

The Hearing Commissioner

18 March 2019
9.00 am

Staff Report for Hearing

The recommendation in the staff report represents the opinion of the writer and it is not binding on the Hearing Commissioner. The report is evidence and has no greater weight than any other evidence that the Commissioner will hear and consider.

Hearing of Application – APP-20181437

South Pacific Meats Limited

Compiled by Stephen West, Principal Consents Officer

- Hearing: The hearing is scheduled to commence at 9.00 am on Monday, 18 March 2019 in the Council Chambers, Environment Southland, corner of Price Street and North Road, Waikiwi, Invercargill.
- Application: South Pacific Meats Limited has applied for resource consents to discharge meatworks effluent sludges to land, and for associated contaminant emissions to air, at 225 Hamilton Road and 209 and 360 Oreti Plains Road, Oreti Plains.
- Notification: The application was limited notified on 4 July 2018 and seven submissions were received.
- Executive Summary: This is an application for discharge permits for discharges to land and to air. As outlined in this report the key issues are:
- the potential for the discharge to increase contaminant losses to water;
 - management of the discharge to Braxton and associated soils that have a tendency to crack in dry conditions;
 - the effects of the discharge to bare soil or areas being cultivated;
 - management of other discharges in the same area;
 - the potential for adverse effects due to odour;

1. Introduction

1.1 Status and purpose of this report

This report has been prepared under Section 42A of the Resource Management Act 1991 (RMA) to assist in the hearing of the application for resource consent made by South Pacific Meats Limited. Section 42A allows local authorities to require the preparation of such a report on an application for resource consent and allows the consent authority to consider the report at any hearing.

The purpose of the report is to assist the Hearing Commissioner in making a decision on the application.

1.2 About the author

My name is Stephen West. I am a Principal Consents Officer employed by the Southland Regional Council. I have been employed by the Council as a consents officer since 1992.

I hold the qualifications of New Zealand Certificate of Engineering (Civil) and Bachelor of Arts (Geography and Environmental Studies) degree.

I have been involved with the application since it was lodged and received by Council.

1.3 Information relied on in preparation of this report

In preparation of this report I have had regard to the following documents:

- resource consent application;
- submissions;
- Resource Management Act 1991;
- National Policy Statement on Freshwater 2014 (as amended in 2017);
- Regional Policy Statement 2017;
- Regional Water Plan 2010;
- Proposed Water and Land Plan 2018
- Te Tangi a Tauria (Iwi Management Plan) 2008.

2. The application and procedural matters

2.1 The proposed activities

Applicant: South Pacific Meats Limited

Application: APP-20181437

- Site address or location: 225 Hamilton Road and 209 and 360 Oreti Plains Road, Oreti Plains
- Legal description: Section 126 Oreti Hundred, Part Section 129 Oreti Hundred, Part Section 128 Oreti Hundred, Part Lot 1 DP 10524, Lot 8 DP 208, Lot 25A DP 203, Lot 1 DP 13563, Lot 9 DP 208, Part Lot 5 DP 209, Lot 2 DP 479232, Part Lot 1 DP 2143
- NZTM co-ordinates: 1,229,900E 4,881,300N
- The applicant proposes to:
- to discharge meatworks effluent sludges onto land; and
 - to discharge contaminants to air associated with the sludge discharge.

The proposal

South Pacific Meats Limited has applied for a resource consent to discharge meatworks effluent sludges onto land at the Gladvale Farms Limited property at Oreti Plains Road, about 4 km east of Drummond.

The sludges will be tankered to the site and spread by slurry tanker. The nature of the sludge is described in Section 4.2 of the application. It is pumped from the base of the applicant’s anaerobic treatment pond and has a low solids content.

The application is also for the emission of contaminants, namely odour, into air associated with the sludge discharge. The applicant is seeking a 25-year consent duration.

Discharge permit	
Relevant rule(s)	5.3.2 of the Regional Effluent Land Application Plan 16D of the Regional Water Plan 34(a) of the proposed Southland Water & Land Plan 5.5.5 of the Regional Air Plan
Volume of discharge (m ³ /year)	4,000
Discharge rate (m ³ /ha/year)	100
Other sources of effluent?	Farm Dairy Effluent (Gladvale Farms Ltd) Whey (Fonterra)
Effluent disposal area (ha)	313
Irrigation method	Slurry tanker
Application rate and depth	10 mm applied in up to 5 passes of 2-5 mm per pass
Storage available (m ³)	Nil
Physiographic zones	Central Plains (60%) Oxidising (40%)
FDE land classifications	Class A 70% Class B 20% Class E 10%
Soils	Pukemutu (and Braxton) Drummond Glenelg Braxton
Catchment	Tributary of the Oreti River

Section 4.3 of the application states that total nitrogen loading rates for fertiliser, sludge, whey and farm dairy effluent to any area where sludge will be discharged will not exceed 150 kg N/ha/year.

Analysis of sludge: November 2015-December 2017

Parameter		Sampling Values		
	Units	Mean	Max	Max/Mean
pH units	pH	7.1	7.5	1.07
Total Solids	g/m ³	29,430	44,000	1.50
Total Calcium	g/m ³	862	1628	1.89
Total Magnesium	g/m ³	119	231	1.94
Total Potassium	g/m ³	88	154	1.75
Sodium Absorption Ratio	ratio	4.1	6.6	1.61
Total Sodium	g/m ³	495	1056	2.13
Total Sulphur	g/m ³	407	764	1.88
Total Nitrogen	g/m ³	1207	1722	1.43
Total Ammoniacal Nitrogen	g/m ³	249	328	1.32
Nitrite-N	mg/kg dry	<22	<100	4.55
Nitrate-N	mg/kg dry	<29	<140	4.83
Nitrite-N plus Nitrate-N	mg/kg dry	<22	<100	4.55
Total Phosphorus	g/m ³	466	1012	2.17
Oil & Grease	g/m ³	27	49	1.81

As the discharge originates from wastewater from animal processing, there will also be undetermined levels of *E.coli* in the discharge, however, this has not been measured.

The sludge will either be spread onto pasture in the spring-summer period, or it will be spread onto an area that is about to be cultivated.

2.2 Regional Planning framework

Resource consents for the above activities are required under the Regional Water Plan, the proposed Water and Land Plan and the Regional Air Plan, as follows:

- the discharge of contaminants from an industrial or trade premises to land is a discretionary activity under Rule 16D of the Regional Water Plan for Southland;
- the discharge of wastewater, sludge or effluent from industrial or trade processes onto or into land is a discretionary activity under Rule 34(a) of the proposed Southland Water and Land Plan;
- the discharge of contaminants to air from industrial or trade processes (which are not otherwise authorised by a regional rule) is a discretionary activity under Rule 5.5.5 of the Regional Air Plan for Southland

Overall, the application is considered to be **a discretionary activity**.

Under Section 104B the Council may grant or refuse consent for a **discretionary activity**, and if it grants the application, may impose conditions under Section 108 of the RMA.

2.3 Notification and Submissions

The application was limited notified on 4 July 2018 and seven submissions were received.

Copies of the submissions are included in the appendices, and are summarised as follows:

Submitter	Oppose/ Support	Issues/comments <i>Decision/Changes sought</i>	To be Heard?
C M & R P Breen	Oppose	<ul style="list-style-type: none"> Concerned about effects on air quality, soil, and sources of drinking water. Rely on groundwater for drinking water and it is already impacted by high nitrogen concentrations. Members of the household would be vulnerable to elevated nitrate effects. Do not want air quality to deteriorate. <p><i>That the application be declined</i></p>	Yes
A J & J A Hamilton	Oppose	<ul style="list-style-type: none"> Concern that sludge discharge will cause offensive odour effects. Nitrate concentrations in groundwater in the area are already high, so system must be managed to prevent increase in nitrate concentrations. Concern about amenity value effects associated with traffic, noise and spray issues. Concern about transfer of Mycoplasma bovis (M. bovis). The application does not address the potential for the discharge to spread M. bovis. <p><i>That the application be declined OR 10-year consent period Restrictions on when discharge can occur Direct application of sludge to land Avoid discharge when rain is forecast Sludge transfer at designated area Contact number for incidents</i></p>	Yes
R J & D E Laughton	Oppose	<ul style="list-style-type: none"> Concern that sludge discharge will cause offensive odour effects. Nitrate concentrations in groundwater in the area are already high, so system must be managed to prevent increase in nitrate concentrations. Concern about amenity value effects associated with traffic, noise and spray issues. Concern about transfer of Mycoplasma bovis (M. bovis). The application does not address the potential for the discharge to spread M. bovis. <p><i>That the application be declined OR 10-year consent period Restrictions on when discharge can occur Direct application of sludge to land Avoid discharge when rain is forecast Sludge transfer at designated area Contact number for incidents</i></p>	Yes

