

Dairy Green Ltd

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

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Supplementary Information

- **Water Permit – Replacement of 204547**

Farm Location: Charlton Siding Road, Gore

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A. Overview

This application is for resource consent under Rule 35(b) of the Proposed Southland Water and Land Plan 2016 (hereafter referred to as “the Proposed Plan”), for the ongoing discharge of agricultural effluent to land, and under Rule 23(d) of the Regional Water Plan 2010 for the ongoing abstraction of up to 60,000 litres of groundwater per day for stock water and dairy shed use.

Groundwater abstraction:

- Under Rule 54 of the Proposed Southland Water and Land Plan, groundwater abstraction for 500 cows on the property is a permitted activity provided 120 L maximum per cow per day is abstracted; resource consent is not required for this activity.
- Under Rule 23 of the Regional Water Plan, a groundwater take of 60,000 L per day is a discretionary activity and requires resource consent.

Council policy directs that the highest activity level must be used, therefore Rule 23 of the Regional Water Plan applies and resource consent for groundwater abstraction is required.

Consent details:

- Replace water permit **204547** to allow for groundwater abstraction for 500 cows.

An existing groundwater take consent (204547) provides for the abstraction of 60,000 litres per day of groundwater for the dairy operation. No change to this volume is required. Resource consent is required as the abstraction is considered a discretionary activity under Rule 23 of the Southland Regional Water Plan 2010.

B. Consent Required

The Proposed Southland Water and Land Plan 2016 was notified on 3 June 2016. In accordance with Section 86B(1)(a) and (3) of the Resource Management Act 1991, all provisions of the Proposed Plan have had legal effect since this date.

The accepted convention for activities where more than one consent category applies is to treat the application as one requiring overall assessment on the basis of the most restrictive activity.

Rule 54 of the Proposed Plan manages the abstraction and use of groundwater. Under this rule groundwater abstraction for 500 cows on the property is a permitted activity provided only a 120 L maximum per cow per day is abstracted; resource consent is not required for this activity. However, under Rule 23 of the Regional Water Plan, a groundwater take over 20,000 L per day is a discretionary activity and requires resource consent. Applying the accepted convention discussed above, the abstraction and use of groundwater is considered a discretionary activity.

Consent durations of 10 years are proposed for both the applications for replacement Discharge and Water Permits.

C. Statutory Considerations

Schedule 4 of the RMA requires that an assessment of the activity against the matters set out in Part 2 and any documents referred to Section 104. Sections 104B and 104D of the Act set out the matters that, subject to Part 2, the consent authority must have regard to when considering an application for discretionary and non-complying activities. Sections 105 and 107 set out additional matters the consent authority must have regard to when considering applications for discharge permits to do something that would otherwise contravene Section 15. An assessment of each of these matters follows:

Part 2 of the RMA

The activity is considered to represent an efficient use of a natural resource that will give rise to significant positive benefits in terms of providing for the social and economic wellbeing of the applicants and the wider regional economy. There is, however, the potential for adverse effects on the environment to arise, including on water quality. However, it is considered that the effects of the activities have been adequately identified and assessed in the Assessment of Environmental Effects in Section 7 below and that such effects will be no more than minor.

Section 6 of the RMA lists the matters of national importance that a consent authority shall recognise and provide for when considering applications for resource consent. The relevant matters under Section 6 to this proposal are considered to be:

- (a) the preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use, and development:
- (b) the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, wai tapu, and other taonga:

It is considered that the proposed activities do not impact directly on the coastal environment, wetlands, and lakes and rivers and their margins, although there is potential for adverse effects on the wider receiving environment which is inclusive of some of these features. However, as is discussed in Section 7 below, the actual and potential adverse effects of the activities are considered to be no more than minor.

Section 7 of the Act lists a number of other matters that a consent authority must have particular regard to when considering applications for resource consent. The matters in Section 7 that are considered relevant to this application are:

- (a) kaitiakitanga:
 - (aa) the ethic of stewardship:
 - (b) the efficient use and development of natural and physical resources:
 - (c) the maintenance and enhancement of amenity values:
 - (d) intrinsic values of ecosystems:
 - (e) maintenance and enhancement of the quality of the environment:
 - (f) any finite characteristics of natural and physical resources:
 - (g) the protection of the habitat of trout and salmon:

For the reasons discussed in Section 7 of this report below, the proposal is considered consistent with relevant provisions of Section 7 of the RMA.

