

Application CRC181650
by Mr NJ and LM Harris and Harakeke Nominees Limited
For a land use consent
to use land for farming
Section 42A Officer's Report of Victoria Wilson
Date: 9 February 2023

INTRODUCTION

1. Mr N J & Mrs L M Harris & Harakeke Nominees Limited (the applicant) has applied for a land use consent to use land for farming at Hurunui Mouth Road, Domett.
2. The proposed farming area is 478 hectares. The property is currently operated as a partially-irrigated sheep and beef, and dairy grazing operation, described as two blocks:
 - a. *Wharenui Block*, which has approximately 353 ha of farmed area and is owned by the applicant; and
 - b. *McLaughlan's Block*, which has approximately 125 ha of farmed area and is leased to the applicant.
3. The property is adjacent to the Hurunui River, and includes approximately 5.2 km of river frontage.
4. The proposed scenario increases the total irrigated area, with an increase in stocking rate resulting from the higher production.
5. The applicant previously held a consent to farm, CRC169646, which expired in February 2018. The applicant seeks to obtain a new consent to farm incorporating irrigation on both Wharenui Block and McLaughlan's Block, with a total farmed area of 478 ha, the proposed farm area is noted in Figure 1 below;

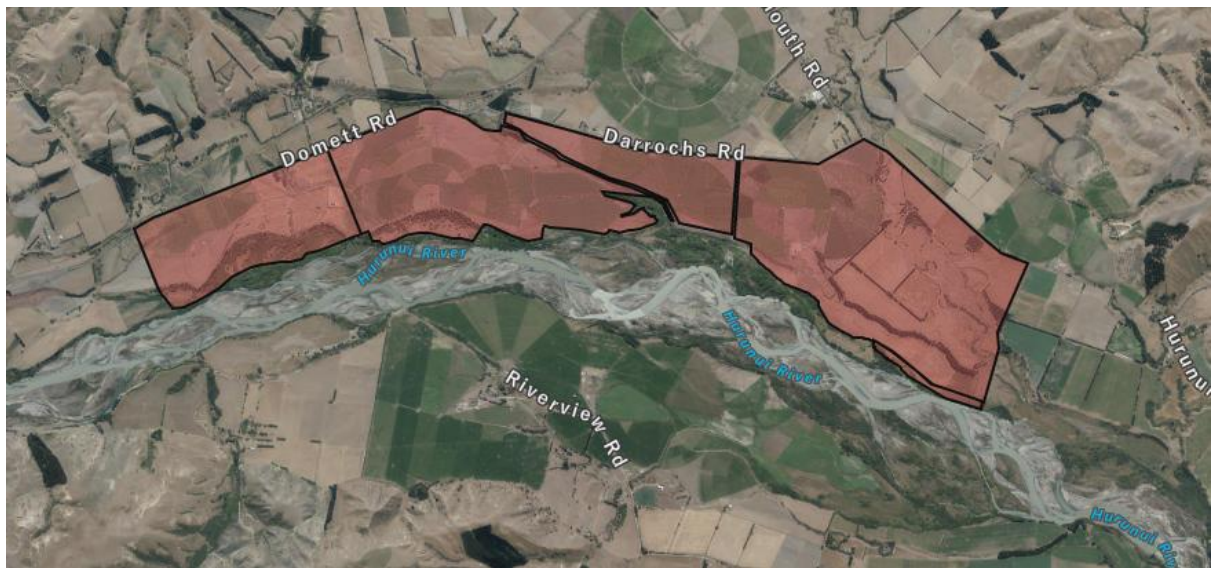


Figure 1: Proposed property area

6. It is noted the water permits sought are to replace existing consents, with no additional water sought. Rather water is to be utilised over a greater area.
7. The applicant has concurrently applied for consents to take and use water for irrigation (CRC181649 and CRC181686), and for a suite of consents for the retrospective establishment and ongoing maintenance of a bore in the Hurunui River (CRC190984, CRC190985, and CRC190986). The three consents relating to the bore were granted in January 2020, with the water permits currently in process by Canterbury Regional Council, Senior Consents Planner Mrs Nicola Duke.
8. Overseer files were submitted alongside the application and can be viewed in file reference CRC181650. Since this application was received, the applicant has published the Overseer analyses to Canterbury Regional Council in OverseerFM. The applicant has proposed to increase their nitrogen loss rate from 18 kg N/ha/yr (consented loss rate for CRC169646 and the 2013 Baseline loss rate for McLachlan block) to 31 kg N/ha/yr. This is based on OverseerFM version 6.4.3. The applicant is also proposing to maintain their Phosphorus loss rate of 0.5 kg P/ha.
9. Stephen Douglass of GHD Ltd (the consultant) originally prepared the application and AEE on the behalf of the applicant. The applicant was later represented by Amy Callaghan at GHD and Sean Mooney at GHD.
10. A site visit was undertaken by, Principal Strategy Advisor Mr Ian Brown from the Canterbury Regional Council (CRC), CRC Senior Land Management Advisor Mr Michael Bennett and CRC Consent Planner Emma Barr during the processing of this resource consent (7 February 2018).
11. A site visit was previously undertaken by Mr Ian Brown and Mr Michael Bennett (20 May 2015) as part of the processing of CRC169646. These visits are discussed in further detail later in this report.
12. It is noted that Emma Barr, Rachael Sare and Jessica Chalmers processed part of this application, before I took over in December 2020.

DESCRIPTION OF THE PROPOSED ACTIVITY

13. The applicant proposes to use land for farming. Please refer to Section 2.0 (pages 1-2) of the AEE which accompanied this application, for a more detailed description.
14. Under Part 5 (definitions) of the HWRRP, a change in land use is defined as an increase greater than 10% in the long-term average release of nitrogen or phosphorus to land which may enter water, measured on a kg/ha basis, but calculated on the gross load per property from the date this Plan was made operative (December 2013).
15. Currently, the farm blocks are operating as two separate operations:
 - a. 353-ha used as a partly-irrigated beef and dairy grazing block (Wharenui block); and
 - b. 125-ha used as a dryland sheep grazing operation (McLachlan block).

The average nitrogen and phosphorus losses to water, between the two blocks in the 2012/2013 season, were 9 kg N/ha/yr and 0.2 kg P/ha/yr based on OverseerFM version 6.4.3 respectively.
16. The applicant is now proposing to increase the irrigation area from 300-ha by a further 70-ha, bringing the total irrigated land to 370-ha. With this increased irrigation area and overall higher production (with the inclusion of fodder crops), the applicant also seeks to increase their stocking rates.
17. Modelled on this future scenario, nitrogen and phosphorus loss to water are estimated at 31 kg N/ha/yr and 0.5 kg P/ha/yr, resulting a 244% increase in nitrogen loss and a 150% increase in phosphorus loss above the baseline period loss rate for the whole property.
18. As noted above, CRC169646 was granted in 2015, the Nitrogen Discharge Allowance (NDA) associated with this consent was 20 kg N/ha/yr based on OverseerFM version 6.1.3, (based on the current OverseerFM version 6.4.3 the NDA is 21 kg N/ha/yr). Therefore, there is a 72% increase in Nitrogen associated with the proposed scenario. While there was no PDA associated with CRC1696466, the difference between the proposed scenario and the OverseerFM modelling associated with CRC169646 is a 1.6% increase.
19. In accordance with the increased release of nitrogen to water the applicant is applying for a change in land use concurrently with water permit applications CRC181649 and CRC181686.
20. In summary, as relates to this consent:
 - a. The 466-hectare property is located at Hurunui Mouth Road, Domett; and
 - b. The applicant is proposing to increase irrigation by approximately 70-ha resulting in nutrient losses of 31 kg N/ha/yr and 0.5 kg P/ha/yr, determined using Overseer version 6.4.3.
 - c. An expiry of 31 December 2035 has been proposed by the applicant.
21. During the processing of this consent, it was determined that an additional consent was required due to part of the proposed farm area being classified as riverbed. CRC191435 was generated to authorise the discharge of nutrients within the riverbed.

In September 2020, the riverbed lines were re-assessed based on the outcome of the Dewhirst vs. CRC case. The updated riverbed lines resulted in the entire proposed area being outside the riverbed and therefore can all be processed under CRC181650. As a result, CRC191435 was no longer required.

OverseerFM modelling

22. The applicant has provided Overseer (version 6.4.3) modelling, undertaken by GHD and Lowe Environmental Limited, describing the nitrogen and phosphorus baseline, and the proposed scenario of the applicant's entire farming operation (477.7 ha total).
23. Mr Reuben Edkins (external overseer expert) has audited the model inputs to determine whether the modelling was done in accordance with the current Overseer guidance and is representative of an agronomically sound and biophysically achievable farm system.

Baseline Wharenui

- a. 77 hectares of the property is irrigated with a linear and centre pivot
- b. Stock: a maximum of 3770 lambs
- c. Crops: None, all pasture
- d. Fertiliser: No nitrogen fertiliser is applied to the property.
- e. The following soils are modelled, these are consistent with smaps

Soils	Area (ha)	Drainage class	PAW60 (mm)
Lismore shallow silt loam	71	Moderately well drained	78
Waimakariri stony sandy loam	62.7	Well drained	55
Waimakariri moderately deep sandy loam on sand	53	Well drained	111
Domett moderately deep silt loam	42.8	Moderately well drained	80
Wakanui deep silt loam	37.1	Imperfectly drained	96
Barrhill moderately deep silt loam	32	Well drained	123
Waimakariri moderately deep sandy loam	31.3	Well drained	123
Eyre shallow silt loam	7.6	Well drained	103

Waimakariri shallow sandy loam	4.9	Well drained	73
Otiake moderately deep silt loam	5	Imperfectly drained	97

- f. Pasture production ranges between 5.8 to 9.1 T DM/ha/yr.

