

# MEETING OF THE REGULATION HEARING COMMITTEE

TO THE CHAIRPERSON AND MEMBERS OF THE  
COMMITTEE

## MEMBERSHIP OF THE COMMITTEE

Cr A R McKay (Chairperson)  
Cr R A Budd  
Cr M E Oldfield

A meeting of the Committee will be held on  
**Friday, 4 November 2005 at 9.00 a.m.**

**VENUE:** Council Chamber  
First Floor  
Pegasus Building  
Environment Canterbury  
58 Kilmore Street  
CHRISTCHURCH

**BUSINESS:** As per Order Paper attached

Dr Bryan Jenkins  
**CHIEF EXECUTIVE**

**RECOMMENDATIONS IN REPORTS ARE NOT TO BE TAKEN  
AS COUNCIL POLICY UNTIL ADOPTED BY COUNCIL**

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## COMPLIANCE WITH LOCAL GOVERNMENT ACT 2002 DECISION-MAKING REQUIREMENTS

Except as below, a statement of compliance and a completed decision checklist is required for any agenda item on a council committee or the council recommending that a decision be made. This will be the responsibility of the person signing off the agenda item.

### The compliance statement and checklist will not be used for:

- Recommendations that information be received or that the Council make a decision.
- Decisions taken under the Resource Management Act 1991 or the Biosecurity Act 1993 in relation to resource consents, decisions required when following the procedures set out in Schedule 1 of the Resource Management Act 1991, other permissions, submissions on plans, or references to the Environment Court.
- Decisions taken to proceed with enforcement procedures under various primary or secondary legislation or regulations, including procedures under the Resource Management Act 1991, the Biosecurity Act 1993, the Local Government Act 2002, and Environment Canterbury Bylaws.
- Administrative and personnel decisions that are entirely internal to Environment Canterbury.
- Other decisions where the procedures to be followed are set out in Legislation.

### COMPLIANCE STATEMENT

The council committee (or the council) must formally certify that:

- (a) It is satisfied that it has sufficient information about the options and their benefits and costs, in terms of the region's social, economic, environmental and cultural well-being and the effects on community outcomes, bearing in mind the significance of the decisions.
- (b) It is satisfied that it knows enough about and has given adequate consideration to the views and preferences of affected and interested parties bearing in mind the significance of the decision.

### INFORMATION CHECKLIST

(a)	A Statement of the Proposed Decision
(b)	A Statement of the Objective of the Proposed Decision and the Issue or Problem being addressed
(c)	A list of all reasonably practicable options, (including doing nothing).
(d)	For each option in (c): An evaluation of the Benefits and Costs, in terms of the region's social, economic, environmental and cultural well-being.
(e)	For each option in (c): A statement of the extent to which community outcomes would be promoted or achieved in an integrated and efficient manner.
(f)	For each option in (c): A statement of the Impact, if any, on Environment Canterbury's capacity to undertake its statutory responsibilities
(g)	If the Proposed Decision is a significant decision in relation to land or a body of water, a statement of how Maori values have been taken into account
(h)	A Statement of significant inconsistencies, if any, with any Existing Policy, Plan or Legislation arising from the Proposed Decision.
(i)	A statement how the views and preferences of affected or interested persons have been given adequate consideration during the definition of the problem or issue, the objective, the assessment of options and the development of the proposed decision, including the particular contribution of Maori to the decision-making process.

#### Notes:

The significance of proposals and decisions determines how much time, money and effort is put into exploring and evaluating options and obtaining the views of affected and interested parties. The significance of proposals and decisions is determined through reference to criteria contained in the policy on significance.

The policy on significance together with Section 76 of the Local Government Act 2002 set out the Council's requirements in relation to decisions. Some decisions can only be made through the Long-Term Council Community Plan, or after the Special Consultative Procedures set out in the Act have been used, (refer to the policy on significance and the Act).

All decisions of Environment Canterbury are subject to the decision-making requirements of section 76 of the Act unless inconsistent with specific requirements of other legislation.

**ENVIRONMENT CANTERBURY**

**REGULATION HEARING COMMITTEE**

**ORDER PAPER**

1. APOLOGIES
2. MINUTES OF PREVIOUS MEETING (to be tabled)
3. MATTERS ARISING

**MATTERS FOR DECISION BY THE COMMITTEE**

4. RESOURCE CONSENT APPLICATIONS FOR CONSIDERATION
5. APPOINTMENT OF COMMISSIONER TO HEAR AND DECIDE RESOURCE CONSENT APPLICATIONS
6. QUESTIONS
7. EXTRAORDINARY AND URGENT BUSINESS
8. NEXT MEETING – to be confirmed
9. CLOSURE

#### 4. RESOURCE CONSENT APPLICATIONS FOR CONSIDERATION BY THE COMMITTEE

The following resource consent applications are submitted for consideration and decision by the Committee without formal hearing.

<b>Applications</b>	<b>Permit No.</b>	<b>Page No.</b>
C E E and S E Glover	CRC052139	3 – 18
Turpie Farms Limited	CRC051666	19 - 35

Report endorsed by:

Leo Fietje, Principal Consents Advisor.

#### ***Recommendation***

*That the Committee acting pursuant to a delegation of the Council of 22 October 2004, having had regard to the requirements of Section 104 of the Resource Management Act 1991, grants consent, pursuant to Section 105 of the said Act, to the applications subject to the conditions and expiry dates, and for the reason stated.*

**APPLICATION CRC052139  
BY CEE & SE GLOVER FOR A DISCHARGE PERMIT TO DISCHARGE PIG  
EFFLUENT ONTO LAND AND INTO AIR**

**PART 1 ADVICE TO DECISION-MAKERS**

My full name is Paul Sullivan. I have been employed by Environment Canterbury (the promotional name of the Canterbury Regional Council) as a Senior Consents Investigating Officer since September 2004. I hold a Bachelor of Science with honours in Environmental Science from the Manchester Metropolitan University (United Kingdom) and have completed four years doctoral research in Environmental Geochemistry (Water Quality) at the Manchester Metropolitan University (United Kingdom).

**1 INTRODUCTION**

**1.1 Background**

CEE & SE Glover (the applicant) have applied for a discharge permit to discharge piggery effluent to air and onto land from a farm on Hedley Road, Seadown, Timaru.

The applicant currently holds resource consent CRC952275 (expires 09/11/05) to discharge thirty cubic metres (30,000 litres) of piggery effluent per day. A check of monitoring reports shows a history of general compliance with some minor non-compliance.

The applicants prepared the AEE in support of their own application.

**1.2 Notification**

The application was publically notified on Saturday 18<sup>th</sup> June 2005 in the Timaru Herald. 30 submissions were received, 16 in support with none to be heard and 14 in opposition with initially 3 to be heard. This was reduced to 2 on 8/08/05 when Mr L G Wilson advised that he did not wish to be heard as he had ticked the wrong box. Two submissions were late with 1 (Mr T C Gibson) requesting a waiver, which was granted. Mr Gibson did not wish to be heard.

**1.3 Pre Hearing**

On the 25/08/05 a pre hearing meeting was held at Environment Canterbury's Timaru Office between the applicants and the submitters wishing to be heard who were opposed to the application. Present were Councillor Mark Oldfield (chairing the meeting), Paul Sullivan (Investigating Officer), Mr & Mrs Glover (applicants), Mr & Mrs Muirhead (submitters) and Mr Jennings (submitter). At that pre hearing Mr & Mrs Glover indicated that they wished to modify their application to reduce its duration to 10 years. All the submitters were happy with this development and indicated that they no longer wished to be heard in respect of this application.

**2 DESCRIPTION OF THE PROPOSED ACTIVITY**

**2.1 Applicant's proposal**

The applicant has applied to discharge contaminants to air and onto land under the following conditions:

- 1) The contaminants shall only be pig effluent from a total of 1,152 pigs (129 adult sows, 29 milking sows, 11 boars, 268 weaners, 366 growers to pork, 349 growers to bacon).

- 2) The total nitrogen loading will be 149.98 kg/ha/year (8,999.3 Kg/yr divided by 60 hectares).

The applicant stated that the area to be sprayed is 60 hectares. Using ECan's GIS the Investigating Officer found that the properties marked on the map supplied by the applicant have a total area of 52.38 hectares. Discounting the appropriate buffers from boundaries, the Investigating Officer calculated the available area to be a maximum of 44 hectares<sup>1</sup>.

The total volume of Nitrogen produced per year has been calculated as follows:

Number of pigs	Nitrogen Produced per animal each year (Kg)	Total Nitrogen Produced per year (Kg)
129 adult sows	11.3	1,457.7
29 milking sows	32.8	951.2
11 boars	13.5	148.5
268 weaners	2.9	777.2
366 growers to pork	6.8	2,488.8
349 growers to bacon	9.1	3,175.9
<b>Total 1,152 pigs</b>		<b>8,999.3</b>

The Nitrogen loading rate over 44 hectares was 204.5 kilograms per hectare per year (Kg/ha/yr). The total volume of undiluted effluent has been calculated as follows:

Number of pigs	Daily Volume Produced per animal (litres)	Total Daily Volume Produced (litres)
129 adult sows	4.2	541.8
29 milking sows	6.0	174.0
11 boars	5.3	58.3
268 weaners	1.1	294.8
366 growers to pork	2.5	915.0
349 growers to bacon	3.3	1,151.7
<b>Total 1,152 pigs</b>		<b>3,135.6</b>

The applicant stated that they use 26,864.4 litres of water a day to flush the system three times a day. A mix of wash water and effluent goes into a main tank, through the screen (for solids) and from there into secondary tanks. Solids are removed from the sump daily and disposed off by the sump service person. The effluent is then pumped from the secondary tanks via travelling irrigator onto paddocks. Effluent is only stored for one day before being sprayed onto land.

Mr Glover told the Investigating Officer that the water used to wash down came from the Seafield Community Scheme and from a bore on the property. Mr Glover stated further that the use from the bore was a permitted activity. Subsequently it has been determined that no

<sup>1</sup> GIS shows the properties to have an outer perimeter of 4,182.44 metres. The perimeter multiplied by 20 metres (average buffer distance from boundary) equals 83,648.8 m<sup>2</sup> (8.36 hectares).

consent exists for this water and a water consent application has been lodged for irrigation and washdown water.

