



Application for Works Approval

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

Works Approval Number W6463/2020/1

Applicant Harvey Fresh (1994) Ltd

ACN 065 591 219

File Number DWERTV2474

Premises Harvey Fresh Dairy and Juice Factories
Third Street
HARVEY WA 6229
Legal description – Lot 1 on Diagram 4786, Lot 20 and Lot 22 on Plan 2344, Lot 187 and Lot 189 on Plan 202110, Lot 200 on Diagram 66494, Lot 190 on Plan 202110, Lots 33, 34, 35 and 36 on Plan 205324, Lot 191 and Lot 192 on Deposited Plan 202109 as depicted in Schedule 1 of the Works Approval.

Date of Report 11/05/2021

Proposed Decision Works approval granted

Manager, Process Industries

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

Table of Contents

1. Decision summary	3
2. Scope of assessment	3
2.1 Regulatory framework	3
2.2 Application summary and overview of Premises	3
3. Other approvals	9
3.1 Planning approval	9
4. Risk assessment	9
4.1 Receptors	9
4.2 Risk ratings	10
5. Decision	15
6. Conclusion	15
7. References	16
Appendix 1: Summary of applicant’s comments on risk assessment and draft conditions	17
Appendix 2: Application validation summary	20

Table 1: Sensitive human and environmental receptors and distance from prescribed activity .9

Table 2: Risk assessment of potential emissions and discharges from the premises during construction, commissioning and operation..... 12

1. Decision summary

This report documents the assessment of potential risks to the environment and public health from emissions and discharges during the construction and operation of a new wastewater storage pond and desludging of an existing pond at the premises. As a result of this assessment, works approval W6463/2020/1 has been granted.

2. Scope of assessment

2.1 Regulatory framework

In completing the assessment documented in this decision report, the department 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 Application summary and overview of Premises

Overview

On 28 October 2020, the applicant submitted an application for a works approval to the department under section 54 of the *Environmental Protection Act 1986* (EP Act). The works are associated with existing licence L4404/1991/15 being for the Harvey Fresh Dairy and Juice Factories (the premises) located in Harvey on the Swan Coastal Plain, about 120 km south of Perth.

The application is to undertake excavation and construction works relating to a new storage pond (Pond 3) for the containment of treated wastewater from the wastewater treatment plant prior to irrigation, in order to assist with the management of the current volumes of treated wastewater. The application also included works to decommission and rehabilitate one of the existing storage ponds (Pond 1) which has not been operational since 2018 and contains significant organic sludge build-up, possibly compromising the integrity of the pond base. The soil material retrieved from the Pond 3 excavation works was to be used to fill Pond 1 after desludging. The applicant later advised that they would be postponing decommissioning Pond 1 while they investigate options to recommission it for use in the treated wastewater system. Therefore, the part of the application regarding Pond 1 was reduced to only desludging.

The application relates to the categories and assessed production capacity under Schedule 1 of the Environmental Protection Regulations 1987 which are defined in Licence L4404/1991/15 and Works Approval W6463/2020/1. The infrastructure and equipment relating to the application and any associated activities which the department has considered in line with *Guideline: Risk Assessments* (DWER 2020) are outlined in Works Approval W6463/2020/1.

Proposal details

The milk and juice processing facilities generate a combined amount of up to 1,000 kL/day of wastewater. The wastewater streams are combined and treated through a dissolved air flotation clarification system and a dual sequence batch reactor system. Once treated, the water was previously transferred to Pond 1 (6,000 kL capacity) prior to discharge via irrigation at the emission points specified in the existing licence. Two ponds southeast of Pond 1 (Pond 2A and Pond 2B) provided an additional 8,000 kL (4,000 kL each) capacity during winter when irrigation is deferred. Since the decommissioning of Pond 1 in 2018, Pond 2A and Pond 2B have been the only operational treated wastewater storage ponds. The applicant advises that Ponds 2A and 2B have the combined capacity to hold about seven days of treated wastewater at normal production rates, based on them being empty. If the ponds are already full, there is not capacity to defer irrigation.

The applicant has submitted this application in recognition that an upgrade to its current treated wastewater system is required for better management of treated wastewater volumes, particularly during the winter months when irrigation areas are prone to waterlogging, and thus additional storage

capacity is necessary.

Pond 3 design (from application)

Pond 3 will be located within Lot 200 just north of Ponds 2A and 2B (Figure 1). Treated wastewater from the treatment plant is pumped to Pond 2A which continuously overflows into Pond 2B. The proposed purpose of Pond 3 is to serve as an overflow point when capacity of Pond 2B is exceeded; and as the primary pond for treated wastewater inputs during the days when irrigation is not permitted.

Pond 3 has been designed to have an operational volume of 27,617 m³ with a 500 mm freeboard, and will be 3 m deep from crest to base, with the embankments to be built up above existing ground level in order to achieve a minimum separation of 2 m to the winter groundwater table. The lowest excavation point for Pond 3 is the sump at approximately 1.7 metres below ground level (mbgl). Pond 3 will have a minimum 300 mm thick compacted clay subgrade layer and be lined with a 2 mm high-density polyethylene (HDPE) mono-textured (textured side up) geomembrane liner that will be secured in a 0.6 m deep trench around the perimeter of the pond. The pond base will be sloped towards a 2 m x 2 m x 0.5 m (length by width by depth) sump to allow for easy extraction for irrigation purposes. The proposed feedline pipework will extend from the pond to a pump station located at the northern end of Pond 3; and a discharge line will be installed from the pump station to the existing pipeline that is already used in association with Ponds 2A and 2B (see Figure 2).

Due to the depth to groundwater being relatively unknown in the area of the proposed works (groundwater has been detected less than 2 mbgl in surrounding areas during the winter months), the applicant acknowledges the potential requirement to install underdrainage beneath Pond 3 to prevent uplift from the underlying groundwater or soil air under the HDPE geomembrane liner. The proposed underdrainage system would be installed in a shallow recess constructed so that it is flush with the pond formation levels. A series of underdrains are proposed to be placed diagonally across the pond floor and at one end will be connected to a polyethylene pipe, which will be connected to the passive gas vent system. The passive gas vent system will consist of a vertical polyethylene pipe with an aspiromatic cowl and will be surrounded by a gabion basket to protect it against extreme weather and construction/maintenance plant.

According to the applicant, Pond 3 has been designed to manage consecutive wet rainfall years (90th percentile). An additional single 1:20, 24 hour storm event was utilised as a check to ensure overtopping does not occur at any point during the year, and the pond maintains sufficient freeboard following a storm event.