Submitter	Oppose/ Support	Issues/comments <i>Decision/Changes sought</i>	To be Heard?
B Macdonald (Torrisdale Farms)	Oppose	<ul style="list-style-type: none"> • Concern that sludge discharge will cause offensive odour effects. • Nitrate concentrations in groundwater in the area are already high, so system must be managed to prevent increase in nitrate concentrations. • Concern about amenity value effects associated with traffic, noise and spray issues. • Concern about transfer of Mycoplasma bovis (M. bovis). The application does not address the potential for the discharge to spread M. bovis. <p style="text-align: center;"><i>That the application be declined OR 10-year consent period Restrictions on when discharge can occur Direct application of sludge to land Avoid discharge when rain is forecast Sludge transfer at designated area Contact number for incidents</i></p>	Yes
D B Macdonald	Oppose	<ul style="list-style-type: none"> • Concern that sludge discharge will cause offensive odour effects. • Nitrate concentrations in groundwater in the area are already high, so system must be managed to prevent increase in nitrate concentrations. • Concern about amenity value effects associated with traffic, noise and spray issues. • Concern about transfer of Mycoplasma bovis (M. bovis). The application does not address the potential for the discharge to spread M. bovis. <p style="text-align: center;"><i>That the application be declined OR 10-year consent period Restrictions on when discharge can occur Direct application of sludge to land Avoid discharge when rain is forecast Sludge transfer at designated area Contact number for incidents</i></p>	Yes
J & D M Macdonald	Oppose	<ul style="list-style-type: none"> • Concern that sludge discharge will cause offensive odour effects. • Nitrate concentrations in groundwater in the area are already high, so system must be managed to prevent increase in nitrate concentrations. • Concern about amenity value effects associated with traffic, noise and spray issues. • Concern about transfer of Mycoplasma bovis (M. bovis). The application does not address the potential for the discharge to spread M. bovis. <p style="text-align: center;"><i>That the application be declined OR 10-year consent period Restrictions on when discharge can occur Direct application of sludge to land Avoid discharge when rain is forecast Sludge transfer at designated area Contact number for incidents</i></p>	Yes

Submitter	Oppose/ Support	Issues/comments <i>Decision/Changes sought</i>	To be Heard?
G & M Sutton	Oppose	<ul style="list-style-type: none"> • Concern about discharge relative to open drains, high groundwater levels and nitrate concentrations in groundwater. • Discharge area must exclude concurrent applications of other effluents. • Past issues with the landowner. • Concern about transfer of Mycoplasma bovis (M. bovis). <p style="text-align: center;"><i>That the application be declined</i></p> <p style="text-align: center;"><i>OR</i></p> <p style="text-align: center;"><i>Align term with other permits or no more than 5 years</i></p> <p style="text-align: center;"><i>Require an Operational Management Plan</i></p> <p style="text-align: center;"><i>Discharge only during September to March period</i></p> <p style="text-align: center;"><i>Notify neighbours of proposed discharge areas each year</i></p> <p style="text-align: center;"><i>Designated area for transfer of sludge</i></p> <p style="text-align: center;"><i>Odour limit</i></p> <p style="text-align: center;"><i>Condition about other sludge or effluent discharges to area</i></p> <p style="text-align: center;"><i>Soil moisture and forecast rainfall limitations on discharge</i></p> <p style="text-align: center;"><i>Condition on how heavily sludge is applied</i></p>	Yes

A pre-hearing meeting was held and the application was placed on hold under s91A.

2.4 Section 99 pre-hearing meeting

A pre-hearing meeting for the application was held on 5 September 2018, and was chaired by Kieran O'Connor. Mr O'Connor was a Consent Officer with Environment Southland at the time. His report, as per Section 99(5) is attached.

The meeting concluded with the submitters concerns largely unresolved.

The applicant agreed to prepare a management plan for the discharge. There was also agreement that the applicant would avoid delivery of the sludge on statutory holidays, and outside the hours of 8.00 am to 5.00 pm.

As agreed during the meeting, information about groundwater quality monitoring in the vicinity of the site was circulated to the applicant and submitters. A copy of that information is included in the appendices.

3. Assessment

3.1 Statutory Considerations

Section 104 of the Act sets out the matters to be considered when assessing an application for a resource consent. Section 104(1) of the Resource Management Act, 1991, states:

- (1) *When considering an application for a resource consent and any submission received, the consent authority must, subject to Part 2, have regard to:*
 - (a) *any actual and potential effects on the environment of allowing the activity; and*
 - (b) *any relevant provisions of:*
 - (i) *a national environmental standard;*

- (ii) other regulations;
- (iii) a national policy statement;
- (v) a regional or proposed regional policy statement;
- (vi) a plan or proposed plan; and
- (c) any other matter the consent authority considers relevant and reasonably necessary to determine the application.

Comment

All considerations are subject to Part 2 of the RMA, which sets out the purpose and principles that guide this legislation. This means that the matters in Part 2 prevail over other provisions of the RMA or provisions in planning instruments in the event of a conflict. Section 5 states the purpose of the RMA and Sections 6, 7 and 8 are principles intended to provide additional guidance as to the way in which the purpose is to be achieved.

In paragraphs 70 to 75 of *R J Davidson Family Trust v Marlborough District Council [2018] NZCA 316*, the Court of Appeal discussed the application of Part 2 of the RMA, with regard to the earlier Supreme Court decision, *Environmental Defence Society Inc v The New Zealand King Salmon Co Ltd [2014] NZSC 38*. The Court of Appeal noted that under Section 104, the “statutory language plainly contemplates direct consideration of Part 2 matters”. The Court also noted that plans made by local authorities may not necessarily reflect the provisions of Part 2 of the Act. The following is from paragraphs 74 and 75 of the *R J Davidson Family Trust* decision:

“If it is clear that a plan has been prepared having regard to pt 2 and with a coherent set of policies designed to achieve clear environmental outcomes, the result of a genuine process that has regard to those policies in accordance with s 104(1) should be to implement those policies in evaluating a resource consent application. Reference to pt 2 in such a case would likely not add anything. It could not justify an outcome contrary to the thrust of the policies. Equally, if it appears the plan has not been prepared in a manner that appropriately reflects the provisions of pt 2, that will be a case where the consent authority will be required to give emphasis to pt 2.

If a plan that has been competently prepared under the Act it may be that in many cases the consent authority will feel assured in taking the view that there is no need to refer to pt 2 because doing so would not add anything to the evaluative exercise. Absent such assurance, or if in doubt, it will be appropriate and necessary to do so. That is the implication of the words “subject to Part 2” in s 104(1), the statement of the Act’s purpose in s 5, and the mandatory, albeit general, language of ss 6, 7 and 8.”

I consider that the Regional Policy Statement and the regional plans have been developed in accordance with the purpose of the Resource Management Act. However, the Regional Water Plan predates the National Policy Statement for Freshwater Management and the Regional Policy Statement for Southland 2017, so there may be inconsistencies that warrant reference to Part 2 of the RMA for clarification.

3.2 Part 2 of the Resource Management Act 1991

The purpose of the Resource Management Act, as specified in Section 5 of the Act, is to *promote the sustainable management of natural and physical resources*. It states that:

“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 cultural well-being 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;*
- (b) safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and*
- (c) avoiding, remedying, or mitigating any adverse effects of activities on the environment.”*

Section 6 of the Act specifies matters of national importance, which must be recognised and provided for by those exercising functions and powers under the Act, in achieving the purpose of the Act. The matters listed in Section 6 of the Act include the following:

- Section 6(a) *The preservation of the natural character of the coastal environment, wetlands and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use and development.*
- Section 6(b) *The protection of outstanding natural features and landscapes from inappropriate subdivision, use and development.*
- Section 6(c) *The protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna.*
- Section 6(d) *The maintenance and enhancement of public access to and along the coastal marine area, lakes and rivers.*
- Section 6(e) *The relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga.*
- Section 6(f) *The protection of historic heritage from inappropriate subdivision, use, and development.*
- Section 6(g) *The protection of recognised customary activities.*
- Section 6(h) *The management of significant risks from natural hazards.*

Other matters that the hearing commissioner must have particular regard for in achieving the purpose of the Act are listed in Section 7, as follows:

- Section 7(a) *Kaitiakitanga,*
- Section 7(aa) *The ethic of stewardship.*

- Section 7(b) *The efficient use and development of natural and physical resources.*
- Section 7(ba) *The efficiency of the end use of energy*
- Section 7(c) *The maintenance and enhancement of amenity values.*
- Section 7(d) *Intrinsic values of ecosystems.*
- Section 7(e) *[Repealed]*
- Section 7(f) *The maintenance and enhancement of the quality of the environment.*
- Section 7(g) *Any finite characteristics of natural and physical resources.*
- Section 7(h) *The protection of the habitat of trout and salmon.*
- Section 7(i) *The effects of climate change*
- Section 7(j) *The benefits derived from the use and development of renewable energy.*

Section 8 of the Act specifies that:

“...in achieving the purpose of the Act, all persons exercising functions and power 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.”

Comment

All considerations under s104 are subject to Part 2 of the RMA, which sets out the purpose and principles that guide this legislation. This means that the matters in Part 2 prevail over other provisions of the RMA or provisions in planning instruments in the event of a conflict.

Section 5 states the purpose of the RMA, which is to promote the sustainable management of natural and physical resources. The application of Section 5 involves an overall broad judgement of whether a proposal will promote the sustainable management of natural and physical resources. The enabling and managing functions found in s5(2) should be considered of equal importance and taken as a whole.

Section s6, 7 and 8 provide further context and guidance to the constraints found in s5(2) (a) (b) and (c). The commencing words to these sections differ, thereby establishing the relative weight to be given to each section.

With regard to Section 6(e), the relationship of Maori and the culture and traditions with their ancestral lands, water, sites, waahi tapu and other taonga, I note that the discharge is to developed farmland and no waahi tapu sites have been identified at this location. In terms of Section 6(f), the protection of historic heritage from inappropriate subdivision, use, and development, there is an archaeological site, a European colonial era homestead, about 900 metres west of the proposed discharge area.

