Government of Western Australia
Department of Water and Environmental Regulation

# Works Approval

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|---|---|
| **Works approval number** | W6873/2023/1 |
| **Works approval holder** | Westpork Pty Ltd |
| **ACN** | 009 148 789 |
| **Registered business address** | 1/7 Foundry Road<br>MAYLANDS WA 6051 |
| **DWER file number** | DER2023/000672 |
| **Duration** | 09/09/2024 to 08/09/2027 |
| **Date of issue** | 09/09/2024 |
| **Premises details** | Westpork 'Mindarra Farm' Piggery Complex<br>1340 Wannamal Road<br>BOONANARRING WA 6503<br><br>Lot 10 on Diagram 80101<br>As shown in the premises map in Schedule 1 |

| Prescribed premises category description (Schedule 1, Environmental Protection Regulations 1987) | Assessed design capacity |
|---|---|
| Category 2: Intensive piggery: premises on which pigs are fed, watered and housed in pens. | Not more than 90,488 Standard Pig Units (SPUs) |

This works approval is granted to the works approval holder, subject to the attached conditions, on 9 September 2024, by:

Daniel Hartnup

Digitally signed by Daniel Hartnup
Date: 2024.09.09 13:54:59 +08'00'

**SNR ENVIRONMENTAL OFFICER, PROCESS INDUSTRIES**
**STATE-WIDE DELIVERY**
an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

# Works approval history

| Date | Ref number | Summary of changes |
|---|---|---|
| 09/09/2024 | W6873/2023/1 | Works approval granted |

# 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 construct the infrastructure listed in Table 1:

(a) in accordance with the corresponding design and construction requirements; and
(b) at the corresponding infrastructure location;

as set out in that table.

**Table 1: Infrastructure design and construction / installation requirements**

| | Infrastructure | Design and construction requirements | Infrastructure location |
|---|---|---|---|
| | ***Mindarra 3 infrastructure*** | | |
| 1 | Anaerobic pond | (a) Must be 60 m long, 60 m wide and 7 m deep;<br>(b) Capacity of the pond must be at least 9,292 $m^3$, excluding freeboard;<br>(c) Pond must be constructed with a single HDPE geomembrane liner with a manufacturer specified thickness of at least 1.5 mm (or equivalent);<br>(d) HDPE geomembrane liner must comply with, and be installed in accordance with, the requirements specified in condition 2; | 'Proposed anaerobic pond' as depicted in Schedule 1 map |