The applicant seeks a 10 year duration for this consent.

## 2.2 Nature of Discharge

Although the number of animals may change from time to time, this application is for the discharge of effluent from 11 boars, 129 dry sows, 268 weaners, 29 milking sows, 366 growers to pork and 349 growers to bacon. The applicant stated that 26,864.4 litres of water and effluent a day are used to flush the system three times a day.

The effluent contains pig faeces, urine, offal, sawdust and wash down water. It may also contain soil, feed residues and other chemicals. Together the effluent contains nutrients such as nitrogen, phosphorus, potassium, organic matter, harmful micro-organisms (including pathogens such as leptosporosis and salmonella) sediments and toxins. The anaerobic breakdown of some of these contaminants during decomposition will release potentially odorous gases such as ammonia.

## 3 LEGAL AND PLANNING MATTERS

### 3.1 Resource Management Act 1991 (the Act)

Section 15(1)(b) of the Act states that:

**“No person may discharge any contaminant onto or into land in circumstances which may result in that contaminant ... entering water ... unless the discharge is expressly allowed by a rule [in a regional plan and in any relevant proposed regional plan], a resource consent or regulations.”**

The proposed activity involves the discharge of piggery effluent onto land in circumstances that may result in it entering groundwater or surface water and therefore must be authorised by a regional plan or resource consent.

In addition, sections 15(2) of the RMA state that:

**“No person may discharge any contaminant into the air or into or onto land, from any place; or any other source, whether movable or not, in a manner that contravenes a rule in a regional plan or proposed regional plan unless the discharge is expressly allowed by a resource consent or regulations, or allowed by section 20 (certain existing lawful activities allowed).”**

While the discharge of piggery effluent onto land other than on which it originated is a Permitted Activity in the Transitional Regional Plan (see 3.2.2 below), the Proposed Natural Resources Regional Plan (see 3.3 below) does not allow the discharge of any quantity of animal effluent onto land without a resource consent. Therefore the proposed activity must be authorised by resource consent.

Section 104 of the Act states that subject to Part II, when considering an application for resource consent and any submissions received, the consent authority shall have regard to a number of matters set out in the sections that follow.

## 3.2 Regional Plans

### 3.2.1 Proposed Natural Resources Regional Plan (NRRP)

#### 1 CHAPTER 3 - Air Quality

Rule AQL58 of the Proposed Natural Resources Regional Plan (PNRRP) states:

**Discharge of contaminants into air from intensive farming that was lawfully established at a permanent site at the date of notification of the NRRP, and where a resource consent was not required for the discharge of contaminants into air from that activity prior to the date of notification of the NRRP, is a permitted activity.**

1. **There shall be no increase in the scale, intensity, frequency or duration of the discharge of contaminants into air from the activity, compared to when the activity was authorised prior to the date of notification of the NRRP.**
2. **The discharge of odour shall not cause an objectionable or offensive effect beyond the boundary of the property where the discharge originates.**
3. **The dispersal or deposition of particles shall not cause a noxious, dangerous, objectionable or offensive effect beyond the boundary of the property where the discharge originates**

The Investigating Officer considers that condition 3 cannot be complied with as part of the disposal area is on a neighbouring property. Therefore the activity is considered to be discretionary under Rule AQL62.

- Rule AQL62 of the Proposed Natural Resources Regional Plan (PNRRP) states:  
**The discharge of contaminants into air from any intensive farming that:  
 does not comply in all respects with the conditions specified in Rules AQL58 to AQL60 as applicable for a permitted activity or applicable standards and terms specified in Rule AQL61 for a controlled activity; or  
 is not identified as a permitted or controlled activity in Rules AQL58 to AQL61;  
 is a discretionary activity, provided that nothing in this rule applies to any discharge to air that is a prohibited activity under the Proposed NRRP.**

The Investigating Officer notes that the discharge to air is discretionary under Rule AQL62.

## **2 CHAPTER 4 – Water Quality**

- Rule WQL24 of the Proposed Natural Resources Regional Plan (PNRRP)  
**Rule WQL24 regulates the discharge of solid animal effluent, vegetative material containing animal effluent or vegetative material from an industrial or trade process onto production land – permitted activity.**

This rule covers the discharge of solid animal effluent or vegetable matter containing animal effluent onto production land, which is relevant to the clearing of solids from the sump. Provided that the conditions of the rule are complied with, the activity is permitted. The applicant stated in the application (page 3) that solids are removed and applied onto paddocks and/or composted. If these solids are being applied onto the same paddocks as the effluent, the applicant does not meet condition 3 of this rule and the activity becomes a discretionary activity under Rule WQL57.

- Rule WQL26 of the Proposed Natural Resources Regional Plan (PNRRP) states:  
**“The discharge of animal effluent or water containing animal effluent or other contaminants, onto land from an animal effluent collection and storage system is**  
 –  
**a controlled activity if the discharge complies with all of the conditions of this rule;**
- 1 **The discharge shall be via a spray distribution system, and all associated tanks, pipes, sumps, and channels shall be sealed to prevent leakage onto or into the land.**
  - 2 **The application depth, including any irrigation water applied with the discharge or within 24 hours before or after the discharge, shall not exceed the application depth in Rule Table WQL26 for the soil type that predominates on the land where the discharge occurs.**
  - 3 **The discharge shall not result in any contaminants leaking or flowing:**

- a) into a river or a lake; or
  - b) onto land within ten metres of the boundary of a wetland:
    - i) listed in *Schedule WTL1: Moderate and higher significance wetlands*; or
    - ii) any other wetland unless the taking, use, damming or diversion of water is not permitted under Rule WTL2 or Rule WTL3; or
  - c) into a bore or onto land with 20 metres of a bore; or
  - d) onto an archaeological site registered with the New Zealand Archaeological Association, or a site registered with the New Zealand Historic Places Trust unless the written approval of the Trust has been obtained; or
  - e) onto any formed public road; or
  - f) onto any neighbouring property, except where the written approval of the current landowner of that property has been obtained.
- 4 There shall be no discharge onto frozen ground, or snow covered ground. For the purposes of this rule:
- a) frozen ground means the earth temperature at five centimetres soil depth is less than zero degrees Celsius for a period of 12 hours or longer in the preceding 24 hours;
  - b) snow-covered ground means 80 percent of the discharge area is covered in snow with an average depth of ten centimetres for more than 48 hours.
- 5 There shall be no pools of effluent on the land surface three hours after the discharge occurs.
- 6 The nitrogen application rate for cattle effluent shall not exceed a total nitrogen loading rate of 200 kilograms of nitrogen per hectare per year; and the rate of application of effluent shall not exceed 100 kilograms of nitrogen per hectare per year within any consecutive three month period.
- 7 The nitrogen application rate for pig effluent or other animal effluent excluding cattle effluent shall not exceed a total nitrogen loading rate of 150 kilograms of nitrogen per hectare per year; and the rate of application of effluent shall not exceed 100 kilograms of nitrogen per hectare per year within any consecutive three month period.
- 8 The discharge shall not occur within the Christchurch Groundwater Recharge Zone as shown on Map Volume Part 1- Planning Maps.
- 9 The discharge shall not occur within a Community Drinking Water Supply Protection Zone for a well listed in Schedule WQL2.

The applicant does not comply with condition 7 therefore the application is a restricted discretionary activity under this rule in which case a resource consent under Rule WQL 27 is required

- Rule WQL27 of the Proposed Natural Resources Regional Plan (PNRRP) states:
 

“The discharge of animal effluent or water containing animal effluent or other contaminants, onto land from an animal effluent collection and storage system is – a restricted discretionary activity if the discharge does not comply with any one or more of Conditions 2, 5, 6 or 7 of Rule 26, but does comply with all of the conditions of Rule WQL27;

a discretionary activity if the discharge does not comply with any one or more of Conditions 1 to 3, excluding 1(a) of Rule WQL27 in which case a resource consent under Rule WQL57 is required;
- 1 The discharge shall not result in any contaminants leaking or flowing:
- a) into a river or a lake; or
  - b) onto land within ten metres of the boundary of a wetland:
    - i) listed in *Schedule WTL1: Moderate and higher significance wetlands*; or
    - ii) any other wetland unless the taking, use, damming or diversion of water is not permitted under Rule WTL2 or Rule WTL3; or
  - c) into a bore or onto land with 20 metres of a bore; or
  - d) onto an archaeological site registered with the New Zealand Archaeological Association, or a site registered with the New Zealand Historic Places Trust unless the written approval of the Trust has been obtained; or
  - e) onto any formed public road; or

- f) onto any neighbouring property, except where the written approval of the current landowner of that property has been obtained.
- 2 There shall be no discharge onto frozen ground, or snow covered ground. For the purposes of this rule:
- a) frozen ground means the earth temperature at five centimetres soil depth is less than zero degrees Celsius for a period of 12 hours or longer in the preceding 24 hours;
- b) snow-covered ground means 80 percent of the discharge area is covered in snow with an average depth of ten centimetres for more than 48 hours.
- 3 The discharge shall not occur within the Christchurch Groundwater Recharge Zone as shown on Map Volume Part 1- Planning Maps.
- 4 The discharge shall not occur within a Community Drinking Water Supply Protection Zone for a well listed in Schedule WQL2.

As the applicant can meet these conditions, resource consent for a restricted discretionary activity is required.

- Rule WQL29 of the Proposed Natural Resources Regional Plan (PNRRP)

**Rule WQL29 Use of land for storing human sewage effluent or animal effluent, organic matter, or stockpiling fermenting or decaying organic matter - permitted activity**

This rule covers the stockpiling of fermenting organic matter and the use of land for storage of animal effluent. The total stored on a property is not to exceed 100 cubic metres (100,000 litres), shall not be sited within 50 metres of a wetland or water body, shall not be on land prone to flooding or ponding, seepage shall not exceed  $10^{-8}$  millimetres per second (unless stockpile is located on unconfined aquifer with depth to groundwater greater than 3 metres and moisture content is less than 75% at all times) and any storage facility shall be able to hold three days worth of effluent. The applicant complies with this rule as the combined capacity for effluent storage on the property is 60,000 litres and the activity generates at most 13,136 litres a day. Environment Canterbury has a non-enforcement policy for rule WQL29, as long as the applicant can comply with conditions 2, 3 and 5. The applicant can comply with these conditions.