Baseline McLaughlan's

- a. There is no irrigation on the property
- b. Stock: 785 breeding ewes, 1295 lambs
- c. Crops: None, all pasture
- d. Fertiliser: February Super Phosphate applications, with September, October, January and March applications of urea on all blocks.
- e. The following soils are modelled, these are consistent with smaps

Soils	Area (ha)	Drainage class	PAW60 (mm)
Domett moderately deep silt loam	68.8	Moderately well drained	80
Eyre shallow silt loam	24.8	Well drained	103
Waimakariri shallow sandy loam	21.9	Well drained	73
Waimakariri stony sandy loam	3.8	Well drained	55

- f. Pasture production is 6.9 T DM/ha which is appropriate for dryland pasture.

CRC169646

- a. 300 ha of irrigation within the 492-ha property (as authorised by a current consent CRC156900);
- b. Stock: 1,000 R1's, 500 R2's, 2,000 ewes, and 800 lambs;
- c. Crops: None, all pastoral;
- d. Fertiliser: February Super Phosphate applications, with February, September, November Urea applications on some areas of farm.
- e. The following soils are modelled, these are consistent with smaps;

Soils	Area (ha)	Drainage class	PAW60 (mm)
Domett moderately deep	111.6	Moderately well drained	80

silt loam, well drained phase			
Lismore shallow silt loam, argillic	71	Moderately well drained	78
Waimakariri stony sandy loam, young phase	66.5	Well drained	55
Waimakariri moderately deep sandy loam on sand, young phase	53	Well drained	111
Wakanui deep silt loam	37.1	Imperfectly drained	96
Barrhill moderately deep silt loam	32	Well drained	123
Eyre shallow silt loam	32.4	Well drained	103
Waimakariri moderately deep sandy loam	31.3	Well drained	123
Waimakariri shallow sandy loam	26.8	Well drained	73
Otiake moderately deep silt loam, imperfectly drained	5	Imperfectly drained	97

Proposed Scenario

24. The proposed scenario of both Wharenui Block and McLaughlan Block has been modelled by Overseer version 6.4.3 incorporating the additional irrigation, cropping blocks and stock classes as follows:
- 370-ha of irrigation within the 492-ha property (to be authorised by new consents CRC181649 and CRC181686);
 - Stock: 1050 Heifers and cows, 1950 weaners, 575 breeding ewes, 1350 ewes and females hoggets and 775 lambs.
 - Crops: Pastoral and 70-ha rape/fodder;

- d. Fertiliser: February Super Phosphate application, September and November applications of Urea, and February application of Urea on irrigated land.
 - e. Pasture production is 6.2-7.7 T DM/ha for dryland blocks and 15.5 T DM/ha for irrigated blocks.
25. The applicant has shown through the use of Overseer modelling that the nitrogen and phosphorus loss from the land will increase above the 10 percent requirement under the HWRRP and as such the proposal has triggered a change of farming land use consent requirement under Rule 11.1 of the HWRRP.
26. I agree with the auditors comments and agree that the inputs in the proposed scenario and baseline perform reasonable and true in relation to the outcomes and final figures.

Summary

27. The applicant's calculation of the nitrogen and phosphorus losses are summarised in the table below:

Whole Property

Wharenuui Block	Nitrogen		Phosphorus	
	Total kg	Kg N/ha/yr	Total kg	Kg P/ha/yr
Baseline	3249	9	61	0.2
Discharge Allowance for CRC169646	7575	21	237	0.7
Proposal	8204	23	111.5	0.3
Difference between baseline	155% increase		250% increase	
Difference between CRC169646	9% increase		130% decrease	

McLachlan Block	Nitrogen		Phosphorus	
	Total kg	Kg N/ha/yr	Total kg	Kg P/ha/yr
Baseline	1018	8	10	0.1
Proposal	3,561	29	26	0.2
Difference between baseline	249% increase		100% increase	

Wharenuui +McLachlan Block	Nitrogen		Phosphorus	
	Total kg	Kg N/ha/yr	Total kg	Kg P/ha/yr
Baseline	4055	9	71	0.2
Discharge Allowance for CRC169646 +	8593	18	253	0.5

McLachlan baseline				
Proposal	14646	31	257	0.5
Difference between baseline	244% increase		150% increase	
Difference between CRC169646 + McLachlan baseline	72% increase		No change	

MITIGATION

28. During processing the applicant proposed additional mitigation to reduce the degree of effects from the proposed increase of nutrients, notably on the water quality of the Hurunui River:
- Groundwater and surface water quality monitoring of nitrate nitrogen, dissolved reactive phosphorus, Periphyton biomass and Filamentous algae;
 - Preparing and implementing a remedial action plan if an exceedance in water quality limits is caused wholly or partly by the land use;
 - Creating riparian buffers along surface water bodies and not applying fertiliser within 20 meters of a surface water body;
 - Not irrigating land closest to the Hurunui River.

DESCRIPTION OF THE AFFECTED ENVIRONMENT

29. The applicant has provided a description of the affected environment in Section 2 of the AEE (pages 8-11) which accompanied the application.
30. In addition, I note:
- The site is adjacent to and slopes down toward the Lower Hurunui River mainstem on the Domett Plains;
 - The applicant's property is located below the SH1 flow recorder site;
 - The property is located within the Hurunui and Waiau Nutrient Management Zone;
 - There are intermittent ephemeral streams and gullies that run through the applicant's property;
 - Wharenui Block contains an approximate 100 metre strip of riparian zone in between the south boundary and the Hurunui River;
 - The Hurunui River is classified as a Statutory Acknowledgement Area under the Ngāi Tahu Claims Settlement Act 1998;
 - The Hurunui River is a wetland of regional importance, is a site of special wildlife significance, and is an important river for native river birds and open water habitat;
 - The Hurunui River has a high degree of naturalness and is an area of regional importance; in the upper reaches;

- i. The Hurunui River mouth is a wetland of high significance (Hurunui River Hāpua) and is an area of significant natural and physical values (Schedule 2 of the Regional Coastal Environment Plan);
 - j. The Hurunui River has important recreational values;
 - k. The applicant's property contains flats and some terraces;
 - l. There are numerous aerially identified wetlands on the property;
 - m. The applicant's property lies within the rohe of Te Rūnanga o Kaikōura. There are no silent files within the vicinity of the property but the Hurunui River is considered a Statutory Acknowledgement Area;
 - n. The soil types on the farm include Barrhill, Mayfield, Darnley, Wakanui, Waimakariri, Rakaia, Rangitata, Eyre and Selwyn which range from imperfectly draining to well-draining soils, with the majority of the farm containing well-draining recent alluvial soils;
 - o. The property intercepts the protection zone of the Hurunui Lower Rural Water Scheme;
 - p. There are no freshwater bathing sites, or salmon or īnanga spawning sites, within the property or 1,000 metres of the property;
 - q. There are no other cultural, historic, or conservation values located within or adjacent to the property.
31. The Hurunui River is the most sensitive of the receiving environments within the vicinity of the property given the number of values associated with it. It has importance to the local and wider community for its cultural, recreational and ecological values as outlined above.
32. Table 1, contains data provided by Mr Tim Davie, Chief Scientist, Environment Canterbury, shows the in-river loads for Dissolved Reactive Phosphorus (DRP) and Dissolved Inorganic Nitrogen (DIN) from 2011-2017 against the Hurunui Waiau River Regional Plan (HWRRP) limits defined in Schedule 1. Table 2 shows the phosphorus concentration (Dissolved Phosphorus) against the HWRRP Policy 5.3. The nitrate-nitrogen concentrations for the mainstem are under the limits in the HWRRP¹.

Table 1: Schedule 1 limits vs water quality data

Hurunui River loads	Hurunui at Mandamus		Hurunui at SH1	
Schedule 1 load limit	DIN (tonnes/year)	DRP (tonnes/year)	DIN (tonnes/year)	DRP (tonnes/year)
Nutrient Load Limits	39	3.2	963	10.7
6 yearly average for year ending	50.61	3.15	658.5	14.35

¹ Data used in Tables 1-2 supplied by Dr Tim Davie CRC Surface Water Science Manager

June 2016	54.6	3.8	714	15.9
June 2017	51.7	3.5	607	14.4
June 2018	56.3	3.7	733	19.2
June 2019	52.9	3.5	729	18.0
June 2020	43.6	2.3	570	9.3
June 2021	44.6	2.1	598	9.3

Table 2: Policy 5.3 limits vs water quality data

Hurunui River Concentrations	Hurunui at Mandamus		Hurunui at SH1	
Concentrations	DRP (mg/l)		DRP (mg/l)	
Annual Concentration	0.0044		0.0044	
Jun 2011	0.0014		0.0038	
Jun 2012	0.0012		0.0036	
Jun 2013	0.0019		0.0044	
Jun 2014	0.0027		0.0112	
Sept 2015	0.0014		0.0019	
Nov 2016	0.0013		0.0009	
Dec 2017	0.0014		0.0008	

33. Note that the concentrations are above the nutrient load limits set by Schedule 1 of the HWRRP with the exception of DIN at State Highway One (SH1) flow recorder. DRP has been exceeded in 2013 and 2014 at SH1 in accordance with the Policy 5.3 limits.