| | Infrastructure | Design and construction requirements | Infrastructure location |
|---|---|---|---|
| | ***Mindarra 4 infrastructure*** | | |
| 2 | 2 x Covered Anaerobic Ponds (CAPs) | Each CAP must be designed and constructed:<br>(a) with a concrete floor with four mixer support blocks for stirrers;<br>(b) with dimensions of 80 m x 80 m from the top of the crest and 8 m deep;<br>(c) with a capacity of 23,858 $m^3$, excluding freeboard;<br>(d) with sides that are lined with a single HDPE geomembrane:<br>(i) with a manufacturer specified thickness of at least 1.5 mm (or equivalent); and<br>(ii) that complies with, and is installed in accordance with, the requirements specified in condition 2;<br>(e) with a cover comprising a single HDPE geomembrane:<br>(i) with a manufacturer specified thickness of at least 2.0 mm (or equivalent); and<br>(ii) that complies with, and is installed in accordance with, the requirements specified in condition 2;<br>(f) such that the base, sides and cover of the CAP are gas tight;<br>(g) with underground trenches to allow the installation of pipes and cables for the transport of influent and effluent in and out of the CAP;<br>(h) with safety vents and gas pressure monitors; | 'Covered Anaerobic Pond (CAP)' as depicted in Schedule 1 map |
| 3 | Flare | (a) Height of flare must be at least 3 m from the as-built ground level;<br>(b) Flare must include an auto ignition system;<br>(c) Flare must be designed to flare up to 8,000 $m^3$/d;<br>(d) Flare must be located in a topographic low point to minimise line-of-sight from the premises boundary; | 'Proposed biogas flare pad', as depicted in Schedule 1 map |
| 4 | Generator | (a) Installed generator must not have a manufacturer-rated power output exceeding 1,000 kW; | 'Proposed generator and gas conditioning pad', as depicted in Schedule 1 map |
| 5 | Evaporation pond 4 | (a) Must be 460 m long, 70 m wide, and 2.5 m deep;<br>(b) Capacity of the pond must be at least 70,051 $m^3$, excluding freeboard;<br>(c) Must be constructed with a single HDPE geomembrane liner with a manufacturer specified thickness of at least 1.5 mm (or equivalent);<br>(d) HDPE geomembrane liner must comply with, and be installed in accordance with, the requirements specified in condition 2; | 'Evaporation pond 4', as depicted in Schedule 1 map |
| 6 | Anaerobic ponds 1a, 1b & 1c, reactor lagoon, facultative lagoon | (a) Ponds must be relined with a single HDPE geomembrane liner with a manufacturer specified thickness of at least 1.5 mm (or equivalent);<br>(b) HDPE geomembrane liner must comply with, and be installed in accordance with, the requirements specified in condition 2; | 'Anaerobic Pond 1a', 'Anaerobic Pond 1b', 'Anaerobic Pond 1b', 'Reactor lagoon', 'Facultative lagoon', as depicted in Sch 1 map |

2. The works approval holder must ensure all HDPE geomembrane liners comply with the properties listed in Table 2, and are constructed in accordance with the requirements specified in that table.

**Table 2: HDPE geomembrane liner installation requirements**

| | Item | Property/construction requirement |
|---|---|---|
| 1 | Liner properties | HDPE liners must have the following properties:<br>(a) Formulated density of 0.94 g/cc or more;<br>(b) Melt index value per ASTM D1238 of less than 1.0 g in 10 minutes;<br>(c) Carbon black content of 2-3%;<br>(d) Minimum tensile strength at yield of 22,000 kN/m or 16,000 kN/$m^2$;<br>(e) Minimum tensile strength at break of 40 kN/m or 550 kn/$m^2$;<br>(f) Minimum elongation at yield of 12%, and at break 700% |
| 2 | Liner fabrication | (a) Liners must be fabricated to form the shape of the pond embankments;<br>(b) All seams and joins made on the premises must be continuous;<br>(c) Panels of the liner must be overlapped by a minimum of 100 mm, prior to heat welding or mechanical joining |
| 3 | Welding materials | Membrane welding materials must be supplied by the liner manufacturer, and be of the same material as the liner membrane |
| 4 | Seams and joins | All seams and joins must be constructed and tested as watertight over their full length using a vacuum box test and air pressure test |

## Compliance reporting

3. The works approval holder must, within 30 calendar days of the completion of each stage of works specified in Table 3:

   (a) undertake an audit of their compliance with the requirements specified in Table 1 for each item of infrastructure relevant to that stage of works; and
   (b) prepare and submit to the CEO an Environmental Compliance Report on that compliance for each stage of works.

4. The reports required by condition 3, must include as a minimum the following:

   (a) certification by a qualified professional engineer, whether the items of infrastructure or components thereof, as specified in condition 1, have been constructed in accordance with the corresponding requirements specified in condition 1;
   (b) as constructed plans for each item of infrastructure or component of infrastructure as specified in condition 1;
   (c) certification of all installed HDPE geomembrane liners against the properties and construction requirements specified in condition 2; and
   (d) be signed by a person authorised to represent the works approval holder and contains the printed name and position of that person.