Department of Water and Environmental Regulation (DWER) technical review

DWER has reviewed the Pond 3 design and has identified the following:

- Seasonal variations in the elevation of the water table beneath the site have been poorly characterised, but it is understood the depth of the water table may seasonably be only 2 mbgl in some parts of the site;
- The lowest excavation point for Pond 3 is approximately 1.7 mbgl, therefore there is a risk that the base of the pond may be impacted by rising groundwater in winter months;
- The proposal to construct Pond 3 partially aboveground increases the vulnerability of the HDPE geomembrane liner to degradation caused by excessive exposure to sunlight. This can cause the progressive loss of plasticisers from the polymers used to make the liner, which in turn can reduce the flexibility of the liner and make it vulnerable to tearing; and
- In situations where a HDPE geomembrane pond liner is constructed in close proximity to the seasonally highest water table elevation, a rising water table can cause the liner to lift, usually in an uneven fashion. The magnitude of this lifting pressure will depend on the head difference between the height of the water that overlies the liner in the lined pond, and the elevation of the water table that surrounds the pond. Under conditions where this head difference is small, the uneven lifting pressure can cause large water and gas “bubbles” to appear in the liner at the base of the pond (Geosynthetic Institute, 2015), but will not necessarily cause long-term

damage to the liner. However, as the head difference between the water level height in the pond and the water table elevation increases, there is a higher risk that welded or glued seams in the liner will tear.

A new monitoring bore network is required due to the poorly characterised variations in the elevation of the water table beneath the site and the risk of seepage through the base of all treated wastewater storage ponds at the premises. Based on this requirement, Harvey Fresh has proposed an indicative monitoring bore network, which includes recommissioning of two existing bores and installing three new bores. The proposed network appears to be suitable (Figure 3).

To reduce the risk of exposed areas of the HDPE geomembrane liner being compromised, the aboveground areas of the liner that are likely to be subjected to prolonged exposure to sunlight should be permanently covered with either earth or a sacrificial cover material.

The risk of the liner being compromised by lifting pressure from a rising water table can be mitigated by constructing an underdrain system beneath the entire base of the pond, with a passive gas extraction system to provide a preferential pathway to relieve any gas pressure beneath the HDPE geomembrane. Ongoing monitoring measures are required to demonstrate that the pond does not leak with ongoing use, such as an annual “pond drop” leakage test as outlined in Section 8.6.2 of the New Zealand Institution of Professional Engineers (IPENZ) guidance on the construction and operation of wastewater ponds (IPENZ, 2017). In situations where the “pond drop” test indicates that the liner is leaking, the pond should be drained, and the liner cleaned and inspected before being repaired (Section 8.7 of IPENZ (2017)).

Pond 1 desludging

Pond 1 has not been operational since 2018. DWER has previously notified the applicant that it requires remediation works as it is contaminated with organic sludge build-up, possibly compromising the integrity of the pond liner.

Approximately 1,600 m³ (wet) of organic sludge will be removed from the base of Pond 1. The application that was submitted to the department proposed that the removed sludge would be transferred to a drying pad located onsite (i.e. the premises’ former composting pad), with applications for the dried end-product still being investigated. However, the applicant later advised that the organic sludge would not be stored onsite, and instead be dewatered and potentially mixed with woodchips to be transported in a spadeable state to an offsite disposal facility licensed to accept that waste type. It is anticipated that removal of the sludge will occur within 1 to 4 weeks, with the timeframe from start to finish of desludging operations expected to be 5 to 7 weeks. The applicant has not provided any controls to mitigate the risk of leachate from dewatering impacting on the environment.

Exclusions to the assessment

The following matters are out of the scope of this assessment and have not been considered within the technical risk assessment detailed in this report:

- A pump shed with minimum dimensions of 3.1 m x 3.1 m x 2.7 m high;
- a stainless-steel suction/outline line from pond sump to inside the pump shed, which will be supported by a steel A-frame, or similar, for instalment of line within the pond; and
- a conduit line to be installed from the bottom of the pond embankment, where a marker point and end cap will be fitted for future connection, to the top of the pond crest.



Figure 1: Proposed location of Pond 3, including indicative pump station location, and location of Pond 1, to be desludged.

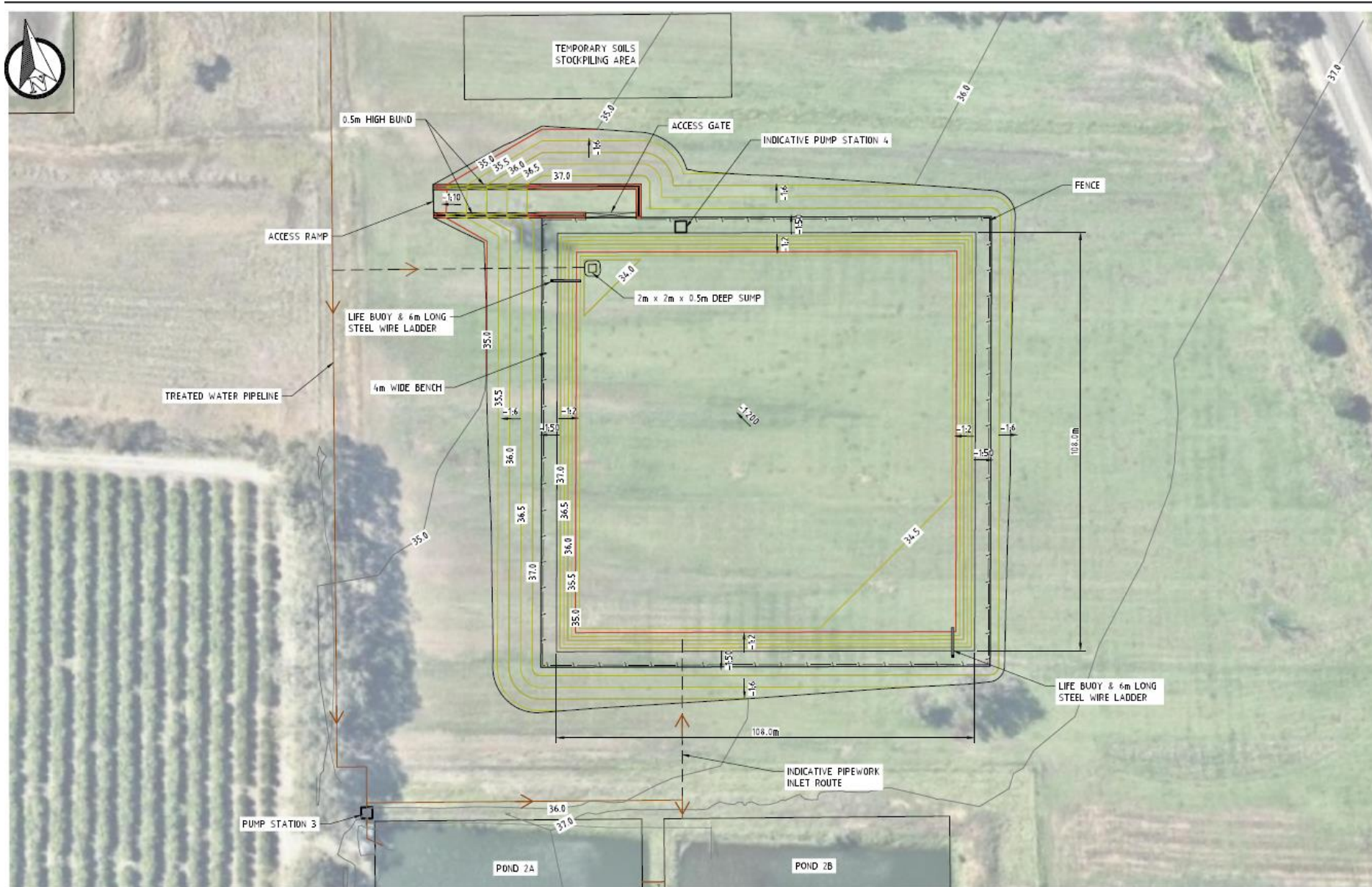


Figure 2: Indicative design of Pond 3, including location of new and existing pipelines.