CONSULTATION

Interested Parties Informed by the CRC

34. Following lodgement, the Canterbury Regional Council (CRC) informed the following parties of the application on 25 September 2017:
- Kaikōura Rūnanga;
 - Hurunui District Council;
 - Canterbury District Health Board;
 - Department of Conservation;
 - Fish and Game; and

f. Forest and Bird

35. I note that Brad Thomson of Mahaanui Kurataiao Limited (on behalf of Kaikoura Rūnanga) provided comment on the application in January 2019 (C19C/192518). Following from this, Mr Clint McConchie of Kaikoura Rūnanga provided a final comment on behalf of the Kaikoura. In summary, Mr McConchie was in support of the proposal and did not have any concerns regarding the proposal.
36. No other return correspondence has been received from any of the parties informed of the application as of the requested response date (2 October 2017) or as of finalising this report.

Consultation Carried out by the Applicant

37. The applicant has obtained written approval from the following parties as the proposed farming area occurs on land owned by these parties:
- a. R J McLaughlan (the owner of McLaughlan's Block) – file reference C17C/164719-6. There have been no changes to the proposal in relation to this land since written approval was originally provided.
 - b. Commissioner of Crown Lands/LINZ – file reference: C20C/128402.
 - c. Fulton Hogan – file reference: C20C/140861.

LEGAL AND PLANNING MATTERS

LEGAL AND PLANNING MATTERS

The Resource Management Act 1991 (RMA)

38. Section 9 (1) and (2) of the RMA states:
- “(1) No person may use land in a manner that contravenes a national environmental standard unless the use—
- (a) is expressly allowed by a resource consent; or
 - (b) is allowed by section 10; or
 - (c) is an activity allowed by section 10A; or
 - (d) is an activity allowed by section 20A.
- (2) No person may use land in a manner that contravenes a regional rule unless the use—
- (a) is expressly allowed by a resource consent; or
 - (b) is an activity allowed by section 20A.”

There are no national environmental standards in relation to using land for farming. There are regional rules in relation to using land for farming, therefore resource consent will be required if the activity contravenes the rules in the Regional Plan.

NATIONAL ENVIRONMENTAL STANDARDS

National Environmental Standards – Freshwater 2020 (NES-F)

39. The property meets the requirements in section 8(1) of the standards. Thus Part 2 applies to this application.
40. The Applicant has provided an assessment of the proposal against the NES-F which can be viewed in file reference: C20C/189881. The applicant has noted the purpose of the NES, noting the following:
41. The purpose of the National Environmental Standard for Freshwater is to regulate activities that pose risks to the health of freshwater and freshwater ecosystems. The NES sets out requirements that need to be complied with. Standards are set to:
 - a. protect existing inland and coastal wetlands
 - b. protect urban and rural streams from in-filling
 - c. ensure connectivity of fish habitat (fish passage)
 - d. set minimum requirements for feedlots and other stockholding areas
 - e. improve poor practice intensive winter grazing of forage crops
 - f. restrict further agricultural intensification until the end of 2024
 - g. limit the discharge of synthetic nitrogen fertiliser to land and require reporting of fertiliser use.
42. The applicant has assessed the proposal against the following provisions:
43. Subpart 4, Application of synthetic nitrogen fertiliser to pastoral land (S33). The applicant states that they will reduce synthetic N application to meet the 190 kg/ha/yr 'nitrogen cap' and if this cannot be achieved before May 2021 the applicant states that they will seek a consent.
44. The property does not have a feedlot, or other stock holding areas or is a dairy farm or dairy support farm, therefore regulations 18-23 are not relevant to the application.
45. Based on the above I have considered the NES-F 2020 and do not consider the NES is applicable to this application, noting that where the applicant may not be able to meet the regulations it makes sense to allow the applicant time to make that determination once more information is available and should be considered independently of this consent.

National Environmental Standards for Source of Human Drinking Water (NES-SHDW)

46. The NES-SHDW is intended to reduce the risk of contaminating drinking water sources such as rivers and groundwater. Contaminants such as microorganisms can pose a risk to human health when they enter drinking water supplies and that water is then consumed.
47. The RMA requires regional councils to consider the effects of activities on drinking water sources in their decision making. I have therefore assessed the land use against the regulation of the NES to determine if there is a risk that the supply bore may potentially become contaminated as a result of the farming land use activity.

48. Regulation 6 of the NES defines the type of activity which regulation 7 and 8 applies to.

49. Regulation 6 states:

Type of activity to which regulations 7 and 8 apply

Regulations 7 and 8 only apply to an activity that has the potential to affect a registered drinking-water supply that provides no fewer than 501 people with drinking water for not less than 60 days each calendar year.

50. Although regulation 7 and 8 of the NES only applies to water and discharge permits, we consider the fundamentals of those regulations will remain appropriate when assessing the risk of the discharge associated with farming land use activities. These guidelines will therefore set out certain requirements and if they cannot be met, a regional council must not grant the consent.

51. Regulation 7 states:

Granting of water permit or discharge permit upstream of abstraction point where drinking water meets health quality criteria.

A regional council must not grant a water permit or discharge permit for an activity that will occur upstream of an abstraction point where the drinking water concerned meets the health quality criteria if the activity is likely to—

- a. introduce or increase the concentration of any determine ands in the drinking water, so that, after existing treatment, it no longer meets the health quality criteria; or*
- b. introduce or increase the concentration of any aesthetic determine ands in the drinking water so that, after existing treatment, it contains aesthetic determine ands at values exceeding the guideline values.*

52. The Hurunui Lower Rural Water Scheme well (N33/0094) is located 425 metres south of the applicant's boundary. Further assessment on regulation 7 can be found in the AEE below.

53. Regulation 11 of the NES defines that Regulation 12 applies to any activity that may have an impact on sources for human drinking water.

54. Regulation 11 states:

Regulation 12 only applies to an activity that has the potential to affect a registered drinking-water supply that provides no fewer than 25 people with drinking water for not less than 60 days each calendar year.

55. Regulation 12 of the NES includes a condition on any resource consent relating to an activity or activities which may significantly adversely affect a registered drinking-water supply. Regulation 12 states:

- a. When considering a resource consent application, a consent authority must consider whether the activity to which the application relates may—*
 - i. itself lead to an event occurring (for example, the spillage of chemicals) that may have a significant adverse effect on the quality of the water at any abstraction point; or*
 - ii. as a consequence of an event (for example, an unusually heavy rainfall) have a significant adverse effect on the quality of the water at any abstraction point*
- b. If the consent authority considers that the circumstances in sub-clause (1) applies, and it grants the application, it must impose a condition on the consent.*

- c. *The condition must require the consent holder to notify, as soon as reasonably practicable, the registered drinking-water supply operators concerned and the consent authority, if an event of the type described in sub-clause (1) occurs that may have a significant adverse effect on the quality of the water at the abstraction point.*
56. Given that the Hurunui Lower Rural Water Scheme falls into the category outlined by Regulation 11 of the NES, as a registered drinking water supply, Regulation 12 of the NES must be considered. A further discussion on this can be found below in the AEE and other relevant matters.
 57. The NES constrains permitted activity rules that a regional council can implement, and as the incidental nutrient discharge rules were implemented after the NES, I consider that the LWRP's permitted activity rules are therefore consistent with the NES.

Regional Plans

Hurunui Waiau River Regional Plan (HWRRP)

58. Plan Change 1 to the Hurunui Waiau River Regional Plan (PPC1) was notified 4 May 2019. The plan change seeks to amend the Hurunui and Waiau River Regional Plan (HWRRP) to allow dryland farmers to continue farming without the need to obtain resource consent. This is intended to provide a solution to a problem with a suite of rules and definitions (generally referred to as "the 10% rule") in the HWRRP that currently means most dryland farmers require consent.
59. PC1 applies within the Nutrient Management area shown on Map 4 in the HWRRP (basically, that is the Hurunui, Waiau and Jed catchments) and applies to farms with no irrigation and less than 10% of the farm area in winter forage crop (root or brassica). Farms outside of this definition are still managed under Rule 10.1, 10.2, 11.1 and 11.1A
60. I note this application was lodged before the notification of PC1, consequently the activity status is to be assessed under the rules at the time of lodgement. The proposed objectives and policies must be considered in accordance with section 104(1)(b)(vi). This is assessed in the objective and policy section of this report below. In addition, due to this property being irrigated, it is not affected by PC1.
61. The operative HWRRP contains objectives, policies and rules that manage land, water and biodiversity within the Hurunui Waiau Region. The applicant is unable to comply with Permitted Activity Rules 10.1 and 10.2 as Overseer analysis were not submitted to CRC prior to 1 October 2016 and there are exceedances in the policy 5.3 limits.
62. The applicant is able to comply with Rule 11.1;
63. Rule 11.1: *Land use activities which do not comply with Rule 10.1 or conditions (a), (c), or (d) of Rule 10.2 are a restricted discretionary activity.* The Canterbury Regional Council (CRC) has restricted its discretion to the following matters:
 - i. *methods required to avoid, remedy or mitigate adverse effects on water quality resulting from nutrients lost or leached from the land, including whether the activity will cause or contribute to an exceedance of the nitrate-nitrogen toxicity limits or dissolved reactive phosphorus limits in Policies 5.3 and 5.3A;*

- ii. *methods required to avoid, remedy or mitigate adverse effects resulting from a breach of the Resource Management (National Environmental Standards for Human Drinking Water) Regulations 2007 or the guideline values or maximum acceptable values for determinants in the Drinking Water Standards of New Zealand 2008 for any registered drinking water supply take, having regard to Objectives 5.1 and 5.2 and Policies 5.1 to 5.4A;*
- iii. *methods required to avoid, remedy or mitigate adverse effects arising from issues managed under the systems, agreements or plans specified in Schedule 2, having regard to Objectives 5.1 and 5.2 and Policies 5.1 to 5.4A; and*
- iv. *consent duration, having regard to Policies 9.1 and 9.2.*

Water permit

64. The applicant has also applied for water permits CRC181649 and CRC181686, at the same time as the land use consent. Currently this is being processed by CRC consents planner, Ms Nicola Duke.

