



Works Approval

Works approval number	W6946/2024/1
Works approval holder	Perdaman Chemicals and Fertilisers Pty Ltd
ACN	121 263 741
Registered business address	Alluvion Building, Level 17 58 Mounts Bay Road PERTH WA 6000
DWER file number	DER2024/0000272
Duration	03/10/2024 to 02/10/2025
Date of issue	03/10/2024
Premises details	Project Ceres (Portside) Legal description - Lot 3003 on Plan 421422 As defined by the coordinates in Schedule 2

Prescribed premises category description (Schedule 1, <i>Environmental Protection Regulations 1987</i>)	Assessed production capacity
Category 70: Screening, etc. of material: premises on which material extracted from the ground is screened, washed, crushed, ground, milled, sized or separated.	Less than 50,000 tonnes per year

This works approval is granted to the works approval holder, subject to the attached conditions, on 03 October 2024, by:

MANAGER, PROCESS INDUSTRIES

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

Works approval history

Date	Reference number	Summary of changes
03/10/2024	W6946/2024/1	New works approval.

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 and/or install the infrastructure and/or equipment;
 - (b) in accordance with the corresponding design and construction / installation requirements; and
 - (c) at the corresponding infrastructure location, as set out in Table1

Table 1: Design and construction / installation requirements

	Infrastructure	Design and construction / installation requirements	Infrastructure location
1.	Crushing and screening equipment	<p>Plant and equipment to be installed at the premises includes:</p> <p>(a) <u>Primary equipment:</u></p> <ol style="list-style-type: none"> (i) 1 x jaw crusher (ii) 2 x secondary cone crushers (iii) 1 x incline screen (iv) 1 x track mounted stacker <p>(b) <u>Supporting equipment:</u></p> <ol style="list-style-type: none"> (i) 1 x excavator (loading tool or equivalent) (ii) 1 x loader (iii) 1 x dust suppression water tank with at least 9,000L capacity and associated generator (iv) 1 x water cart with at least 40,000L capacity <p>(c) <u>Backup equipment:</u></p> <ol style="list-style-type: none"> (i) 1 x jaw crusher (ii) 1 x secondary cone crusher (iii) 1 x incline screen (iv) 1 x excavator (loading tool or equivalent) (v) 1 x loader 	Within the authorised areas defined as “Option 1” or “Option 2” as shown in Schedule 1: Figure 1
2.	Dust suppression	<p>(a) Dust suppression sprays shall be installed on all material transfer station locations on the jaw crusher, cone crushers, screen and product stackers (as indicatively shown in Figure 2.</p> <p>(b) Track mounted stacker and Secondary cone crusher equipment transfer points shall be fitted with partial enclosure (via transfer chutes) with sprays.</p> <p>(c) A water fogging cannon shall be installed at the premises with sufficient water storage to minimise dust emissions from the crushing and screening plant.</p>	

	Infrastructure	Design and construction / installation requirements	Infrastructure location
3.	Noise controls	All plant to be equipped with exhaust mufflers from the Original Equipment Manufacturer (OEM) or systems meeting or exceeding the OEM specifications.	
4.	Stormwater controls	Earthen bunds at least 750mm high shall be constructed around plant equipment and process material stockpiles to prevent surface water run-off from the crushing and screening plant and associated processed material stockpiles being discharged from the premises.	
5.	Dust monitor	<p>(a) 2 x portable dust monitors (ETS Tp-2510 Dust Concentration Sensors or equivalent) to be installed on the premises and appropriately¹ located between operational crushing and screening equipment and the following receptors identified in Figure 1:</p> <ul style="list-style-type: none"> (i) the nearest heritage site; and (ii) Pilbara Port offices. <p>(b) The portable dust monitors must be capable of collecting continuous real-time measurements of PM₁₀ and PM_{2.5} as a 10min average ug/m³ value.</p>	

Note 1: Dust monitors should be situated at a location that enables the detection of dust impacts on the nearest heritage site and Pilbara Ports offices and takes into consideration relevant factors such as the prevailing wind direction and topography as they relate to the location of the operating plant and sensitive receptors.