Figure 3: Indicative groundwater monitoring network

3. Other approvals

3.1 Planning approval

Development approval for a treated wastewater storage pond (Pond 3) on Lot 200 Third Street, Harvey was granted by the Shire of Harvey on 26 November 2020.

4. 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.

4.1 Receptors

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

Table 1 below provides a summary of potential human and environmental receptors that may be impacted as a result of activities upon or emission and discharges from the prescribed premises (*Guidance Statement: Environmental Siting* (DER 2020)).

Table 1: Sensitive human and environmental receptors and distance from prescribed activity

Human receptors	Distance from proposed works
Residential Premises (zoned special residential or intensive farming)	1 x premises 620 m northeast from Pond 3 site 1 x premises 740 m southwest from Pond 3 site 1 x premises 780 m northeast from Pond 1 1 x premises 540 m west from Pond 1 2 x premises within 890 m northwest of Pond 1 2 x premises within 1000 m southwest of Pond 1 Approximately 40 other residential premises located between 1,200 and 1,800 m northeast of Pond 1
Environmental receptors	Distance from proposed works
Geomorphic Wetlands – Swan Coastal Plain (management)	Pond 1 and Pond 3 sites are within: Swan Coastal Plain – Semeniuk, Palusplain (seasonally waterlogged) multiple use wetland.
<i>Environmental Protection (Peel Inlet – Harvey Estuary) Policy 1992</i> (EPP)	Proposed Pond 3 construction site (and Premises) are entirely within the EPP with the Premises being identified in the <i>Hydrological and Nutrient Modelling of the Peel Harvey Catchment – Water Science Technical Series Report</i> and the <i>Agriculture Futures: Potential rural land uses on the Palusplain</i> as being in a high risk nutrient export area requiring a significant phosphorus load reduction (DWER 2019).

	<p>River health surveys carried out by Aquatic Science Branch of DWER showed that the Harvey River downstream of the Premises has significantly degraded water quality and ecological condition compared to upstream.</p>
Surface water	<p>Proposed works is within the Harvey Irrigation District proclaimed under the <i>Rights in Water and Irrigation Act 1914</i> (RIWI Act).</p> <p>The Harvey Dam is about 2.6 km southeast. Harvey main drain is about 350 m west.</p> <p>A minor non-perennial river located northeast flows into the existing agricultural drainage network. These drainage networks flow to the Harvey River Main drain discharging into the Harvey Estuary approximately 40 km downstream.</p> <p>DWER Water Services provided previous advice that states there is connectivity between the perched and seasonal groundwater and the Harvey River drainage network, and as such, any nutrient leaching from groundwater or surface flows can directly impact on the quality of the Harvey River (Harvey Estuary).</p>
Groundwater	<p>The South West Coastal Groundwater Area, proclaimed under the RIWI Act, is located about 5 km west northwest of the Premises.</p> <p>The Perth Groundwater Map shows that the groundwater salinity at the proposed Pond 3 construction site area ranges from 250 – 500 mg/L which is considered fresh.</p> <p>The precise depth to groundwater in the location of the proposed works is unknown. However, four groundwater monitoring wells were installed across the site on the 20th March 2019. During construction of the wells, groundwater levels were recorded between 2.9 mbgl to 4.5 mbgl. Following construction, monitoring events recorded groundwater levels at less than 2 mbgl during winter months. It is anticipated that groundwater flow is south-westerly towards the Harvey River.</p>
Acid sulfate soil risk	<p>Moderate to low acid sulfate soil disturbance risk (< 3 m from surface).</p> <p>A soil assessment was undertaken at the proposed Pond 3 location in March 2020 in order to understand the groundwater quality and flow regime beneath the site. The presence of potentially acid forming (PAF) material was assessed during the excavation of the nine trial pits which had a maximum depth of 3.5 m. No PAF was detected during the investigation.</p>

4.2 Risk ratings

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

Where the applicant has proposed mitigation measures/controls, 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 2.

Works Approval W6463/2020/1 that accompanies this report authorises construction and time-limited operations. The conditions in the issued works approval, as outlined in Table 2 have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

A licence amendment is required following the time-limited operational phase authorised under the works approval to authorise emissions associated with the ongoing operation of the Premises i.e. milk processing, non-alcoholic beverage manufacturing and liquid waste processing 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 2: Risk assessment of potential emissions and discharges from the premises during construction, commissioning and operation

Risk Event				Risk rating ¹	Reasoning	Conditions ² of works approval	
Source/Activities	Potential emission	Potential receptors, pathways and impact	Applicant controls	C = consequence L = likelihood			
Desludging of Pond 1; and construction of Pond 3 • Excavation and construction works, desludging and installation of infrastructure	Dust	Air/windborne pathway causing impacts to health and amenity at residential premises: • within a 1 km radius of Pond 1; and • within 620 m northeast of Pond 3 site	<ul style="list-style-type: none"> Mobile water cart to dampen unsealed roads; road sweeping undertaken twice weekly; vehicles restricted to a maximum speed of 10 km/hour on unsealed roads; no construction works or earthworks will take place during high winds; and all loads are to be covered during transport. 	C = Slight (minimal impact to amenity on a local scale) L = Unlikely (not likely to occur in most circumstances) Low Risk (acceptable, not subject to controls)	Some additional noise and dust is expected during construction and desludging works, however due to the nature of the works, levels are not expected to differ significantly from existing activities at the premises. The delegated officer has also considered there is sufficient separation to off-site receptors (>500 m) and the short-term nature of the construction works and desludging (1 – 4 weeks) and does not reasonably foresee that noise and dust from these works will impact on off-site human receptors.	None specified	
	Noise		<ul style="list-style-type: none"> Vehicles restricted to a maximum speed of 10 km/hour on unsealed roads; machinery and vehicles will utilise white noise reverse alarms; operation of equipment and machinery will be restricted to operational hours only; and all equipment and machinery will be maintained in good condition. 				
	Odour from Pond 1 desludging activities		<ul style="list-style-type: none"> Organic sludge removed offsite immediately after desludging; desludging will occur over a short duration; site complaints management plan includes odour to ensure that the community has the opportunity to express comments or concerns. 	C = Moderate (mid-level impact to amenity on local scale) L = Possible (could occur at some time) Medium Risk (acceptable, generally subject to regulatory controls)			Due to the organic nature of the sludge within Pond 1, it is expected that odour will cause amenity impacts to off-site receptors during desludging operations, particularly residences located within 1 km of the pond to the south, west and north. However, the delegated officer considers the level of impacts to be acceptable, given the short-term nature of the desludging operation (1 – 4 weeks) and the applicant proposing to remove all sludge off-site immediately following desludging activities. In accordance with the <i>Guideline: Risk Assessment</i> (DWER 2020), as the proposed controls are critical for maintaining an acceptable level of risk, they will be imposed on the works approval.
	Leachate from dewatering of Pond 1 sludge containing elevated nutrients (N, P) and other physical stressors to aquatic organisms (BOD and TDS)	Leachate from organic sludge discharged to land has the potential to contaminate surrounding land and adversely impact upon surface water, soils, and groundwater. • Groundwater may be less than 2 mbgl; • groundwater likely flows into Harvey River; • a minor non-perennial river located northeast flows into the existing agricultural drainage network, discharging into the Harvey Estuary approximately 40 km downstream; and • the site (and premises)	Nil	C = Moderate (mid-level impacts onsite; low level impacts on a local scale) L = Possible (could occur at some time) Medium Risk (acceptable, generally subject to regulatory controls)			Due to the organic nature of the sludge within Pond 1, it has an inherent risk of contaminating land and groundwater if discharge is not controlled. To ensure an acceptable level of risk is achieved, in accordance with the <i>Guideline: Risk Assessment</i> (DWER 2020), the delegated officer has included specific controls on dewatering activities and the management of leachate, requiring the applicant conduct dewatering on appropriate infrastructure such that all leachate is directed straight into Pond 1. Controls requiring the sludge to be in solid form for transport to a facility licensed to accept such waste types are also included as per requirements at such facilities.