### 3.2.2 Transitional Regional Plan (TRP)

The regional rule for animal effluent disposal onto land in the TRP permits effluent discharge, provided:

- The effluent is from pigs, cows or hens only;
- Discharge is less than 2,000 litres per day of undiluted effluent, calculated according to the table provided;
- Details of the effluent disposal system are provided to the Council, as listed in the rule;
- Effluent is discharged more than 20 metres from surface water bodies and more than 30m from any well used for drinking water supply;
- The effluent application rate does not exceed 200kg N/ha/yr, or an equivalent system that matches nitrogen application with plant uptake;
- The depth of application is less than half the water holding capacity of the soil (except border dyke irrigation);
- There is no ponding of effluent;
- Channels, sumps, tanks and ponds are sealed to prevent effluent seepage and overflow.

Discharges that require consent because they are not permitted by the TRP are classified as discretionary activities. As the applicant cannot meet all these conditions, the activity is discretionary and requires resource consent.

#### **4 CONSULTATION**

The applicant has consulted with the owners of the land parcels (other than the applicant's) where the effluent is going to be sprayed. They are Mattsfield Farming Company, C/O Brosnahan and CE, Stiven. They have both given written approval.

The applicant has not obtained any written approvals but stated that a notice was published in a local newspaper.

Environment Canterbury has contacted Te Runanga o Arowhenua and they have given their written approval.

The Investigating Officer notes that the previous application for this activity was publicly notified. A petition from neighbours (with 60 signatures) was raised to oppose the application.

#### **5 DESCRIPTION OF THE AFFECTED ENVIRONMENT**

The applicant stated that:

- The soils are stony silt loam with a water holding capacity of 65 mm.
- The topography is flat and the prevailing wind is easterly
- There are no domestic bores within 200 metres
- Groundwater flows NE to SE at an average depth of 11.13 metres below ground level.
- The applicant does not know the concentrations of nitrogen
- There are no water bodies within 500 metres
- The nature of the surrounding environment is rural with some residential homes.
- There are other discharges in the area from Ravensdown Fertiliser Plant, Dairy Farms and Piggeries.

The Investigating Officer accessed GIS on 15<sup>th</sup> April 2005 and found that:

- The soils are stony silt loam with a water holding capacity of 65 mm.
- The topography is flat and the prevailing wind is easterly
- There are at least one domestic bore (K38/0329) and a total of 8 bores within 200 metres of the area to be sprayed.
- Groundwater flows NE to SW but well K38/0172, 500 metres north of the area to be sprayed, with 49 readings between 1972 and 2004 shows the highest water level to be 1.5 metres below ground level. Another bore (K38/0323, 260 metres east) with 405 readings between 1946 and 1979 shows the highest water level to be 0.42 metres below ground level.
- There are some water drains in the area, including two along boundaries of the application area.
- The nearest dwelling (other than the applicant's) is less than 200 metres away from the application area.

- There are no springs in the area.
- There are four water quality sites (SCY005210 and SCY005211, SCY005193, and SCY005200) with Nitrate Nitrogen levels of 4.1, 4.5, 5.4 and 4.7 mg/L N respectively (readings in 1993).
- This area is adjacent to a settlement (Seadown).
- This is not an area of regional or national significance, not in or close to reserves or wetlands.

### **Sensitivity of the receiving environment**

The area is mostly rural with Ravensdown Fertiliser Plant to the north, and farms to the east and south. On the western side, 200 to 450 metres away from the area to be sprayed, there are a number of residential dwellings along Acacia Drive.

According to ECan's consents database there are a total of 24 wells within one kilometre radius of the application area, with four being specifically identified as domestic wells. Down gradient from the area of application there are at least five groundwater quality sites with readings ranging from 4.1 mg/L N to 5.4 mg/L N (in 1993).

The soils are Darnley stony silt loam with a water holding capacity of 65 millimetres.

The depth of application has been calculated to be 15.5 millimetres (30,000 litres of diluted effluent over 1932m<sup>2</sup>/day).

The Investigating Officer considers that the sensitivity of the receiving environment is moderate, given that there are a number of residential dwellings, some at less than 200 metres from the area to be sprayed, the shallow ground water levels, and the opposition met by the application when it was publicly notified.

## **6 ASSESSMENT OF ACTUAL AND POTENTIAL EFFECTS**

Effects considered relevant for the discharge of animal effluent onto land are:

- Adverse effects of the discharge of nitrogen on groundwater quality
- Adverse effects of the discharge of pathogens on groundwater quality
- Cumulative adverse effects of the discharge of contaminants on groundwater quality
- Adverse effects of the discharge of contaminants on surface water quality
- Adverse effects of the discharge on air quality
- Adverse effects of the discharge on visual amenity
- Positive effects of the discharge of nutrients on soil quality

### **6.1 Adverse effects of the discharge of nutrients on groundwater quality**

The main nutrients discharged in animal effluent are nitrogen, phosphorus and potassium. These nutrients are soluble in water and will be discharged into groundwater unless they are removed by the treatment system. Nitrate nitrogen is the primary nutrient of concern. Nitrogen is converted to the stable form of nitrate nitrogen under aerobic conditions in the soil. Nitrate nitrogen is mobile through the soil and has potential to adversely affect human health if present in high concentrations.

The New Zealand Drinking Water Standard (Ministry of Health 1995/2000) for nitrate nitrogen is 11.3 g/m<sup>3</sup>. A chemical reaction occurs that restricts the blood's ability to transport oxygen around the body. This effect can cause 'blue baby syndrome' in bottle-fed infants. In adults nitrate can react with sulphur-containing compounds in the intestines to form carcinogenic compounds.

The applicant stated that the proposed nitrogen application rate is less than 200 Kg/ha/yr (TRP threshold) and it is considered unlikely that the proposed discharge will result in the contamination of groundwater with nitrogen. Using the spray area of 44 hectares the nitrogen loading is 204.5 kilograms per hectare per year (Kg/ha/yr).

The NRRP limits the spreading of animal effluent onto land to a rate of 150 Kg/N/ha/yr. Past groundwater monitoring by Environment Canterbury of bores that surround the immediate area of the discharge site indicate that there are no elevated levels of nitrate nitrogen in groundwater. Nitrate nitrogen concentrations up to 4.1 g/m<sup>3</sup> (SCY005210, located within 200m of the edge of the property, following the general direction of groundwater flow) have been recorded. The applicant stated that the groundwater level is approximately 11.13 metres below ground. Available records show otherwise (refer to discussion under Description of the Receiving Environment).

The Investigating Officer carried out a nitrate assessment for the area and determined that this application would not increase nitrate levels significantly. This assessment was conservative in that it did not take into account that this is a continuing activity with its effect already contained within the background nitrate level.

The Investigating Officer considers the proposed discharge is unlikely to result in the contamination of groundwater with nitrogen.

## **6.2 Adverse effects of the discharge of pathogens on groundwater quality**

Animal effluent can contain pathogenic micro-organisms that may cause infections in humans, such as salmonella and leptosporosis. Because of the filtering effect on larger micro-organisms during passage through the soil and substrata, bacteria and viruses are the organisms of primary concern for discharges to groundwater. Faecal coliform bacteria have been commonly referenced as indicators of the presence of such micro-organisms. The former New Zealand drinking water standard published by the Ministry of Health (1995) required that there be no faecal coliforms detected in 100mL of drinking water. The new drinking water standard (Ministry of Health, 2000), operative from 1 January 2001, specifies E. coli as the indicator organism.

Passage of effluent through the soil provides effective treatment for pathogens, provided the application rate is sufficiently low. Research undertaken at Lincoln University and elsewhere indicates that filtration effect of the soil is optimal where the effluent application rate is less than half the water holding capacity of the soil. Where the amount of effluent applied exceeds half the pore volume in the soil, 'breakthrough' of pathogens into subsoil (and potentially groundwater) is likely to occur.

The applicant stated that 30,000 litres of diluted effluent are applied to 1,932 square metres of land every day. The depth of application is 15.52 millimetres<sup>2</sup>.

When considering the depth to groundwater together with the fact that the application depth will be less than 50% of the minimum water holding capacity of the soils, contamination of groundwater from the discharge of pathogens is unlikely.

The Investigating Officer concludes that the applicant has sufficient land to apply 30,000 litres of diluted effluent at a depth less than 50% of the minimum water holding capacity of the soils.

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<sup>2</sup> In the form, the applicant divided 30,000 litres (per day) of diluted effluent by the area over which effluent will be spread each day (1,932 metres<sup>2</sup> per day).

### **6.3 Cumulative adverse effects of the discharge of contaminants on groundwater quality**

In rural areas where there are numerous sources (both point and non-point) of effluent discharges, the cumulative contribution of nutrients and pathogens to groundwater may be significant. In some instances the background concentrations of contaminants be already high because of existing activities. The rapid rate of dairy conversions in Canterbury has raised concerns regarding their cumulative impact on nitrate nitrogen concentrations in groundwater and surface water.

The applicant did not address these effects. However the Investigating Officer notes that this is a continuation of land use and scale that has been occurring for many years on this property and as such considers the effects to be minor.

### **6.4 Adverse effects of the discharge of contaminants on surface water quality**

Animal effluent discharges into ground may contaminate surface water as a result of:

- Hydraulic connection between groundwater and a nearby surface water body; and
- Surface ponding, causing overland flow of effluent to waterways; and
- Spraying effluent close to waterways.

Pathogenic micro-organisms, nutrients (nitrogen and phosphorus) and organic matter are the primary contaminants in animal effluent with potential to adversely affect surface water quality.

The regional rule for animal effluent disposal onto land relies on a separation distance of 20 metres between the discharge area and surface water. This is usually considered adequate to prevent significant contamination of surface water, provided the effluent application rate is low enough to prevent long-term effluent ponding.

The applicant stated that the discharge will be at least 20 metres from water races.

The Investigating Officer considers that with the separation distances the effects to surface water quality will be minor.

### **6.5 Adverse effects of the discharge on air quality**

Significant odour can be generated from decomposition of organic material in effluent under anaerobic conditions. Surface ponding of effluent for prolonged periods therefore has potential to cause odour nuisance. Spray irrigation of effluent (notably that of pigs) that has been stored under anaerobic conditions for several days can also be the cause of odour nuisance at neighbouring properties.