Section 8 sets out a consent authority's responsibilities in relation to the Treaty of Waitangi. The proposal is considered consistent with the provisions of all regional planning documents, including Te Tangi oTaurira, and Sections 6(c) and 7(a) of the Act. Therefore the proposal can also be considered consistent with Section 8 of the Act.

Section 104 Assessment

Section 104(1)(b) of the Act requires the consent authority to have regard to the relevant provisions of the following documents which are assessed under specific topic headings below:

- National Policy Statement for Freshwater Management
- Regional Policy Statement for Southland 1997
- Proposed Southland Regional Policy Statement 2012
- Regional Effluent Land Application Plan 1998
- Regional Water Plan for Southland 2010
- Proposed Southland Water and Land Plan 2016
- Te Tangi a Taurira (Iwi Management Plan)

Ngai Tahu Values:

Regulatory Document	Relevant Sections
National Policy Statement for Freshwater Management 2014	<ul style="list-style-type: none"> • Objectives C1, D1 • Policies C1, D1
Regional Policy Statement for Southland 1997	<ul style="list-style-type: none"> • Objectives 1.1,1.2,1.3,1.4, 4.5 and 5.4 • Policies 1.2, 4.6 and 5.8
Proposed Southland Regional Policy Statement 2012	<ul style="list-style-type: none"> • Objectives TW.2, TW.3, TW.4 and TW.5 • Policies TW.3, TW.4 and TW.5
Regional Water Plan 2010	<ul style="list-style-type: none"> • Objective 9C • Policy 1A
Regional Effluent Land Application Plan 1998	<ul style="list-style-type: none"> • Objectives 4.1.4, 4.1.5 • Policies 4.2.4, 4.2.7,4.2.8, 4.2.9
Proposed Southland Water and Land Plan 2016	<ul style="list-style-type: none"> • Objectives 3, 4, 5, 15 • Policies 1, 2, 3
Te Tangi a Taurira:	<ul style="list-style-type: none"> • Whole Document

Tangata Whenua values have been considered when preparing this application including reference to Te Tangi a Taurira (Iwi Management Plan). The principals of protection of the mauri of the water and mana of the land while minimising adverse effects on mahinga kai will continue to be recognised and will have regard to in the exercise of the consents and the operation of the dairying activity. There are no known wahi tapu, ancestral sites, heritage sites or other taonga associated with the property.

Water Quality:

Regulatory Document	Relevant Sections
National Policy Statement for Freshwater Management 2014	<ul style="list-style-type: none"> • Objectives A1, A2, B1, B2, B3, B4, • Policies A3, A4, B5, B6, B7
Regional Policy Statement for Southland 1997	<ul style="list-style-type: none"> • Objectives 5.1,5.2,5.3,5.4 • Policies 5.5, 5.8

Proposed Southland Regional Policy Statement 2012	<ul style="list-style-type: none"> Objectives WQUAL.1 and WQUAL.2 Policies WQUAL.1, WQUAL.2, WQUAL.6 and WQUAL.7
Regional Effluent Land Application Plan 1998	<ul style="list-style-type: none"> Objectives 4.1.2 Policies 4.2.3, Rule 5.4.5
Regional Water Plan 2010	<ul style="list-style-type: none"> Objectives 3,4,8 Policies 1, 4, 6, 7,13
Proposed Southland Water and Land Plan 2016	<ul style="list-style-type: none"> Objectives 6, 7, 8, Policies 8, 10, 11, 14, 15, 16, 17, 18
Te Tangi a Taurira	<ul style="list-style-type: none"> Policies 1, 4, 5, 6, 11, 16, 17, 18

Water Quantity:

Regulatory Document	Relevant Sections
National Policy Statement for Freshwater Management 2014	<ul style="list-style-type: none"> Objectives A1, A2, B1, B2, B3, B4, Policies A3, A4, B5, B6, B7
Regional Policy Statement for Southland 1997	<ul style="list-style-type: none"> Objectives 4.1, 4.2, 4.3, 4.4, 4.5 Policies 4.3, 4.4, 4.5, 4
Proposed Southland Regional Policy Statement 2012	<ul style="list-style-type: none"> Objectives WQUAN.1 and WQUAN.2 Policies WQUAN.1, WQUAN.2, WQUAN.5, WQUAN.6, WQUAN.7 and WQUAN.8
Regional Water Plan 2010	<ul style="list-style-type: none"> Objectives 5,7,8 and 9 Policies 21, 22 23, 28, 29, 30, 31, Rules 16C, 23, 50
Proposed Southland Water and Land Plan 2016	<ul style="list-style-type: none"> Objectives: 7, 9, 11, 12 Policies 20, 21, 22, 23, 42 Rule 54
Te Tangi a Taurira:	<ul style="list-style-type: none"> Policies 1, 4, 5, 6, 11, 16, 17, 18