Risk Event				Risk rating ¹	Reasoning	Conditions ² of works approval
Source/Activities	Potential emission	Potential receptors, pathways and impact	Applicant controls	C = consequence L = likelihood		
		is within the EPP (see Table 1)				
Storage of treated wastewater in Pond 3 – upset conditions: <ul style="list-style-type: none"> Overtopping Failure of raised embankments 	Treated wastewater containing elevated nutrients (N, P) and other physical stressors to aquatic organisms (BOD and TDS)	<p>Overtopping of Pond 3 and failure of raised embankments, directly discharging nutrients and sediments, has the potential to contaminate surrounding land and adversely impact upon surface water, soils, and groundwater.</p> <ul style="list-style-type: none"> Groundwater may be less than 2 mbgf; groundwater likely flows into Harvey River; a minor non-perennial river located northeast flows into the existing agricultural drainage network, discharging into the Harvey Estuary approximately 40 km downstream; and the site (and premises) is within the EPP (see Table 1) 	<ul style="list-style-type: none"> The crest of Pond 3 has been designed to slope away from the edge of the pond at a 1:50 (V:H) fall to prevent stormwater ingress; Pond 3 is designed to manage consecutive wet rainfall years (90th percentile), including a 500 mm freeboard; and a single 1:20, 24 hour storm event (105 mm rainfall) has been used as a check to ensure that there is no overtopping at any point during the year, and the pond maintains sufficient freeboard following a storm event. 	<p>C = Moderate (mid-level impacts onsite; low level impacts on a local scale)</p> <p>L = Possible (could occur at some time)</p> <p>Medium Risk (acceptable, generally subject to regulatory controls)</p>	<p>All wastewater containment infrastructure has an inherent risk of failure through overtopping during extreme weather events, or if the site water balance is not managed appropriately. Similarly, raised pond embankments have a risk of failing due to inadequate design and maintenance practices, potentially causing the uncontrolled release of treated wastewater. Overtopping and embankment failure of Pond 3, given its location within an EPP area and with nearby sensitive receptors (Harvey River and other tributaries, shallow groundwater), may cause impacts to surface water quality and groundwater quality, if not controlled. The applicant has advised that the pond has been designed with sufficient capacity to contain rainfall during a 5% Annual Exceedance Probability (AEP) event and proposes to operate the pond with a minimum freeboard of 500 mm. The delegated officer considers these controls are critical for maintaining an acceptable level of risk, therefore in accordance with the <i>Guideline: Risk Assessment</i> (DWER 2020), the design specifications of the ponds will be imposed on the works approval, and operational freeboard controls imposed on the licence. Compliance reporting and restrictions on when time limited operations can occur will also be included on the works approval to verify the integrity of the 'as constructed' infrastructure is fit-for-purpose, before being authorised for use.</p>	<p>Condition 1 (infrastructure and equipment – CCI)</p> <p>Conditions 5 and 6 (compliance reporting – submission of CCI Report)</p> <p>Conditions 8 and 9 (time limited operations phase – commencement and duration)</p> <p>Condition 10 (time limited operations phase – operational requirements)</p> <p>Conditions 16 and 17 (compliance reporting)</p>
Storage of treated wastewater in Pond 3 – upset conditions: <ul style="list-style-type: none"> Loss of containment (seepage through pond liner) 			<p>Pond 3 will be constructed with:</p> <ul style="list-style-type: none"> a minimum 300 mm thick compacted clay subgrade layer; pond base will be lined with an impermeable HDPE geomembrane (2mm thick), which will be installed by a suitably qualified technician; lining works will be subject to systematic qualitative and quantitative testing to ensure proper installation; liner will undergo a leak detection survey prior to commissioning; following commissioning, the liner will be inspected regularly, and maintenance works scheduled as required; and the applicant has also stated installation of an underdrainage system beneath the pond may be required to release pressure under the liner. 	<p>C = Major (high level impacts onsite; mid-level impacts on a local scale)</p> <p>L = Possible (could occur at some time)</p> <p>High Risk (may be acceptable, subject to multiple regulatory controls)</p>	<p>All wastewater containment infrastructure has an inherent risk of seepage or leakage through the base of the pond, which may cause contamination of shallow groundwater. In order to minimise the risk of impacts from seepage, the applicant proposes to construct the new pond with a synthetic liner (2 mm HPDE geomembrane) which will undergo a leak detection test (using the water lance or arc testing method) prior to use. The liner will overlie a 300 mm thick compacted clay subgrade. A partially raised pond such as this, increases the vulnerability of the aboveground area of HDPE liner to degradation caused by exposure to sunlight and other elements, increasing the risk of tearing. In order to maintain an acceptable level of risk, the delegated officer has included the requirement to maintain a cover over the area of liner exposed to sunlight with earth or sacrificial material. The delegated officer has also determined the pond liner must be subject to an annual "pond drop" leakage test as outlined in IPENZ (2017) guidance, or similar, to ensure the risk of liner failure remains acceptable with ongoing use of the pond. The applicant has indicated it has considered installing an underdrainage system to minimise risk of damaging the HDPE liner by providing a preferential pathway to relieve pressure from uplift from either the underlying groundwater or soil air. A ventilating cowl installed at the highest point of Pond 3 and connected to the drain system would receive the soil pore pressure caused by fluctuating groundwater levels, hence mitigating risk of groundwater interacting with the base of the pond. In accordance with the <i>Guideline: Risk Assessment</i> (DWER 2020), as these proposed controls are critical for maintaining an acceptable level of risk, they will be imposed on the works approval. The delegated officer has also considered a new network of monitoring bores is required on the premises, to enable a more accurate understanding of elevations in the shallow water table across the premises, and to enable early detection and proactive management of contamination from seepage from the new pond and existing ponds on the premises. The new network proposed by the applicant and approved by DWER should comprise the following (also see Figure 3):</p> <ul style="list-style-type: none"> three new bores to be installed around Pond 3 (one hydraulically upgradient, and two hydraulically downgradient, along the western and southern boundary of Pond 3) to assess the risk of a radial groundwater flow pattern developing if there is extensive leaking from the pond; one existing bore south of Pond 2a to be recommissioned to assess the risk of downgradient groundwater contamination if there is extensive leaking from the ponds; and one existing bore on the upgradient property boundary to be recommissioned to assess quality of groundwater that is entering the premises. <p>The suite of chemical parameters to be monitored in the above bores (and their sampling frequency) is:</p> <ul style="list-style-type: none"> EC, pH, BOD, TN, TP, ammonium-nitrogen, Kjeldahl-nitrogen, nitrate-nitrogen, alkalinity, and arsenic on a quarterly basis; and major ions (Na, K, Ca, Mg, Cl, HCO₃, SO₄) and metals (Cd, Cr, Co, Cu, Hg, Ni, Zn) on an annual basis. 	<p>Condition 1 (infrastructure and equipment – CCI)</p> <p>Conditions 2, 3 and 4 (infrastructure and equipment – installation of groundwater monitoring wells)</p> <p>Conditions 5 and 6 (compliance reporting – submission of CCI Report)</p> <p>Conditions 8 and 9 (time limited operations phase – commencement and duration)</p> <p>Condition 10 (time limited operations phase – operational requirements)</p> <p>Conditions 12, 13, 14 and 15 (groundwater)</p> <p>Conditions 16 and 17 (compliance reporting)</p>

