

## **Appendix 1 - Changes to Variation 6 (Agricultural Effluent Ponds) to the Water Plan as a result of Council decisions**

### **Policy 41 - Adverse effects of agricultural effluent ponds**

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.

#### **Explanation**

Agricultural effluent contains high levels of pathogens, nitrogen and other contaminants. This means that there is a significant risk to water quality and public health if deficiencies in the design and construction of an agricultural effluent pond result in a discharge to groundwater or surface water.

The adverse effects of agricultural effluent ponds on water quality can be avoided by the adoption of appropriate design and construction standards such as those contained in the *Environment Southland Code of Practice for Design and Construction of Agricultural Effluent Ponds*. To ensure these standards are met, agricultural effluent ponds need to be properly designed by persons with experience in the design and oversight of construction of this type of structure. In addition, the construction of an agricultural effluent pond requires an experienced contractor with adequate heavy equipment. In order to ensure compliance with appropriate standards, the construction of all new agricultural effluent ponds will require resource consent from the Council.

To further minimise risks to water quality and public health, agricultural effluent ponds should not be located in close proximity to surface water bodies, artificial watercourses, the coastal marine area or potable water abstraction points. Buffer distances have therefore been included in the relevant rule. The proximity of agricultural effluent ponds to registered drinking-water supplies, installed subsurface drains and groundwater will also be considered through the resource consent process.

Inappropriate use may result in adverse effects, for example if the pond is allowed to overflow, or the lining material is damaged during maintenance. It is therefore appropriate that Policy 41 makes reference to pond operation and maintenance, as these activities can also result in adverse environmental effects.

Agricultural effluent ponds can also have other adverse environmental effects such as the diversion of flood waters and odour problems. Buffer distances have therefore been included in the relevant rule to address these effects. Further consideration of these effects will occur through the resource consent process.

## **Rule 49 – Agricultural effluent ponds**

- (a) The construction of any agricultural effluent pond is a restricted discretionary activity provided the following conditions are met:
- (i) a set of plans and specifications containing the information specified in Appendix A (*Requirements for Agricultural Effluent Pond Construction and Design*) is supplied to the Council describing the proposed design and construction process to avoid adverse effects on water quality;
  - (ii) the agricultural effluent pond is not within 50 metres of any surface water body, artificial watercourse or coastal marine area;
  - (iii) the agricultural effluent pond is not within 200 metres of any dwelling not on the same property, or 50 metres of the boundary of any other property;
  - (iv) the agricultural effluent pond is not within 100 metres of any water abstraction point;

The Council will restrict its discretion to the following matters:

1. the design and construction of the pond and ancillary structures and the adequacy of the methods to be used to protect its embankments from damage by stock and machinery;
  2. the separation distance of the agricultural effluent pond from surface water bodies, artificial watercourses, installed subsurface drains, groundwater, bores, registered drinking-water supplies, the coastal marine area, trees, stop banks, residential dwellings, places of assembly, urban areas, property boundaries and sites of cultural significance;
  3. the height of the embankments and placement and orientation of the agricultural effluent pond relative to flood flows and stormwater run-off;
  4. the storage capacity of the agricultural effluent pond in relation to the volume and nature of the liquid that will enter and the options considered to reduce this volume;
  5. information and monitoring requirements, including installation of monitoring devices.
- (b) The construction of any agricultural effluent pond that cannot meet the conditions in Rule 49(a) is a discretionary activity.
- (c) The construction of any agricultural effluent pond required as a condition of a discharge permit, where the application for the permit was lodged with the Council between 1 June 2007 and the date on which this rule is publicly notified, shall be deemed to be authorised by this rule as a restricted discretionary activity subject to the conditions contained in that discharge permit.

## **Explanation**

This rule gives effect to Policy 41, which provides that adverse effects on water quality arising from agricultural effluent ponds are to be avoided and other adverse environmental effects avoided as far as possible. Policy 41 and this rule are both primarily focused on water quality effects but also address other adverse effects such as the diversion of flood waters and odour issues. Poor standards of construction can result in significant adverse environmental effects, and all new agricultural effluent ponds therefore require a resource consent.

Part (a) of the rule makes agricultural pond construction a restricted discretionary activity provided certain conditions are met.

