



Date: March 1, 2017

File: UA Hullcar Aquifer  
AMS#108389

VIA EMAIL and REGISTERED MAIL

Grace-Mar Farms Ltd.  
9259 Main Street  
Chilliwack BC V2P 6K2

Attention: John Kampman, Director  
Margaret Tenbrinke, Director

RE: Amendment to Pollution Abatement Order #108389

The purpose of this letter is to provide the following Order amendments as a result of the February 16, 2017 manure effluent spill at Grace-Mar Farms Ltd located at Salmon River Road, Spallumcheen.

On February 17, 2017 Ruth McDougall and Doug MacFarlane, Qualified Professionals working for Grace-Mar Farms contacted Environmental Protection Officers at the Ministry of Environment to advise that a spill had occurred at the farm on February 16. The spilled manure effluent collected in a low lying area adjacent to the large effluent lagoon at the farm property. As a part of the clean-up, farm staff have placed the spilled effluent in a new pit near the spill site, applied effluent to snow covered fields on the Lands, and mixed effluent with sawdust and added it to the solid manure pile. Currently, solid and liquid manure storage at Grace-Mar Farms Ltd is near capacity.

The fields '102 Bottom Back' and '101 North/101A Home Pivot Road' are included in the Lands as defined in the Order. The Ministry of Agriculture's 2016 Post-Harvest Nitrate Study identified Field 102 'Bottom Back' as having 193lb NO<sub>3</sub>-N/ac or Very High residual nitrate; and Field 101 North/101A Home Pivot Road as having 64lb NO<sub>3</sub>-N/ac or Medium residual nitrate. Effluent was applied to a portion of Field 102 'Bottom Back' on or after February 16, 2017.

The Comprehensive Monitoring Program and Environmental Impact Assessment Report (the Report) completed for Grace-Mar Farms Ltd in November 2016 identified nitrate levels of 21.0 mg/L in Monitoring Well 1 and 16.6 mg/L in Monitoring Well 2. The report describes the presence of nitrate in the deep soil samples taken from the unsaturated zone suggesting downward movement of nitrate from the fields over time due to excess application of nitrogen as fertilizer. As well, Figure 2-2 of the Report also shows a watercourse in fields 101 North and 102 Bottom Back.

On February 10, 2016, an Environmental Protection Officer inspected Grace-Mar Farm Ltd. The officer noted that Grace-Mar Farm Ltd. was out of compliance with section 6 of the Agricultural Waste Control Regulation (storage facility) and section 12 of the same regulation (allowable application). A warning was provided to Grace-Mar Farms Ltd. for these violations (Reference Inspection Report 25608).

Pursuant to Section 83 (4) of the *Environmental Management Act*, S.B.C. 2003, c. 53, the Order is amended to include the following requirements:

1. By March 1, 2017 cease any and all applications of agricultural waste and fertilizer to the Lands until such time that a nutrient management plan has been developed as described under requirement #4. Agricultural waste must not be applied to frozen land (including snow covered land), in diverting winds, on areas having standing water, nor on saturated soils.
2. By March 3, 2017 secure alternative liquid manure storage and/or disposal as the current capacity at Grace-Mar Farms is insufficient to store all the agricultural waste produced or used on the farm.
3. By March 31, 2017, ensure that existing manure effluent lagoons:
  - i) have 45 cm of freeboard;
  - ii) cannot leak, overflow or permit the escape of the solids, effluent or particulate matter; and
  - iii) clean rain water or storm water flowing along the ground is diverted away from any effluent lagoon.
4. By March 31, 2017, submit to the Director a nutrient management plan (NMP) for the Lands, prepared by a QP for the 2017 crop year. The NMP must be designed to meet an agronomic nitrogen balance of zero (0) for each field receiving nutrient application. The NMP must account for all nutrient sources (generated, imported and exported including compost) for Grace-Mar Farm Ltd operations. The NMP must incorporate the recommendations made by the Ministry of Agriculture in its 2016 Post Harvest Nitrate Study.

In this order “agronomical nitrogen balance” in relation to the application of agricultural waste to crop land means a rate and timing of application that does not exceed the theoretical level of uptake of nitrate from all sources in or applied to the soil by the relevant crops and minimizes the introduction of nitrate found in or applied to the soil into ground or surface waters.

Ensure all applications of agricultural waste to the Lands meet the following requirements:

- i) Are limited to providing soil conditioner or fertilizer necessary for crop production: the application of agricultural waste to fields must not exceed the amounts required to supply the agronomic balance of nutrients required by the crop as per the guidance provided by the NMP;
- ii) Are recorded (actual amounts of agricultural waste applied to lands, and dates of such applications), such records to be kept and provided to the Director on request;
- iii) Are set back a minimum of 3.5 metres from the high water mark of a watercourse;

- iv) Are set back a minimum of 3.5 metres from all property lines;
- v) Are set back a minimum of 3.5 metres from any industrial wells; and
- vi) Are set back a minimum of 30 metres from any drinking water wells.

In this order “Qualified Professional” is **amended** to mean an applied scientist or technologist specializing in a particular applied science or technology, including agrology, biology, chemistry, engineering, geology or hydrogeology, who:

- a) is registered in British Columbia with the professional organization responsible for his or her area of expertise, acting under that professional association's code of ethics and subject to disciplinary action by that association,
- b) through suitable education, experience, accreditation and knowledge, may be reasonably relied on to provide advice within his or her area of expertise, and
- c) provides advice on matters only within that area of expertise as it relates to this order.

**All other terms and conditions of the Pollution Abatement Order #108389 issued to Grace-Mar Farms Ltd remains in effect.**

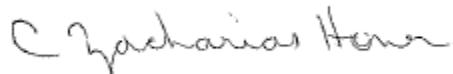
This order amendment may be appealed to the Environmental Appeal Board in accordance with Part 8 of the *Environmental Management Act*. An appeal must be delivered to the Environmental Appeal Board within 30 days from the date notice of this order is given. For further information, please contact the Environmental Appeal Board at (250) 387-3464.

The Parties are notified that the Province intends to publish on the Ministry of Environment website the entirety of any Regulatory Document provided that:

- a) the Province will provide written notice to the parties of its intent to publish the Regulatory Documents at least [14] days prior to publication,
- b) the Province will not publish any information what could not, if it were subject to a request under section 5 of FOIPPA, be disclosed under the Freedom of Information and Protection of Privacy Act, R.S.B.C. 1996, c. 165 as amended from time to time.

If you have any questions with regard to this amendment, please contact me at 250-356-8185, or Devan Oldfield at 250-490-2222.

Yours truly,



Christa Zacharias-Homer  
for Director, *Environmental Management Act*

cc. Devan Oldfield, Environmental Protection Officer, Regional Operations Branch, Compliance Team