Risk Event				Risk rating ¹	Reasoning	Conditions ² of works approval
Source/Activities	Potential emission	Potential receptors, pathways and impact	Applicant controls	C = consequence L = likelihood		
Storage of treated wastewater in Pond 3 – normal conditions	Odour	Air/windborne pathway causing impacts to health and amenity to residential premises: <ul style="list-style-type: none"> • within 620 m northeast of Pond 3 site. 	Nil	C = Slight (minimal impact onsite) L = Unlikely (not likely to occur in most circumstances) Low Risk (acceptable, not subject to controls)	<p>There is potential for odour from wastewater stored within the ponds to cause off-site amenity impacts to nearby receptors, if the wastewater is not sufficiently treated to the point it becomes odorous.</p> <p>The delegated officer considers there are adequate controls on the existing licence that require sufficient treatment of wastewater, and since the upgrade of the wastewater treatment plant on the premises in 2015, the number of complaints regarding odour has significantly reduced. The delegated officer therefore does not reasonably foresee that odour from stored wastewater in the new pond will cause off-site amenity impacts.</p>	None specified

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

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

5. Decision

Desludging of Pond 1

The delegated officer has determined to approve the proposal to desludge Pond 1 based on it being an improvement on current practices on site where the organic sludge build-up is possibly compromising the integrity of the pond liner, potentially causing adverse impacts on the underlying soils and groundwater.

Controls will be imposed on the works approval to require sludge removed from Pond 1 to be dewatered on infrastructure that directs all leachate straight back into a wastewater pond or waste containment infrastructure in order to mitigate risk of contamination to land and groundwater. Controls requiring the dewatered sludge, in solid form, to be disposed of offsite to a licensed facility immediately following dewatering activities will also be included, to minimise impacts of odour on human receptors. Additionally, a complaints management register will be required to ensure the community can express comments or concerns regarding odour, which then should be acted on as per a complaints management plan.

Construction of Pond 3

The delegated officer has determined to approve the proposal to construct a new wastewater containment pond (Pond 3). This is based on the design of the pond, including the liner and underdrainage system, being sufficient to maintain an acceptable level of risk to the environment. The pond will provide additional storage of treated wastewater so that there is a reduction in irrigation, particularly in the winter months when the irrigation areas are prone to waterlogging and will assist in improving environmental outcomes at the premises.

Controls will be imposed on the works approval to specify infrastructure design and construction requirements to ensure the proposal does not result in unacceptable risks to the environment.

The potential overflow of the pond has the potential to cause adverse impacts to the surrounding environment, including the EPP area and Harvey River. As such, construction requirements to minimise stormwater ingress on the outside of the pond wall and minimum freeboard markers are included to mitigate that risk. Similarly, the direct discharge to ground, intrusion, or infiltration of contaminated water into groundwater has the potential to cause adverse impacts to groundwater and soil. As such, installation of an underdrainage system and new groundwater monitoring bores with a specified monitoring regime is required to defer and detect any contamination from the wastewater ponds. Also, compliance reporting and restrictions on time limited operations are included to verify infrastructure controls are appropriate.

6. Conclusion

While it is noted that further wastewater management measures are required at the premises to better address environmental risks posed by wastewater storage and disposal, the delegated officer notes that desludging of Pond 1 (6,000 kL) and operation of new Pond 3 (27,617 kL) provides an additional 21,617 kL of storage and therefore reduces the reliance on routine irrigation for managing treated wastewater volumes at the premises.

Based on the assessment in this 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.

An amendment to existing licence L4404/1991/15 will be required following the completion of the works to include operation of Pond 3. If the applicant determines to recommission Pond 1 following desludging, an application may be required to be submitted to the department prior to any works, depending on scope. This will enable assessment of the construction and operation of the pond to ensure the risk of such works and operation remains acceptable to the environment in line with *Guideline: Risk Assessments* (DWER 2020).

7. References

1. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
2. DER 2020, *Guidance Statement: Environmental Siting*, Perth, Western Australia.
3. DER 2020, *Guidance Statement: Risk Assessments*, Perth, Western Australia.
4. Geosynthetic Institute 2015, *Underdrain Design for Geomembrane Lined Surface Impoundments to Prevent "Whales/Hippos" Occurring*. Geosynthetic Institute White Paper No 33. The document is available from web site <https://geosynthetic-institute.org/papers/paper33.pdf>.
5. Talis Consultants Pty Ltd 2020, *Works Approval Application – Harvey Fresh Works Approval Environmental Assessment Management Plan, Lactalis Australia Ltd*, Leederville, Western Australia.
6. Institution of Professional Engineers of New Zealand (IPENZ), 2017. *Practice Note 21: Farm Dairy Effluent Ponds- Engineering Practice*. This document is available from website document which is available from web site https://d2rjvl4n5h2b61.cloudfront.net/media/documents/Practice_Note_21_Farm_Dairy_Effluent_Ponds.pdf.