Condition (a)(i) specifies that the consent applicant must supply the Council with a set of plans and specifications describing the proposed design and construction process. The information required to be supplied as part of these plans and specifications is specified in Appendix A “Information to be Submitted with a Resource Consent Application”.

It is imperative that the type of liner selected is appropriate to the intended purpose and that whatever liner type is used, that due diligence is observed during preparation, installation and subsequent use. If a clay liner is installed, a geotextile underliner should be considered as a second layer of defence to the primary clay layer. A defective or inappropriate liner may result in fines, costs of remedial work, and wasted capital invested in a structure that fails to control environmental liabilities.

Conditions (a)(ii) to (iv) set out recommended minimum buffer distances for agricultural effluent ponds. A buffer distance of 100 metres from water abstraction points is considered an appropriate default given the potential viral and bacterial risks agricultural effluent ponds pose. However, it is recognised that it may not be possible or necessary to comply with the buffer distances in the rule in all situations. Similarly, in some situations greater buffer distances may be needed. For example, a buffer distance greater than 100 metres may be required from a water abstraction point for a registered drinking-water supply.

If the conditions in Rule 49(a) cannot be met, the construction of an agricultural effluent pond is a discretionary activity so that the Council can consider the application without its discretion being limited.

Part (c) of the rule acknowledges that conditions attached to the discharge permits for the disposal of farm dairy effluent from 1 June 2007 onwards largely address the matters addressed by Rule 49(a). At the time of notification, some of these permits had yet to be exercised and the associated agricultural effluent ponds constructed. Such agricultural effluent ponds have therefore been excluded from Rule 49 to avoid double regulation.

## ***Addition to Section 2.3 Non-Regulatory Approach:***

### **Water Quality**

- (g) Encourage and support research and investigations into methods of managing the adverse effects of land use activities on water quality.

*(clause (g) is also to be added to the section on groundwater quality)*

### ***Glossary definitions:***

#### ***Agricultural effluent pond***

A pond used for the storage or treatment of agricultural effluent, but does not include a structure with a capacity equal to or less than 22.5 cubic metres.

#### ***Place of assembly***

Means any building or land used for public and/or private assembly or meeting of people and includes libraries, churches, halls, marae, clubrooms, community centres, conference centres, recreational facilities, chartered clubs, premises with a club license, and other similar establishments.

### ***Addition to Appendix A: Information to be Submitted with a Resource Consent Application:***

#### ***Requirements for Agricultural Effluent Pond Construction and Design***

Plans and specifications that describe the proposed design and construction process for the agricultural effluent pond including:

- a. a description of the locality within which the agricultural effluent pond is to be located, including:
  - i. distances to property boundaries;
  - ii. distances to surface water bodies, artificial watercourses, bores, registered drinking-water supplies, the coastal marine area, stop banks, residential dwellings, places of assembly and urban areas;
  - iii. any installed subsurface drains, groundwater, trees, stop banks, and sites of cultural significance; and
  - iv. any flooding or inundation that occurs on the site.
- b. a geotechnical assessment of the ground in which the agricultural effluent pond is to be built.
- c. a hydrological assessment of the agricultural effluent pond site, including the results of a groundwater investigation.
- d. an assessment of the proposed lining material, including installation requirements and design features to prevent leakage or discharge of contaminants during subsequent use.
- e. procedures for inspection during construction and operation of the agricultural effluent pond and for routine maintenance.
- f. a certificate from the designer of the agricultural effluent pond that states that the plans and specifications are adequate to ensure that the agricultural effluent pond will achieve the following outcomes:

- i. a leakage rate low enough to avoid environmental contamination;
  - ii. a floor level at a safe height above the water table;
  - iii. ongoing maintenance is provided for; and
  - iv. regulatory requirements are met.
- g. details of the volume and nature of liquid that will enter the agricultural effluent pond and the options considered to reduce this volume.
- h. details of proposed monitoring to be undertaken to assess the extent of any unauthorised discharges occurring from the pond.
- i. an assessment of how the design adopted is consistent with the *Environment Southland Code of Practice for Design and Construction of Agricultural Effluent Ponds* or any equivalent industry agreed guideline.