The applicant did not address this issue.

The code of practice for Pig Farming<sup>3</sup> set the buffer zone distances from buildings. Using the Variable Buffer Zones Distances for an intensive piggery (page 32) of less than 2000 pigs the Investigating Officer determined that the minimum distance to a rural dwelling not on the site of the piggery is 500 metres.

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<sup>3</sup> Code Of Practice – Pig Farming, New Zealand Pork Industry Board (Third Edition) 1998

The distance to the nearest dwelling not on the site of the piggery is 200 metres, however the Investigating Officer considers that the effects of the discharge on air quality are likely to be *de minimis* given that all submitters who wished to be heard have now withdrawn.

### **6.6 Adverse effects of the discharge on visual amenity**

In addition to odour impacts, the discharge of animal effluent can adversely affect the visual amenity of an area. This effect may be significant where the discharge occurs nearby residential areas, recreational facilities or public roads.

The applicant did not address this issue.

Given that the effects on air quality are likely to be minor, the Investigating Officer considers that the effects of the discharge on visual amenity are also likely to be minor.

### **6.7 Positive effects of the discharge of nutrients on soil quality**

The nutrients and organic material in effluent improve soil productivity and plant growth. Animal effluent therefore acts as a valuable natural fertiliser. Provided the effluent application rate is sufficiently low to prevent significant leaching of contaminants into groundwater, land application constitutes an efficient use of resources.

The applicant stated further that spraying effluent onto to land has a beneficial effect, as it is a great fertilizer for the land.

The Investigating Officer considers that the application of effluent onto land can have beneficial effects if applied at the correct rate and volume for the size land available.

## **7 ADDITIONAL MITIGATION MEASURES**

The Investigating Officer recommends additional mitigation in the form of conditions as outlined in section 12 of this report

## **8 POLICIES AND OBJECTIVES**

### **8.1 Regional Policy Statement (RPS)**

Chapter 6 of the RPS identifies a number of issues and objectives relating to the relationship of Tangata Whenua with natural and physical resources.

Policy 3 concerns recognising specific aspects of the relationship of Tangata Whenua with their ancestral lands and water and providing for these in decisions on resource consents.

Te Runanga O Arowhenua has had an opportunity to comment on this application and they gave written approval.

Chapter 9 of the RPS concerns itself with water quality and particularly recognises the effect of discharges to land under Issue 3, with the stated objective of protecting the quality of Canterbury water bodies for future generations.

Policy 9 specifies that non-point source discharges should be managed through conditions on resource consents in order to safeguard drinking water, the life-supporting capacity of water, mahinga kai sites, wāhi tapu and wāhi taonga, natural character, outstanding natural features, trout and salmon habitats and amenity values.

The applicant has proposed conditions to mitigate any potential adverse effects on drinking water, the life-supporting capacity of water and amenity values in particular.

Chapter 13 of the RPS concerns itself with air quality and identifies adverse effects of discharges to air on social and cultural values, as well as natural and physical resources.

Policy 3 specifies that conditions should be imposed on discharges to air to avoid, remedy or mitigate any adverse effects on air quality.

The applicant has proposed conditions to mitigate adverse effects on air quality from animal effluent discharge.

To summarise, the proposal is consistent with the policies of the Regional Policy Statement.

## **8.2 Regional Plans**

### **Proposed Natural Resources Regional Plan**

Chapter One contains a section relating to the duration of Resources Consents (Section 1.3.5)

Chapter Two recognises the importance of resources as a Statutory Acknowledgement Area under the Ngai Tahu Claims Settlement Act 1998

Chapter Three contains a section relating to the control of discharges to air.

Chapter Five (Water Quality) contains a section relating to the prevention of discharges to land that may enter water (Policy WQL2, WQL8 and WQL12).

The Investigating Officer considers that the proposal is consistent with the policies of the Proposed Natural Resources Regional Plan.

## **9 PART II MATTERS**

### **9.1 Purpose of the Act**

The purpose of the Act is to “promote the sustainable management of natural and physical resources”. Based on the information available, it is the view of the Investigating Officer that the proposed activity is consistent with the purpose of the Act.

### **9.2 Matters of National Importance**

Section 6 outlines matters of national importance that are to be recognised and provided for in achieving the purpose of the Act. These matters include, but are not restricted to, the preservation of the natural character of rivers and their margins, and the protection of them from inappropriate subdivision, use and development. The relationship of Maori, their culture and traditions to the environment must also be recognised and provided for.

The Investigating Officer considers that the activity can be carried out in a manner that will not affect section 6 matters.

### **9.3 Other Matters**

Section 7 of the Act sets out those matters that have particular regard attributed to them in achieving the purpose of the Act.

These matters have been considered in the assessment of the proposed activity. The Investigating Officer concludes that this activity will not compromise any of the matters included in Section 7.

#### **9.4 Principles of the Treaty of Waitangi**

The Court of Appeal has identified four principles, which form the basis of developing a relationship of partnership and communication. These are the Essential Bargain, Tribal Self-Regulation, The Treaty Relationship, and Active Protection. The third principle, the Treaty Relationship, accords Maori with special status as a Treaty Partner, distinct and separate from status as an 'affected party'.

Environment Canterbury has contacted Te Runanga o Arowhenua on 8 February 2005 and they replied that they do not oppose the application but would seek a 10-year duration. The Investigating Officer notes that the applicant has amended their application to a 10-year duration.

### **10 OTHER RELEVANT MATTERS**

Decisions of the Environment Court have accepted that occasional odours from appropriately zoned farming activities in rural areas are to be expected (*Sandliands v Manawatu DC*, A168/92, *Ebben v Manawatu-Wanganui RC*, A100/93). In *Medical Officer of Health v Canterbury RC* and *Ravensdown Fertiliser Co-Operative Ltd (W109/94)* the court found that people living in or coming to an area adjacent to a suitably zoned established industry cannot expect an environment free from odour at all times without condition or qualification. Rather, the Act requires imposition of conditions that will result in the most efficient and effective means of preventing or minimising adverse effects. The court considered that, if on the known state of science and technology odour cannot be prevented, the consent authority's duty is to minimise it by imposition of appropriate conditions.

### **11 CONCLUSION OF ADVICE & RECOMMENDATIONS**

Based on the Investigating Officer's audit of the applicant's information, and having considered all relevant matters under s104, the Investigating Officer considers that the application can be granted subject to the mitigation measures proposed by the applicant, which the Investigating Officer has reformatted in section 12 of this report for the decision-makers consideration.

#### **11.1 Duration**

The Investigating Officer considers that it is appropriate for the consent to be granted for 10 years as requested by the applicant. This is also consistent with the term sought by Runanga

### **12 RECOMMENDED CONDITIONS**

Discharge permit to discharge contaminants onto land and into air

**RecordNo: CRC052139**

- 1) The contaminants shall only be piggery effluent diluted with washdown water; and associated odour.
- 2) There shall be no discharge:
  - a) Within 30 metres of any surface water body; and
  - b) Within 30 metres of any bore or spring; and
  - c) Within 20 metres from neighbours' properties; and

Such that contaminants are likely to run-off and enter any surface water body.

- 3) The rate at which nitrogen is discharged shall not exceed:
  - (a) 205 kilograms of nitrogen per hectare within any consecutive 12 month period; and
  - (b) 100 kilograms of nitrogen per hectare within any consecutive three month period.
- 4) The application depth, including any irrigation water applied with the discharge or within 24 hours before or after the discharge:
  - (a) shall not exceed 16 mm;
  - (b) shall not result in any runoff beyond the property boundary; and
  - (c) shall not result in effluent ponding on the land surface for more than three hours after the discharge occurs
- 5) The discharge shall be via a spray distribution system, and all associated yards, tanks, pipes, sumps and channels shall be sealed to prevent leakage onto or into land.
- 6) Contaminants shall be discharged only onto the area of land identified as the discharge area on Plan CRC052139.
- 7) A copy of this resource consent shall be given to all persons undertaking activities authorised by this consent prior to any discharge occurring.
- 8)
  - (a) If effluent is spread from a system hydraulically connected to groundwater or surface water, a backflow preventer manufactured in accordance with AS 2845.1 (1998) or the American Society of Sanitary Engineers standards shall be installed within the pump outlet plumbing or within the mainline, to prevent the backflow of water into the waterbody.
  - (b) The backflow preventer shall be tested to the standard set out in AS 2845.3 (1993) or an equivalent method within one month of its installation and annually thereafter by a suitably qualified person. A test report shall be provided to the Canterbury Regional Council within two weeks of each inspection.
- 9) The discharge shall be managed to ensure that aerosols and spray-drift arising from the application of effluent onto land are contained within the boundary of the property on which this consent is exercised.
- 10) There shall be no discharge onto frozen ground or snow-covered ground.
- 11) The discharge and any effluent contained within any associated storage, distribution or treatment system shall not cause an odour which results in offensive or objectionable effects on the environment beyond the boundary of the property on which this consent is exercised
- 12) The consent holder shall keep a record of;
  - (i) the date and times when effluent spraying is carried out;
  - (ii) a description of the weather conditions and wind direction when spraying is carried out;
  - (iii) the general location of the irrigation run on the day, and;
  - (iv) an estimate of the quantity of effluent applied during the day.

This record shall be provided to the Canterbury Regional Council upon request.
- 13) A record of any complaints relating to the odour shall be maintained, and shall include:
  - (a) the location where the odour was detected by the complainant;
  - (b) the date and time when the odour was detected;
  - (c) a description of the wind speed and wind direction when the odour was detected by the complainant;
  - (d) the most likely cause of the odour detected; and
  - (e) any corrective action undertaken by the consent holder to avoid, remedy or mitigate the

odour detected by the complainant.

This record shall be provided to the Canterbury Regional Council upon request.

- 14)
  - (a) The consent holder shall take all practicable measures to avoid spillages of effluent.
  - (b) In the event of any accidental spillage of effluent from any storage facility, structure or pond, the consent holder shall inform the Canterbury Regional Council within 24 hours of the event, and shall provide the following information:
    - (i) The date, time, location, and estimated volume of the spillage;
  - (a) The cause of the spillage, details of the steps taken to control and remediate the effects of the spill on the receiving environment, and measures to be undertaken to prevent a reoccurrence
- 15) The Canterbury Regional Council may, once per year, on any of the last five working days of May or November, serve notice of its intention to review the conditions of this consent for the purposes of:
  - (b) Dealing with any adverse effect on the environment which may arise from the exercise of the consent and which it is appropriate to deal with at a later stage; or
  - (c) Requiring the adoption of the best practicable option to remove or reduce any adverse effect on the environment.
- 16) The lapsing date for the purposes of section 125 shall be 30 December 2010.