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

Works approval condition	Summary of applicant's comments received 1 April 2021	Department's response
Condition 1 Table 1: Design and construction/installation requirements	<p>The applicant has requested to remove the requirement to install a sump to collect underdrainage water.</p> <p>As outlined in the Harvey Fresh Environmental Assessment Management Plan (Talis, 2020) provided with the submission of the Works Application, the underdrainage is set up to ensure no uplift occurs from seasonal fluctuation in the groundwater level. This system is designed to create a preferential pathway under the liner for the release of pressure, predominantly in the form of soil air pressure. This system does not feature a sump for the collection of wastewater, nor is it designed to act as a leak detection layer. Talis proposes the removal of this condition to reflect the design and purpose of the underdrainage system.</p>	<p>Advice from DWER's resident hydrogeological experts supports the implementation of this requirement. Given at least part of the base of Pond 3 will be constructed below the seasonally highest elevation of the water table, special measures are required to minimise the risk of the HDPE geomembrane being subjected to hydraulic uplift pressures that could damage its integrity. The installation of drains beneath the liner is seen as being critical for alleviating hydraulic pressure, in addition to the drains being connected to a sump that will provide an early warning of either leakage from the pond, or the risk of water ingress into the pond when the water table is seasonally high.</p> <p>DWER technical experts have identified the inherent risk of leakage of wastewater ponds, particularly in an environmentally sensitive area (see Section 4.1). Therefore the delegated officer has determined the requirement for an underdrainage sump to be critical for ensuring an acceptable level of risk can be maintained.</p> <p>No changes are proposed to the original draft.</p>
Condition 2 Table 2: Infrastructure requirements – groundwater monitoring wells	<p>The applicant has suggested a refinement of the groundwater monitoring network, taking into consideration existing bores, lack of irrigation in Lots south of Pond 3, and groundwater flow direction (W/SW).</p> <p>In total, three additional groundwater monitoring wells are suggested to be established around Pond 3, with one up-hydraulic gradient, and the remaining two down hydraulic gradient, along the western and southern boundary of Pond 3. In addition, an already existing groundwater monitoring well to the south of Pond 2a will be incorporated into the network, whilst a further existing monitoring well located up-hydraulic gradient will be utilised as a background monitoring bore. The locations of these existing bores are as per the Site Layout under Schedule 1 of the Licence L4404/1991/15.</p>	<p>The delegated officer considers the monitoring bore network as proposed by the applicant to be acceptable. The works approval and decision report have been amended accordingly.</p>
Condition 5a Condition 7	<p>The applicant has noted typographical errors - broken cross-references within the conditions.</p>	<p>These typographical cross-referencing errors have been corrected.</p>
Condition 7 Table 3: Desludging requirements during decommissioning (Pond 1)	<p>The applicant is currently investigating whether Pond 1 will be recommissioned for use as a part of the treated wastewater pond system, and therefore wish to delay backfilling the pond. Therefore, it is requested that the requirement to backfill Pond 1 to ground level following desludging is removed.</p>	<p>The delegated officer notes the applicant is now investigating options to recommission Pond 1, and therefore has removed the requirement to backfill the pond in this works approval. Administrative changes to the works approval and decision report have also been made to reflect the fact that Pond 1 works are limited to desludging.</p> <p>DWER advises the applicant that a works approval or licence amendment application (depending on scope of works) is required to be submitted for assessment prior to any construction works or operation relating to the reuse of Pond 1 (including but not limited to excavating, liner construction, and wastewater storage).</p>
Condition 10 Table 4: Infrastructure and equipment requirements during time limited operations	<p>In response to DWER's request for information, the applicant confirmed there will be a need to irrigate from Pond 3 during the 90 day time limited operations phase.</p>	<p>Following notification by the CEO that the CCI report is acceptable, irrigation of treated wastewater from Pond 3 is authorised in accordance with revised conditions of the works approval. These conditions have been drafted to be consistent with existing premises licence conditions for irrigation (Condition 10; Table 4).</p>
Condition 13 Table 7: Monitoring of concentrations in wastewater during time limited operations	<p>The applicant has requested to remove this condition requiring monitoring of water captured by the underdrainage sump, as the underdrainage system they have proposed to install is to facilitate soil pressure relief caused by a fluctuating seasonal water table, and not for the capture of water or as a leak detection layer.</p>	<p>Refer to comment for condition 1, above.</p> <p>No changes are proposed to the original draft.</p>
Condition 14 Condition 15 Condition 17c	<p>The applicant has requested that all references to condition are 13 are removed to reflect their request to delete condition 13.</p>	
Schedule 1 Figure 2: Site layout	<p>The applicant has requested the notation on Figure 2 and Figure 5 be amended to reflect that Pond 1 is due to be "desludged", not necessarily "decommissioned" as they are now investigating options for recommissioning the pond for treated wastewater storage.</p>	<p>Changes to the notation of Pond 1 have been made as requested (see above; Condition 7).</p>
Schedule 1 Figure 5: Map of indicative groundwater monitoring network for assessing impacts of wastewater storage	<p>The applicant has provided a revised map of the indicative groundwater monitoring bore network which they have requested to replace Figure 5.</p>	<p>The delegated officer considers the monitoring bore network proposed by the applicant as acceptable in monitoring any potential contamination from the wastewater storage ponds (see above; Condition 2). Figure 5 has been amended accordingly.</p>
Schedule 2	<p>The applicant states that the Technical Specification provided to DWER references installation of a compacted subgrade layer, not a clay liner. The applicant has also highlighted that Condition 1, Table 1 refers to a compacted subgrade layer, rather than a clay liner. Therefore, they have</p>	<p>Agreed – terminology changed to reflect clay subgrade.</p>

