

Recommendation and decision on notification of resource consent application(s) under sections 95-95G of the Resource Management Act 1991 (RMA)

The application

Particulars

Applicant:	Woldwide One Limited and Woldwide Two Limited
Consents sought:	Land Use Consent – to use land for the maintenance and use of an existing agricultural effluent storage facility
Application reference:	APP-20191432
Site address or location:	1915 Winton Wreys Bush Road, Otautau
New consent(s) for new activity(ies) (s88)	<input checked="" type="checkbox"/>
New consent(s) for existing activity(ies) (s88)	<input type="checkbox"/>
Change to conditions of existing consent(s) (s127)	<input type="checkbox"/>
Activity status	Discretionary

Recommendation and decision

Officer's recommendation

I recommend the application is publically notified. This is because:

- The lining of the pond has visual defects and the testing and assessments completed are inadequate;
- Due to the age and condition of the pond and the state of the liner and the absence of any repair work being undertaken or proposed to be undertaken, it is likely that the effects from the on-going maintenance and use of the pond will be more than minor.

As per s95A(8)(b), I consider that the adverse effects of the proposed activities are likely to have adverse effects on the environment that are more than minor, as such public notification is required.

The application be processed non-notified	<input type="checkbox"/>
Public notification is required/recommended	<input checked="" type="checkbox"/>
The application be placed on hold while the applicant tries to obtain written approvals from the affected persons	<input type="checkbox"/>
Limited notification is required.	<input type="checkbox"/>



Alex Erceg

Consents Officer

Date: 27 June 2019

Decision under Delegated Authority

11.1	I agree with the recommendation	<input checked="" type="checkbox"/>
11.2	The application will be processed non-notified	<input type="checkbox"/>
11.3	The application will be publicly notified	<input checked="" type="checkbox"/>
11.4	The application shall be placed on hold while the applicant tries to obtain written approvals from the affected persons	<input type="checkbox"/>
11.5	The application will be limited notified. The parties to be served notice are those listed in section 8.2	<input type="checkbox"/>

This decision is made under delegated authority by:



Michael Durand
Consents Manager

Date: 27/6/19

The proposal

The application

The applicant is applying to use land for the maintenance and use of an existing agricultural effluent storage facility, namely a clay effluent storage pond (*the pond*).

The pond is used to store “slurry” effluent generated from a dairy operation and the use of winter barns on an existing dairy platform at the site.

The slurry effluent is a mix of liquid agricultural effluent and solid agricultural effluent, as such a solid crust will typically form within the pond, and effluent sludge’s will be present within the pond.

The application does not make any mention of any proposed maintenance.

The existing environment

The effluent pond is an existing pond and was lawfully constructed without resource consent c.2005. The pond makes up part of the effluent system for the operational dairy farm.

The existing environment is explained in the application. This description is not in dispute and is adopted.

The following points outline key features in the existing environment;

- The Heddon Bush School registered drinking water supply is located approximately 3.6km directly south of the pond;
- The main stem of the Aparima River is approximately 3.3km to the west of the pond;
- The pond is located on the Central Plains physiographic zone;
- The pond sits on the “Braxton + Pukemutu” soil type;
- The groundwater nitrates at bore E45/0665 (approximately 477m South East of the pond) are consistent with that of moderate to high land use impacts with nitrate levels in the vicinity of the pond ranging from levels indicative of minor to moderate to land use impacts to levels that exceed drinking water standards; and
- Groundwater exceeds drinking water standards at four locations approximately 1.5km North West and approximately 2km South East of the pond.

Pond Construction

The effluent pond is an existing structure and was lawfully constructed without resource consent c.2005. The applicant states the pond was constructed by Nightcaps Contracting Limited. The application refers to the pond as being clay lined, however supplementary information provided by John Scandrett (Dairy Green Limited) on 26 June 2019, states the “*pond banks were constructed of gravel and subsoil in varying ratios*”.

Furthermore, the application lists the following regarding the construction of the pond;

- **Subsoil from the local area was harvested to line the internal batters.**
- **Internal batters were constructed on a 2H:1V gradient.**
- **External batters were constructed on a 1:1 gradient and are covered in grass.**
- **Bank crests are generally 3.6 m wide.**
- **The pond is mostly constructed above ground level with constructed banks.**

Effects and Issues

Adverse effects of the proposed activities on the environment

Consideration of the following effects is required:

- effects on water quality, including potential for contamination of groundwater and surface water, and effects on sources of human drinking water;
- odour.

Effects not in contention

Odour from the use of the pond for effluent storage are not expected to arise from the use and maintenance of the pond. The pond is located over 600m from the property boundary.

Effects on surface water are not expected to arise from the use and maintenance of the structure as it is located over 150m away from the nearest surface waterbody. Even in the event of a failure of the pond or through mismanagement it would be unlikely that surface water quality will be effected.

Issues

Rule 32D(b) of the proposed Southland Water and Land Plan states;

The use of land for the maintenance and use of an existing agricultural effluent storage facility that was authorised prior to Rule 32D taking legal effect, and any incidental discharge directly onto or into land from that storage facility which is within the normal operating parameters of a leak detection system or the pond drop test criteria set out in Appendix P, that does not meet one or more conditions of Rule 32D(a) is a discretionary activity.