**IN THE MATTER OF  
AND**

**the Resource Management Act  
1991**

5

**IN THE MATTER OF**

**an application CRC051666 by  
Turpie Farms Limited for a  
Water Permit to take and use  
water in the Ashburton  
Lyndhurst groundwater zone**

10

**INTRODUCTION**

15 My full name is Paul Sullivan. I have been employed by Environment Canterbury (the promotional name of the Canterbury Regional Council) as a Senior Consents Investigating Officer since September 2004. I hold a Bachelor of Science with honours in Environmental Science from the Manchester Metropolitan University (United Kingdom) and have completed four years doctoral research in Environmental Geochemistry (Water Quality) at the Manchester Metropolitan University (United Kingdom).

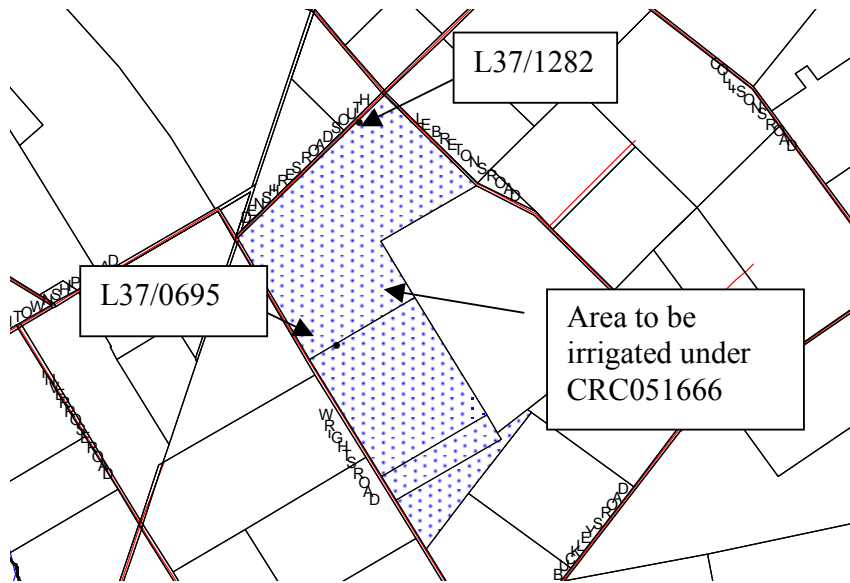
20 This report is prepared under the provisions of Section 42A of the Resource Management Act 1991 (RMA). This section allows a Council officer to provide a report to the decision-maker on a resource consent application made to the Council, and allows the decision-maker to consider the report at the hearing. Section 41(4) of the RMA allows the decision-maker to request and receive from any person who makes a report under Section 42A "*any information or advice that is relevant and reasonably necessary to determine the application*". This report will provide the  
25 following information and advice:

- (i) A description of the proposed activity;
- (ii) The relevant legal and planning provisions;
- (iii) A summary of submissions received;
- (iv) A description of the affected environment;
- 30 (v) An audit of the assessment of environmental effects provided;
- (vi) Conclusion and recommendations.

**DESCRIPTION OF THE PROPOSED ACTIVITY**

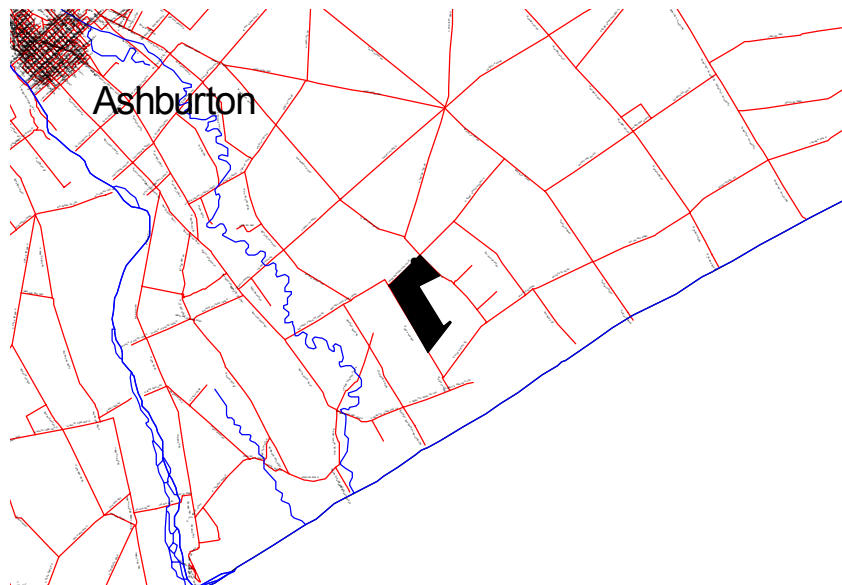
35 On 16 December 2004 the applicant, Turpie Farms Limited, applied to take and use groundwater from two bores at Denshires Road, Wakanui (refer Figure 1 and Figure 2), as described in Sections 1 and 2 of the assessment of environmental effects (AEE) prepared by Mr Matt Bubb of Irricon Consultants.

The application was considered 'notifiable' on receipt of the application on 16 December 2004 .



40

**Figure 1 Turpie Farms Limited land parcels and bore locations**



45

**Figure 2 Location of Turpie Farms Limited application CRC051666**

The applicant has applied to take and use water specifically under the following conditions:

50

- i. The rate at which water is taken from bores L37/0695, 300 millimetres diameter and 39.7 metres deep, at or about map references NZMS 260 L37:2081-9160 shall not exceed 45 litres per second and L37/1282, 300 millimetres diameter and 76.1 metres deep, at or about map references NZMS 260 L37:2087-9297, shall not exceed 100 litres per second, with a combined volume not exceeding 108,054 cubic meters in any nine consecutive days.

- 55      ii. Water shall be used only for the irrigation of crops and pasture for grazing sheep, beef cattle, deer and non milking dairy cows, on the area of land shown in plan CRC051666.
- iii. This consent shall not be used concurrently with consent CRC 970510
- 60      iv. The irrigation system used in association with taking water from bores L37/0695 and L37/1282 shall not be used to distribute effluent, fertilizer or any other added contaminant, unless a reduced pressure zone backflow preventer is installed that will prevent the backflow of contaminated water into the bore. The backflow preventer shall be tested within one month of its installation and annually thereafter by a suitably qualified person. A test report shall be provided to the Canterbury Regional Council within two weeks of each inspection.
- 65      v. The applicant will, within 12 months of this consent, install, or provide for the installation of:
- a) an easily accessible straight pipe, of length at least 15 times the diameter of the pipe or
- b) a water flow measurement device which will measure the rate at which water is taken to within an accuracy of 5 percent.
- 70      vi. If required by notice in writing by the Canterbury Regional Council
- a) a water flow measurement and recording device that will measure the volume at which water is taken to within an accuracy of plus or minus five percent, shall be installed as part of the pump outlet plumbing; and
- 75          b) the measuring and recording device shall be used to measure the volume of water abstracted per specified time interval. The volume shall be recorded either electronically or in a log kept for that purpose. The measuring and recording device and the records of abstraction shall be available for inspection on request by the Canterbury Regional Council for at least 12 months from the date of recording; and
- 80          c) the measuring and recording device shall be installed and maintained throughout the duration of the consent in accordance with the manufacturer's instructions, if any.
- 85      vii. The Canterbury Regional Council may serve notice of its intention to review the conditions of this consent for the purpose of dealing with any adverse effect on the environment which may arise from the exercise of the consent and which it is appropriate to deal with at a later stage.
- viii. A 35 year duration for the consent is sought.

90

## LEGAL AND PLANNING MATTERS

### 95 **The Resource Management Act 1991 (The Act)**

Part III of the Act sets out duties and restrictions. When the Act or a plan requires authorisation for an activity, that authorisation can only be derived from a rule in a plan or a resource consent.

### 100 Section 14 – Restrictions relating to Water

Section 14(1)(a) of the Act states that no person may take, use, dam, or divert any water, unless the taking, use, damming, or diversion is allowed by subsection (3).

105 Section 14(3) sets out a number of situations where a person is not prohibited by subsection (1) from taking, using, damming, or diverting water, including where such activities are expressly allowed by a rule in a regional plan and in any relevant proposed regional plan, or a resource consent, where water is taken or used for an individual's reasonable domestic needs, or the reasonable needs of an individual's animals for drinking water, or for fire fighting purposes.

110 Section 14(2) states that no person may take, use, dam or divert water in a manner that contravenes a rule in a regional plan or a proposed regional plan unless expressly allowed by a resource consent or allowed by section 20A of the Act. Therefore unless expressly allowed by a rule in a regional plan a resource consent is required.

### 115 **The Transitional Regional Plan (TRP)**

120 The TRP contains a General Authorisation (GA) for the abstraction of natural water, excluding the West Melton/Yaldhurst area as defined in the GA. This is deemed to be a Regional Rule by the Act, making activities that comply with the following conditions of the GA permitted. The taking of groundwater is permitted:

125 “... provided that the volume of water abstracted shall not exceed 100 cubic metres per day, per property, at a rate not exceeding 10 litres per second from any bore, and:

- a) the abstraction shall occur on a property greater than 20 hectares in area; and
- b) the abstraction bore shall be further than 100 metres from any bore on a neighbouring property, or from any surface water resource.”

130 As the proposed volume and instantaneous rate is greater than those specified in the GA, the proposed abstraction requires resource consent under section 14 of the Act. It is considered to be a discretionary activity in accordance with section 77C(1)(b) of the Act.

### 135 **Proposed Canterbury Natural Resources Regional Plan (NRRP)**

Chapters 1 to 3 of the proposed NRRP were publicly notified on 1 June 2002, and chapters 4 to 7 were notified on 3 July 2004.