	requested Schedule 2 be renamed from "Clay Liner Requirements" to "Compacted Subgrade Requirements".	
Schedule 2 Condition 21	The applicant has requested this condition, which states specific clay liner design specifications, be replaced with a condition requiring the compacted subgrade layer be installed according to the applicant's Technical Specification. The applicant has stated that the compacted subgrade will not act as a liner; the only liner material for Pond 3 will be an impermeable HDPE geomembrane. They have also asked for Table 9: Minimum criteria for soil liners, be removed.	As discussed above, Schedule 2 conditions have been amended to reference a compacted subgrade, rather than a clay liner. The delegated officer has considered the Technical Specifications submitted by the applicant and associated design requirements have been specified in the works approval. The requirement for the subgrade soils to be free from plant roots, soluble and organic matter have remained to ensure the layer is compacted uniformly and that the entire HDPE liner remains in contact with the layer to avoid 'hippos' and bubbles forming. Table 9: Minimum criteria for soil liners has been replaced with Table 9: Minimum criteria for compacted subgrade. These criteria are discussed below (Condition 27).
Schedule 2 Condition 22	The applicant has requested this condition be removed for reasons already stated above (Condition 21).	As discussed above, the delegated officer has determined a compacted subgrade is appropriate, as opposed to a clay liner. These conditions relate specifically to clay liners; therefore, they have been removed.
Schedule 2 Condition 23	The applicant has requested this condition be removed for reasons already stated above (Condition 21).	
Schedule 2 Condition 24	The applicant has requested "clay liner" be replaced with "compacted subgrade layer" for reasons already stated above (Condition 21).	As discussed above, the delegated officer has determined a compacted subgrade is appropriate, as opposed to a clay liner. Therefore, the requested changes have been accepted.
Schedule 2 Condition 25		
Schedule 2 Condition 26	The applicant has requested this condition be removed for reasons already stated above (Condition 21).	As discussed above, the delegated officer has determined a compacted subgrade is appropriate, as opposed to a clay liner. This condition relates specifically to clay liners; therefore, it has been removed.
Schedule 2 Condition 27a and 27b	The applicant has requested to remove these conditions relating to test cores to be taken from Pond 3, and replaced with: a) Testing frequency for the compacted clay subgrade layer shall be whichever requires the most tests from the following: i 1 per 500 m ³ or ii 1 per 2,500 m ² or iii 3 tests per lot (as defined in Section 1.2.8 of AS 3798). This proposed testing frequency is in accordance with AS3798 – <i>Guidelines on Earthworks for commercial and residential developments</i> , and the applicant claims the conditions stipulated by DWER are in exceedance of these guidelines.	As discussed above, the delegated officer has determined a compacted subgrade is appropriate, as opposed to a clay liner. This condition relates specifically to clay liners; therefore, it has been removed. Construction and compaction requirements have instead been incorporated in Condition 21; Table 9: Minimum criteria for compacted subgrade. The compacted subgrade layer design process should confirm and specify the minimum construction requirements, such as the number and depth of soil layers, the target percentage of maximum density, and the moisture content required to achieve the necessary soil compaction. Generally, the higher the soil density the lower the permeability. However, the fabric of the clay soil is also a key factor in permeability, and the target moisture content to achieve the lowest permeability is found slightly wetter than the Optimum Moisture Content (OMC). A Dry Density/Moisture Content (DD/MC) test will determine the difference in water content between the OMC and the 'as-is' natural Moisture Content (MC), and how much wetting or drying might be required to achieve the best moisture content for low permeability (IPENZ, 2017).
Schedule 2 Condition 27c and 27d	The applicant has requested to remove these conditions relating to permeability testing of test cores taken from Pond 3 and the fill of test holes, and replaced with: b) Each soil sample must be tested for Modified Maximum Dry Density (MMDD) ratio and Optimum Moisture Content (OMC) in accordance with AS 1289 E2.1 or E3.3. Soil samples must be ±2% OMC and >95% MMDD. The applicant claims that permeability of the compacted subgrade is not relevant, and as it is not stated in their Technical Specification should not be required by the works approval.	Getting the target compaction at the right moisture content into the constructed subgrade material is the key to the subgrade meeting acceptable stability and permeability requirements. Therefore, in consultation with DWER's Contaminated Sites branch, the delegated officer supports the applicant's proposed acceptance criteria and testing regime for MMDD ratio and OMC in accordance with Australian Standard (AS) 1289.5.2.1- 2003; and AS 1289.5.4.2- 2007, noting that the soil may need to be treated to comply with the criteria.
Schedule 2 Condition 28	The applicant has requested this condition be amended to require Pond 3 to undergo a leak detection survey as outlined in their Technical Specification as opposed to being proof tested to confirm the initial seepage 24 hours after flooding. The applicant claims that the leak detection survey to be completed on the HDPE layer by water lance or arc testing method is sufficient in ensuring there will be no defects in the liner following its installation.	As discussed above, the delegated officer has determined a compacted subgrade is appropriate, as opposed to a clay liner. Therefore, proof testing to confirm seepage through the subgrade is not required, and thus Condition 28 has been removed. Instead, as suggested by the applicant, the requirement to conduct a leak detection survey upon completion of the installation of the Pond 3 HDPE liner has been added to Condition 1 (Table 1: Design and construction/installation requirements) of the works approval. This will ensure the risk of loss of wastewater containment via seepage through the pond liner remains acceptable.
Decision report section	Summary of applicant's comments received 1 April 2021	Department's response
Section 4.2 Table 2: Risk assessment of potential emissions and discharges from the premises during construction, commissioning, and operation	In response to DWER's request for information, the applicant confirmed the expected schedule in which the Pond 1 desludging works would be completed.	The desludging activities timeframe, as confirmed by the applicant, has been added to the decision report.
Works approval condition	Summary of applicant's comments received 28 April 2021	Department's response
Condition 1 Table 1: Design and	In addition to restating their comments in relation this condition above (comments received 1 April 2021; condition 1), the applicant states that it is not anticipated that the underdrainage system will come into contact with groundwater, or that treated wastewater will leak through the impermeable	Given that it is now understood that Pond 3 will not be constructed below the seasonally highest water table, the delegated officer has removed the requirement to install an underdrainage sump. Separate controls for early detection of groundwater contamination from the pond have been included. See below response (Decision