5. Subject to condition 4(a), where an item of infrastructure or component of infrastructure has been certified as not being constructed, or does not comply with the corresponding requirements, or contains material defects, the works approval holder must:

   (a) correct the non-compliant or defective works, prior to re-certifying in accordance with condition 4(a); or
   (b) provide to the CEO a description of, and explanation for, any departures from the requirements specified in condition 1 that do not require rectification and do not constitute a material defect along with the reports required by condition 3.

**Table 3: Staging of works**

| Stage | Construction works |
|---|---|
| ***Mindarra 3*** | |
| Stage 1 | Construction of new lined anaerobic pond |
| ***Mindarra 4*** | |
| Stage 1 | Construction of new lined evaporation pond |
| Stage 2(a) | Construction of new CAPs, excluding installation of cover, stirrers, plumbing and flare |
| Stage 2(b) | Installation of cover, stirrers, plumbing, and flare |
| Stage 2(c) | Desludge and reline old anaerobic ponds 1a, 1b and 1c (to be repurposed as new settlement trenches 1, 2 & 3), reactor lagoon and facultative lagoon |

## Commissioning works

### Commencement – Mindarra 3

6. The works approval holder may only commence the diversion of effluent from the sheds and/or transfer of effluent from the old anaerobic pond to the new Mindarra 3 anaerobic pond once the report as required by condition 3 has been submitted by the works approval holder for stage 1 of works specified in Table 3.

7. The works approval holder must notify the CEO at least 7 calendar days prior to the commencement of diverting effluent from the sheds and/or old anaerobic pond to the new Mindarra 3 anaerobic pond.

### Commencement and duration – Mindarra 4

8. The works approval holder may only:

   (a) commence the diversion of effluent from the sheds and transfer of effluent from the old anaerobic ponds to the CAPs once the report as required by condition 3 has been submitted by the works approval holder for stage 2(a) of works specified in Table 3;
   (b) commence the release of effluent from the CAPs to the settlement trenches once the report as required by condition 3 has been submitted by the works approval holder for stage 2(c) of works specified in Table 3; and
   (c) commence the diversion of effluent to the new Mindarra 4 evaporation pond once the report as required by condition 3 has been submitted by the works approval holder for stage 1 of works specified in Table 3.

9. The works approval holder must ensure the timeframe from the day in which effluent is first transferred to the CAPs until the day in which the cover, stirrers, plumbing and flare are certified as being completed, does not exceed 100 consecutive calendar days.

10. The works approval holder must notify the CEO at least 7 calendar days prior to the commencement of:

    (a) diverting effluent from the sheds to the CAPs;
    (b) transferring effluent from the old anaerobic ponds to the CAPs;
    (c) the 50-day retention time of effluent in the new CAPs;
    (d) installation of the cover liner on each CAP; and
    (e) flaring.

11. The works approval holder must notify the CEO within 7 calendar days of the cover liners being certified as being installed on the CAPs.

## Time limited operational phase

### Commencement and duration – Mindarra 3

**12.** The works approval holder may conduct time limited operation of the new anaerobic pond at Mindarra 3:

(a) for a period not exceeding 90 calendar days from the date the works approval holder notifies the CEO of the commencement of diversion of effluent to the pond, in accordance with condition 7; or
(b) until such time as a licence amendment is granted in accordance with Part V of the *Environmental Protection Act 1986*,

whichever is sooner.

### Commencement and duration – Mindarra 4

**13.** The works approval holder may conduct time limited operation of the CAPs, settlement trenches and new evaporation pond at Mindarra 4:

(a) for a period not exceeding 90 calendar days from the date the works approval holder notifies the CEO of the cover liners being installed on the CAP, in accordance with condition 11; or
(b) until such time as a licence amendment is granted in accordance with Part V of the *Environmental Protection Act 1986*,

whichever is sooner.

### Infrastructure and equipment

**14.** During time limited operations, the works approval holder must ensure the premises infrastructure listed in Table 4 and located at the corresponding infrastructure location is maintained and operated in accordance with the corresponding operational requirements set out in that table.