2. During construction and installation activities, the works approval holder must manage dust emissions by:
 - (a) proactively wetting down unsealed roads and exposed areas with water;
 - (b) limiting vehicle speeds to minimise dust generation; and
 - (c) conducting visual dust monitoring and implement additional dust controls where necessary to mitigate dust emissions from construction activities.

Compliance reporting

3. The works approval holder must within 30 calendar days of an item of infrastructure or equipment required by condition 1 being constructed and/or installed:
 - (a) undertake an audit of their compliance with the requirements of condition(s) 1; and
 - (b) prepare and submit to the CEO an Environmental Compliance Report on that compliance.
4. The Environmental Compliance Report required by condition 3, must include as a minimum the following:
 - (a) certification by a person authorised to represent the works approval holder 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.

Time limited operations phase

Commencement and duration

5. The works approval holder may only commence time limited operations for an item of infrastructure identified in condition 1 where the Environmental Compliance Report as required by condition 3 has been submitted by the works approval holder for that item of infrastructure.
6. The works approval holder may conduct time limited operations for an item of infrastructure specified in condition 1 (as applicable) for a period not exceeding 90 calendar days from the day the works approval holder meets the requirements of condition 5 for that item of infrastructure.

Infrastructure and equipment

7. The works approval holder must ensure that crushing and screening activities only utilise the authorised equipment as specified in Table 2.

Table 2: Authorised equipment

Crushing and Screening location	Authorised Equipment
Crushing and screening equipment	(a) <u>Primary equipment:</u> (i) 1 x jaw crusher (ii) 2 x secondary cone crushers (iii) 1 x incline screen (iv) 1 x track mounted stacker (b) <u>Supporting equipment:</u> (i) 1 x excavator (loading tool or equivalent) (ii) 1 x loader (iii) 1 x dust suppression water tank with at least 9,000L capacity and associated generator (iv) 1 x water cart with at least 40,000L capacity
Backup crushing and screening equipment ¹	(i) 1 x jaw crusher (ii) 1 x secondary cone crusher (iii) 1 x incline screen (iv) 1 x excavator (loading tool or equivalent) (v) 1 x loader

Note 1: Equipment listed as "Back-up equipment" is only authorised to be used as replacement for equipment authorised for the premises and not in addition to that equipment.

8. The works approval holder must ensure that the site 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

Site infrastructure and equipment	Operational requirement	Infrastructure location
<p>Authorised crushing and screening equipment as listed in Table 2.</p>	<ul style="list-style-type: none"> a) The mobile crushing and screening plant must only operate at: <ul style="list-style-type: none"> (i) locations “Option 1” or “Option 2” specified in Figure 1; and (ii) locations that are greater than 60 m from heritage sites (as depicted in Figure 1); b) Water systems, including fogging system, to be used to minimise dust generation at material transfer points, crusher, screen and material stockpiles whenever materials are being processed by the crushing and screening plant; c) Fogging system to be operated such that spray mist is directed at dust sources and/or dust plumes and sufficient droplet size is maintained to minimise dust emissions from the crushing and screening plant; d) Partial enclosure of transfer points (via transfer chutes) with sprays on the track mounted stacker and secondary cone crusher equipment (specified in Table 2); e) The track mounted stacker is lowered as low as possible when stacking commences and the drop height is minimised to as low as reasonably practicable at all other times to reduce material drop height; f) Water storage tank to be located adjacent to the crushing and screening plant location to provide adequate volumes of water for dust suppression; g) Sufficient quantities of water are to be maintained/stored on the premises to ensure daily dust suppression requirements are met; h) Chemical dust suppressants to be applied, or water trucks to be operated, on roads and open areas to ensure dust generation is kept to a minimum; i) Stockpiles must not exceed 5 m in height above ground level; j) Maximum of 3 stockpiles operated at any one time within the premises; k) Plant to be operated with exhaust mufflers from the Original Equipment Manufacturer (OEM) or systems meeting or exceeding the OEM specifications; l) Plant equipment and process material stockpiles must only be operated within constructed earthen bunds that are at least 750mm in height, that prevent surface water runoff from the crushing and screening plant and process material stockpiles being discharge from the premises; and m) Subject to condition 9, daily throughput shall not exceed 2,500 tonnes. 	<p>Locations detailed as “Option 1” and “Option 2” within Figure 1.</p>

9. The works approval holder must ensure that the total annual production of material does not exceed 50,000 tonnes per annual period.

