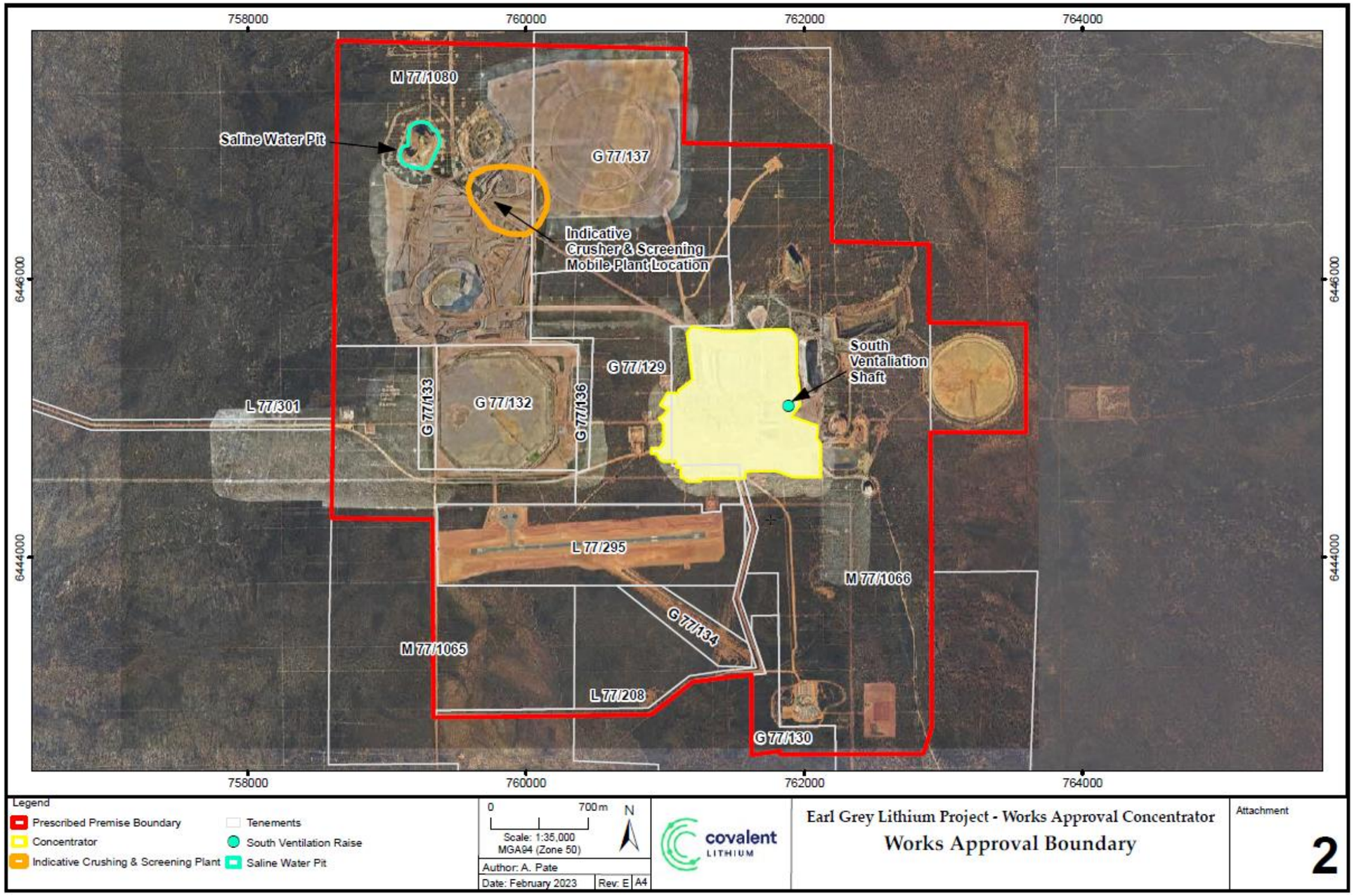

Figure 1: Map of the boundary of the prescribed premises

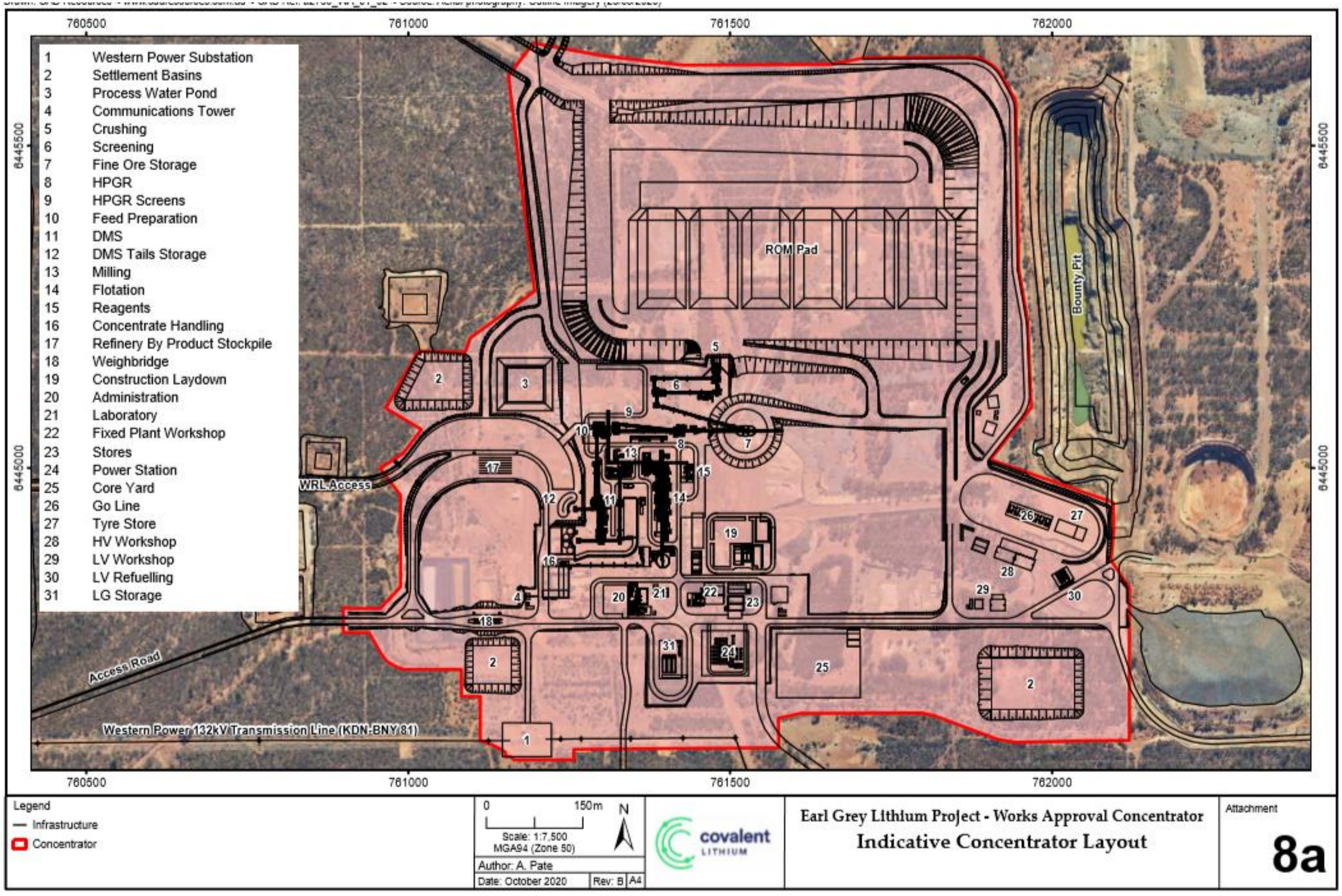