**Table 4: Infrastructure requirements during time limited operations**

| | Site infrastructure | Operational requirement |
|---|---|---|
| | ***Mindarra 3*** | |
| 1 | Anaerobic pond | (a) Must be operated to ensure stormwater runoff, including roof runoff, is excluded from entering the pond;<br>(b) An operational freeboard of at least 300 mm must be maintained at all times;<br>(c) Effluent from the new anaerobic pond must only be released to the facultative pond; |
| | ***Mindarra 4*** | |
| 2 | Covered anaerobic ponds (CAPs), including biogas collection and flaring | (a) Must be operated to ensure stormwater runoff, including roof runoff, is excluded from entering the pond;<br>(b) An operational freeboard of at least 300 mm must be maintained at all times;<br>(c) Effluent from the CAPs must only be released to the settlement trenches (former anaerobic ponds 1a, 1b and 1c);<br>(d) Must be maintained as a gas tight enclosure at all times whilst operational;<br>(e) Effluent must be continuously stirred to break up suspended solids and avoid the settlement of solids;<br>(f) CAPs must be operated with safety vents and gas and pressure monitors;<br>(g) Effluent from the CAPs must only be released to the settlement trenches; |

| | Site infrastructure | Operational requirement |
|---|---|---|
| | | (h) Biogas extracted from the CAPs must be directed to the flare pad, for re-pressurisation;<br>(i) Flaring emissions must occur at least 3 m above as-built ground level; |
| 3 | Settlement trenches | (a) Must be operated to ensure stormwater runoff, including roof runoff, is excluded from entering the trenches;<br>(b) Effluent from active trenches must only be released to the reactor lagoon;<br>(c) An operational freeboard of at least 300 mm must be maintained at all times; |
| 4 | Reactor lagoon, facultative lagoon, evaporation ponds | (a) Must be operated to ensure stormwater runoff, including roof runoff, is excluded from entering the pond;<br>(a) An operational freeboard of at least 300 mm must be maintained at all times; |

## Complaints management

**15.** The works approval holder must investigate any 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.

**16.** Following receipt of a complaint directly from a complainant about any alleged emissions from the premises, the works approval holder must:

(a) respond to the complainant within 72 hours of receipt of the complaint; and
(b) within 10 calendar days of receipt of the complaint, provide a summary of the outcomes of any investigation conducted in response to the complaint, including any corrective and preventative actions taken in response to the complaint, unless such communication is not requested by the complainant.

## Records and reporting (general)

**17.** 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;
(d) the complete details of any activities being undertaken, where, and the weather and wind conditions at the time of the complaint;
(e) the complete details and dates of any investigation conducted in response to the complaint;
(f) a summary of the findings of any investigation conducted in response to the complaint, including the details of the person(s) responsible for the investigation;
(g) a summary of any corrective and preventative actions taken in response to the complaint;
(h) a summary of the time taken to respond to the complaint; and
(i) a summary of all communications with the complainant.

**18.** 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 14; and
(c) records of the investigation of complaints required by condition 17.