The groundwater take is a permitted activity under Rule 54(a) of the Southland Water and Land Plan and reflects standard volumes for a dairy farm. As such, it reflects efficient use of water. Under Rule 23 of the Regional Water Plan, the groundwater take is a restricted discretionary activity and requires resource consent.

The proposed volume of take is consistent with Environment Southland's guidelines of 120 litres per day per cow for dairy shed use, which is considered reasonable for the intended end use.

The rate of take does not exceed 2L/sec and should not result in any stream depletion and interference effects due to the perching of the streams and ditches at least 3m above the water table.

There are not considered to be any matters under Section 107 of the Act that would require the consent authority to decline the application for discharge permit.

Having assessed all of the matters above it is considered that the application both the discharge permit and the water permit are generally in accordance with the relevant policies and objectives of the documents set out above, and having regard to Section 104, the proposal achieves the purpose of the RMA.

D. Notification

Section 95A of the Act requires that the consent authority must publicly notify an application if it decides under Section 95D of the Act that the activity will have or is likely to have adverse effects on the environment that are more than minor. The only exception to this is when a rule or NES precludes public notification of the application and that there are no special circumstances in relation to the application that would warrant such a rule or NES to be dispensed with. However, in this instance there is no rule or NES that precludes public notification of the application and therefore the 'more than minor effect on the environment' test provided by Section 95D of the Act applies.

In deciding whether an activity will have adverse effects on the environment that are more than minor, Section 95D of the Act states that a consent authority must disregard:

- Any effects on persons who own or occupy the site or adjacent land;
- Trade competition and its effects;
- Any effects on persons who had given written approval of the application;
- Any adverse effect that does not relate to a matter which a rule or NES reserves control or restricts discretion.

Section 95D also states that a consent authority may disregard any adverse effect if a rule or NES permits an activity with that effect.

In our view and for the reasons described in the Assessment of Environmental Effects in Section 7 below, the adverse effects of this proposal are considered no more than minor and as a consequence we believe that application should not be publicly notified.

Section 95A(1) of the Resource Management Act provides that a consent authority may, in its discretion, decide whether or not to publicly notify an application for resource consent. Section 95A(2) states that the consent authority must publicly notify an application if the applicant requests public notification or if a rule or National Environmental Standard (NES) requires public notification of the application. In this instance the applicant has not requested public notification, nor is there any rule or NES requiring notification of the application.

If a consent authority does not notify an application for resource consent, Section 95B of the Act states that it must decide whether there are any affected persons or affected order holders in relation to the activity. The exception to this is that if there is a rule or NES that precludes limited notification of the application. In this instance, there is no rule or NES that precludes limited notification of the application.

Section 95E states that a person is 'affected' if the adverse effects of an activity on a person are minor or more than minor (but not less than minor). In deciding this, Section 95E(2) of the Act states that a consent authority:

- May disregard any adverse effect if a rule or NES permits an activity with that effect;
- Must disregard any adverse effect that does not relate to a matter which a rule or NES reserves control or restricts discretion;
- Must have regard to any relevant statutory acknowledgement;
- Must disregard any effects on persons who have given written approval of the application.

Our Assessment of Environmental Effects concludes that the adverse effects of the proposal are no more than minor.

Section 95A(4) of the Act gives the consent authority discretion to notify an application if it decides that special circumstances exist. The Courts have held that special circumstances are unusual or exceptional but may be less than extraordinary or unique. Furthermore, it is not mandatory to consider whether special circumstances exist.

In our view as there are no significant adverse effects, and the integrity of any of the Regional Plans are not under any threat. Therefore we do not believe there are any special circumstances that would warrant any form of notification.