Canterbury Land and Water Regional Plan (LWRP)

65. The Canterbury Land and Water Regional Plan (LWRP) contains objectives, policies and rules that manage land, water and biodiversity within the Canterbury Region. The plan operates at two levels; a region-wide section which contains objectives, policies and rules that apply across the region, and a sub-regional section with policies and rules that only apply to a specific sub-regional area.
66. The application is located within the area covered by Section 7 which covers the Hurunui-Waiau Zone. Section 7 has policies and rules related to nutrient management which take precedence over the region-wide policies and rules.
67. The passive/diffuse discharge of nutrients from farming are usually regulated via the nutrient management rules within the LWRP. Rule 7.5.1 of the LWRP is applicable to this proposal. Provided this consent is granted, the applicant is able to meet the conditions of permitted activity Rule 7.5.1 as the discharge is associated with a land use activity authorised under Rules 10.1, 10.2, 11.1 or 11.1A of the Hurunui-Waiau River Regional Plan.
68. No additional consents are deemed necessary for this proposal.

RECOMMENDATION ON PUBLIC NOTIFICATION (SECTIONS 95A, 95C & 95D)

69. Section 95A of the RMA specifies the steps the decision maker must follow to determine whether an application is to be publicly notified. These steps are addressed in the statutory order below:

Step 1: Mandatory Public Notification in Certain Circumstances

70. Mandatory public notification is not required as:
- a. The applicant has not requested that the application is publicly notified (Section 95A(3)(a) of the RMA);

- b. There are no outstanding or refused requests for further information (Sections 95C and 95A(3)(b) of the RMA); and
- c. The application does not involve any exchange of recreation reserve land under Section 15AA of the Reserves Act 1977 (Section 95A(3)(c) of the RMA).

Step 2: If not Required by Step 1, Public Notification Precluded in Certain Circumstances

71. The application is not precluded from public notification as:
- a. The activity is not subject to a rule or national environmental standard (NES) which precludes public notification (Section 95A(5)(a) of the RMA); and
 - b. The application does not exclusively involve one or more controlled activities.

Step 3: If not Precluded by Step 2, Public Notification Required in Certain Circumstances

72. The application is not required to be publicly notified as the activity is not subject to any rule or a National Environmental Standard (NES) that requires public notification (Section 95A(8)(a) of the RMA).
73. The assessment in the Following sub-sections addresses the adverse effects of the activity on the environment, as public notification is required if the activity will have or is likely to have adverse effects on the environment that are more than minor (Section 95A(8)(b) of the RMA).

Assessment of Adverse Effects on the Environment (Sections 95A(8)(b) and 95D of the RMA)

74. Refer to Section 4 (pages 16-24) of the AEE which accompanied this application for the assessment of effects that may arise from this proposal.
75. The Regional Councils discretion is limited by the matters specified in Rule 11.1 of the HWRRP. Abiding by these matters, the following potential effects have been considered:
- a. Potential effects on surface water quality and groundwater quality
 - b. Potential effects on drinking water supplies

Potential adverse effect of use on water quality and ecosystems

76. The main concern regarding the effects of the proposed change in land use on water quality, is nutrient loss to water, in particular nitrate-nitrogen and phosphorus. Nitrate leaching and phosphorus losses throughout a catchment are a result of many activities including dairy effluent discharges, sewerage discharges, land use changes and intensification of agriculture.
77. Phosphorus and nitrogen can adversely affect the water quality in surface waters by entering surface waterways by direct discharge, entering laterally via overland flow of effluent or fertiliser, or via groundwater hydraulically connected to surface water.
78. Nutrient enriched water bodies can suffer from excessive plant growth which typically has flow on effects such as the undermining of aesthetic/recreational values, habitat smothering and flow restriction, diel oxygen and pH fluctuations, neurotoxins pose a risk to human and animal health and the decomposition of plant biomass reduces oxygen in the water body.

Farm Environment Plan

79. Policy 5.2 of the HWRRP details the need to ensure all existing and new land use activities in the Nutrient Management Area, shown on Map 4, have the best nutrient management practices in place by 2017. The matters for discretion under Rule 11.1 include methods to avoid, remedy or mitigate adverse effects on water quality. This is alongside Schedule 2 of the HWRRP, in accordance with Rules 10.1 and 10.2, which require any land use in the area marked as a nutrient management area on Map 4 implement on, or before 1 January 2017, one of either:
- a. an Industry Certification System; or,
 - b. a Catchment Agreement; or,
 - c. an Irrigation Scheme Management Plan; or,
 - d. a Lifestyle Block Management Plan.
80. It is recommended as part of the condition set of this application, that the formation of a Farm Environment Plan (FEP) setting out mitigation measures to adhere to the requirements of Policy 5.2, be undertaken before the first exercise of the consent. The formation of the FEP is critical for this application as auditing of the FEP will also ensure that the plan is kept current to the farming system and any breaches/non-compliance can be avoided or remedied.
81. I note that the applicant has a Farm Environment Plan (FEP) for the Wharenui Block and will combine and update the additional area of McLaughlan's Block, and its consequent auditing. FEPs are a key tool to drive ongoing reductions in farm environmental effects and are audited by an independent auditor to ensure that the farm is being run in accordance with the FEP and is achieving good compliance grades (A or B grades). The FEP details the environmental risks associated with the specific operations and location of the farm. It also covers how these risks will be managed in order to minimise the loss of nutrients to water and the movement of sediment and phosphorus to waterways.

Surface water quality and groundwater quality

82. The applicant has proposed an 244% increase in nitrogen loss from the Nitrogen Baseline for the entire operation, resulting from a proposed increase in irrigation area and the resulting land intensification.
83. The effects on water quality of the Hurunui River from the proposed activity require assessment against nitrogen toxicity limits outlined in Policy 5.3 of the HWRRP.
84. Policy 5.3 sets out to manage water quality in the Hurunui River and its tributaries by setting water quality limits as follows:
- (a) The 95th percentile of monthly periphyton biomass measurements in the mainstem of the Hurunui River shall not exceed 120 mg/m² chlorophyll or a 20% cover filamentous algae more than 2cm long; and
 - (b) The 95th percentile of monthly periphyton biomass measurements in the Pāhau and Waitohi Rivers shall not exceed 200 mg/m² chlorophyll a or 30% cover of filamentous algae more than 2 centimetres long;

- (c) The average annual dissolved reactive phosphorus concentrations in the mainstem of the Hurunui River shall not exceed 0.0044 mg DRP/L;
- (d) The annual median and 95th percentile nitrate-nitrogen concentrations in the mainstem of the Hurunui River and its tributaries above the Mandamus flow recorder site shall not exceed 1.1 and 2.0 mg NO₃-N/L respectively, these being the chronic nitrate-nitrogen toxicity thresholds for maintaining a 99% level of species protection; and
- (e) The annual median and 95th percentile nitrate-nitrogen concentrations in the mainstem of the Hurunui River, and in its tributaries at their confluence with the mainstem, below the Mandamus flow recorder site shall not exceed 2.3 and 3.6 mg NO₃-N/L respectively, these being the chronic nitrate-nitrogen toxicity thresholds for maintaining a 95% level of species protection.

Policy 5.3(b) and Policy 5.3(d) need not be assessed as part of this application as the property is located adjacent to and affects only the Hurunui River, and the property is below the Mandamus flow recorder site, respectively.

- 85. The applicant has assessed effects on water quality of the river from the proposed activity against relevant water quality sites.
- 86. There is one water quality site directly adjacent to the property (SQ34442), two sites approximately 2.5 km downstream from the property (SQ34420 and SQ34421) and one site further downstream near the Hurunui mouth (SQ35848). The Hurunui mouth is approximately 4 km downstream of the applicant's property.
- 87. Periphyton information is only available at SQ34420 (above the swing bridge near the mouth) and no chlorophyll *a* has been recorded at any of the sites. The most recent data is from SQ34420 January 2016.
- 88. The applicant details that from the information available, periphyton levels in the river fluctuate. At the five previous samplings no long filaments have been observed; thick mats have covered 1-15% of the surface area and the total cover has ranged from 15% to 70%. Periphyton is a function of flow, water temperature and nutrients, and an increase in one of these may not necessarily cause an increase in the periphyton levels. The limits in the HWRRP relate to long filamentous algae and chlorophyll *a*. Due to there being no available information on existing chlorophyll *a* concentrations the applicant considers that no comment can be made in relation to this limit, other than to say an increase in periphyton biomass is likely to have a corresponding increase in chlorophyll *a* levels.
- 89. The HWRRP sets a limit that long filamentous algae of the 95th percentile of monthly periphyton biomass measurements shall not exceed 20% cover of filamentous algae more than 2cm in length. The most recent observations at SQ34420 have observed no long filamentous algae present.
- 90. The consultant considers that the record of periphyton sampling is not long enough to be able to conclusively state that periphyton is increasing on a regular basis. Due to the existing low levels of long filamentous algae, the likelihood of an increase in P from the proposed activity causing the periphyton limits of the HWRRP to be exceeded at any site downstream of the property is very small.