Figure 2: Layout and location of concentrator infrastructure

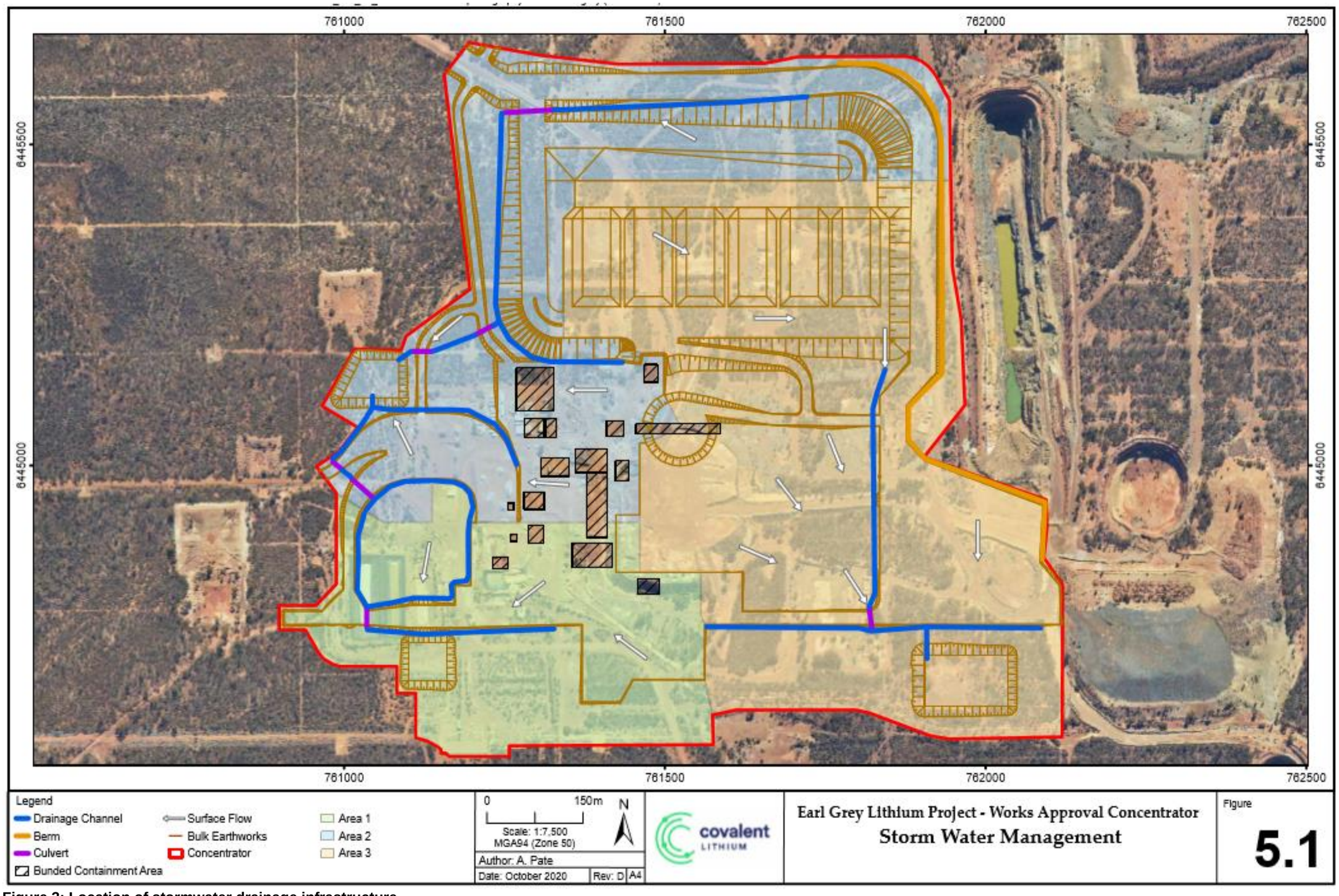

Figure 3: Location of stormwater drainage infrastructure.

Drawn: CAD Resources ~ www.cadresources.com.au ~ CAD Ref: a2765_WA_01_05 ~ Source: Aerial photography: Outline Imagery (23/05/2020)