The applicant seeks to continue the existing groundwater take from well F46/0404 established under Water Permit 301481. The current water take provides for the abstraction of 71880 litres per day for dairy shed use and stock drinking. This equates to 120L per cow per day and is in line with the Council's standard estimate for water usage.

E Use of Ground Water – Part B*Background*


The farm has been taking groundwater for the dairy shed and stock water from a bore as per the existing consent.

The groundwater take is classified as a discretionary activity under Rule 23 of the Regional Water Plan because the take is from the Lower Mataura Groundwater Zone, which is classified as a lowland aquifer, and the abstraction is less than 15 percent of mean annual land surface recharge.

The aquifer has a low allocation status according to the Environment Southland factsheet. Recharge of the Lower Mataura groundwater zone is principally derived from rainfall infiltration with some local flow loss from streams crossing lower terrace surfaces. Annual land surface recharge is estimated at 476 mm/year.

 The abstraction should have a less than minor effect on aquifer sustainability and current allocation because the proposed take is less than the applicant's existing take. The applicant seeks a maximum abstraction of 60,000 litres of groundwater per day.

The take is considered reasonable in terms of Policy 21 of the Regional Water Plan.

 The rate of take will be less than 2 L/sec and should not cause stream depletion effects on adjacent water bodies. Water storage tanks are utilised at the dairy shed which ensures that the rate of take is less than 2 L/sec and to facilitate the separate storage of stock water. One of these tanks stores recycled wash down water which increases water use efficiency. The nearest neighbouring bore is over 1,100 m from the abstraction point and should not experience drawdown effects.

Water efficiency will be a key focus on farm. Simple tasks such as keeping water reticulation systems and dairy shed plumbing in a good state of repair will prevent water leaks and reduce water wastage. Water metering devices have been installed to ensure the water use is monitored via a standard cumulative water meter and will allow the data to be supplied to Council as per the consent conditions.

Overall the groundwater abstraction should have a less than minor effect on aquifer sustainability, current allocation and stream depletion.

1. Application is for: Renewal of existing consent no:

204547

2. Duration sought:

Consent durations of 10 years are proposed for both the replacement Discharge and Water Permits. Special consideration is given to Policies 14A and 43 of the Regional Water Plan in terms of determining the duration. The duration sought is considered consistent with these policies given the replacement nature of the consents for an activity that is already well established, benefited from a significant degree of capital investment and is operating within limits established by its existing consents and associated conditions. This provides a high degree of certainty about its actual and potential effects on the environment, including the Lower Mataura Groundwater Management Zone.

3. For what purpose:

Stock water and dairy shed use.

4. Bore details

F45/0512 NZTM 2000 1276713 E, 4881591 N

F45/0465 NZTM 2000 1283269 E, 4881568 N

There has been no change to the structure of these bores over the lifetime of the current consents. Data as per the Beacon website is probably accurate.

5. Proposed Take

The groundwater extraction rate will be less 2L/sec concurrent on both bores.

Average rate of take	0.69	litres per second
Maximum rate of take	1.90	litres per second
Maximum daily volume	60	cubic metres per day
Maximum weekly volume	420	cubic metres per week
Maximum monthly volume	1,800	cubic metres per month (30 day month)

6. Frequency

Hour per day Max:	8.7hrs
Days per week Max:	7
Days per month:	30

The water can be taken at any time of the day, up to the max of 60m³ per day for a lactation season not exceeding 304 days a year.

7. Aquifer:

Lower Mataura

8. Storage

Water is stored in 2 x 30,000 litre tanks at the dairy shed.

9. Water metering

Paddle meters are fitted to the bores. Data Loggers to be fitted.

10. Stock water and dairy shed use

The total ground water and surface water extraction for the landholding will be more than day, i.e. 60,000l/day summer

Summer

Dairy cows	500	Water required	70	litres/head/day
Drystock	50	Water required	40	litres/head/day

Dairy shed wash water 500 Water required 40 litres/head/day

Winter (Stock Water only)

Dairy cows	Number	10	Water required	50	litres/head/day
Drystock	Number	10	Water required	40	litres/head/day

Effects on bore yields on neighbouring bores are expected to be no more than minor. No known issues have occurred over the term of the existing consent or since the farm was purchased in 2003.

11. Irrigation to land: N/R – see FDE discharge consent

12. Industrial use: N/R

13. Commercial/domestic supply: N/R

14. Any other purpose: N/R

15. Other sources

a) Groundwater

There is another bore/well on the farm that supplies the domestic water to the houses and to the calf shed. (Tractor shed bore) but this is low yield and not deemed suitable for supplying the dairy shed and stock drinking water requirements.