91. Sites SQ34441, SQ4442, SQ4421 (three sites closest to property) were last sampled for nitrate-nitrogen concentrations in 2002. The applicant details that during the sampling period from February 2001 to May 2002, the Nitrate + Nitrite N concentrations and the DRP concentrations varied with the highest levels of both being observed at SQ34441 – located above the applicant's property and the lowest levels at SQ34442 located adjacent to the applicants property.
92. The applicant has compared data against HWRRP limits in the following table:

	Water quality site	Location from property	Average at 3 WQ sites	HWWRP limits policy 5.3
N + N mg/L	SQ34441	2,400 m upstream	0.41	2.3 and 3.6 (below Mandamus recorder-only nitrate N in policy 5.3)
	SQ34442	390 m adjacent to property	0.41	
	SQ34421	3,700 m downstream	0.44	
DRP mg/L	SQ34441	2,400 m upstream	0.011	0.0044
	SQ34442	390 m adjacent to property	0.007	
	SQ34421	3,700 m downstream	0.009	

93. As demonstrated in the table above, the DRP level has already exceeded the limit under plan and the nitrate N concentration is below. Note these results are from 2002.
94. I have noted that there are four water quality sites that have water quality data from the last 10 years, two of which are located upstream of the property and two are located below the property. These are detailed below;

	Water quality site	Location from property	Average at 3 WQ sites	HWWRP limits policy 5.3
N + N mg/L	SQ30064	7,000 m upstream	0.38	2.3 and 3.6 (below Mandamus recorder-only nitrate N in policy 5.3)
	SQ36175	5,600 m upstream	0.37	
	SQ34420	4,150 m downstream	0.35	
	SQ35848	4,800 m downstream	0.35	

DRP mg/L	SQ30064	7,000 m upstream	0.0043	0.0044
	SQ36175	5,600 m upstream	0.0123	
	SQ34420	4,150 m downstream	0.0037	
	SQ35848	4,800 m downstream	0.007	

95. While the above table shows N concentrations well under the plan limits, the Description of the Environment section of this report, shows that the N concentrations are under the limits and the N load as set under Schedule 1 is just under at SH1 recorder. Of note is that the Mandamas recorder is upstream of the property with SH1 recorder being downstream.
96. While N concentrations and loads are not recorded as being breached at this time, it is essential that any effects arising from the activity do not cause an exceedance to these limits.
97. Based on the above surface water quality sites the applicant used, there has been one exceedance of the HWRRP DRP limit. Though I do note that based on the two surface water quality sites at Mandamus and State Highway One there have been two exceedances in the last 10 years at these sites.

Potential Adverse Effects from Phosphorus loss

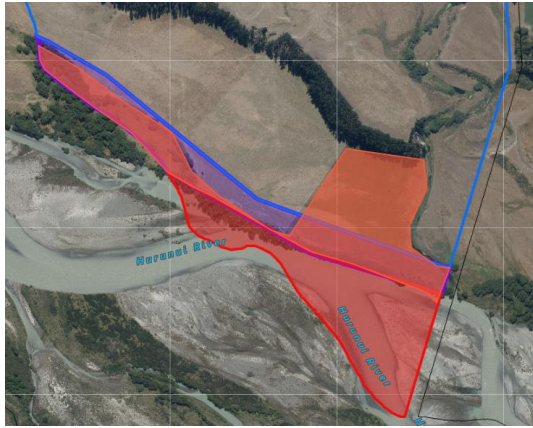
98. Relating to the Wharenui Block farming land use consent (CRC169646), a site visit was undertaken by Mr Ian Brown and Mr Michael Bennett of the CRC on 20 May 2015. The site visit was taken to assess potential nutrient loss pathways on the property and potential mitigation to ensure nutrient loss is contained within the property. See HPCM REF: C15C/80735 for Mr Brown's full report.
99. In relation to this new consent, the following notes from Mr Brown are relevant:
- The applicant is proposing that the area of Rangitata soils located closest to the Hurunui River remain as dryland. These are the shallowest soils on the property with the highest N leaching potential. In addition, there is an extensive area of riparian vegetation that bounds the river. The dryland area together with the riparian vegetation provides a substantial nutrient buffer between the main farming area and the river. Having viewed the site Mr Brown supports this view;
 - There are a number of drainage channels which cross the lower flats. At the time of the visit these were all dry. Some of these channels originate on the neighbours property on the other side of State Highway 1. The channels have been recorded as 'intermittent' in the application and the applicant has confirmed that these channels do carry water from time to time. Mr Brown expects all dairy stock to be excluded from these channels;
 - Practices to minimise P losses that are expected to be included in the FEP:

- i. Soil Olsen P levels should not exceed agronomic optimum levels (excessive soil P levels can result in P leaching).
 - ii. Seepage areas identified and managed to contain nutrient losses to waterways. This may include the creation of wetlands downstream of any seepages. (Note: During the visit no seepage areas were identified. This is not surprising given the dry conditions. However, under irrigation seepages may occur particularly from terrace edge).
 - d. In order to minimise nitrogen losses from the proposed dairy unit (which was modelled as the proposed scenario for CRC169646), Mr Brown expects the property owner to adopt and be operating at a level of good management practices (GMPs)² as defined by the industry agreed GMP's (as a minimum).
 - e. Mr Brown also expects the property owner to demonstrate through their FEP, a degree of 'future proofing' of their operation by adopting practices which go beyond GMP. Such practices include, but are not limited to, the use of variable rate irrigation and precision agriculture technologies.
100. In order to ensure that the impact on the Hurunui River from the modelled increase in nutrient loss from the proposed activity is minimised, I also recommend that the above points noted by Mr Brown from the site visit, be adopted as conditions of the consent and requirements under the FEP process. See Appendix 1 for the recommended conditions. The applicant has adopted these mitigation measures.

McLaughlan's Block

101. A farm visit was undertaken on 20 May 2015 by Emma Barr, Mr Brown and Mr Bennett. This site visit was taken to assess the potential nutrient loss pathways on the property, focussing on the McLaughlan Block. The following points are relevant:
- a. Visit to the Wharenuui Block sediment traps and riparian exclusion zones, which were wetter areas of the property fenced off from stock.
 - b. Visit to the lower terrace of McLaughlan's Block, at the closest point to the Hurunui River, and drove through Honeymoon Creek. The lower terrace is only a few metres in elevation above the active river channel, and bordered by willow trees on one side and a steeper tree-covered terrace on the other side.
 - c. The applicant is proposing that an area of property located closest to the Hurunui River remain as unused dryland. This will provide a good nutrient buffer between the farming area and the river. The applicant will also not irrigate within approximately 200m of the lower reaches of Honeymoon Creek. See image below (red shaded area not to be irrigated).

² Industry-agreed Good Management Practices relating to water quality, Canterbury Matrix of Good Management project 9 April 2015



- d. The applicant wishes to irrigate the remainder of the lower terrace.
102. Both site visits confirmed that the applicant is willing and able to establish nutrient management practices on the property. Thus far, the applicant has established fencing and planting of drains/seeps, created sediment traps and incorporated deficit irrigation practices onto the Wharenui Block.
 103. By integrating irrigation onto McLaughlan's Block, the applicant is proposing to commence wetland enhancement and fencing areas of Honeymoon Creek. The applicant is proposing to incorporate the following strategies:
 - a. Use of an environmental farm advisor to compile the Farm Management Plan, and prepare a wetland and riparian planting plan (and provide a schedule for this to occur).
 - b. Adherence to the Farm Management Plan (FMP)
 - i. Targeted fertiliser applications to ensure buffer of 20 m from wetlands and waterways
 - ii. Identification of Phosphorus Loss Risk Zones
 - c. Identify seeps and wetland areas and fence these off to prevent stock access. This is to be combined with riparian planting along margins of the Honeymoon Creek in its lower reaches.
 - d. Enhancement of wetland areas through clearing of weeds and planting of native plants.
 - e. Use of sediment traps in ephemeral / overland flow paths. This is similar to those already installed on Wharenui and Glenturret Blocks.
 104. The applicant considers that as the mitigation proposed specifically relates to P mitigation as this is the parameter that has seen the HWRRP levels already exceeded and also has specific mitigation measures for the lower terrace of the property. The proposed mitigation measures will help to ensure that any increase in N and P will be contained within the applicants' property.
 105. Due to the extensive mitigation measures recommended in Ian Brown's report and the fact the applicant has confirmed these will be included as conditions of consent, along with the completion and auditing of a Farm Environment Plan; the applicant considers that the likelihood of the increased nutrient loss from the property causing the periphyton, DRP or Nitrate + Nitrite N concentrations in the Hurunui River downstream

of the applicants property to exceed or further exceed the limits set in the HWRRP is less than minor

Potential adverse effects from Nitrogen Loss

106. I sought comment from CRC Science Team Leader Mrs Shirley Hayward to assess the impact of the proposed increase in nitrogen on the Hurunui River.
107. Mrs Shirley Hayward considered that the proposed increase in nitrogen was a significant increase and noted the following in regards to the current state of the Hurunui River;

In relation to the existing nutrient loads and load limits (as measured/calculated for the upstream site at SH1), the current nitrogen load (rolling 6 year average up to 2020) is 570 tonnes/yr which is well below the HWRRP limit of 963 tonnes/year. The current phosphorus load is 9.3 tonnes/year which is just under that HWRRP plan limit of 10.7 tonnes/year. However, this is the first year since the plan became operative that the phosphorus load is less than the plan limit. Given the variability in nutrient loads (function of in river concentrations and flows), it is possible the river will exceed the P limit again in the future.

The load limits were established, alongside in river nutrient concentration limits to prevent adverse effects on aquatic ecology, cultural and recreational values from proliferation of undesirable algal (periphyton) growth and toxicity risks to aquatic fauna. While we do not have a lot of data for the Hurunui River below SH1, one site has been monitored on a quarterly basis since 2016. Nutrient data for that site indicates concentrations are currently below the limits set out in the HWRRP. We do not have periphyton biomass data for that site, but do have observations of periphyton cover, which generally do not indicate prolific nuisance growths, except for early this summer (December 2020) when nuisance periphyton cover was noted.