Section 7(c), the maintenance and enhancement of amenity values, and Section 7(f), the maintenance and enhancement of the quality of the environment are both relevant to the proposed discharge. Odour and spray drift should not adversely affect amenity values beyond the discharge site, and the discharge should be managed so as to not adversely affect soil and groundwater quality.

In part to give effect to Sections 7(a) and 8, Te Ao Marama Inc was identified as an affected party and was sent notice of the application, but did not make a submission. The applicant had also contacted Te Ao Marama Inc as part of its consultation prior to lodging the application.

3.3 Description of the affected environment

The discharge site is a 313 ha area in the Oreti catchment, about 4 km northeast of Drummond. The discharge area is on property owned by Gladvale Farms Limited. The topography of the site is relatively flat.

The site is developed farm land, and is surrounded by similar land. The discharge area is on a dairy farm, and there are adjoining dairy farms to the north, south-east and west.

There are individual dwellings on adjoining farms around the proposed discharge area, but it is low density as is typical of a rural area.

The application includes a windrose that shows that wind is predominantly from the west and the north.

Soil characteristics			
Soil	Vulnerability		
	Structural compaction	Nutrient leaching	Waterlogging
Pukemutu	Severe	Slight	Severe
Drummond	Minimal	Moderate	Slight
Glenelg	Slight	Very severe	Nil
Braxton	Moderate	Slight	Severe

Braxton soils occupy about 5% of the proposed discharge area and Pukemutu soils occupy about 50%. However the two soils are present together and are labelled for the predominant soil. The Braxton soils, in particular, are known to crack during dry periods, creating pathways for bypass flow of contaminants through the soil layer.

The site is largely within the Central Plains physiographic unit, with a line of the Oxidising physiographic unit running through the proposed discharge area. The Central Plains physiographic unit aligns with the Braxton and Pukemutu soils. The key contaminant pathways to water for the Central Plains physiographic unit are artificial drainage and deep drainage, including due to cracks in the soil during dry conditions. Deep drainage, artificial drainage and overland flow are the contaminant pathways within the Oxidising physiographic unit.

Groundwater in the area is likely to be shallow and unlikely to be protected by low permeability layers. Some of the bores in the area show high groundwater nitrate concentrations that have exceeded the drinking water standard, 11 mg/litre. Diffuse discharges associated with land use in the area are likely to be the primary source of groundwater contamination in the area.

There are small waterways crossing the proposed discharge area, generally flowing southeast. The streams are not monitored regularly. Individual samples taken from streams to the south-east and west of the site have shown elevated nitrate concentrations in the streams¹, which are likely to reflect inflows from

¹ A 2013 sample from Ballyhooley Road had a nitrate nitrogen concentration of 5 g/m³, a sample from a stream east of the Five Roads intersection had a concentration of 9 g/m³, and a 2015 sample from Terrace Creek had a nitrate concentration of 4 g/m³.

groundwater. There are too few samples to establish an annual median or 95th percentile, but the individual samples would fall within the “C” or “D” states for Ecosystem Health for Rivers in Appendix 2 of the National Policy Statement for Freshwater Management. The notes in the Ecosystem Health Table indicate that such high concentrations can affect the growth of sensitive fish species.

The discharge site also receives farm dairy effluent and whey discharges.

3.4 Actual and potential effects

The potential adverse effects of the discharge include effects on:

- odour;
- groundwater quality;
- soil;
- surface water quality effects;
- cultural/spiritual effects.

Odour effects

The sludge will be spread by a low-pressure spray system from a slurry tanker. As such, it is not expected to generate aerosols. The sludge is described by the applicant as aged anaerobic sludge, which has a sulphurous odour. The applicant referred to discharges of the sludge at other sites, and considers that it has similar odour to farm dairy effluent pond sludge. Section 6.9 of the application also states that odour from the sludge would not be regarded as offensive, particularly given the 200m buffer distances from dwellings.

The applicant also has a resource consent for sludge discharge at a site near Garston. No odour complaints have been recorded with regard to the sludge discharge at that site.

Groundwater quality

The discharge has the potential to cause contaminants to leach to groundwater if it is applied too heavily, or if the nutrient loading rate is excessive. The site is sensitive to such effects, as there are already issues with elevated nitrate concentrations in groundwater at many of the bores around the site.

In this case the applicant considers that the rate of sludge application will result in minimum movement of contaminants into groundwater². Based on guidelines³ for farm dairy effluent discharge, 10 mm per application is the maximum that should be applied by a high-rate system onto this type of area. I note that only 5 mm per application would typically be allowed for a FDE discharge by slurry tanker due to the risks of run-off or leakage into drains. FDE is typically lighter, more watery, than the sludge, but a similar limit may be appropriate if discharge onto the areas of Braxton and Pukemutu cannot be avoided.

Section 4.3 of the application states that total nitrogen loading rates for fertiliser, sludge, whey and farm dairy effluent (FDE) to any area where sludge will be discharged will not exceed 150 kg N/ha/year. The 150 kg N/ha/year is a figure that has been applied to FDE discharges and, where appropriate, other discharges, in Southland since 1993⁴. For example, it is a criterion of Rule 5.4.1 of the Regional Effluent

² Section 6.6. of the application

³ Tables 1 and 2, ‘The influence of soil drainage characteristics on contaminant leakage risk associated with the land application of farm dairy effluent’, (2009), D J Houlbrooke and R M Monaghan.

⁴ Pg 69, ‘Southland Dairy Farming Expansion – Environmental Impact Assessment’, (1993), Robertson Ryder & Associates, Dunedin.

Land Application Plan 1998, it is in the table attached to Policy 42 of the Regional Water Plan 2010, and it is a criterion of Rule 35(a) of the proposed Southland Water and Land Plan 2018.⁵ The load limit for the FDE and whey discharges within the proposed sludge discharge area is also subject to that limit. Therefore, if the sludge discharge occurs within that limit, and the total from all waste discharges is also within that limit, then the effect of the nutrient load from the sludge should be regarded as minor.

However, the management of the total nitrogen load is one of the key issues, in that other activities, such as fertiliser application and FDE discharge, are controlled by the landowner rather than the applicant. If the resource consent for the sludge discharge is approved, it can prevent the sludge from being discharged to areas where FDE or whey have already been applied, but the resource consent cannot be drafted to restrict those activities after the sludge has been discharged. Therefore, management of the cumulative nitrogen loading requires co-ordination between the applicant and the landowner.

Cracks or fissures can develop in soils in the Central Plains physiographic unit during dry conditions, creating a pathway for contaminants that bypasses filtration through the soil. In addition to nitrogen, such bypass flow can cause other contaminants, such as bacteria and phosphorous, to affect groundwater. Therefore discharge should be avoided when there are noticeable soil cracks, but the discharge area is large enough, and includes other soil types, so that this issue should be manageable. Condition 9 of the draft conditions appended to this report requires that the consent holder record any environmental issues during the application of sludge, including if there were visible soil cracks, and what action was taken in response.

Another issue is that the applicant intends to discharge the sludge onto land being, or pending, cultivation. Section 4.3 of the application outlines this practice, and Section 6.10 discusses the forms of nitrogen in the sludge, and their availability for uptake by plants. However, where the sludge will be applied to bare soil, there will be a period that there are no plants to take up the nutrients, and there is an increased risk that nitrate nitrogen will leach to groundwater. The applicant may be able to provide further information on this issue at the hearing, but at present I recommend that the discharge be restricted to active pasture areas.

Soil effects

The applicant has assessed the effects of the sludge discharge on soils. The material has a sodium adsorption ratio of 4.1. At that level the discharge should not give rise to structural instability or reduced hydraulic conductivity in the soils of the receiving environment. The sodium concentration of the sludge is about 10 times higher than farm dairy effluent (FDE)⁶. The applicant calculates that the sodium loading from the sludge will be no more than 49.5 kg/ha/year and that it is unlikely to cause soil degradation or to reduce osmotic water potential (water available for plants) at that level. Further commentary on this issue was sought from the applicant and is included in the appendices. The draft conditions appended to this report include regular sampling of the sludge and an annual report that includes comment on soil chemistry effects.

⁵ It is also a recommended maximum load for FDE systems in Table 12 of 'Characterising dairy manures and slurries – Envirolink tools report AGRX0901, (2011), D Houlbrooke, B Longhurst, T Orchiston & R Muirhead,, Agresearch Ltd

⁶ Page 15 'Effluent Characteristics' chapter, "Irrigation of Farm Dairy Effluent in Southland", (1999), P B Greenwood, SoilWork Ltd, Dunedin

Surface water quality

The site topography is relatively flat and no sludge will be discharged within 20 metres of a surface water body. There are subsurface drains on the property. To avoid impacting on waterways, drains and groundwater the sludge will be applied in shallow (thin) applications. However, if groundwater is contaminated, it is also likely to adversely affect water quality the small streams in the area.

Cultural/spiritual effects

The discharge of sludge may have cultural or spiritual effects. However, the discharge is to land, and is therefore consistent with Policy 3.5.13.5 of Te Tangi a Taura. It is also broadly consistent with FDE discharges, which is an activity that Te Ao Marama Inc has previously considered and given a broad approval to.

Bacteriological contamination/Mycoplasma bovis

As mentioned earlier in the report, the sludge is likely to contain disease-causing organisms, but has not been analysed for *E.coli* or faecal coliforms. The risk of the sludge spreading disease, particularly *M. bovis* was raised as an issue in the submissions and was discussed at the pre-hearing meeting. Section 6.5 of the application refers to die-off in the treatment system and as a result of UV exposure from sunlight after the sludge is applied.