### 140 Chapter 5 - Water Quantity

145 This chapter sets out objectives, policies and methods to provide an adequate level of protection to sustain the life-supporting capacity of surface and groundwater systems and sustain Ngāi Tahu and other instream values. Chapter 5 also contains rules for discretionary, restricted discretionary and non-complying activities for the abstraction of groundwater.

Rule WQN14 permits the take and use of up to five litres per second (432 cubic metres per day) or ten cubic metres per day of water per property.

150 Rule WQN19 makes the taking of water from groundwater within an allocation block a restricted discretionary activity, with Environment Canterbury's discretion limited to the list of potential adverse effects of taking and using groundwater that have traditionally been used for a discretionary consent application.

155 This application was lodged after the notification of Chapter 5 of the NRRP and therefore is to be considered a restricted discretionary activity under Rule WQN19.

## **NOTIFICATION AND SUBMISSIONS**

The application was limited notified on 10 May 2005 and notification was as follows:

160 CRC0051666 – To take and use groundwater at a combined maximum rate of 145 litres per second with a combined volume not exceeding 108,054 cubic metres per nine days from bore L37/0695 (diameter: 300 millimetres, depth 39.7 metres), at or about map reference NZMS 260 L37:2081-9160 and bore L37/1282 (diameter: 300 millimetres, depth 76.1 metres), at or about map reference NZMS 260 L37:2087-9297. Water will be used for the spray irrigation of 216  
165 hectares of crops and pasture at Denshires Road, Wakanui.

A consent duration of 35 years is sought. This is an application for an increase of 39 litres per second from that currently provided by CRC970510.

170 Affected Neighbour: EJ and KA Croy

Address: 977 Le Breton's Road,  
RD 7  
Ashburton.

175 Mr Croy did not oppose the application and did not wish to be heard.

## **DESCRIPTION OF THE AFFECTED ENVIRONMENT**

### **180 Regional Context**

The area between the Rakaia and Ashburton rivers is typical of the Canterbury Plains and consists of a series of coalescing, late Cenozoic, gravel fans derived from erosion of the Southern Alps. The fans consist of glacial outwash, and interglacial and post-glacial alluvium. Petroleum  
185 bores drilled at Chertsey and Seafield indicate depths of Pleistocene gravels of 620m and 540m respectively (Brown 2000<sup>1</sup>).

Groundwater is contained in these sediments, and aquifers occur within well-sorted gravels. There is a general increase in aquifer yield with distance from the inland foothills and zones of  
190 relatively high transmissivity appear at different depths. These zones are interpreted as associations of broad, thin, ribbonlike aquifers following infilled channels. Limited well data suggests that the aquifers are sub-parallel to the present-day land surface and are more laterally continuous near the coast.

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<sup>1</sup> Brown, L. J, 2000: 'Groundwaters of the Canterbury Region' Environment Canterbury Report R00/10.

195 The water table is shallowest near the major rivers and the coast, and deepest in the central part  
of the Ashburton-Rakaia plains. Based on Environment Canterbury monitoring data, the water  
table in the north-east Ashburton area and along the Rakaia River is between 1 and 10 metres  
below ground surface (bgs). In the areas around Fairton and Seafield, the water table is around  
200 20 to 30 metres bgs, while in the central part of the plains, for example near Chertsey, water  
levels are deeper than 50 metres bgs.

Groundwater generally flows from north-west to south-east, toward the coast and parallel to the  
major rivers and the general slope of the plains. Seepage to groundwater from the Ashburton  
River/Hakatere and the Rakaia River deflects the groundwater flow directions slightly away from  
205 these rivers toward the central part of the plain (Brown and Weeber, 2002<sup>2</sup>).

Recharge to groundwater beneath the Ashburton-Rakaia Plains comes from river, rainfall,  
irrigation, and stock water races (Brown and Weeber, 2002<sup>2</sup>). Stewart et al. (2002<sup>3</sup>) used oxygen  
isotope data to identify the sources of groundwater in the area. They concluded that along some  
210 parts of the Ashburton River/Hakatere and the Rakaia River groundwater is derived primarily from  
those rivers, while rainfall is the dominant recharge source in the central part of the plains.

### Local Context

215 The applicant notes: "Within 2 kilometers bore depths range from 22 to 77 metres below  
groundlevel. Wells appear to be tapping at least 3 water bearing zones located at depths of  
approximately 15 to 25 metres, 30 to 43 metres and 56 to 77 metres..

220 An aquifer test was carried out on the applicants bore, L37/1282, on 11/12 July 2004. The test  
indicated that the 56 to 77 metre deep aquifer is reasonably high producing with a leaky  
connection to shallower bores. The observations from the shallower bore (L37/0040) indicated  
that there was no direct hydraulic connection between this bore and the deeper test bore.  
However the observed water level changes suggest that there is some leakage from this upper  
225 aquifer to the lower pumped aquifer."

The applicant's new well is approximately 9 kilometres east of the Ashburton River and 5  
kilometres from the coast.

### ASSESSMENT OF ACTUAL AND POTENTIAL EFFECTS

230 Effects that can arise from the taking of groundwater, including those which arise over time and in  
combination with other activities, are as follows:

- Adverse effect of take on surrounding groundwater users
- Adverse effect of inefficient take on other groundwater users
- Adverse effect of take on other users from seawater intrusion
- 235 • Adverse effect of take on aquifer stability
- Adverse effect from cross-connection on groundwater quality
- Adverse effect of take on surface water ecosystems and users
- Adverse effect of use on water quality

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<sup>2</sup> Brown, L.J.; Weeber, J.H., 2002: Groundwater of the Canterbury region. Environment Canterbury report R02/10.

<sup>3</sup> Stewart, M.; Trompeter, V.; van der Raaij, R., 2002: Age and source of Canterbury plains groundwater. Technical report produced by Institute of Geological Nuclear Sciences for Environment Canterbury. Environment Canterbury report U02/03.

- 240
- Adverse effect of take and use on tangata whenua values
  - Positive effects of take and use.

### **Adverse Effects of Take on Surrounding Water Users**

245 Chapter 9 Policy 5 of the Regional Policy Statement states:

250 **“Where a water flow, level, or allocation regime for a water body has not been specified, the granting of a permit for the taking, use, damming or diversion of water should not preclude the reasonable exercise of an existing resource consent to take, use, dam or divert water; except with the agreement of the holder of that existing consent”.**

Chapter 9 Policy 6 of the Regional Policy Statement states:

255 **“In considering a permit to take water, a consent authority should, as part of the requirements of s.104 of the Act, consider the need to: (c) provide for existing water permit holders to have priority for the term<sup>4</sup> of their permits;**

260

The applicant notes that there are only two bores, (L37/0040 and L37/0297), owned by Croy, EJ and KA of Le Breton’s Road, 27.4m deep and 25m deep respectively) within 2,000m that would be potentially affected by the applicant’s take. I agree with this conclusion.

265

The applicant has calculated the minimum operating level for this bore using the method outlined in Schedule WQN10 of the NRRP (Chapter 5) to determine well interference effects (calculated using the Hunt equation using parameters determined by an aquifer test, transmissivity; 12,000 and storativity; 0.0003; top layer aquitard porosity; 0.1; Aquitard leakage 0.001 day).

270

The applicant concludes that the minimum operating level is less than the 80% reliability required by Ecan. However the applicant notes that if the existing water was extracted under the existing consent CRC970510 then the effect on Mr Croy’s wells would be greater than the new wells would induce under this application. The applicant surmised that there is a reduction in overall effect with the new application. I have satisfied myself that the applicant’s calculations are correct but note that the applicant is seeking a new bore due to the difficulty in extracting the existing consented volume and therefore any reduction in effect alluded to by the applicant is a theoretical reduction.

275

280

L37/0297 suffers primarily due to the lowest water level being lower than its screen. As such all wells within 2 kilometres of this well would be determined as having a significant effect The effect of the applicant pumping on L37/0040 is determined to reduce the reliability of supply from 80% to 70%. Given that the affected neighbour does not oppose the application, has not submitted against it and has voiced his support verbally I do not consider that the effected wells should stand in the way of Turpie Farms Limited application.

285

290 **Adverse Cumulative Effect of Take on Other Groundwater Users**

In addition to causing a localised depression in groundwater levels, the taking of groundwater can, over time or in combination with other takes, cause a long-term continuing decline in groundwater level.

295

The Council resolution of 19 February 2004 requires that decision makers consider Report U04/02 and suggests that applications in highly allocated “red zones” should be declined unless it can be demonstrated that (cumulative) effects are minor. The Ashburton Lyndhurst groundwater zone is a partial second-order “yellow zone” in terms of Report U04/02. As of 6 July 2005 the estimated allocation of groundwater abstraction authorised by consents from this zone is 91% of the allocation limit.

300

The applicants have proposed limiting themselves to an annual volume of 1,085,400m<sup>3</sup> determined as the amount of water needed based on Schedule WQN9 of the NRRP. I consider this to be an reasonable determination of water required for the area of land.

305

Policy WQN16 “Measurement and recording of water abstraction” requires continuous monitoring with flow meters of water volumes abstracted unless it is considered appropriate to install these at a later date. The applicant has proposed to install flow meters and undertake continuous monitoring if requested in writing.

310

In my opinion the proposed condition will adequately provide the information necessary to ensure compliance with the recommended seasonal volume. I recommend a condition requiring continuous monitoring of abstraction volumes with flow meters consistent with Schedule WQN13(2)(a)(i) of NRRP.

315

**Adverse Effect of Inefficient Take on Other Groundwater Users**

Chapter 9 Policy 3 of the Regional Policy Statement states:

320

**“Promote efficiency in the use of water.”**

Chapter 9 Policy 6 states:

325

**“In considering a permit to take water, a consent authority should, as part of the requirements of s.104 of the Act, consider the need to: (b) be based on actual and reasonable water needs; ...”**

330

The taking of water in excess of that required for the intended use may contribute to water levels being unnecessarily reduced. This lowering may have adverse effects on other groundwater users, particularly where water availability is an issue.

The efficiency of the proposed water use has been audited by checking the irrigation area, land use, soil type, average water holding capacity, the average daily application and gross application rates. On these terms the use is considered to be an efficient use of water.

335

However the grant of this consent in combination with the grant of the consent for a take from the water race with the same volume (CRC970510) would not be an efficient use of water as it would allow too much water to be applied over the area to be irrigated. A condition prohibiting the concurrent exercise of the two consents is recommended.