10. The works approval holder must proactively manage dust generating activities on the premises by:
- conducting daily visual inspections of the premises while operating crushing and screening equipment to monitor for dust control equipment availability, implementation and dust mitigation effectiveness;
 - completing air quality inspection reports on days that pose a higher risk of dust emissions (including but not limited to days where high wind conditions and high temperatures are experienced) that record the management measures that have been implemented to control dust, including watercart load sheets to record total volumes of water used for dust suppression; and
 - utilising weather forecasting tools to inform daily work activities and dust suppression activities to target and mitigate dust emissions from crushing and screening activities.

Monitoring

11. The works approval holder must ensure that all monitoring equipment used on the premises to comply with the conditions of this Works Approval is calibrated, operated and maintained in accordance with the manufacturer's specifications.
12. The works approval holder must, where the requirements for calibration cannot be practicably met, or discrepancy exists in the interpretation of the requirements, bring these issues to the attention of the CEO accompanied with a report comprising details of any modifications to the methods.
13. The works approval holder must undertake monitoring in Table 4 in accordance with the specifications in that table.

Table 4: Monitoring of ambient air quality

Monitoring point reference	Parameter	Unit	Averaging period	Frequency	Method	Management trigger criteria
Mobile dust monitor						
Receptor Monitor 1 ¹	Particulates as PM _{2.5}	µg/m ³	10 minutes	Continuous	As per manufacturer's specifications for 'ETS TP-2510 Dust Concentrator Sensor' ³ .	N/A
Receptor Monitor 2 ²	Particulates as PM ₁₀					80 µg/m ³

Note 1: Mobile dust monitor to be located (and re-located as necessary) between crushing and screening activities and the closest adjacent heritage sites (as shown in Figure 1) for the purposes of detecting dust emissions from crushing and screening activities.

Note 2: Mobile dust monitor to be located (and re-located as necessary) between crushing and screening activities and Pilbara Ports offices to the east (as shown in Figure 1) for the purposes of detecting dust emissions from crushing and screening activities.

Note 3: Near real time monitor with response time of <90 seconds.

14. Immediately upon being notified of management trigger criteria specified in Table 4 being exceeded, the works approval holder must:
- conduct a trigger investigation within 20 minutes of being alerted to the management trigger criteria exceedance to identify any potential cause of the management trigger criteria exceedance; and

- (b) upon identification of a potential on-site source/s during the trigger investigation conducted in accordance with part (a) of this condition, immediately control visible dust emissions by:
 - i. applying additional dust suppression/water loading to crushing and screening plant; and/or
 - ii. altering fogging system operation to increase dust mitigation; and/or
 - iii. increasing moisture conditioning of material; and/or
 - iv. increasing watercart operations on roads and any dust generating areas within the premises; and/or
 - v. limiting works on site to only essential activities to minimise dust generation; and/or
 - vi. decreasing the operating speed of plant and equipment on site; and/or
 - vii. ceasing crushing and screening activities; and/or
 - viii. implementing other dust mitigation measures to reduce dust from premises activities.
- 15.** In the event that the management trigger criteria for a parameter in Table 4 is exceeded, the works approval holder must:
- (a) continue to actively monitor dust levels for the duration of the event (until dust levels return below the management trigger criteria);
 - (b) continue to apply additional dust mitigation measures for the duration of the event;
 - (c) maintain records (including photographic or video footage) of the work area(s) at the time of the exceedance;
 - (d) maintain records of the management trigger event including:
 - i. date(s), time and duration of the event;
 - ii. site specific weather conditions; and
 - iii. management actions that were implemented to reduce dust emissions.