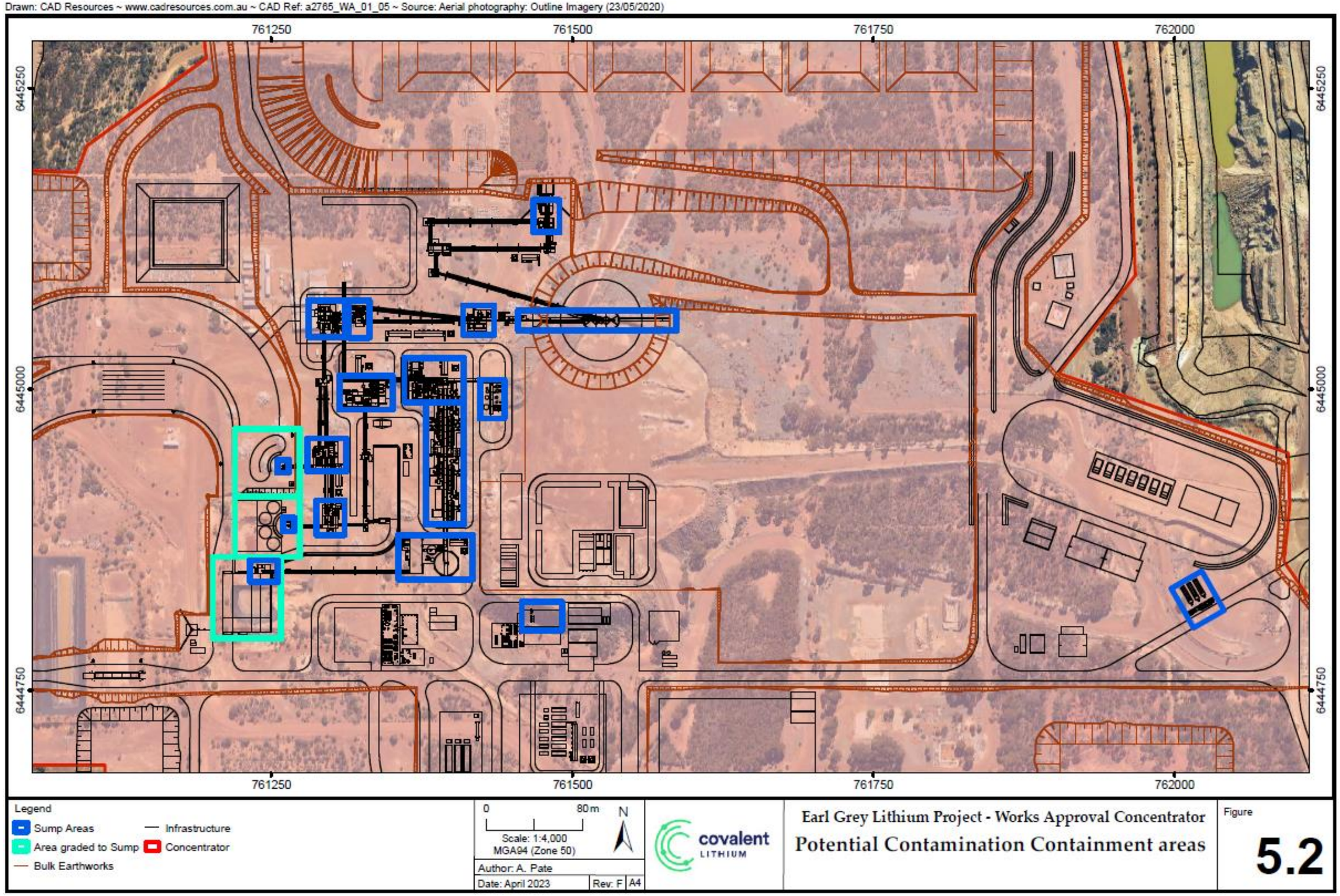

Figure 4: Location of bunded containment areas within the concentrator area.

Schedule 2: Premises boundary

The premises boundary is defined by the coordinates in Table 6.

Table 6: Premises boundary coordinates (GDA 94 projected to MGA94 Zone 50)

Pnt	MGA_East	MGA_North
1	762916	6442772
2	762855	6442587
3	762226	6442586
4	761825	6442583
5	761825	6442608
6	761621	6442580
7	761621	6443156
8	761439	6443137
9	761195	6443102
10	760898	6442870
11	760346	6442862
12	759353	6442850
13	759334	6442850
14	759325	6444273
15	758601	6444282
16	758613	6444929
17	758614	6444980
18	758649	6447712
19	761151	6447652
20	761138	6447117
21	761134	6446977
22	761468	6446968
23	762194	6446954
24	762199	6446270
25	762899	6446249
26	762898	6445687
27	763593	6445678
28	763594	6444897
29	762906	6444899
30	762916	6443895
31	762916	6442772