With regard to *M. bovis* in particular, the applicant stated at the pre-hearing meeting that the plant does not receive calves from affected farms, but that the retention time in the treatment pond would further reduce any risk. The Ministry for Primary Industries is the controlling authority with regard to the spread of *M. bovis* and can impose restrictions that would override the resource consent, if granted.

3.5 Relevant provisions of national policy statements (Section 104(1)(b)(iii))

National Policy Statement for Freshwater Management (NPSFM) 2014

The NPSFM supports improved freshwater management in New Zealand. It does this by directing regional councils to establish objectives and set limits for fresh water in their regional plans. The NPSFM was amended in August 2017.

The following objectives and policies in the National Policy Statement for Freshwater Management (NPSFM) 2014 are of particular relevance to this application:

Te Mana o te Wai

Objective AA1 *To consider and recognise Te Mana o te Wai in the management of fresh water.*

Comment

The National Policy Statement explains that Te Mana o te Wai is the integrated and holistic well-being of a freshwater body, and it incorporates the values of tangata whenua and the wider community in relation to each water body. Upholding Te Mana o te Wai acknowledges and protects the mauri of the water. This requires that in using water you must also provide for Te Hauora o te Taiao (the health of the environment), Te Hauora o te Wai (the health of the waterbody) and Te Hauora o te Tangata (the health of the people).

The relevance in this case is that the objective points to the link between the proposed discharge to land and the potential effects on water quality.

Water Quality

- Objective A1* *To safeguard:*
- a) the life-supporting capacity, ecosystem processes and indigenous species including their associated ecosystems, of fresh water; and*
 - b) the health of people and communities, as affected by contact with fresh water;*
- in sustainably managing the use and development of land, and of discharges of contaminants.*
- Objective A2* *The overall quality of fresh water within a region is maintained or improved while*
- a) protecting the significant values of outstanding freshwater bodies;*
 - b) protecting the significant values of wetlands; and*
 - c) improving the quality of fresh water in water bodies that have been degraded by human activities to the point of being over-allocated.*
- Objective A4* *To enable communities to provide for their economic well-being, including productive economic opportunities, in sustainably managing freshwater quality, within limits.*
- Policy A4* 1. *When considering any application for a discharge the consent authority must have regard to the following matters:*
- a. the extent to which the discharge would avoid contamination that will have an adverse effect on the life-supporting capacity of fresh water including on any ecosystem associated with fresh water and*
 - b. the extent to which it is feasible and dependable that any more than minor adverse effect on fresh water, and on any ecosystem associated with fresh water, resulting from the discharge would be avoided.*
2. *When considering any application for a discharge the consent authority must have regard to the following matters:*
- a. the extent to which the discharge would avoid contamination that will have an adverse effect on the health of people and communities as affected by their contact with fresh water; and*
 - b. the extent to which it is feasible and dependable that any more than minor adverse effect on the health of people and communities as affected by their contact with fresh water resulting from the discharge would be avoided.*
3. *This policy applies to the following discharges (including a diffuse discharge by any person or animal):*
- a. a new discharge or*
 - b. a change or increase in any discharge – of any contaminant into fresh water, or onto or into land in circumstances that may result in that contaminant (or, as a result of any natural process from the discharge of that contaminant, any other contaminant) entering fresh water.*

Policy A7 *By every regional council considering, when giving effect to this national policy statement, how to enable communities to provide for their economic well-being, including productive economic opportunities, while managing within limits.*

Comment

Objectives A1 and A2 and Policy A4 are important because of the nature of the soils and the elevated nitrate concentrations in groundwater in the vicinity. It is important that the discharge be carried out in a manner that does not exacerbate groundwater contamination.

Objective A4 and Policy A7 are supportive of the proposed discharge, in that it assists both the applicant and the landowner with their operations. The landowner receives benefit from the nutrient value of the sludge.

Integrated management

Objective C1 *To improve integrated management of fresh water and the use and development of land in whole catchments, including the interactions between fresh water, land, associated ecosystems and the coastal environment.*

Policy C1 *By every regional council managing fresh water and land use and development in catchments in an integrated and sustainable way, so as to avoid, remedy or mitigate adverse effects, including cumulative effects.*

Comment

These provisions require that the links between land use and water quality are managed. In this case the proposed discharge is to land, so the issues for water quality arise from direct contamination of water and indirect effects arising from nutrient loadings that then give rise to excess leaching, if the discharge is not managed appropriately.

Tāngata whenua roles and interests

Objective D1 *To provide for the involvement of iwi and hapū, and to ensure that tāngata whenua values and interests are identified and reflected in the management of fresh water including associated ecosystems, and decision-making regarding freshwater planning, including on how all other objectives of this national policy statement are given effect to.*

Policy D1 *Local authorities shall take reasonable steps to:*

- a) involve iwi and hapū in the management of fresh water and freshwater ecosystems in the region;*
- b) work with iwi and hapū to identify tangata whenua values and interests in fresh water and freshwater ecosystems in the region; and*
- c) reflect tangata whenua values and interests in the management of, and decision-making regarding, fresh water and freshwater ecosystems in the region.*

Comment

With regard to these provisions I note that the applicant contacted Te Ao Marama Inc prior to lodging the application as part of its consultation. Te Ao Marama Inc was also identified as an affected party and was served notice of the application, but did not submit.

Te Tangi a Tauira is discussed later in this report to further give effect to Objective D1 and Policy D1.

3.6 Relevant provisions of National Environmental Standards and other regulations (Section 104(1)(b)(i) and (ii))

National Environmental Standard for Sources of Human Drinking Water Regulations 2007

The National Environmental Standard for Sources of Human Drinking Water Regulations aim to reduce the risk of drinking water sources being contaminated.

The nearest registered drinking water supply take is a groundwater abstraction for Drummond primary school, about 4.6 km south-west of the discharge area. As drainage at the site is to the south and south-east, it is unlikely that the applicant's discharge would affect the school supply.

The proposed discharge area is about 20 km upstream of the registered human drinking water supply take from the Oreti River for Invercargill City, which is an abstraction that supplies more than 500 people. Operating normally the discharge should not impact water quality at the city's water supply intake. However, the regulations require inclusion of a condition to alert registered drinking water supplies, such as Invercargill City Council, in the event of a spill that may affect them.

Alliance Group Limited also draws water from the Oreti River, about 5 km downstream of the Invercargill City intake. The Alliance Group Limited take is not a registered drinking water supply take, so consideration of effects on the company's supply is not required by the regulations. That said, I believe that it would be appropriate to include a condition that they be alerted if there is a significant spill to water.

There is also a site about 2.4 km south of the proposed discharge area where a company holds a resource consent to take water for bottling. It is not a registered human drinking water supply and I do not believe that it is at risk from the applicant's discharge during normal operation, given the contaminant loading rates and the distance from the bottling site. However, I believe that the consent holder for the bottling site should be included in the condition to alert drinking water sites in the event of a spill.

3.7 Relevant provisions of the Southland Regional Policy Statement (Section 104(1)(b)(v))

Regional Policy Statement

The Southland Regional Policy Statement 2017 became operative on 9 October 2017.

The following objectives and policies in the Regional Policy Statement 2017 are of particular relevance to this application:

Tangata Whenua

Objective TW.2 All local authority resource management processes and decisions take into account iwi management plans.

Objective TW.3 Mauri and wairua are sustained or improved where degraded, and mahinga kai and customary resources are healthy, abundant and accessible to tangata whenua.

- Objective TW.4* *Wāhi tapu, wāhi taonga and sites of significance are appropriately managed and protected.*
- Policy TW.3* *Take iwi management plans into account within local authority resource management decision making processes.*
- Policy TW.4* *When making resource management decisions, ensure that local authority functions and powers are exercised in a manner that:*
- (a) recognises and provides for:*
 - (i) traditional Māori uses and practices relating to natural resources (e.g. mātaítai, kaitiakitanga, manaakitanga, matauranga, rāhui, wāhi tapu, taonga raranga);*
 - (ii) the ahi kā (manawhenua) relationship of tangata whenua with and their role as kaitiaki of natural resources;*
 - (iii) mahinga kai and access to areas of natural resources used for customary purposes;*
 - (iv) mauri and wairua of natural resources;*
 - (v) places, sites and areas with significant spiritual or cultural historic heritage value to tangata whenua;*
 - (vi) Māori environmental health and cultural wellbeing.*
 - (b) recognises that only tangata whenua can identify their relationship and that of their culture and traditions with their ancestral lands, water, sites, wāhi tapu and other taonga.*
- Objective WQUAL.1* *Water quality in the region:*
- (a) safeguards the life-supporting capacity of water and related ecosystems;*
 - (b) safeguards the health of people and communities;*
 - (c) is maintained, or improved in accordance with freshwater objectives formulated under the National Policy Statement for Freshwater Management 2014;*
 - (d) is managed to meet the reasonably foreseeable social, economic and cultural needs of future generations.*
- Policy WQUAL.2* *Maintain or improve water quality, having particular regard to the following contaminants:*
- (a) nitrogen;*
 - (b) phosphorus;*
 - (c) sediment;*
 - (d) microbiological contaminants.*
- Policy WQUAL.8* *Prefer discharges of contaminants to land over discharges of contaminants to water, where:*
- (a) a discharge to land is practicable;*
 - (b) the adverse effects associated with a discharge to land are less than a discharge to water.*
- Policy WQUAL.10* *Manage the siting and operation of activities that result in point source discharges of contaminants to land to ensure that adverse effects on groundwater, surface water and coastal water quality are avoided, remedied or mitigated.*

Policy WQUAL.11	<i>Avoid, as far as practicable, remedy or mitigate the risks that the adverse effects of land use activities and discharges of contaminants have on the sources of community water supplies.</i>
Objective RURAL.2	<i>Safeguard the life-supporting capacity, mauri and health of soils in rural areas, and prevent or minimise soil erosion and sedimentation from land use soil disturbance.</i>
Policy RURAL.1	<i>Recognise that use and development of Southland's rural land resource enables people and communities to provide for their social, economic and cultural wellbeing.</i>
Objective AQ.1	<i>Enable the discharge of contaminants into air while managing the adverse effects of those contaminants on human health and wellbeing, and the environment.</i>
Policy AQ.1	<i>Avoid, remedy or mitigate the adverse effects of discharges of contaminants to air on human health, cultural and amenity values and the environment.</i>

Comment

With regard to Policy TW.3, the provisions of Te Tangi a Tauria are discussed later in this report. I also note that the applicant contacted Te Ao Marama Inc as part of its consultation. The iwi authority was also notified of the application but did not submit. Te Ao Marama Inc has been involved in the development of the regional plans and the types of conditions applied to sludge and effluent discharges to land in a number of other resource consents.