Historically it is believed that it was the bore that was used to supply stock water to the farm when it was a sheep and beef farm.

It could be used in an emergency (such as a bore pump failure) for the cowshed by laying piping from the bore to the cowshed.

b) Surface water

There are several streams that could be used but it is considered that ground water is the preferred option especially as the infrastructure is already in place.

16. Wastage minimisation



Water metering monitors the volume and rate of the water take. The bores are fitted with paddle type water meters currently. This will be upgraded with a data logger.

Water efficiency is a key focus on farm. Simple tasks such as keeping water reticulation systems and dairy shed plumbing in a good state of repair will prevent water leaks and reduce water wastage.

Procedure in place for checks

- Procedure in place for reporting/repairs
- Check water flowing into troughs when cows come in
- Regular check of troughs when driving past
- Periodic thorough maintenance of troughs
- Watch for leaky pipes/"weak" spots
- Floats in tanks set at a level to avoid waste
- Look out for tank/water cylinder overflows
- Check of water pressure in hand hoses
- Double check taps turned off after milking
- Regular maintenance of pumps, dispensers, etc

17. Associated discharges

See attached Discharge consent renewal application of Farm Dairy effluent.

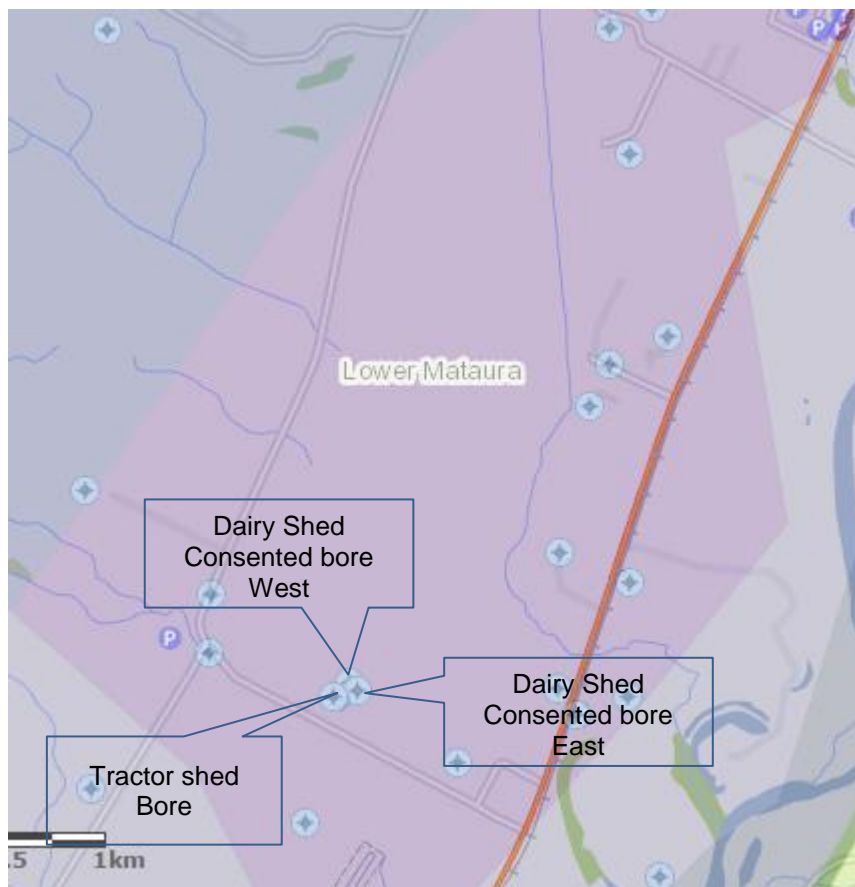
18. Existing environment

a. In stream life	No Effect
b. Food gathering from watercourses	No Effect
c. Wetlands/ bird nesting habitats	No Effect
d. Recreational activities	No Effect
e. Areas of aesthetic or scientific value	No Effect

- | | |
|-------------------------|-----------|
| f. Waste discharges | No Effect |
| g. Other water takes | No Effect |
| h. surface water bodies | No Effect |

Given that the watercourses are perched some 3-5 meters above the water table the take will have no adverse effect on the streams.