340

In terms of Chapter 5 of the NRRP, Policy WQN17(1) aims to ensure that annual volumes granted for water permits are efficient and reasonable for the intended end use and Policy

345 WQN17(2) requires that the grant of a seasonal volume meets a “reasonable use” test. This test is set out in a technical report for Schedule WQN9 and is based on soil type and plant irrigation demand and seasonal rainfall.

The applicants have proposed limiting themselves to an annual volume as per WQN17 (2) of 1,085,400 cubic metres per year.

350 Policy WQN14(6)(e) states that the maximum instantaneous rate of take consented from a bore should not exceed the rate that is physically capable of being yielded from the bore.

355 The applicant has carried out an aquifer test and step discharge test. The results from this indicate that the instantaneous rate of 100 litres per second is attainable from the new bore.

360 In conclusion I consider that a rate of take of 145 litres per second capped at a seasonal volume of 1,085,400 cubic metres per year is a reasonable and efficient allocation of water, subject to the non-concurrent exercise of CRC970510 and I recommend to the hearing panel that this allocation be granted subject to suitable volume and monitoring conditions.

### **Adverse Effect of Groundwater Take on Other Users from Seawater Intrusion**

365 Contamination of saltwater can occur if potentiometric levels in coastal aquifers fall below that of sea level, reversing the hydraulic gradient and resulting in movement of saltwater into the aquifer. This contamination may arise due to excessive pumping of groundwater, but it can also occur because of seasonal decline in water levels relative to sea level. A lowering of aquifer pressures in the coastal confined zone would have the potential to cause a shift in the saltwater-freshwater interface.

370 The applicant notes that the site of the take is over five kilometres from the sea and that this effect is unlikely and I agree with their assessment.

### **Adverse Effect of Take on Aquifer Stability**

375 Documented cases of land subsidence from overseas commonly occur in thick unconsolidated sequences of aquifers and aquitards. It has occurred when overpumping of aquifers (eg. gravels) results in a lowering of water pressures and drainage of water from the overlying aquitards. Aquitards with a high proportion of silt or clay are particularly susceptible to compression, which leads to subsidence. Aquifer drainage can also result in subsidence but to a much lesser amount than the aquitard because of the nature of the aquifer materials.

The applicant notes that the predominantly gravel based formation of the Canterbury Plains means that there is little likelihood of significant aquifer subsidence and that this effect is unlikely.

380 I agree with the applicant's conclusion.

### **Adverse Effect from Cross-Connection on Groundwater Quality**

385 This occurs when fertiliser is injected into irrigation systems and water flows into the bore when pumping stops. It can also occur when water is taken from more than one source and water from a contaminated source is able to flow into a less contaminated source. It can result in groundwater becoming unsuitable as a source of potable supply.

The applicant notes that the bores are constructed in one aquifer only and this effect cannot occur. The applicant has also proposed a condition to install a reduced pressure zone backflow preventer that will prevent the backflow of contaminated water into the bore

I agree with the applicant's conclusion.

390 **Adverse Effect of Take on Surface Water Ecosystems and Users**

Chapter 9, Policy 1 of the Regional Policy Statement requires that water flow, level or allocation regimes should be set and managed in accordance with specified values within objective 1. Policy 2 states that:

395 **Subject to Policy 1, all water flow, and level, and allocation regimes should be set and managed with the aim of: (a) maximising the wellbeing obtained by people and communities with Canterbury's water resources through taking account of its value both instream and out of stream;**

NRRP Chapter 5 Policy WQN14 sets out an allocation regime for management of surface and groundwater. Policy WQN14(1) is:

400 **To establish and apply allocation regimes for all water bodies from which water is, or is likely to be taken, dammed, diverted, discharged or used. Where water conservation orders have established allocation regimes, these shall be applied.**

405 Taking hydraulically connected groundwater can deplete surface flow as effectively as a direct take, depending on distance and degree of connection. This can affect both instream values and existing users by reducing their reliability of supply.

The applicant notes that they are over nine kilometres east of the Ashburton River and that there is no surface water bodies hydraulically connected.

I agree with the applicant's conclusion.

**Adverse Effect of Use on Water Quality**

410 Chapter 9 Policy 9 contains provisions to establish water quality standards in plans to ensure that Objective 3 is met – this sets the lowest acceptable standards, although protection could be set at a higher level.

Objective 3 aims to:

415 **“Enable people to gain benefits from the water quality in Canterbury water bodies while safe-guarding: drinking water sources, life supporting capacity of water, Maori cultural values, preserving natural character, protecting habitat of trout and salmon.”**

420 Chapter 9 Policy 11 promotes land use practices that maintain and enhance water quality, both groundwater and surface water replenished by groundwater. The use of groundwater when applied to soil for irrigation purposes can, depending on the type of landuse, the intensity of the landuse and the inputs of contaminants to the soil from the landuse, degrade water quality. This degradation of water quality may have adverse effects on other groundwater users and as a consequence of groundwater contamination, on surface water resources.

425

The applicant has indicated that this is a continuation of an existing use and it is not considered that this proposal poses significant risks to groundwater quality.

I agree with the applicant's conclusion.

430

## Adverse Effect of Take and Use on Tangata Whenua Values

Chapter 6 Policy 3 of the Council's Regional Policy Statement dealing with the provision for relationship of tangata whenua with resources states:

435

**“Specific aspects of the relationship of Tangata Whenua, their culture and their traditions with their ancestral lands, water, sites, wahi tapu and other taonga should be recognised and provided for through resource management and planning including provisions in plans, decisions on resource consents and monitoring the state of the environment”.**

440

In accordance with s8 of the RMA, Arowhenua, was informed of the application on 17 December 2004. On 21 December 2004 they advised that they did not oppose the application but would seek a ten year duration.

445

I do not consider Arowhenua to be adversely affected as effects on surface and groundwater resources are minor. The proposed abstraction does not occur in a silent file area nor in an area of identified historical significance.

## Positive Effects of the Take and Use

The applicant notes that the positive effects of the activity would be certainty and reliability of irrigation, increased crop yields and increased productivity. I agree with their conclusion.

450

## ADDITIONAL AND RECOMMENDED MITIGATION MEASURES (conditions)

1 To take and use groundwater at a combined maximum rate of 145 litres per second with a combined volume not exceeding 108,054 cubic metres per nine days from bore L37/0695 (diameter: 300 millimetres, depth 39.7 metres), at or about map reference NZMS 260 L37:2081-9160 and bore L37/1282 (diameter: 300 millimetres, depth 76.1 metres), at or about map reference NZMS 260 L37:2087-9297.

2 The combined volume of water taken between 1st July and the following 30th June shall not exceed 1,085,400 cubic metres.

*Reason: seasonal volume*

3 Water shall be used only for irrigation of crops and pasture as described in the application, on the area of land shown in attached plan CRC051666.

4 **Text**

The consent holder shall, by [1 July 2005 or when 6 (?) months out from this date, 1 July 2006 etc] install, or provide for the installation of:

(i) An easily accessible straight pipe(s), of a length at least 15 times the diameter of the pipe, and a measuring device(s) such as a water meter with pulse output which will measure the rate and volume at which water is taken to within an accuracy of plus or minus five percent, as part of the pump outlet plumbing, or within the mainline distribution system, at a location(s) that will ensure the total take of water is measured; and

(ii) A tamper-proof electronic recording device such as a data logger(s) with the capacity to hold at least one season's data of water taken as specified in clauses (c) (i) and (c) (ii), or which is telemetered, as specified in clause (c) (iii).

- (a) (i) From 1 July 2006 the measuring device(s) shall be used to continuously measure the volume of water abstracted in accordance with condition 2; and
  - (ii) The recording device(s) installed in accordance with clause (a) (ii) shall be used to continuously record the volume abstracted and hours of operation. Each pulse or event from the measuring device shall be time stamped in the recording device at no greater than 15 minute intervals.
- (b) While complying with clause (a) (ii), the recording device(s) shall:
  - (i) be set to wrap the data from the measuring device(s) such that the oldest data will be automatically overwritten by the newest data (i.e. cyclic recording); or
  - (ii) store the entire season's data in each 12 month period from 1 July to 30 June in the following year, which the consent holder shall then download and store in a commonly used format and provide to the Canterbury Regional Council upon request in a form and to a standard specified in writing by the Canterbury Regional Council; or
  - (iii) shall be connected to a telemetry system which collects and stores all of the data continuously with a independent network provider who will make that data available in a commonly used format at all times to the Canterbury Regional Council and the consent holder.

No data in the recording device(s) shall be deliberately changed or deleted.

- (c) The measuring and recording devices shall be accessible to the Canterbury Regional Council at all times for inspection and/or data retrieval.
- (d) The measuring and recording devices shall be installed and maintained throughout the duration of the consent in accordance with the manufacturer's instructions, if any.
- (e) Within one month of the installation of the measuring or recording device(s) or any subsequent replacement measuring or recording device(s), and at five-yearly intervals thereafter, and at any time when requested by the Canterbury Regional Council, the consent holder shall provide a certificate to the Canterbury Regional Council, to the attention of the RMA Compliance & Enforcement Section, signed by a suitably qualified person certifying:

*Reason: reasonable use, efficiency, monitoring of seasonal volume condition*

- 5 The consent holder shall take all practicable steps to:
  - 1. ensure that the volume of water used for irrigation does not exceed that required for the soil to reach field capacity; and
  - 2. avoid leakage from pipes and structures; and
  - 3. avoid the use of water onto non-productive land such as impermeable surfaces and river or stream riparian strips.
- 6 (a) If the irrigation system used to distribute water taken in terms of this permit is used to distribute effluent, fertiliser or any other added contaminant, a backflow

preventer manufactured in accordance with AS 2845.1 (1998) or the American Society of Sanitary Engineers standards shall be installed within the pump outlet plumbing or within the mainline, to prevent the backflow of water into the bore.

- (b) The backflow preventer shall be tested to the standard set out in AS 2845.3 (1993) or an equivalent method within one month of its installation and annually thereafter by a suitably qualified person. A test report shall be provided to the Canterbury Regional Council, attention RMA Compliance and Enforcement Manager within two weeks of each inspection.