The proposal is consistent with Policy WQUAL.8, which is to prefer that contaminants are discharged to land rather than directly into water. Policy WQUAL.10 then requires that such discharges be managed so as to avoid, remedy or mitigate adverse effects on groundwater and surface water. As has been discussed, the proposed loading rate should ensure that contaminant losses to water are no more than what would already occur under the existing land use.

Effects on community water supplies are unlikely so the discharge does not conflict with Policy WQUAL.11. However, a condition is suggested to alert community supply operators in the event of a spill.

With regard to Objective RURAL.2, the applicant proposes to check the sludge quality monthly, which will allow management of the discharge to avoid soil contamination. This is also important for the landowner, as excess potassium can cause health problems for grazing stock. A condition is suggested to require an annual report summarising if any of the monitored parameters are likely to give rise to adverse soil conditions.

Objective AQ.1 and Policy AQ.1 seek to manage adverse effects from contaminant emissions to air with regard to human health, cultural and amenity values and the environment generally.

3.8 Relevant provisions of the relevant regional plan objectives, policies and rules (Section 104(1)(b)(vi))

The relevant regional plans are the Regional Water Plan for Southland, the proposed Southland Water and Land Plan and the Regional Air Plan for Southland.

In some cases below the policies have been abbreviated to exclude clauses that are not relevant to the application⁷.

Regional Water Plan for Southland

The Regional Water Plan for Southland was notified in 2000 and became operative in January 2010.

The plan contains provisions related to the discharge of contaminants from industrial and trade premises to land. When the plan became operative, those provisions superseded the provisions of the Regional Effluent Land Application Plan with regard to the discharge of effluent or sludge from industrial and trade premises to land.

The objectives and policies of the Regional Water Plan that are relevant to this application are:

- | | |
|--------------|---|
| Objective 8 | <p>(a) <i>To maintain groundwater quality in aquifers that already meet the Drinking-Water Standards for New Zealand 2000; and</i></p> <p>(b) <i>To enhance groundwater quality in aquifers degraded by land use and discharge activities (with the exception of those aquifers where ambient water quality is naturally less than the Drinking-Water Standards for New Zealand 2000) to ensure general compliance with the Drinking-Water Standards for New Zealand 2000 by the year 2010.</i></p> |
| Objective 9A | <i>To manage discharges onto or into land so that the quality and structure of soil resources are maintained.</i> |
| Objective 9B | <i>To manage discharges onto or into land so that adverse effects on human health are avoided.</i> |
| Objective 9C | <p><i>To manage discharges onto or into land so that any adverse effects on:</i></p> <p>(a) <i>the diversity and integrity of habitats and ecosystems; and</i></p> <p>(b) <i>amenity and historic heritage values are avoided, remedied or mitigated to ensure that these values are maintained or enhanced.</i></p> |
| Policy 1A | <i>Any assessment of an activity covered by this plan must take into account any relevant Iwi Management Plan.</i> |

⁷ Full versions of the policies can be viewed at:

- https://www.es.govt.nz/Document%20Library/Plans,%20policies%20and%20strategies/Regional%20plans/Regional%20Water%20Plan/regional_water_plan.pdf
- [https://www.es.govt.nz/Document%20Library/Plans,%20policies%20and%20strategies/Regional%20plans/Southland%20Water%20and%20Land%20Plan/Proposed%20Southland%20Water%20and%20Land%20Plan%20-%20Part%20A%20-%20Decisions%20Version%20\(4%20April%202018\)%20PDF.pdf](https://www.es.govt.nz/Document%20Library/Plans,%20policies%20and%20strategies/Regional%20plans/Southland%20Water%20and%20Land%20Plan/Proposed%20Southland%20Water%20and%20Land%20Plan%20-%20Part%20A%20-%20Decisions%20Version%20(4%20April%202018)%20PDF.pdf)

- Policy A4 *(discussed in the section on the National Policy Statement for Freshwater Management)*
- Policy 7 *Prefer discharges to land over discharges to water where this is practicable and the effects are less adverse.*
- Policy 25 *To avoid, remedy or mitigate the adverse effects arising from point source and non-point source discharges so that there is no deterioration in groundwater quality after reasonable mixing, unless it is consistent with the promotion of the sustainable management of natural and physical resources, as set out in Part 2 of the Resource Management Act 1991, to do so.*
- Policy 31A *Match the level of management that is required for discharges of contaminants onto or into land to the level of environmental risk posed by the following risk factors:*
- (a) Nature and quantity of contaminants in the discharge*
 - (b) Sloping land*
 - (c) Soils with artificial drainage or coarse structures*
 - (d) Soils with impeded drainage or low infiltration rates*
 - (e) Well drained soils*
 - (f) Climate*
 - (g) Proximity to groundwater*
 - (h) Proximity to surface water*
 - (i) Soil's current physical, chemical and biological characteristics and its potential to leach nutrients*
 - (j) Natural hazards (for example, flooding and erosion).*
- Policy 31C *Manage discharges of contaminants onto or into land to avoid, remedy or mitigate adverse effects, including on:*
- (a) soil quality;*
 - (b) amenity values;*
 - (c) habitats, ecosystems and indigenous biological diversity;*
 - (d) historic heritage, cultural and traditional values;*
 - (e) natural character;*
 - (f) outstanding natural features.*
- Policy 31D *Encourage the beneficial reuse of materials where this is appropriate, and promote discharges of these materials onto or into land to maximise the potential reuse of the nutrients and water contained in the discharge.*

Comment

The discharge is consistent with Policy 7.

Policy 31D is also supportive of the discharge, in that the fertiliser value of the sludge will be utilised for pasture production, rather than be discharged in a wasteful manner (such as to landfill) or in a way that has greater adverse effect on the environment (discharge to water).

Policies 25 and 31C seek to avoid, remedy or mitigate specific adverse effects. Based on the nature and method of the discharge, buffer distances and loading rates, adverse effects on groundwater quality, soil quality and amenity values should be no more than minor. In Section 14 of the application the applicant suggested conditions, including Condition 6, which excludes discharge over areas identified as having a high

nitrate concentration. As a result, the southeast corner of the potential discharge area has been excluded from the plan that I have attached to the draft conditions.

Policy 31A seeks to align management of the discharge with risk factors. The elevated nitrate concentrations in groundwater in the area, the issues with deep drainage and soil cracking at the site, and the occurrence of multiple waste discharges on the property, are all factors that may warrant a greater level of management. That may take the form of more monitoring or a shorter consent duration, which then requires reappraisal of the discharge and its effects if there is an application for a further discharge permit. Against that, the applicant has proposed five yearly reappraisal and reporting of alternative methods of discharge. That gives some weight to the requested consent duration, as the method of discharge will be kept up-to-date.

Proposed Southland Water and Land Plan

The proposed Southland Water and Land Plan was notified by the Council on 3 June 2016 and submissions received. Following a hearing, the decision on the plan was released on 4 April 2018. Appeals have been received on the decision.

The objectives and policies of the proposed Southland Water and Land Plan that are relevant to this application are listed below. These are the current provisions, not those that were listed in the proposed plan prior to release of the decision.

The provisions marked with an asterisk (*) have been appealed and have less weight than the corresponding provisions of the Regional Water Plan or the Regional Effluent Land Application Plan.

- | | |
|--------------|---|
| Objective 1 | <i>Land and water and associated ecosystems are sustainably managed as integrated natural resources, recognising the connectivity between surface water and groundwater, and between freshwater, land and the coast.</i> |
| Objective 2* | <i>Water and land is recognised as an enabler of primary production and the economic, social and cultural wellbeing of the region.</i> |
| Objective 6* | <i>There is no reduction in the overall quality of freshwater, and water in estuaries and coastal lagoons, by:</i>
(a) <i>maintaining the quality of water in waterbodies, estuaries and coastal lagoons, where the water quality is not degraded; and</i>
(b) <i>improving the quality of water in waterbodies, estuaries and coastal lagoons, that have been degraded by human activities.</i> |
| Objective 7* | <i>Any further over-allocation of freshwater (water quality and quantity) is avoided and any existing over-allocation is phased out in accordance with freshwater objectives, freshwater quality limits and timeframes established under Freshwater Management Unit processes.</i> |
| Objective 8 | (a) <i>The quality of groundwater that meets both the Drinking Water Standards for New Zealand 2005 (revised 2008) and any freshwater objectives, including for connected surface waterbodies, established under Freshwater Management Unit processes is maintained; and</i>
(b) <i>The quality of groundwater that does not meet Objective 8(a) because of the effects of land use or discharge activities is progressively improved so</i> |

that:

- (1) groundwater (excluding aquifers where the ambient water quality is naturally less than the Drinking Water Standards for New Zealand 2005 (revised 2008)) meets the Drinking Water Standards for New Zealand 2005 (revised 2008); and
- (2) groundwater meets any freshwater objectives and freshwater quality limits established under Freshwater Management Unit processes.

