

Dairy Green Ltd

Practical Engineering Solutions
Consents, Effluent, Stock water, Irrigation
Design through to Installation
Irrigation NZ Accredited Designer

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Emily Allan
Consents Office
Environment Southland

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Dear Emily

White Waters Ltd – Request For Further Information

The following information is provided as requested under Section 92(1) of the RMA 1991.

Effluent Storage:

A revised DESC scenario has been run to replace the scenario that was provided by RD Agritech with the application. Low rate irrigation has been included as an application method. It is proposed to purchase 2 low rate sprinklers and utilise the existing dairy shed transfer pump to apply effluent direct when soil moisture conditions allow. Hydrants will be installed along the existing 90 mm transfer line between the dairy shed pump sump and existing storage structure. One sprinkler will be run at a time and can be linked from a hydrant via drag hose. Each sprinkler can easily be changed between either manually or an indexing valve could be used. The drag hose will allow the most suitable areas of each paddock to be targeted for application.

1. An allowance has been included in the DESC for the small volume of effluent collected while the covered calving pad is in use during spring. A PVC pipe will be installed before it is used next to connect the calving pad to the dairy shed pump sump to allow collection.
2. Waste water and or greywater will not be mixed with or stored in the effluent system, an on site waste water system will be used. Portaloo toilets are currently used until a septic tank system is in place.
3. As determined by the DESC the existing Hynds Mega Pond on farm has sufficient storage volume. As such can you please put the land use consent application on hold for 1 month while the information request is processed.

4. The amended DESC inputs have allowed for low rate application and slurry tanker application, the DESC has also been amended with the irrigation volumes changed to achievable numbers that reflect on farm effluent management practices.
5. N/A, the amended DESC results in sufficient storage for the proposed maximum consented cow numbers.

Discharge to land:

6. Both dairy shed sump pumps have identical specifications. They are Mono positive displacement pumps, with a 3 phase 4.5 kW motor, flow rate per hour is 11,000 L up to 100 m head. The pumps have a pressure switch fitted and are automatedly operated. The pump sump holds 25,000 L plus freeboard, effluent volumes generated daily in the dairy shed are up to 24,000 L and over a 2 – 3 hour period. The total head from the pump sump to the storage structure is less than 40 m allowing for friction loss with an open discharge.
7. The application has asked for time to complete an application depth test. The slurry tanker had an application depth test carried out following the granting of the now expired consent approx. 5 years ago in 2013. It was determined that a tractor speed of 10 km/hr resulted in less than 5 mm depth applied per pass. If the depth needs to be tested again and within a 3 month time period, permission will likely be needed from Environment Southlands compliance division to allow effluent application to occur due to the current abatement notice and provided there is a suitable soil moisture deficit to do so.
8. Effluent will only be applied if a suitable soil moisture deficit is available relative to the application method used and depth to be applied. At no time will effluent application occur to soils at field capacity or if effluent application could result in soils reaching field capacity.
9. As discussed during the on farm meeting on the 20th April 2018 it is proposed to consent low rate application, slurry tanker and an umbilical system as application methods. There is a plan in place to install low rate application and the umbilical system will be used as required or as a contingency method. This will provide flexibility with effluent application to suit seasonal variations in weather and soil moisture conditions.
10. The proposed effluent application methods provide the most practical means of avoiding irrigating the soil around any springs, seepages and drainage depressions. The best topography and soil types can be specially targeted for application. As such, along with deferred storage the application of effluent will not have any negative effect on the groundwater/surface water within the effluent receiving area.

Yours faithfully

Quinton Scandrett
Agricultural & Engineering Consultant