**19.** The books specified under condition 18 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 |
|---|---|
| ASTM D1238 | means the Active Standard ASTM D1238 *Standard test method for melt flow rates of thermoplastics by extrusion plastometer* |
| CAP | Covered Anaerobic Pond |
| CEO | means Chief Executive Officer.<br>CEO for the purposes of notification means:<br>Director General<br>Department administering the *Environmental Protection Act 1986*<br>Locked Bag 10<br>Joondalup DC WA 6919<br>info@dwer.wa.gov.au |
| condition | means a condition to which this works approval is subject under s.62 of the EP Act |
| 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 |
| environmental commissioning | means an activity or sequence of activities undertaken after pre-commissioning has demonstrated the integrity of the plant and equipment. The purpose of commissioning is to test equipment, infrastructure, and processes after the input of raw materials, to confirm design specifications, optimise process conditions, and to monitor/validate emissions or discharges in order to establish a steady-state operation |
| 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 | means the *Environmental Protection Act 1986* (WA) |
| freeboard | means the distance between the maximum water surface elevations and the top of retaining banks or structures at their lowest point |
| premises | refers to the premises to which this works approval applies, as specified at the front of this works approval and as shown on the map in Schedule 1 to this works approval |
| prescribed premises | has the same meaning given to that term under the EP Act |
| qualified professional engineer | means a person who:<br>(a) holds a tertiary academic qualification specialising in geotechnical or civil engineering; and<br>(b) has a minimum of 3 years of experience working in the area of geotechnical or civil engineering;<br>or is otherwise approved by the CEO to act in this capacity |
| Standard Pig Unit (SPU) | has the same meaning given to that term under the *National Environmental Guidelines for Indoor Piggeries (NEGIP)*, Pork Australia Ltd, May 2018, being a pig equivalent to a grower pig (average weight 40 kg) based on volatile solids production in manure |
| 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 |

| Term | Definition |
|---|---|
| works approval | refers to this document, which evidences the grant of the works approval by the CEO under s.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 (yellow line), in addition to the location of the ‘Mindarra 3’ and ‘Mindarra 4’ piggery units.

# Schedule 1: Maps

## Map of infrastructure

The location of key infrastructure for Mindarra 4 is shown in the map below.

# Schedule 1: Maps

## Map of infrastructure

The location of key infrastructure for Mindarra 3 is shown in the map below.

# Schedule 2: Clay liner characteristics

| Item | Test method | Pre-qualification testing frequency | Frequency of field compliance testing | Acceptance criteria |
|---|---|---|---|---|
| Particle size distribution (PSD) | AS 1289 3.6.1 | 3 per material source | 3 per pond liner | As provided below |
| Particles passing 53-mm sieve | AS 1289 3.6.1 | | | 100% |
| Particles passing 19-mm sieve | AS 1289 3.6.1 | | | >90% |
| Particles passing 2.36-mm sieve | AS 1289 3.6.1 | | | >70% |
| Particles passing 0.075-mm sieve | AS 1289 3.6.1 | | | >30% |
| Maximum particle size | AS 1289 3.6.1 | | | 40 mm |
| Atterberg Limits | AS 1289 3.1.2, 3.2.1, 3.3.1, 3.4.1 | 3 per material source | 3 per pond liner | As provided below |
| Plasticity Index | AS 1289 3.3.1 | | | ≥10% and above Casagrande A line |
| Liquid Limit | AS 1289 3.1.2 | | | 30–60% |
| Permeability (remoulded) | AS 1289 6.7.3 | 2 tests per material source | | ≤1 x $10^{-9}$ m/sec (300-mm thick clay pad liner |
| Permeability on undisturbed tube samples collected from the completed pad liner | AS 1289 6.7.3 | | 2 tests per constructed pad liner | ≤1 x $10^{-9}$ m/sec (300-mm thick clay pad liner |
| Emerson Class Number | AS 1289 3.8.1 | 3 per pad liner | 3 per pad liner | >4 |
| Calcium Carbonate content | USEPA | 3 per pad liner | 3 per pad liner | <15% |

| Item | Test Method | Pre-qualification testing frequency | Frequency of Field Compliance Testing | Acceptance criteria |
|---|---|---|---|---|
| Dry Density | AS 1289 5.1.1 or 1289 5.7.1 | | As provided in Table 8.1 of AS 3798–2007 | Minimum dry density ratio of 95% relative to standard or a minimum Hilf density ratio of 95% standard |
| Moisture Content | AS 1289 5.1.1 or AS 1289 5.7.1 | | Same as for Dry Density testing | 0% to +3% of the Standard Optimum Moisture Content (SOMC) or within a Hilf moisture variation of 0% to +3% |