Objective 13*	<i>Enable the use and development of land and soils to support the economic, social, and cultural wellbeing of the region.</i>
Objective 13A*	<i>The quantity, quality and structure of soil resources are not irreversibly degraded through land use activities or discharges to land.</i>
Objective 13B*	<i>The discharges of contaminants to land or water that have significant or cumulative adverse effects on human health are avoided.</i>
Objective 18*	<i>All activities operate in accordance with “good management practice” or better to optimise efficient resource use, safeguard the life supporting capacity of the region’s land and soils, and maintain or improve the quality and quantity of the region’s water resources.</i>
Policy A4	<i>(discussed earlier in the section on the National Policy Statement for Freshwater Management)</i>
Policy 2	<p><i>Any assessment of an activity covered by this Plan must:</i></p> <ol style="list-style-type: none"> <i>1. take into account any relevant iwi management plan; and</i> <i>2. assess water quality and quantity, taking into account Ngāi Tahu indicators of health.</i>
Policy 5*	<p><i>In the Central Plains physiographic zone, avoid, remedy, or mitigate adverse effects on water quality from contaminants, by:</i></p> <ol style="list-style-type: none"> <i>1. requiring implementation of good management practices to manage adverse effects on water quality from contaminants transported via artificial drainage and deep drainage;</i> <i>2. having particular regard to adverse effects on water quality from contaminants transported via artificial drainage and deep drainage when assessing resource consent applications and preparing or considering Farm Environmental Management Plans; and</i> <i>3. decision makers generally not granting resource consents for additional dairy farming of cows or additional intensive winter grazing where contaminant losses will increase as a result of the proposed activity.</i>
Policy 10*	<p><i>In the Oxidising physiographic zone, avoid, remedy, or mitigate adverse effects on water quality from contaminants, by:</i></p> <ol style="list-style-type: none"> <i>1. requiring implementation of good management practices to manage adverse effects on water quality from contaminants transported via deep drainage, and overland flow and artificial drainage where relevant;</i> <i>2. having particular regard to adverse effects on water quality from contaminants transported via deep drainage, and overland flow and artificial drainage where relevant when assessing resource consent</i>

- applications and preparing or considering Farm Environmental Management Plans; and*
3. *decision makers generally not granting resource consents for additional dairy farming of cows or additional intensive winter grazing where contaminant losses will increase as a result of the proposed activity.*
- Policy 13*
1. *Recognise that the use and development of Southland’s land and water resources, including for primary production, enables people and communities to provide for their social, economic and cultural wellbeing.*
 2. *Manage land use activities and discharges (point source and non-point source) to enable the achievement of Policies 15A, 15B and 15C.*
- Policy 14*
- Prefer discharges of contaminants to land over discharges of contaminants to water, unless adverse effects associated with a discharge to land are greater than a discharge to water. Particular regard shall be given to any adverse effects on cultural values associated with a discharge to water.*
- Policy 16A*
- Minimise the adverse environmental effects (including on the quality of water in lakes, rivers, artificial watercourses, modified watercourses, wetlands, tidal estuaries, salt marshes and groundwater) by requiring the adoption of the best practicable option to manage the treatment and discharge of contaminants derived from industrial and trade processes.*
- Policy 39
- When considering any application for resource consent for the use of land for a farming activity, the Southland Regional Council should consider all adverse effects of the proposed activity on water quality, whether or not this Plan permits an activity with that effect.*
- Policy 40*
- When determining the term of a resource consent consideration will be given, but not limited, to:*
1. *granting a shorter duration than that sought by the applicant when there is uncertainty regarding the nature, scale, duration and frequency of adverse effects from the activity or the capacity of the resource;*
 2. *relevant tangata whenua values and Ngāi Tahu indicators of health;*
 3. *the duration sought by the applicant and reasons for the duration sought;*
 4. *the permanence and economic life of any capital investment;*
 5. *the desirability of applying a common expiry date for water permits that allocate water from the same resource or land use and discharges that may affect the quality of the same resource;*
 6. *the applicant’s compliance with the conditions of any previous resource consent, and the applicant’s adoption, particularly voluntarily, of good management practices; and*
 7. *the timing of development of FMU sections of this Plan, and whether granting a shorter or longer duration will better enable implementation of the revised frameworks established in those sections.*
- Policy 41
- Consider the risk of adverse environmental effects occurring and their likely magnitude when determining requirements for auditing and supply of monitoring information on resource consents.*

Comment

The provisions of Te Tangi a Taurira are considered below to give effect to Policy 2.

Policy 13(1) recognises that the discharge contributes to the economic wellbeing of the community.

The proposed discharge is to land, which is consistent with Policy 14.

Objective 10, and Policies 5 and 10, require implementation of good management practices, and that particular regard be given to adverse effects on water quality. Deep drainage effects appear to be of particular concern given the soil characteristics and the elevated nitrate levels in groundwater at properties nearby. In this case, the activity that appears at odds with good management practice is the discharge of the sludge to bare soil during cultivation. Without uptake from plants, this is likely to lead to leaching of nitrate nitrogen into groundwater that is sensitive to further nitrate contamination.

Policy 39 is specific to the use of land for a farming activity. The application is for a discharge, so the policy does not directly apply in this instance. Therefore policy does not prevent the hearing commissioner from applying s104(2) of the Resource Management Act with regard to effects where a rule permits an activity with that effect. In this case nutrient losses to water arising from the discharge of fertiliser, which is permitted in the Regional Water Plan and the proposed Southland Water and Land Plan, would be particularly relevant to the effects of the nutrient load from the sludge.

If the application is approved, Policy 40 provides guidance on matters to be considered when setting the consent period. With regard to the listed factors:

- (1) The elevated nitrate concentrations in groundwater at bores near the property are a significant issue that may otherwise warrant refusal of the application. However the discharge is not expected to increase nutrient leaching to groundwater. Rather it will fit within the loading allowed on the area from multiple nutrient sources, such as whey and FDE discharges. It is the land use that is critical to contaminant losses to groundwater, and it is subject to separate rules, and upcoming nutrient limits. I don't believe that a shorter term for the proposed sludge discharge is a useful way of addressing the issue of groundwater nitrate concentrations. If the commissioner considers that the discharge will exacerbate effects on groundwater quality, then the application should be declined.

The discharge of sludge will be managed in a similar manner to other common forms of discharge, particularly farm dairy effluent (FDE) discharges, so that adverse effects are avoided as much as practicable. In that regard there is reasonable certainty about the discharge and its effects. A key mitigation measure for FDE discharges is storage, so that the discharge can be deferred in adverse conditions. In this case that would mean retention of the sludge at the applicant's Awarua site, or temporary storage within the tanker.

FDE discharges have generally been approved for ten-year periods, due to the history of compliance issues for such discharges across the region and because ten years approximately aligns with periodic shifts in methodology, equipment and policy. However compliance for FDE discharges has improved (particularly since storage ponds were required) and the applicant is proposing both regular monitoring of the sludge and periodic review of the discharge methodology. Therefore the factors that limit typical FDE discharges are reduced in this instance.

The submitters have raised concerns about odour effects. The applicant has described the odour of the sludge when discharged, and assessed the effect as being less than minor beyond the boundary. While I haven't observed the sludge discharge, I note that there have been no odour complaints recorded for applicant's discharge at a site near Garston. So I don't believe that there is significant uncertainty that the discharge will comply with the limit on offensive or objectionable odour that causes an adverse environmental effect.

- (2) The discharge is to land, and the discharge rate is designed to fit with the characteristics of the soil and topography of the site, both of which are consistent with policies of Te Tangi a Taurira. Policy 3.5.4.13 refers to terms of 25 years or less for industrial discharges, coupled with regular reviews to ensure that technology and methodology are up to date. The indicators of health are listed in a later section of this report, but key matters are water quality and whether water is safe to drink. While the discharge is not expected to adversely affect water quality, there are already wells in the vicinity with groundwater nitrate concentrations at or above the drinking water guideline.
- (3) The applicant is seeking a period of 25 years. Page 55 of the application refers to 25 years being the maximum term that could be supported by the iwi management plan, and that the applicant considers that the discharge is of low environmental risk. The applicant also notes that the proposal is similar to other activities that are permitted and that compliance reports will be provided annually.
- (4) Section 5.3 of the application refers to the use of contractors to discharge the sludge. Therefore there will be little in the way of capital investment to facilitate the discharge.
- (5) With regard to alignment with other discharges, there are two farm dairy effluent (FDE) discharges over parts of proposed discharge area, and a resource consent for whey discharge as well. The FDE discharges expire in September 2020 and July 2022, and the whey discharge expires in July 2049. The 2049 date exceeds the term sought by the applicant, so alignment with the whey discharge is not possible. Setting a term that expires in 2020 or 2022 would be almost punitive. If there are applications for further resource consents for the FDE discharges to the area that also receives the sludge, then those resource consents can include conditions to control the cumulative nutrient load, which reduces the need for a common expiry date.
- (6) This will be a new discharge, so there is no compliance history for it. With regard to adoption of good management practices, I note that the applicant is proposing a 5-yearly review of the methodology so that the system can be kept up to date.
- (7) The Council's Progressive Implementation Programme for Implementing the Policies of the National Policy Statement for Freshwater Management 2014 states that catchment limits for the Oreti Freshwater Management Unit will be developed by July 2020 and implemented by December 2025. That would suggest a consent period that ends within a few years of the catchment limits. However, as nutrient losses will primarily be addressed through land use controls, and because the applicant will carry out regular reviews of the discharge methodology, the catchment limit setting process is probably unlikely to require changes to the discharge.