Compliance reporting

- 16.** The works approval holder must submit to the CEO a report on the time limited operations within 30 calendar days of the completion date of time limited operations.
- 17.** The works approval holder must ensure the report required by condition 16 includes the detail specified within Table 5.

Table 5: Time limited operations report

Condition or table	Requirement	Format or form
-	A review of performance and compliance against the conditions of the works approval. 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	None specified.

-	Actual daily production throughputs (tonnes) for prescribed premises categories.	
Condition 13 (Table 4)	Monitoring of ambient air quality (PM ₁₀ and PM _{2.5})	Tabulated dust monitoring data results calculated as 10-minute averages.
Condition 14 and Condition 15	Summary of trigger exceedance events and management action(s) taken that includes but is not limited to, the following: (i) weather conditions experienced at the time of the exceedance (e.g. wind speed and direction); (ii) the location of the plant at the time of the exceedance; and (iii) an assessment of the cause of the exceedance that considers the above information.	None specified.
Condition 18	Complaints summary.	None specified.

Records and reporting (general)

- 18.** 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.
- 19.** 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;
 - (b) any maintenance of infrastructure that is performed in the course of complying with condition 8;
 - (c) total daily category 70 throughput tonnages;
 - (d) inspections and air quality monitoring reports conducted in accordance with condition 10;
 - (e) monitoring programmes undertaken in accordance with condition 13; and
 - (f) complaints received under condition 18.
- 20.** The books specified under condition 19 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 6 have the meanings defined.

Table 6: Definitions

Term	Definition
annual period	a 12-month period commencing from 3 October until 2 October of the immediately following year.
air quality inspection reports	means a report that details relevant site environmental conditions, operational conditions, dust suppression activities, volumes of water applied for the purposes of dust suppression, dust control issues identified, and any corrective or remedial actions undertaken to manage dust emissions.
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 <i>Environmental Protection Act 1986</i> Locked Bag 10 Joondalup DC WA 6919 info@dwer.wa.gov.au
continuous	means to operate with an availability greater than 90 per cent on a calendar monthly basis.
Department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> 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 and/or equipment has been constructed and/or installed in accordance with the works approval.
EP Act	<i>Environmental Protection Act 1986</i> (WA).
EP Regulations	<i>Environmental Protection Regulations 1987</i> (WA).
high wind conditions	means wind speeds above 30km/hr
high temperatures	means air temperatures that exceed 35 degrees Celsius
m	metre
µg/m ³	micrograms per cubic metre
mm	millimetre

Term	Definition
PM _{2.5}	means particulate matter with an aerodynamic diameter of less or equal to 2.5 µm.
PM ₁₀	means particulate matter with an aerodynamic diameter of less or equal to 10 µm and includes PM _{2.5} .
premises	the premises to which this works approval applies, as specified at the front of this works approval 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.
time limited operations	refers to the operation of the infrastructure and equipment identified under this works approval that is authorised for that purpose, subject to the relevant conditions.
waste	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 and plans

Premises map

The boundary of the prescribed premises is shown in the black and white dotted line in the map below (Figure 1).