Map



- Location of measuring devices At the boreheads
- Dairy shed located within meters of the boreheads
- No adjacent wetlands.
- For boundary details see accompanying Discharge consent application and FEMP

19. Effects of take and use

Environment Southland has adopted a staged management approach to groundwater allocation in Southland to address the uncertainty regarding sustainable allocation volumes for the region’s aquifer systems. This approach maintains an appropriate level of management intervention to ensure adverse environmental effects remain within acceptable limits while allowing progressive development of the groundwater resource. The knowledge that is gained by the progressive development of the resource will be built into its future management.

The applicant’s current water take is already part of the current allocation total mentioned above.

b) River and stream flows, including minimum flows and allocation levels

There have been no known issues over the term of the existing consent related to river and stream flows.

The Charlton stream is 870 meters upgrade of the bore. The Charlton stream bed is perched and it is therefore unlikely that any downgrade extraction would have any immediate effect.



This renewal is not seeking an increase in annual volumes or rate of extraction.

c) Wetland and lake water levels

N/A

d) Groundwater quality

Nitrate is water soluble and can be leached from the soil profile into ground water and surface water environments. This can affect the quality of water for drinking and affect the ecology of surface water by promoting the growth of aquatic plants.

The area has a history of higher nitrate levels in the groundwater, with elevated levels being noted for over 25 years.

The current nutrient budget has calculated the losses of N to water to be 33kg/ha/yr which is about median for dairy farms in Southland.

This application is for no increase in volume of water take.

On farm practises to minimise localised contamination of groundwater include ensuring that any on farm spraying of water ways is always carried out using approved sprays for aquatic environments.

The bore is fitted with a collar to prevent surface water ingress down the bore casing.

The effects on water quality are expected to be no more than minor.

20. Schedule 4

a) Neighbourhood and wider community

As discussed above the water take is not expected to have adverse effects on neighbouring wells.

There are no actual or potential adverse social effects from the abstraction of the groundwater.

The existing water take has not had an impact on recreational fishing.

The provision of water for the dairy shed is a critical part of the production and economics of the property, which employs three people.

b) physical effects including landscape and visual effects

The water take infrastructure does not create adverse visual effects on the surrounding landscape.

c) ecosystems including plants, animals and habitats

Over the life of the existing permit, there has been no observed recreational fishing in the Charlton Stream waterway. The water take has had no known significant adverse effect on the Mataura River over the term of the existing consent.

There are expected to be no observable effects on animals or their associated habitats.

d) natural and physical resources having special value

The stream running through the property is a tributary of the Mataura River. The Mataura River has cultural, spiritual and historic significance to Ngai Tahu. The river was an important source of mahinga kai (gathering food) and Ngai Tahu tupuna (ancestors) have tikanga (protocol) for sustainable use of its resources.

The existing water take has not hindered this custom or had an impact on recreational fishing and the effects of the renewal should also be no more than minor.

e) discharge of contaminants

Associated effluent discharge – see section C above including AEE for the discharge.

f) natural hazards or hazardous substances/installations

According to Environment Southland's Beacon website, there are no areas of natural hazards near the applicant's property (including significant flood zones). The observations of the last 13 years by the current owners, is that flood events are largely contained within the steam banks.

21. Monitoring and mitigation measures

Water metering monitors the volume and rate of the water take. The bores are fitted with paddle type water meters currently. This will be upgraded with a data logger.

22. Alternative locations or methods

See 15 above

23. Consultation

The property has operated as a dairy farm for twenty five years. The dairy enterprise and land use is not proposed to be changed from what it has been used for over the last ten years, and the farm system is not proposed to change significantly from what has been implemented under the existing consents. For this reason, no consultation is deemed to be necessary.

24. Appendix A

Existing take -Renewal only.

25. Appendix L

Existing take – Renewal only

Summary

The groundwater take is within the preliminary allocation for the groundwater zone, and should have little adverse effect on neighbors' bores, and a less than minor effect on aquifer sustainability, current allocation and stream depletion. (The portion of the surface water take for stock water is a permitted activity).

Overall the proposal is considered consistent with the purpose of the Resource Management Act 1991, and does not conflict with the purpose of the Act, or with Council policy. The adverse effects of the water take should be no more than minor provided that the applicants adhere to the attached Farm Environmental Management Plan.