Overall, while the current nutrient status of the Hurunui River is generally better than the limits set out in the HWRRP, there remains uncertainty about the cumulative effects of other recently consented farming activities that increase nutrient limits, plus the additional impact if this application was granted. One option to address this uncertainty, is to require monitoring of the Hurunui River and Honeymoon Creek to assess over time the impact of this proposed activity, at least in terms of nutrient effects on the Hurunui River.

In terms of mitigations proposed, as set out in the draft consent conditions, I agree that many of the conditions, particularly conditions 2 to 7 could significantly help towards mitigating risks associated with the proposed development and intensification of the property. However, I cannot say with confidence that the proposal including mitigations, would not cause the limits to be exceeded at some point in the future, especially taking into consideration the cumulative effects of other recently consented property developments. Having a robust monitoring and response strategy can improve confidence that the limits are not exceeded and enable rapid response should an exceedance occur.

108. It is noted, at the time of this response, the proposed conditions were not the final version recommended by the processing officer. In summary, Ms Hayward noted that there is a risk the instream loads could be exceeded.
109. Following this response, I forwarded this response to the consultant on 22 January 2021 (at the time the consultant was Amy Callaghan), following further discussions with Mrs Shirley Hayward who recommended that surface water quality monitoring be

undertaken monthly and dissolved phosphorus, nitrate nitrogen, E.coli and chlorophyll be monitored.

110. On 28 January 2021 the consultant (at the time Mr Mooney) responded stating that they do not consider the surface water quality monitoring was required or justified as they considered that they demonstrated that the proposed increase would not have any adverse effect on surface water quality.
111. Following this response, Mrs Shirley Hayward still considered that surface water quality monitoring was required due to the risk of the downstream environment increasing above the plan limits. Therefore, to safeguard any future intensification, the monitoring conditions were recommended. A remedial action plan was also considered by Mrs Shirley Hayward (i.e. if there was an exceedance there would be on farm specific management to reduce the nitrogen loss rate). A meeting was organised with the consultants, the processing officer and CRC Principal Consents Advisor, Dr Philip Burge to discuss this proposal.
112. Following further discussions with Dr Philip Burge and Mrs Shirley Hayward and the consultant/s, monitoring options were further developed to include on farm monitoring of groundwater wells to determine what potential runoff effect the property is having on the Hurunui River. I therefore requested comment from CRC Groundwater Science Team Leader, Mrs Lisa Scott. Who agree with Mrs Shirley Hayward, that there is a risk of potential adverse effects on groundwater and on the receiving surface waterways as a result of the proposed irrigation and land use intensification. Mrs Lisa Scott recommended that monitoring shallow groundwater sites on the property could be a useful tool for tracking effects of the changes in land use on water quality.
113. The finalised monitoring programme and remedial action plan was sent to the application following further discussions with the consultants and Mrs Shirley Hayward and Mrs Lisa Scott. The applicant responded stating that they propose to include the remedial action plan and surface water and groundwater monitoring to mitigate the potential adverse effects on the Hurunui River. Conditions of this effect have been proposed and adopted by the applicant.
114. Therefore, I consider as the applicant has agreed to surface water and groundwater monitoring and have agreed to a remedial action plan which will include reductions and changes to on farm practices if the farm is contributing to an exceedance in water quality in the Hurunui River that the potential adverse effects on the water quality in the Hurunui River will be minor.

Potential adverse effects on drinking water supplies

115. "Methods required to avoid, remedy or mitigate adverse effects resulting from a breach of the Resource Management (National Environmental Standards for Human Drinking Water) Regulations 2007 or the guideline values or maximum acceptable values for determinants in the Drinking Water Standards of New Zealand 2008 for any registered drinking water supply take, having regard to Objectives 5.1 and 5.2 and Policies 5.1 to 5.4A" is a matter that CRC has discretion to consider.
116. A small section (5.8 ha) of the farming activity is within the protection zone of the Hurunui Lower Rural Water Scheme. ECan Maps specifies that this take supplies 25

- 100 people. I note that the take is not registered on New Zealand's Drinking Water Register.
117. The point of abstraction is 1.1 km south east of the area of the proposed farm area within the protection zone.
118. I note that the area of land within the protection zone does not appear to be developed nor intensively farmed. The applicant has stated that this area is situated on a small river terrace and is covered with a mixture of pasture and vegetation (willows).
119. This was not mentioned in the application; however, the applicant has subsequently completed and provided an assessment of the potential effect of the proposed activity on the water supply on 11 September 2020 (file reference C20C/146564).
120. It is also stated that the concentrations of nitrogen in the Hurunui River from the entire farming operation is 0.0013 mg/L. This equates to an average cumulative concentration in the river of 0.3232 mg/L of nitrogen. The applicant concludes that while this assessment is for the entire farms potential effects on water quality in the Hurunui River, concentrations are likely well below the current New Zealand Drinking Water Standards and overall it is considered unlikely the proposal will have a measurable effect on water quality at the abstraction point.
121. The applicant has also provided an assessment against the National Environmental Standard for Sources of Human Drinking Water. It was assessed that Regulations 6-10 are not applicable, but that Regulation 12 was relevant. The applicant assessed that the proposed activity is extremely unlikely to lead an event described in subclause 1, however they are accepting of a condition in accordance with subclause (3).
122. In addition to the applicant's assessment, I note that the applicant has agreed to limit the nitrogen and phosphorus loss from several areas of land, to no more than what occurred during the baseline period. The applicant has agreed. The part of the property within the CDWSPZ is within one of these areas.
123. I recommend that conditions be included on the consent, in line with Regulation 12 of the NES-DW, the applicant has agreed to these conditions.

Incorporating policy direction into conditions and FEP

124. Central Government's Science Advisory Panel's (SAP) report into Overseer, and the subsequent Government Response, has raised significant concerns about the use of Overseer to produce a number in a regulatory framework. In particular, the SAP report raised concerns regarding the use of Overseer to set property level nutrient loss limits (although further work and testing may develop the model such that it can be used in this way).
125. It is therefore necessary to consider how to implement the intent of the HWRRP policies to managing the loss of nutrients from farming activities (i.e. policies 5.1, 5.2 and 5.3), while acknowledging that the SAP and Government Response have identified concerns with the use of Overseer as directed by the policies in the HWRRP.
126. In doing that, I recognise that while the substantive decision maker must have regard to the relevant policies in the HWRRP, they must also have regard to the National Policy Statement for Freshwater Management 2020 (NPSFM 2020). The NPSFM 2020 directs that, in the absence of complete and scientifically robust data, local authorities must "*take all practicable steps to reduce uncertainty*" (section 1.6(2)(b)) and "*must not*

delay making decisions solely because of uncertainty” (section 1.6(3)(a)) using the “best information available at the time” (section 1.6(3)).

127. I also note that the decision maker must have regard to other relevant matters (s104(1)(c) RMA). I consider that the reports examining the model structure of Overseer are relevant consideration.
128. In the absence of certainty in the ability of the current version of Overseer to generate robust property-level loss rates, and noting the NPSFM 2020 requirements to not delay decisions and reduce uncertainty, I consider that the best approach is to continue to hold consent holders to a nitrogen loss limit, but one based on a description of the farming activity rather than an Overseer derived number.
129. While this is inconsistent with the plain reading of the HWRRP policy direction, this approach continues to achieve the same intent by holding farming activities to losses reflective of the farming activity that the applicant is proposing to undertake on farm.
130. This is because the key inputs used to define the Nitrogen Baseline and Proposed Farm within Overseer will be extracted to form this descriptive based limit. The approach also has regard (in accordance with s104(1)(c)) to the issues and limitations identified in the SAP report. This information can be used to determine the Nitrogen Loss Limit once MfE and MPI have confirmed that the model can be ‘redeveloped’ to provide certainty.
131. Overall, I consider the approach is consistent with the relevant tests on conditions under s108AA RMA, and the principles of the *Newbury* ‘test’¹ which is to ensure conditions are:
 - i. For a resource management purpose
 - ii. Fairly and reasonably related to the activity authorised by the consent to which the condition is related; and
 - iii. Not so unreasonable that a reasonable planning authority, duly appreciating its statutory duties, could not have approved it.
132. Further to the above, I also recommend the applicant adopt a Farm Environment Plan that is audited during the duration of the consent. I recommend that reference to the nitrogen loss limit be included as a condition of consent requiring that the farm system limit be inserted directly into the FEP i.e.:

The Farm Environment Plan (FEP) shall include under the “Management Area: Nutrients” an Objective and Target, which shall be audited together with the rest of the FEP in accordance with Condition (2), as follows:

Objective: To remain within the limits set by Farm System CRC181650, as defined in Appendix CRC181650B...:

***Advice Note:** To assist the FEP auditor and the Consent Holder this Objective and Target has been inserted into Appendix CRC attached to this consent.*
133. Combined with requirements to implement GMP, this approach provides for year-to-year variability in farm systems while preventing increases in losses within existing farm systems. Should the applicant wish to change their current farm system in the future, they will need to apply for a new consent, and demonstrate that effects on water quality are consistent with the relevant LWRP and NPSFM 2020 provisions.
134. I acknowledge that this approach is more restrictive than that envisioned by the LWRP but reflects that the current issues with using an Overseer-derived loss limit means an alternative approach is needed that puts the health and well-being of water bodies and freshwater ecosystems first (NPSFM 2020 Objective (1)(a)).