Policy 40 does not prevent other factors being taken into account.

The consent duration is a matter for the hearing commissioner to determine. While I consider that the elevated nitrate concentrations in groundwater and streams in the vicinity are a significant concern, I have not identified factors that would definitely warrant a shorter consent period than the term sought by the applicant.

Policy 41 seeks to ensure that monitoring is appropriate to the nature of the discharge and its effects.

Regional Air Plan

The Regional Air Plan became operative in October 2016. The plan is effectively in two parts. The second part of the plan (Stage 2) is made up of provisions from the Regional Air Quality Plan 1999 and relates to emissions from industrial or trade premises or processes.

As discussed in Section 7.2.3 of the application, the emission of contaminants to air arising from the discharge of sludge from an industrial wastewater treatment plan to land is a discretionary activity under Rule 5.5.5 of the Regional Air Plan.

The objectives and policies of Stage 2 of the Regional Air Plan that are relevant to this application are:

- | | |
|-----------------|--|
| Objective 5.2.1 | <i>To avoid, remedy or mitigate any adverse effects upon the environment (including the health of people and communities and amenity values) from the discharges of contaminants into air from industrial or trade premises.</i> |
| Objective 5.2.2 | <i>To ensure that Maori cultural and traditional beliefs are recognised and provided for when dealing with discharges of contaminants into air from industrial or trade premises.</i> |
| Policy 5.3.1 | <i>Protect the environment from adverse effects from the discharge of contaminants into air from industrial or trade premises.</i> |
| Policy 5.3.5 | <i>Recognise Maori cultural and traditional values with regard to the air environment and ensure that these are taken into account with regard to discharges to air from industrial or trade premises.</i> |
| Objective 7.2.1 | <i>To protect the health of people and communities from any adverse effects from odour discharges.</i> |
| Policy 7.3.1 | <i>Avoid, remedy or mitigate the impact on the health of people and communities from offensive or objectionable odours.</i> |
| Policy 7.3.2 | <i>Avoid, remedy or mitigate the impact of offensive or objectionable odours on areas of cultural or amenity value.</i> |

Comment

The contaminant emissions of concern with regard to the applicant's proposed discharge are odour and spray drift. The policy provisions seek to avoid, remedy or mitigate adverse effects arising from odour emissions, and to protect the environment from the adverse effects of other emissions. Section 10 of the application discusses mitigation measures, such as low-pressure spray application and buffer distances to reduce odour and spray drift effects.

To give effect to Objective 5.2.2 and Policy 5.3.5, the provisions of Te Tangi a Tauria are considered in a later section of this report.

Appendix F of Stage 2 of the Regional Air Plan provides guidance on buffer distances for particular industrial emissions. However, none of the suggested buffer distances are specific to the applicant's discharge.

I have omitted reference to a policy that refers to greenhouse gas emissions as s104E of the Resource Management Act prevents consideration of the effects of such emissions on climate change.

3.9 Any other matters considered relevant and reasonably necessary to determine the application (Section 104(1)(c))

Te Tangi a Tauria

I consider that the provisions of Te Tangi a Tauria, the Iwi Management Plan for Southland, are relevant and reasonably necessary to the determination of this application, particularly given Policy 1A of the Regional Water Plan and Policy 2 of the proposed Southland Water and Land Plan.

The policies relevant to this application are:

General Water Policy

- Policy 3.5.10.1 *The role of Ngāi Tahu ki Murihiku as kaitiaki of freshwater must be given effect to in freshwater policy, planning and management.*
- Policy 3.5.10.8 *Protect and enhance the customary relationship of Ngāi Tahu ki Murihiku with freshwater resources.*

Industry

- Policy 3.5.4.6 *Promote the adoption of creative and innovative strategies for waste reduction, recycling, reducing emissions, and community involvement.*
- Policy 3.5.4.13 *Advocate for consent durations of 25 years or less for industrial operations. Consent conditions should require operators to periodically review available technology, and provide a report indicating if better technology is available. Reports should highlight the use or otherwise of new or better technologies.*
- Policy 3.5.4.14 *The water quality of any surface waterbody or groundwater resource must not be deteriorated to any extent (following a zone of reasonable mixing) due to industrial activity. The size of a zone of reasonable mixing needs to be determined on a case-by-case basis of which Ngāi Tahu ki Murihiku must be consulted. Factors influencing zone size includes:*
- effluent flow rate and concentration;*
 - design of the outfall;*
 - depth, velocity and rate of turbulent mixing of the receiving water; and*
 - ambient concentrations in the receiving water.*

Policy 3.5.4.15 *Apply Ngāi Tahu ki Murihiku policies on wastewater disposal (Section 3.5.2) and solid waste management (Section 3.5.3) to discharge consent applications for industrial activities.*

Policy 3.5.4.16 *Require that industry develop environmental management plans, including contingency plans to cope with any faults, breakdowns, natural disasters, or extreme weather events, and avoid any serious environmental effects.*

Wastewater Disposal

Policy 3.5.2.5 *Assess proposed wastewater discharge activities in terms of:*

- a. type/ nature of the discharge;*
- b. location and sensitivity of the receiving environment;*
- c. cultural associations with location of operations;*
- d. actual and potential effects on cultural values;*
- e. available best practice technology;*
- f. mitigation that can occur (e.g. using plants to filter waste, discharging at specific times to minimise impact, treatment options)*
- g. community acceptability;*
- h. cost.*

Policy 3.5.2.6 *Avoid the use of water as a receiving environment for the direct, or point source, discharge of contaminants. Even if the discharge is treated and therefore considered “clean”, it may still be culturally unacceptable. Generally, all discharge must first be to land.*

Policy 3.5.2.10 *Require that the highest environmental standards are applied to consent applications involving the discharge of contaminants to land or water (e.g. standards of treatment of sewage).*

Policy 3.5.2.11 *Require soil risk assessments (type and percolation of the soils) prior to consent for discharge to land, to assess the suitability and capability of the receiving environment. Wastewater loading rates (mm/day) must reflect effluent quality and soil properties.*

Policy 3.5.2.13 *Require the use of buffer zones, bunds and other mechanisms to prevent wastewater from entering waterways.*

Policy 3.5.2.15 *Any discharge activity must include a robust monitoring programme that includes regular monitoring of the discharge and the potential effects on the receiving environment. Monitoring can confirm system performance, and identify and remedy any system failures.*

Air

Policy 3.2.1.2 *Ensure that the processes used during activities that discharge to air are supervised and monitored to ensure that contaminant emissions are minimised.*

Policy 3.2.1.7 *Best management methods for the application of fertiliser and effluent spread from farming operations shall be encouraged. Consideration should include factors*

relating to wind velocity and direction, groundwater and surface water proximity, application rates and topography.

- Policy 3.2.1.9 *Discourage and prevent discharges to air that will have impacts on cultural well-being and community health.*
- Policy 3.2.1.10 *Ensure that discharges of contaminants into the air such as dust, smoke and odour do not affect the amenity values of areas which are of cultural and historical significance to iwi.*
- Policy 3.2.1.12 *Engage Ngāi Tahu ki Murihiku early in the consenting and permitting process for activities whereby there is discharge to air, particularly agrichemical and aerial spraying/topdressing and activities causing offensive odours. Discharges must not cause objectionable or offensive odour to the extent that it causes adverse effects beyond the boundaries of the consent holder's property.*

Stream Health Indicators

Section 3.5.11 of Te Tangi a Tauria contains the following list of indicators used by tangata whenua to assess stream health:

- shape of the river;
- sediment in the water;
- water quality in the catchment;
- flow characteristics;
- flow variations;
- flood flows;
- sound of flow;
- movement of water;
- fish are safe to eat;
- uses of the river;
- safe to gather plants;
- indigenous vs. exotic species;
- natural river mouth environment;
- water quality;
- abundance and diversity of species;
- natural and extent of riparian vegetation;
- use of river margin;
- temperature;
- catchment land use;
- riverbank condition;
- water is safe to drink;
- clarity of the water;
- Is the name of the river an indicator?

Comment

Policy 3.5.4.13 seeks a consent duration of 25 years or less for industrial activities, such as the sludge discharge. The policy also seeks periodic review of technology so that better technology can be adopted over the consent period. The applicant has proposed a term and conditions that are consistent with this policy.

Applying the sludge to farmland, so that the nutrient value of the material can be utilised beneficially, is consistent with Policy 3.5.4.6.

The proposed discharge is to land, and the application rate is appropriate to the soil and topography, which is consistent with Policy 3.5.2.6. Regarding Policy 3.5.2.11, I note that the applicant has considered soil types in the area, and that the application depth or thickness is consistent with the amount that would generally be allowed for an FDE discharge to the soils on the site.

There are high groundwater nitrate concentrations at bore(s) in the vicinity. However, by managing the nutrient loading to fit within the limit for other discharges on the site, the discharge is not expected to increase contaminant losses to water. In other words, if the sludge discharge were not to occur, the same nitrogen loading, and presumably the same losses to water, would occur due to FDE, whey or fertiliser application. Therefore, the discharge will not conflict with Policies 3.5.4.14 and 3.5.2.6.