The applicant has supplied a pond drop test undertaken by Dairy Green Limited and reviewed on their behalf by GeoSolve Limited. The pond drop test found that the leakage rate of the pond is within the acceptable parameters as set by Appendix P of the proposed Southland Water and Land Plan. However Appendix P also requires that there shall be no sludge or crust on the pond surface during the test. As the pond stores slurry, this criteria of Appendix P was not met, and as such the pond drop test was not undertaken in accordance with Appendix P.

The pond drop test was undertaken between 17 and 19 November 2017, and as such is now 19 months old.

Due to the age of the test and the presence of a crust, I do not believe that the test is indicative of whether or not the pond may or may not be leaking.

The applicant also supplied a visual assessment of the pond undertaken by John Scandrett of Dairy Green Limited. This assessment was undertaken in October 2018 and as such is now 8 months old.



Figure 1: Photo appended from the visual assessment taken during the assessment

At the time of the visual assessment the effluent slurry levels in the pond were above the freeboard levels and the embankments had heavy grass growth as seen in Figure 1. I consider the visual assessment to be entirely inadequate and as such all findings have been disregarded. It is not possible for the features of the pond to have been visualised during the assessment to allow for a determination to be made regarding the suitability of the structure.

Supplementary information provided by John Scandrett in which he visited the pond on 6 April 2017 to collect information states that there was evidence of erosion caused by the mechanical stirrer in the pond. Noting this visit was carried out over two years ago and further damage may have arisen since then.



Figure 2: Internal embankments appended from supplementary information

As seen by figure 2 there is vegetation growing out of the pond liner. As such, this could provide a mechanism for effluent to leak from the structure through the root systems and may affect the integrity of the liner.

In the supplementary information John Scandrett acknowledged the loss of some clay from the liner and made the following comment;

“It would be prudent to replace lost clay to maintain the integrity of the liner.”

No evidence has been supplied that any maintenance has been undertaken on the pond, and prior to this no application has been lodged nor granted for such work to be undertaken.

During a site visit on 20 June 2019, I noted erosion of the liner where underlying rock was protruding and visible to the naked eye. I have appended photo's to this report (*Appendix 1*) showing the current state of the pond as seen on 20 June 2019.

The applicant currently has an application in for a suite of consents to authorise their farming operations (APP-20191052), in which the applicant claims the self-sealing nature of slurry *“greatly reduces the risk of leakage”*. Ignoring the appropriateness of this, if the slurry does self-seal, should there be a crack, hole or defect that would allow effluent leak from the system, during periods after desludging has occurred effluent would be allowed to leak from the pond as there would be no sludge present to seal the crack, hole or defect. As the pond must be 75% full at the time of a pond drop test, it is feasible that the test would be unlikely to identify that the liner was compromised which would permit any leakage after desludging to go unnoticed. This raises further concerns with the pond drop test that was completed but not in accordance with Appendix P and its reliability.

I do not consider adequate information and/or evidence has been supplied to provide certainty to the integrity of the liner and I cannot be confident that the structure is not leaking, in spite of the pond drop test and the visual assessments for reasons outlined above. Due to the nature of the soil types and physiographic zone deep drainage to underlying groundwater is the main contaminant pathway. The underlying aquifer has elevated nitrate levels and as such the pond is likely to pose a significant risk to groundwater should the integrity of the liner be compromised. This would be understated should the pond drop tests be unable to detect a leak due to the nature of the effluent stored in the facility and on the assumption that any cracks, holes or defects have effectively been closed by sludge.

Adverse effects that have been disregarded

None

Planning provisions (policies and objectives) relevant to adverse effects

The following policies are relevant to this application;

Regional Water Plan

Policy 41 - Avoid adverse effects on water quality, and avoid as far as possible other adverse environmental effects, associated with the location, design, construction, operation and maintenance of agricultural effluent ponds.

Proposed Southland Water and Land Plan

Notification memorandum

Policy 13(2) – manage land use activities and discharges (point and non-point source) to enable the achievements of Policies 15A, 15B and 15C;

Policy 15B – Improve water quality where standards are not met; and

Policy 17 – Agricultural effluent management

1. Avoid significant adverse effects on water quality, and avoid, remedy, or mitigate other adverse effects of the operation of, and discharges from, agricultural effluent management systems.
2. Manage agricultural effluent systems and discharges from them by:
 - a) designing, constructing and locating systems appropriately and in accordance with best practice; and
 - b) maintaining and operating effluent systems in accordance with best practice guidelines; and
 - c) avoiding any surface run-off or overland flow, ponding or contamination of water, including via sub-surface drainage, resulting from the application of agricultural effluent to pasture; and
 - d) avoiding the discharge of untreated agricultural effluent to water

Conclusion: significance of adverse effects on the environment

The above policies have been used to inform and determine the level of adverse effects associated with the proposed activity, as the direction of the policies help establish what effects are acceptable and therefore whether the adverse effects of the proposed activities are less than minor, minor or more than minor.

I consider that the proposed activities are inconsistent with the policies of both the Regional Water Plan and proposed Southland Water and Land Plan. The pond has not been appropriately maintained and this evident through the recognition of the erosion and loss of clay from the liner. Even where it was recognised that it would be prudent to replace the lost clay, this has not been undertaken.

Due to the condition of the pond accompanied with the inadequacy of the testing and assessments undertaken on behalf of the applicant and the age of the pond itself, I consider that the effects from the on-going use of the pond will likely be more than minor. There are obvious defects in the integrity of the liner, that have also been mentioned in the supplementary information provided by John Scandrett of which he acknowledged that the lost clay should be replaced.

Appendix 1
Photo's from site visit undertaken on 20 June 2019