135. This approach will also continue to maintain the FEP as the primary means of delivering good environmental practises across farming activities in accordance with Policy 4.40 of the LWRP. Compliance with this objective and target will be determined by the FEP auditor, who by definition is a farm system expert, and who is best placed to ensure that the farm is operated in accordance with this objective and target.

Step 4: Public Notification in Special Circumstances

136. If an application has not been publicly notified as a result of any of the previous steps, then the council is required to determine whether special circumstances exist that warrant it being publicly notified (Section 95A(9) of the RMA).
137. Special circumstances are those that are³:
- a. Exceptional, abnormal or unusual, but something less than extraordinary or unique;
 - b. Outside of the common run of applications of this nature; or
 - c. Circumstances which make notification desirable, notwithstanding the conclusion that the adverse effects will be no more than minor.
138. I have considered whether there are any special circumstances and conclude that there is not anything exceptional or unusual about the application, and that the proposal has nothing out of the ordinary run of things to suggest that public notification should occur.

Public Notification Conclusion

139. Having undertaken the Section 95A public notification tests, I recommended that this application be processed without public notification.

RECOMMENDATION ON LIMITED NOTIFICATION (SECTIONS 95B, 95E – 95G)

140. If the application is not publicly notified under s95A, the decision maker must follow the steps set out in s95B to determine whether to limited notify the application. These steps are addressed in the statutory order below.

Step 1: Certain Affected Groups and Affected Persons must be Notified

141. There are no protected customary rights groups or customary marine title groups affected by the proposed activity (Section 95B(2) of the RMA).
142. It is also necessary to determine whether the proposed activity is on, or adjacent to, or may affect, land that subject of a statutory acknowledgement made under an Act specified in Schedule 11 of the RMA, and if so whether the person to whom the statutory acknowledgement is made is an affected person (Section 95B(3) of the RMA).

Step 2: If not Required by Step 1, Limited Notification Precluded in Certain Circumstances

143. The application is not precluded from limited notification as the application is not for one or more activities that are exclusively subject to a rule or NES which preclude limited notification (Section 95B(6)(a) of the RMA).

³ *Far North DC v Te Runanga-iwi o Ngati Kahu* [2013] NZCA 221 at [36]; *Murray v Whakatane District Council* [1997] NZRMA 433; *Housiaux v Kapiti Coast District Council* (HC Wellington CIV-2003-485-2678, 19 March 2004).

Step 3: If not Precluded by Step 2, Certain other Affected Persons must be Notified

144. As this application is not for a boundary activity or a prescribed activity, there are no affected persons related to those types of activities (s95B(7)).
145. The following assessment addresses whether there are any affected persons that are required to be limited notified (Section 95B(8) of the RMA).
146. In determining whether a person is an affected person:
 - a. A person is affected if adverse effects on that person are minor or more than minor (but not less than minor);
 - b. Adverse effects permitted by a rule in a plan or NES (the permitted baseline) may be disregarded; and
 - c. The adverse effects on those persons who have provided their written approval must be disregarded.

Assessment of Adversely Affected Persons (Sections 95B(8) and 95E)

147. The consultant has considered whether there are any affected persons, concluding that there are no persons potentially affected as written approval has been received from all of the potentially affected parties.
148. I agree with the AEE and conclude that there are no persons adversely affected by the proposal. Specific effects have been discussed below

Potential adverse effects on Tangata Whenua Values

149. The application is located in the rohe of Kaikoura Rūnanga.
150. There are no Rūnanga Sensitive Areas or Silent Files located or adjacent to the property, The Hurunui River is adjacent to the applicant's property and is considered a Statutory Acknowledgement Area.
151. Due to the proximity of the proposed farming land use and the Hurunui River I contacted Kaikoura Rūnanga, via a hui and email communication. I also note that a Tangata Whenua Advisory request was lodged to Mahaanui Kurataiao Limited (MKT) when the application was first lodged as at this time MKT represented Kaikoura Rūnanga. As MKT does not represent Kaikoura Rūnanga currently I instead have completed my assessment based on the information received by Mr Clint McConchie of Kaikoura Rūnanga.
152. Mr Clint McConchie of Kaikoura Rūnanga completed two site visits of the property to assess the proposal and discuss potential on farm practices that are in close proximity of the surface water bodies.
153. I also provided Mr McConchie the proposed draft conditions, specifically relating to monitoring, remedial action plan and specific conditions of farm practices and setbacks.
154. A final comment from Mr McConchie was received on 9 February 2023 (file reference C23C/23854) stating that due to the proposed conditions and on farm practices that they saw on the site visits that they had no concerns regarding the proposed farming operation.
155. Given this, I consider the potential effects of the land use will maintain cultural values.

Step 4: Further Notification in Special Circumstances

156. In addition to the findings of the previous steps, it is also necessary to determine whether special circumstances exist in relation to the application that warrants it being

notified to any person not already being limited notification (excluding persons assessed under section 95E as not being affected persons).

157. Special circumstances are those that are:
- a. Exceptional, abnormal or unusual, but something less than extraordinary or unique;
 - b. Outside of the common run of applications of this nature; or
 - c. Circumstances which make limited notification to any other person desirable, notwithstanding the conclusion that no other person has been considered eligible.
158. I have considered whether there are any special circumstances and conclude that there is not anything exceptional or unusual about the application, and that there is nothing out of the ordinary that indicates that the proposal has nothing out of the ordinary run of things to suggest that limited notification is required.

Limited Notification Conclusion

159. Having undertaken the Section 95B limited notification tests, I recommended that this application be processed without limited notification.

OVERALL NOTIFICATION RECOMMENDATION

160. For the above reasons I recommend that this application is decided on a non-notified basis.

RECOMMENDATION ON THE SUBSTANTIVE DECISION

161. Having determined that this application can proceed on a non-notified basis, I can now consider whether this application should be granted or refused. Prior to making a recommendation on that determination, Section 104 of the RMA specifies what must be considered when determining an application.

Consideration of Applications (Section 104)

162. Section 104(1) of the RMA outlines the matters which, subject to Part 2 of the RMA, the consent authority must have regard to in considering an application.
163. The Court of Appeal considered the application of Part 2 under section 104 in *R J Davidson Family Trust v Marlborough District Council*⁴. That decision found it is necessary to consider Part 2 in making decisions on consent applications, where it is appropriate to do so. Whether it is "*appropriate*" depends on the planning documents in question.
164. The Court of Appeal stated that consent authorities should continue to undertake a meaningful assessment of the objectives and policies of the relevant plan. Where those documents have been prepared having regard to Part 2 of the RMA, and with policies designed to achieve clear environmental outcomes, consideration of Part 2 is not likely to be necessary as "*genuine consideration and application of relevant plan considerations may leave little room for Part 2 to influence the outcome*". The consideration of Part 2 is not prevented, but it cannot be used to justify an application that is otherwise not supported by objectives and policies.

⁴ *R J Davidson Family Trust v Marlborough District Council* [2018] NZCA 316, [2018] 3 NZLR 283.

165. In light of this judgment, Part 2 of the RMA is required to be considered when determining an application for resource consent, but the objectives and policies still hold significant weight, and in most cases (unless the plan has not been prepared in accordance with Part 2), will largely be determinative unless the consent authority has doubt as to whether the planning documents have been prepared in a manner that appropriately reflects Part 2.
166. I have therefore outlined my consideration of those matters in Section 104 and finally considered whether it is necessary to resort to Part 2 of the RMA in order to determine this application.

Actual and Potential Effects (Section 104(1)(a)) and Offsets/Compensation (Section 104(1)(ab))

167. Section 104(1)(a) of the RMA requires decision makers to have regard to the actual and potential effects of an activity.
168. I consider that the assessment of adverse effects undertaken for the purpose of the notification determination is also relevant to the assessment required under s104(1)(a). That assessment concluded that, subject to the mitigation proposed by the applicant, the adverse effects of the proposal on the environment and persons were no more than minor.
169. The definition of 'effect' in the RMA also includes "*positive effects*". The applicant has not identified the following positive effects:
170. Section 104(1)(ab) of the RMA also requires the decision maker to have regard to any measure proposed by the applicant to ensure positive effects to offset or compensate for adverse effects. I note that the applicant has not proposed any offset / compensation measures:
171. Overall, I conclude that the adverse effects of the proposal are acceptable subject to the recommended conditions.

Relevant Statutory Provisions (Section 104(1)(b))

172. Section 104(1)(b) of the RMA requires the decision maker to have regard to the relevant provisions of the following documents:
- a. A national environmental standard;
 - b. Other regulations;
 - c. A national policy statement;
 - d. A New Zealand coastal policy statement;
 - e. A regional policy statement or proposed regional policy statement; and
 - f. A plan or proposed plan.
173. Of relevance to this application are the following documents and provisions:
- a. National Policy Statement for Freshwater Management 2020.
 - b. Hurunui Waiau River Regional Plan

National Policy Statement for Freshwater Management (2020)

174. This national policy statement provides a National Objectives Framework to assist regional councils and communities to more consistently and transparently plan for

freshwater objectives. Te Mana o te Wai is an integral part of the framework that forms the platform for community discussions about the desired state of fresh water relative to the current state.