- 7 This consent shall not be exercised concurrently with consent CRC970510 or any subsequent replacement consent.  
*Reason: reasonable use, efficiency*
- 8 The Canterbury Regional Council may, on any of the last five working days of May and November each year, serve notice of its intention to review the conditions of this consent for the purpose of dealing with any adverse effect on the environment which may arise from the exercise of the consent and which it is appropriate to deal with at a later stage.
- 9 The lapsing date for the purposes of section 125 shall be 31 December 2010.

## 455 **POLICIES AND OBJECTIVES**

### **Regional Policy Statement**

The Regional Policy Statement (RPS) contains a number of policies pertaining to this application. The grant of the consent subject to the recommended conditions is considered consistent with the policies of the Regional Policy Statement.

### **Proposed Canterbury Natural Resources Regional Plan (NRRP)**

Relevant provisions of the NRRP have been considered. The grant of the consent subject to the recommended conditions is considered consistent with the NRRP.

## **PART II MATTERS**

### Purpose of the Act

470 Under s104 the consent authority must consider applications *subject to part II* of the Act.

Section 5 of the Act states:

- 475           “(1)The purpose of this Act is to promote the sustainable management of natural  
                  and physical resources.
- (2) In this Act, “sustainable management” means managing the use, development,  
                  and protection of natural and physical resources in a way, or at a rate, which  
                  enables people and communities to provide for their social, economic and  
480           cultural wellbeing and for their health and safety while –
- (a) Sustaining the potential of natural and physical resources (excluding  
                  minerals) to meet the reasonably foreseeable needs of future generations;  
                  and
- (b) Safeguarding the life-supporting capacity of air, water, soil and  
                  ecosystems; and
- 485           (c) Avoiding, remedying, or mitigating any adverse effects of activities on the  
                  environment. “

490           I consider that the sustainable management is promoted by the granting the application subject to  
                  the recommended conditions.

### **Matters of National Importance**

                  Section 6 of the Act states:

- 495           “**In achieving the purpose of this Act, all persons exercising functions and powers  
                  under it, in relation to managing the use, development, and protection of natural and  
                  physical resources, shall recognise and provide for the following matters of national  
                  importance:**
- 500           (a) **The preservation of the natural character of the coastal environment (including  
                  the coastal marine area), wetlands, and lakes and rivers and their margins, and  
                  the protection of them from inappropriate subdivision, use, and development:**
- (b) **The protection of outstanding natural features and landscapes from  
                  inappropriate subdivision, use, and development:**
- 505           (c) **The protection of areas of significant indigenous vegetation and significant  
                  habitats of indigenous fauna:**
- (d) **The maintenance and enhancement of public access to and along the coastal  
                  marine area, lakes, and rivers:**
- (e) **The relationship of Maori and their culture and traditions with their  
                  ancestral lands, water, sites, waahi tapu, and other taonga.”**
- 510

                  It is consider that all relevant matters of national importance have been adequately recognised  
                  and provided for in considering the proposal.

### **515 Other Matters**

**Section 7** requires the consent authority to have particular regard to a number of matters.

- 520           Section 7 of the Act states:“**In achieving the purpose of this Act, all persons exercising  
                  functions and powers under it, in relation to managing the use, development, and  
                  protection of natural and physical resources, shall have particular regard to---**

- 525
- (a) Kaitiakitanga:
  - (b) The efficient use and development of natural and physical resources:
  - (c) The maintenance and enhancement of amenity values:
  - (d) Intrinsic values of ecosystems:
  - (e) Recognition and protection of the heritage values of sites, buildings, places, or areas:
  - (f) Maintenance and enhancement of the quality of the environment:
  - (g) Any finite characteristics of natural and physical resources:
  - (h) The protection of the habitat of trout and salmon.”
- 530

I considered that all relevant section 7 matters have been adequately considered.

### Principles of the Treaty of Waitangi

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Section 8 of the Act states:

540 **“In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall take into account the principles of the Treaty of Waitangi (Te Tiriti o Waitangi).”**

545 The Court of Appeal has identified four principles, which form the basis of developing a relationship of partnership and communication. These are the Essential Bargain, Tribal Self-Regulation, The Treaty Relationship, and Active Protection. The third principle, the Treaty Relationship, accords Maori with special status as a Treaty Partner, distinct and separate from status as an ‘affected party’.

550 Te Runanga O Arowhenua were informed of the application and provided comment. I consider that the Runanga will not be adversely affected. There are no silent file areas nearby or historic sites that may be affected by the proposed activity.

### OTHER RELEVANT MATTERS

555

#### Other consents granted and Environment Court cases

There are no Environment Courts cases or previous decisions that I am aware of.

#### Duration

560

The applicant has requested a consent duration of 35 years. Section 1.3.5 of Chapter One of the NRRP outlines factors that must be taken into account when considering the duration of any consent to be granted.

565

- the nature and sensitivity of the affected environment, including:
  - the degree to which the sensitivity of the affected environment may become more sensitive over time; and
  - the risk of unforeseen adverse effects arising from the consented activity; and
  - the level of knowledge about the affected environment; and
  - the nature of the activity, including:
  - the degree to which the methods used to control the adverse effects of the consented activity are of a temporary nature or inconsistent with the
- 570

- 575 requirements of the RMA and the time that is practicable for the consent holder to implement other options; and
- the level of compliance monitoring, environmental impact monitoring, reporting and action required by the conditions on the resource consent; and
- 580
- the significance of the activity relative to the existing situation and the capacity of the affected environment; and
  - the duration of consent sought by the applicant; and
  - the rate of change in technology that may mitigate adverse effects resulting from the activity; and
- 585
- the permanence and the economic life of the activity; and
  - the costs and benefits of the activity to the community; and
  - the consent holder's capital investment in a pre existing activity; and
  - any documented history of non-compliance with the requirements of the RMA; and
- 590
- guidance from resource management case law; and
  - any other relevant matters.

595 Having had regard to these matters and on the basis of the audit of the applicant's assessment of effects I consider, that given the recommended conditions, there are no apparent reasons why the consent should not be granted for the duration applied for.

#### **CONCLUSION OF ADVICE & RECOMMENDATIONS**

600 Based on my audit of applicant's information, and having considered all relevant matters under s104, including the provisions and policies of Chapter 5, Water Quantity of the NRRP, I consider that the grant of the application, subject to the mitigation measures recommended, is consistent with the promotion of the sustainable management of natural and physical resources and I recommend to the Hearing Panel that it be granted subject to those recommended conditions.

Paul Sullivan  
**SENIOR CONSENTS INVESTIGATING OFFICER**

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## 5. APPOINTMENT OF COMMISSIONER TO HEAR AND DECIDE RESOURCE CONSENT APPLICATIONS

CHRISTCHURCH CITY COUNCIL – CRC054605, CRC054606, CRC054018 AND CRC054019

### Applications

The Christchurch City Council have applied for the following land-use and discharge permits associated with the upgrades to Snellings Drain required to facilitate the discharges of stormwater from existing and proposed residential development within the catchment serviced by this drain:

**CRC054605** – to dam Snellings Drain using two weirs for flow retention; and to divert floodwaters from Snellings Drain at Mairehau Road (at or about map reference NZMS 260 M35: 8397 – 4710) via a swale from Mairehau Road east and through a new road culvert south along the common boundary between 172 and 194 Mairehau Road, which then joins the No. 2 Drain in Clare Park.

A consent duration of 20 years has been applied for.

**CRC054606** – to discharge stormwater, which may contain contaminants, onto land and into Snellings Drain at various locations along its length, from roofs, roading and hard-standing areas within the following residential subdivisions:

- (a) The Waitikiri Subdivision, located on Pt RS1856, Pt RS 4408 and Lot 2 DP 306919, Waitikiri Drive, Burwood. Stages 1 and 2 of this subdivision have already been completed, with the remaining area to be developed in future. Stormwater is discharged into Snellings Drain at or about NZMS 260 M35: 8359-4821.
- (b) The Limes Subdivision, Prestons Road, Burwood. This residential subdivision consists of 68 lots and is fully developed. Stormwater is discharged into Snellings Drain at or about NZMS 260 M35: 8369-4789, 8384-4783 and 8397-4779.
- (c) The proposed development of Lot 3 DP 319376, 9 Nederland Avenue, Burwood.
- (d) The proposed development of Lot 5 DP 19580, 309 Burwood Road, Burwood.

Stormwater from the subdivisions at 9 Nederland Avenue and 309 Burwood Road will be discharged into Snellings Drain at or about map reference NZMS 260 M35: 8390-4757.

Contaminants in the discharges from these sites may include suspended sediments, hydrocarbons, heavy metals, nutrients and micro-organisms.

A consent duration of 20 years has been applied for.

These applications have been lodged with Environment Canterbury retrospectively and relate to Discharge and Water permits associated with modifications to a timber-lined section of Snellings Drain, and the discharges of stormwater and groundwater into the modified drain, from the Limes Subdivision located at the corner of Prestons and Burwood Roads, Christchurch.

**CRC054018** – To discharge road sub-grade drainage water and stormwater from a 6.8 hectare residential subdivision into Snellings Drain via three separate outfalls at or about map reference NZMS 260 M35: 8369-4789, 8384-4783 and 8397-4779. The discharges will be from Stages 1, 2 and 3 of the Limes subdivision and may contain contaminants such as suspended sediments, heavy metals, hydrocarbons, nutrients and micro-organisms.

**CRC054019** – To dam water during rainfall events in a retention pond created within the modified channel of Snellings Drain and upstream of a weir/outlet structure installed at or about map reference NZMS 260 M35: 8386-4782. The retention pond will contain approximately 1,200 cubic metres of additional runoff from the Limes Subdivision.

A consent duration of 10 years has been requested.

A hearing has been scheduled for 17 and 18 November 2005 to hear and decide the consent applications.

A Commissioner has been requested to decide the applications.

The Commissioner recommended has satisfied Council staff he has the necessary criteria including technical ability and availability to carry out the duties required.

Report prepared by Donald Fraser, Consents Hearings Officer.  
Endorsed, Don Rule, Consents Operations Manager.

### ***Recommendation***

- (a) *That the Committee appoint Cliff Tipler as a Commissioner to hear and decide resource consent applications CRC054605, CRC054606, CRC054018 and CRC054019 by Christchurch City Council with the full powers of the Council as a consent authority.*
- (b) *That the Committee appoint Cliff Tipler to deal with any preliminary matters associated with (a).*