The applicant has suggested buffer distances from waterways, which is consistent with Policy 3.5.2.13 and monitoring conditions, which is consistent with Policy 3.5.2.15.

With regard to Policy 3.5.4.16, the application refers to the use of an operational management plan.

Policy 3.2.1.12 requires that emissions to air do not cause offensive or objectionable odour to the extent that it causes adverse effects beyond the site boundary. Policy 3.5.2.1.7 seeks adoption of best management practices.

Te Tangi a Tauria lists indicators for assessing stream health. In this case the issue is primarily groundwater quality, but water quality and whether water is safe to drink are key factors for both groundwater and surface water.

Good Practice Guide for Assessing and Managing Odour

The Ministry for the Environment released the “Good Practice Guide for Assessing and Managing Odour” in November 2016. I consider that reference to the guideline is relevant and reasonably necessary to the determination of this application, particularly with regard to the threshold of odour effects.

The guideline (pages 24 & 25) explains that:

“It is usually insufficient for an odour to simply be detected at or beyond the boundary of a site. The odour must be sufficient to create an adverse effect and the odour must be objectionable or offensive, as determined by the common law concept of ‘the ordinary reasonable person’. Some odours, if they have health effects due to their constituent compounds, may be noxious or dangerous at low levels. However, this requires assessment against numeric air assessment criteria rather than a FIDOL assessment.”

Determining if an odour is offensive or objectionable (and so a breach of consent) is always dependent on all of the FIDOL factors, and proof is required before enforcement action can be taken. For a breach of the condition to occur, this generally requires a council officer to validate an odour complaint by determining the odour was offensive or objectionable in that instance.”

The above text refers to FIDOL assessment, which involves reference to the following factors⁸:

- frequency of odour events;
- intensity of odour;
- duration of each odour event;
- “offensiveness” or intrinsic character of the odour, also called the hedonic tone;
- location of the odour, in particular the sensitivity of the receiving environment.

Section 3.2.1 on page 24 of the guideline recommends the following condition to manage offsite odour effects:

There shall be no noxious, dangerous, offensive or objectionable odour to the extent that it causes an adverse effect at or beyond the boundary of the site.

3.10 Section 105 matters relevant to discharge or coastal permits

Section 105 matters need to be considered as the application is for a discharge that would contravene Section 15. Under Section 105, the consent authority must have regard to:

- (a) the nature of the discharge and the sensitivity of the receiving environment to adverse effects;
- (b) the applicant’s reasons for the proposed choice; and
- (c) any possible alternative methods of discharge, including discharge into any other receiving environment.

The nature of the discharge is a sludge material and the general composition has been listed earlier in this report. The overall scale is about 4,000 m³ per year. The receiving environment is land, generally pasture or land prior to cultivation. The site is sensitive to leaching of contaminants, which would affect both groundwater and surface water.

Section 5.2 discusses alternatives to the proposed discharge, mainly discharge to land elsewhere. The applicant has chosen the discharge as an appropriate method of discharge that will have no more than minor adverse effect on the environment, and be beneficial to the landowner.

3.11 Section 107 restriction on grant of certain discharge permits

Section 107(1) states that a discharge permit should not be approved if, after reasonable mixing, the contaminant or water discharged (either by itself or in combination with the same, similar, or other contaminants or water), is likely to give rise to all or any of the following effects in the receiving waters:

- (c) *The production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials:*
- (d) *Any conspicuous change in the colour or visual clarity:*
- (e) *Any emission of objectionable odour:*
- (f) *The rendering of fresh water unsuitable for consumption by farm animals:*
- (g) *Any significant adverse effects on aquatic life.*

⁸ Page 23, Good Practice Guide for Assessing and Managing Odour, (2016), Ministry for the Environment, Wellington

Comment

As has been discussed, the discharge is to land and will be subject to buffer distances and application limits to ensure that adverse effects on water quality are, as far as practicable, avoided. The nutrient loading from the sludge discharge will not exceed 150 kg of nitrogen per hectare, which should ensure that the discharge does not exceed what would be expected to be applied as fertiliser to maintain soil fertility. Therefore I don't expect that the discharge will cause the effects described in s107(1) of the RMA in either groundwater or surface water.

To address the cumulative effects of other activities on the property the proposed conditions require that the sludge only be applied to land where no other waste has been discharged in the previous 12 months. I note that wastes could be applied afterwards, but the resource consent can only control the sludge discharge relative to other activities. Section 6.10 of the application indicates that issues with loadings from other discharges will be addressed through the management plan. The loading rates could be addressed through a s128 review of the resource consents for the other discharges. However, I note that there is also a condition on the whey discharge to avoid application where other wastes have been applied, and that the FDE discharges will expire by July 2022.

Fertiliser can be applied to the proposed discharge area as a permitted activity under Rule 10 of the Regional Water Plan and Rule 14 of the proposed Water and Land Plan. The sludge should provide nutrients to the pasture, meaning that less fertiliser is needed to maintain soil fertility. While the conditions suggested for the sludge discharge do not apply limits to fertiliser use, I note that excessive fertiliser use would be wasteful and costly to the landowner, and that the overall farming activity will be subject to an Environmental Management Plan once Rule 20 of the proposed Southland Water and Land Plan becomes operative.

4. Recommendations

4.1 Whether to grant

I recommend that the application be granted.

In terms of the manner and depth of sludge application, and the use of buffer distances, the discharge can be likened to a farm dairy effluent (FDE) discharge and managed in a similar manner.

The area is sensitive to any increase in contaminant losses to water, because both groundwater and surface water in the vicinity have elevated nitrate concentrations. As pointed out in the submissions, high nitrate concentrations in drinking water supply bores pose a health risk, but elevated nitrates in surface water can also impact on fish species. However, controls on the sludge application, buffer distances, loading rates and soil conditions when the discharge may occur should ensure that the sludge discharge will not exacerbate contaminant losses to water.

As stated above, I have concerns about the proposed sludge discharge to bare soil during cultivation and the risk of contaminant bypass flow where soils are subject to cracking in dry conditions. Therefore, I suggest that the sludge discharge be restricted to pasture areas, and that an inspection of ground conditions be carried out prior to each discharge.

In this case, the nitrogen concentration of the sludge is about three times that for FDE, but the consent holder can control the nutrient loading to comply with the 150 kg of nitrogen per hectare per year limit that is applied to FDE and whey discharges over the proposed sludge discharge area.

The other wastes that are applied the proposed discharge area are a complicating factor. The resource consent cannot control discharges that are authorised separately. However, as discussed earlier in this report, a condition is proposed to prevent the sludge discharge where there has been a recent application of other effluent or sludge, primarily to avoid an excessive cumulative nutrient load. The resource consent for the whey discharge on the site has a similar condition. The FDE discharge consents do not, but will expire in 2020 and 2022, and any future resource consents for those discharges would include provisions relative to the whey and sludge discharges. It is an important issue, and if the commissioner is not satisfied that the discharge can operate without excessive nutrient loading onto any land area, then the application should be declined.

In terms of overall activities on the site, land use activities, and the diffuse discharge of contaminants from them, are often the key sources of nutrient losses to water from a farm, and are subject to other rules that will come fully into effect when the proposed Southland Water and Land Plan becomes operative. One of the requirements of the land use rule is for the farm to have a management plan that incorporates a nutrient budget and good management practices, so the farm management will have to recognise the nutrient loading from the sludge discharge. The Council has also signalled that it will develop and implement catchment limits by December 2025, so that the entirety of losses to water from the farm will be operating within limits.

Discussion of the land use rules raises another matter. At present the farm can operate under s20A of the Resource Management Act without needing a farm environmental plan or a resource consent for land use, which are requirements under Rule 20 of the proposed Southland Water and Land Plan for particular farming activities. I have taken the view that the sludge discharge will not change the effects of the land use to an extent that the character, intensity and scale of its effects on the environment are different than they were prior to notification of the proposed plan. But I have done so on the basis that the sludge discharge will fit within same the nitrogen loading limit that applies to FDE and whey discharges, and that the application states that the total loading will not be increased above that limit as a result of the sludge discharge⁹. If the Hearing Commissioner considers that the sludge discharge will increase nutrient losses to water, but chooses to approve the application, then the landowner would probably lose rights of continuance under s20A with regard to Rule 20 of the proposed Southland Water and Land Plan and may then require a land use consent for a farming activity.

The applicant has also applied for a resource consent for emissions to air from the sludge discharge operation, in particular odour. It is likely that there will be some odour but that, based on a similar discharge elsewhere, any odour effect would be no more than minor beyond the property boundary. The applicant has proposed buffer distances to ensure that sensitive areas, particularly dwellings, are protected from any odour that does occur. It would still be appropriate to apply a condition that offensive or objectionable odour shall not cause an adverse effect beyond the boundary of the site.

With regard to consent period, the applicant is seeking 25 years. I have discussed the factors listed in Policy 40 of the proposed Southland Water and Land Plan earlier in this report.

⁹ Section 4.3 of the application

Overall, I believe that the application can be approved, but that there are issues that the Hearing Commissioner must be satisfied about. The application is for a discretionary activity, so the Hearing Commissioner can refuse or grant the application and impose conditions. I have included draft conditions in the appendices in the event that the Hearing Commissioner chooses to grant the application.



Stephen West
Principal Consents Officer



Aurora Grant
Acting Consents Manager

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