construction/installation requirements	<p>HDPE geomembrane liner and hence no liquid will be collected in the system. See applicant's comments below (Decision Report; Section 2.2 and Appendix 1) for reasoning.</p> <p>The purpose of the Pond 3 sump as per the applicant's design, is to provide an extraction point for the treated wastewater stored above the HDPE geomembrane liner for irrigation purposes. Therefore, they request the removal for the requirement of an underdrainage sump.</p>	Report; Section 2.2).
Condition 2	The applicant has noted typographical errors - broken cross-references within the conditions.	These typographical cross-referencing errors have been corrected.
Condition 7		
Condition 13 Table 7: Monitoring of concentrations in wastewater during time limited operations	<p>The applicant has requested to remove the parts of this condition requiring monitoring of water captured by the underdrainage sump, as the underdrainage system they have proposed to install is to facilitate soil pressure relief caused by a fluctuating seasonal water table, and not for the capture of water or as a leak detection layer.</p> <p>See applicant's comments below (Decision Report; Section 2.2 and Appendix 1) for reasoning.</p>	Given that it is now understood that Pond 3 will not be constructed below the seasonally highest water table, the delegated officer has removed the requirement to install an underdrainage sump, and therefore removed the requirement for associated monitoring of sump water. Separate controls for early detection of groundwater contamination from the pond have been included. See below response (Decision Report; Section 2.2).
Decision report section	Summary of applicant's comments received 28 April 2021	Department's response
Section 2.2 Application summary and overview of Premises: Department of Water and Environmental Regulation (DWER) Technical Review	<p>The applicant has referred to Drawing C-201 of the EAMP (Talis, 2020), which was included in the works approval application package. Drawing C-201 indicates that the lowest point in Pond 3 is the sump from which treated wastewater is to be extracted, which is approximately 1.7 mbgl. DWER wrote to the applicant requesting clarification on this, as Section 4.2 of the EAMP (Talis, 2020) states that Pond 3 would be excavated to a depth of 3 mbgl, which DWER determined would likely be below the seasonally highest groundwater level. The applicant responded noting the ambiguity, and confirmed that Pond 3 would be 3 m deep from crest to base, with the embankments to be built up above existing ground level, hence the base of the pond would not be lower than approximately 1.7 mbgl. This is above the highest known groundwater level at the site's irrigation fields, which was recorded as 2 mbgl.</p> <p>Therefore, the applicant does not anticipate that the HDPE geomembrane liner will be impacted by the underlying groundwater. However, an underdrainage system is proposed to be installed beneath the liner to ensure there is no uplift from either the underlying groundwater or soil air. The ventilating cowl installed at the highest point of Pond 3 and connected to the drain system will receive the soil pore pressure caused by fluctuating groundwater levels. This system does not feature a sump for the collection of wastewater, nor is it designed to act as a leak detection layer considering the liquid is treated wastewater that has passed through two sequence batch reactors and will eventually be used for irrigation elsewhere on site.</p>	<p>The delegated officer notes that the pond will not be excavated to 3 m, as stated in Section 4.2 of the EAMP (Talis, 2020), but will be 3 m deep, with raised embankments and with the lowest point of excavation being approximately 1.7 mbgl as indicated in Drawing C-201 (Talis, 2020). As this is not below the expected highest groundwater level, it lowers the risk of seasonally high groundwater impacting on the base of the pond and pond liner. Therefore, the delegated officer accepts that a sump for the collection of underdrainage water, and subsequent water monitoring, may not be not required.</p> <p>However, as groundwater at the Pond 3 site is not well understood and has been recorded as shallow as 2 mbgl at another site on the premises, there is still some risk in having the pond base constructed in potentially close proximity to the groundwater table, and so additional controls are required to maintain an acceptable level of risk. Therefore, in the absence of an underdrainage sump to detect rising groundwater impacting on the pond base, or leakage of wastewater from the pond, the delegated officer has included a condition in the works approval which requires the applicant to conduct a leak detection test ("pond drop test") of the liner on an annual basis. This will be complimented by the groundwater monitoring requirements to indicate early detection of wastewater seepage at the new bores.</p>
Appendix 1: Summary of applicant's comments on risk assessment and draft conditions, Department's Response to Condition 1	<p>The applicant states that several management measures have been proposed to mitigate the risk of leakage through the geomembrane liner, including the leak detection survey following initial inspection. The liner will also be regularly inspected, and maintenance works scheduled. The locations of new monitoring bores, as approved by DWER, will provide early indication if the underlying groundwater system is being impacted by Pond 3. If this does occur, Pond 3 will be drained and surveyed to identify the defects for repair; and once repaired Pond 3 would become operational again.</p> <p>The applicant claims that these measures are reasonable and suitable for the type of non-hazardous liquid that Pond 3 is temporarily storing prior to irrigation. Therefore, it is requested that the requirement for an underdrain sump and associated monitoring be removed from the works approval.</p>	

Appendix 2: Application validation summary

SECTION 1: APPLICATION SUMMARY		
Application type		
Works approval	<input checked="" type="checkbox"/>	
Date application received	28 October 2020	
Applicant and Premises details		
Applicant name/s (full legal name/s)	Harvey Fresh (1994) Ltd	
Premises name	Harvey Fresh Dairy and Juice Factories	
Premises location	Lot 1 on Diagram 4786, Lot 20 and Lot 22 on Plan 2344, Lot 187 and Lot 189 on Plan 202110, Lot 200 on Diagram 66494, Lot 190 on Plan 202110, Lots 33, 34, 35 and 36 on Plan 205324, and Lot 191 on Deposited Plan 202109	
Local Government Authority	Shire of Harvey	
Application documents		
HPCM file reference number:	FA240977	
Key application documents (additional to application form):	Environmental Assessment Management Plan	
Scope of application/assessment		
Summary of proposed activities or changes to existing operations.	<p>Construction of a new treated water storage pond within Lot 200 (Pond 3). Pond 3 will have a full capacity of 32,779m³ and operational capacity of 27,617m³ (assuming a 500mm freeboard). It is proposed to build a treated water storage pond [Pond 3] directly north of the existing Pond 2A and Pond 2B to provide additional capacity for the volumes of wastewater generated on the Site premise.</p> <p>As with Pond 2A/B, Pond 3 will temporarily store treated water prior to irrigation as per the Site Licence. The excess soils gained from the construction of Pond 3 will be used to fill in the decommissioned Pond 1, which is scheduled for rehabilitation.</p> <p>As part of the rehabilitation works, Pond 1 will be de-watered, any spoil at the base of the pond will be removed, and the excess soils from the construction of Pond 3 will be used to fill Pond 1 up to existing ground levels. The removed spoil will be transferred to a drying pad located onsite (i.e. the Site's former composting pad). Harvey Fresh is currently investigating the applications for the dried end-product.</p>	
Category number/s (activities that cause the premises to become prescribed premises)		
Table 1: Prescribed premises categories		
Prescribed premises category and description	Assessed production or design capacity	
Category 17: Milk processing	180,000 tonnes per annual period.	
Category 24: Non-alcoholic beverage manufacturing	13,000 kL per annual period	
Legislative context and other approvals		
Has 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 type="checkbox"/> No <input checked="" type="checkbox"/>	Referral decision No: Managed under Part V <input type="checkbox"/> Assessed under Part IV <input type="checkbox"/>

Does the applicant hold any existing Part IV Ministerial Statements relevant to the application?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Ministerial statement No: EPA Report No:
Has the proposal been referred and/or assessed under the EPBC Act?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Reference No:
Has the applicant demonstrated occupancy (proof of occupier status)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Certificate of title <input checked="" type="checkbox"/> General lease <input checked="" type="checkbox"/> Expiry: <ul style="list-style-type: none"> • Proof of ownership provided with previous licence amendment application.
Has the applicant obtained all relevant planning approvals?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A <input type="checkbox"/>	Approval: Expiry date: Shire of Harvey Development application lodged concurrently with W/A application.
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 One native tree is proposed to be cleared. This meets requirements of Regulation 5, Item 19 for a permit exemption (clearing of isolated tree >50 m from other native vegetation).
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"/>	Licence / permit not required.
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Name: Harvey Irrigation District Type: Surface Water Area and Irrigation District Has Regulatory Services (Water) been consulted? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> Regional office: Kwinana Peel / South West <ul style="list-style-type: none"> • <i>From previous amendment:</i> “DWER Water Services advice states that there is connectivity between the perched and seasonal groundwater and the Harvey River drainage network, and as such, any nutrient leaching from groundwater or surface flows can directly impact on the quality of the Harvey River (Harvey Estuary).”

<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? 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 checked="" type="checkbox"/></p>	
<p>Is the Premises within an Environmental Protection Policy (EPP) Area?</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>	<p>Peel Inlet – Harvey Estuary 1992 EPP</p>
<p>Is the Premises subject to any EPP requirements?</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>	<p>Site is subject to phosphorus requirements of the Peel Inlet – Harvey 1992 EPP.</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>