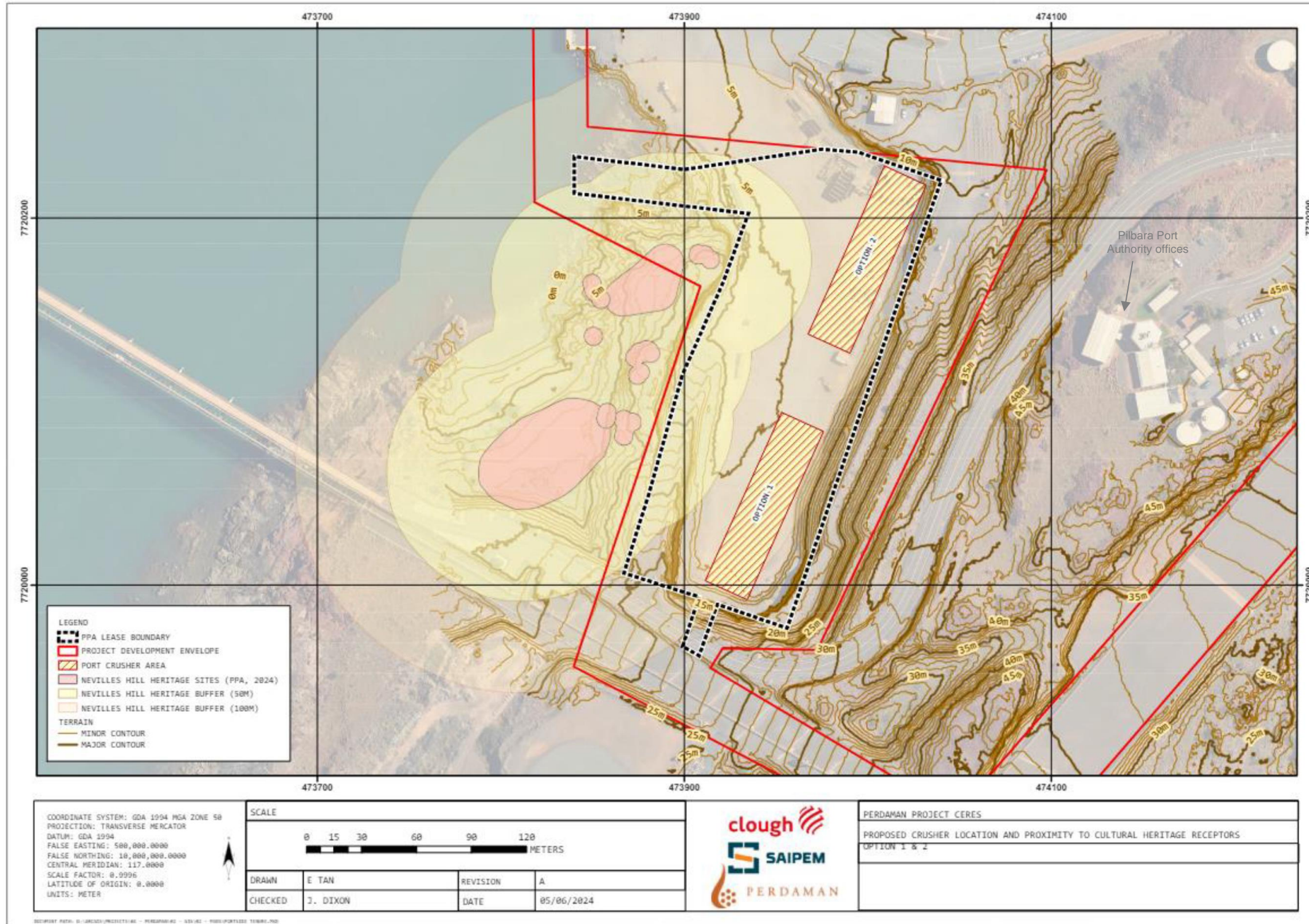
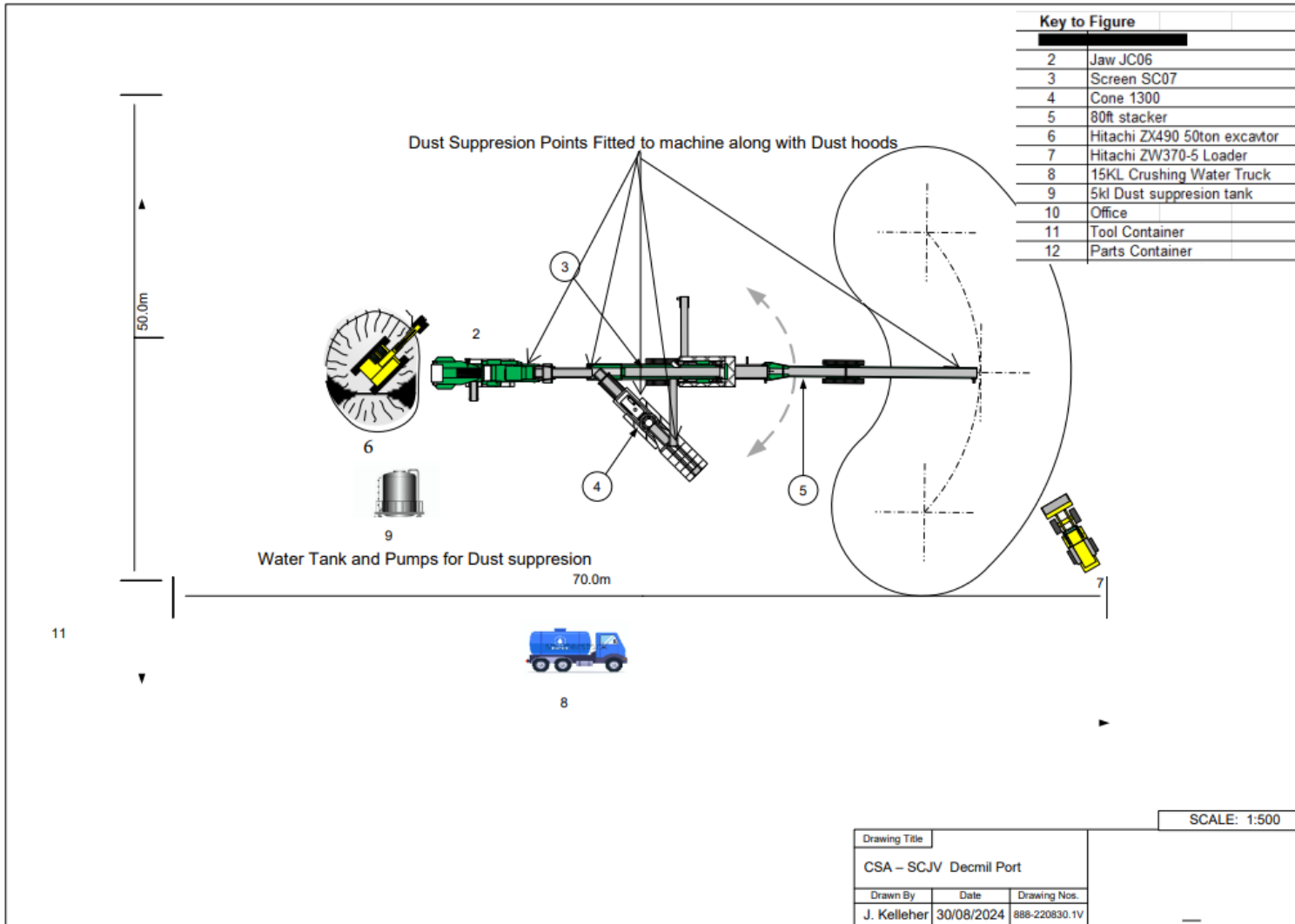


Figure 1: Prescribed premises boundary and authorised locations for crushing and screen plant.

Concept Only – Subject to change



This is typical only. Plant layout and orientation may change depending on sizes required / equipment availability and / or site logistics.

Figure 2: Indicative layout of the crushing and screening equipment showing dust suppression points.

Schedule 2: Premises boundary

The corners of the premises boundary are the coordinates listed in Table 7.

Table 7: Premises boundary coordinates (GDA2020, Zone 50)

	Easting	Northing
1.	473840	7720235
2.	473901	7720228
3.	473976	7720239
4.	473995	7720237
5.	474041	7720222
6.	474018	7720157
7.	473957	7719978
8.	473919	7719991
9.	473909	7719963
10.	473900	7719968
11.	473909	7719995
12.	473868	7720008
13.	473881	7720052
14.	473899	7720116
15.	473921	7720166
16.	473935	7720204
17.	473840	7720215