175. the NPSFW-2020 expands the objectives framework of the NPSFW-2017 in the following ways:
 - a. two additional values - threatened species and mahinga kai - join ecosystem health and human health for recreation, as compulsory values
 - b. councils must develop plan objectives that describe the environmental outcome sought for all values (including an objective for each of the five individual components of ecosystem health)
 - c. new attributes, aimed specifically at providing for ecosystem health, include fish index of biotic integrity (IBI), sediment, macroinvertebrates (MCI and QMCI), dissolved oxygen, ecosystem metabolism and submerged plants in lakes; councils will have to develop action plans and/or set limits on resource use to achieve these attributes.
 - d. tougher national bottom lines for the ammonia and nitrate toxicity attributes to protect 95% of species from toxic effects (up from 80%)
 - e. no national bottom lines for dissolved inorganic nitrogen (DIN) or dissolved reactive phosphorus (DRP) (as consulted on) but there is a requirement to manage these attributes as they relate to periphyton and other ecosystem health attributes, and to provide for the health of downstream ecosystems.
176. The overarching objective of the NPS is to ensure that natural and physical resources are managed in a way that prioritises:
 - a. First, the health and well-being of water bodies and freshwater ecosystems,
 - b. Second, the health needs of people (such as drinking water),
 - c. Third, the ability of people and communities to provide for their social, economic, and cultural well-being, now and in the future.
177. The applicant identifies the following policies as relevant to the application;
 - *Policy 1: Freshwater is managed in a way that gives effect to 'Te Mana O Te Wai'*
 - *Policy 2: Tangata Whenua are actively involved in freshwater management (including decision making process), and Māori freshwater values are identified and provided for.*
 - *Policy 3: Freshwater is managed in an integrated way that considers the effects of the use and development of land on a whole-of-catchment basis, including the effects on receiving environments.*
 - *Policy 4: Freshwater is managed as part of New Zealand's integrated response to climate change.*
 - *Policy 5: Freshwater is managed through a National Objectives Framework to ensure that the health and well-being of degraded water bodies and freshwater ecosystems is improved, and the health and well-being of all other water bodies and freshwater ecosystems is maintained and (if communities choose) improved.*
 - *Policy 12: The national target (as set out in Appendix 3) for water quality improvement is achieved.*

- *Policy 13: The condition of water bodies and freshwater ecosystems is systematically monitored over time, and action is taken where freshwater is degraded, and to reverse deteriorating trends.*
 - *Policy 14: Information (including monitoring data) about the state of water bodies and freshwater ecosystems, and the challenges to their health and well-being, is regularly reported on and published.*
 - *Policy 15: Communities are enabled to provide for their social, economic and cultural wellbeing in a way that is consistent with this National Policy Statement.*
178. The applicant considers that they are putting the health of the freshwater resources first, as while they are proposing to increase irrigation on the property, and as a result increase nitrogen and phosphorus limits, through ongoing monitoring, remedial action plan and having specific practices to help mitigate any potential discharge to surface water and or groundwater.
179. As noted above, there is a community drinking water supply protection zone located on the property. The applicant considers that the effects on this drinking water supply from the farming activity will be less than minor due to proposed mitigation from on farm practices.
180. On balance I agree with the applicant that the application is in alignment with the NPSFW-2020.

Hurunui Waiau River Regional Plan

181. **Objective 5.1:** *Concentrations of nutrients entering the mainstems of the Hurunui, Waiau and Jed rivers are managed to:*
- a. *Protect the mauri of the waterbodies*
 - b. *Protect natural biota including riverbed nesting birds, native fish, trout and their associated feed supplies and habitat;*
 - c. *Control periphyton growth that would adversely affect recreational, cultural and amenity values*
 - d. *Ensure aquatic species are protected from chronic nitrate toxicity effects; and*
 - e. *Ensure concentrations of nitrogen do not result in water being unsuitable for human consumption.*
182. **Policy 5.2:** *To ensure all existing and new land use activities in the Nutrient Management Area shown on Map 4, have the best nutrient management practices in place by 2017*
183. **Policy 5.3:** *To manage water quality in the Hurunui River and its tributaries by setting water quality limits as follows;*
- a. *the 95th percentile of monthly periphyton biomass measurements in the mainstem of the Hurunui River shall not exceed 120 mg/m³ chlorophyll a or 20% cover of filamentous algae more than 2 centimetres long.*
 - b. *[...]*
 - c. *The average annual dissolved reactive phosphorus concentrations in the mainstem of the Hurunui River shall not exceed 0.0044 mg DRP/L*
 - d. *[...]*
 - e. *The annual median and 95th percentile nitrate-nitrogen concentrations in the main stem of the Hurunui River, and in its tributaries at their confluence with the mainstem, below the Mandamus flow recorder site shall not exceed 2.3 and 3.6*

mg NO3-N/L respectively, these being the chronic nitrate-nitrogen toxicity thresholds for maintaining a 95% level of species protection.

184. **Policy 5.3B:** *To protect existing values, uses and the mauri of the Hurunui and Waiau Rivers and their tributaries, while also allowing for a larger area of land to be irrigated, by only allowing land use changes that will not result in a breach of the water quality limits set in Policies 5.3 and 5.3A and additionally for the Hurunui River, will not result in a breach of the nitrogen load limits set in Schedule 1.*
185. As mentioned above, the applicant has adopted on farm practices which they consider to be best management like fencing, planting and buffers for fertiliser around surface water bodies. Through proposed monitoring and the remedial action plan the applicant considers that this will mitigate the potential adverse effects against plan limits and the Hurunui River.

Other Relevant Matters

186. In accordance with Section 104(1)(c), the consent authority can consider any other matter relevant and reasonably necessary to determine the application.
187. I consider that other matters that the decision maker may wish to consider include:
- a. Iwi Management Plans;
 - b. The Canterbury Water Management Strategy

Iwi Management Plans

Te Poha O Toha Raumati is the Iwi Management Plan (IMP) for Kaikoura Rūnanga. It is a statement of Ngati Kuri values and policies in regards to natural resources and environmental management in the

Te Rūnanga o Kaikoura takiwa. The plan is a means for tangata whenua to carry out their role as kaitiaki and rangatira over their ancestral lands and taonga. I have assessed the proposal against the relevant policies; in Section 3.4, particularly Policies 3.4.7 which encourages the development of environmentally sustainable farming systems and the adoption of best practice to improve nutrient management, water quality and quantity. Policy 3.4.11 related to water quality specifically and aims to avoid the impacts on water resulting from discharge contaminants. I note the application is a result of an increase in the area of land to be irrigated, however the applicant has adopted best management and a suite of monitoring conditions to safeguard the Hurunui River.

Given the above, I consider the application is consistent with this plan, as the farming activity already exists, and have agreed to the conditions of this resource consent in Appendix 1. I consider that it shall reflect Ngāi Tahu perspectives, values and tikanga.

The Canterbury Water Management Strategy

The proposal is located within the area covered by the Hurunui Zone Committee. There is a Zone Implementation Programme (ZIP) in place which sets out priorities for the Hurunui water management zone, which contains a number of recommendations including protection (and monitoring) of lowland waterways, provide high quality drinking water for marae and communities, and protection of biodiversity. I consider the proposal to be consistent with the ZIP objectives.

Other Section 104 Matters

188. I have also considered those other matters in Section 104 of the RMA to determine whether they affect my recommendation. I consider that no other matters in Section 104 are relevant.

Matters Relevant to Certain Applications (Section 105(1))

189. In addition to the matters in Section 104(1) of the RMA, Section 105(1) also requires decision makers to have regard to the following matters for applications for that would contravene Section 15 or Section 15B of the RMA:
- 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.
190. I have had regard to the above matters and note that the adverse effects of the land use are minor, and that there are not possible alternatives.

Part 2 – Purpose and Principles

191. Having had regard to those matters specified in Section 104(1)(b) of the RMA and following the guidance of Davidson (discussed above), I must consider whether it is necessary to resort to Part 2 in order to determine this application.
192. Section 5 of the RMA states that the purpose of this Act is to
- Promote the sustainable management of natural and physical resources.*
193. Section 5(2) then goes on to state 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 wellbeing and for their health and safety while—*
- (a) Sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and*
 - (b) Safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and*
 - (c) Avoiding, remedying, or mitigating any adverse effects of activities on the environment.*
194. The purpose is then achieved by recognising and providing for the Matters of National Importance in Section 6, having particular regard to the Other Matters in Section 7, and by taking into account the principles of Treaty of Waitangi (Section 8).
195. I have considered the objectives and policies of the relevant documents in Section 104(1)(b) and consider they were appropriately prepared to give effect to Part 2 of the RMA. As the application is consistent with those provisions, I therefore consider that the application will achieve the purpose of the RMA as defined in Section 5.

Determination of Application

196. Having had regard to those matters specified in s104(1), it is then necessary to consider those matters relevant to determining the application, as determined by its status.
197. The application is considered to be a restricted discretionary activity, and therefore I must consider the following matters when considering whether to recommend granting or refusing the application:

Determination of Applications for Restricted Discretionary Activities (Section 104C)

198. When considering an application for a resource consent (under Section 104), a consent authority may grant or refuse the application, but in doing so must only consider those matters over which discretion is restricted in a national environmental standard, another regulation, or in its plan or a proposed plan.
199. In considering those matters in Section 104, I confirm that I have limited my regard to those matters to which discretion is restricted as detailed in the 'Legal and Planning Matters' section above.
200. Having considered those matters, the consent authority may grant or refuse the application, but may only impose conditions on the resource consent (under Section 108) for those matters over which discretion is restricted in National Environmental Standards, other regulations or in its plan or proposed plan.

Recommendation

201. Having had regard to those matters in s104 and that consent is able to be granted in accordance with Sections 104 / 104C of the RMA, I recommend granting the resource consent subject to the conditions and duration recommended below.

Conditions of Resource Consent (Section 108)

202. Section 108 of the RMA enables the consent authority to impose conditions subject to those restrictions specified in Section 108 and Section 108AA.
203. If the decision maker agrees with my recommendation to grant this application, I recommend conditions, as specified in Appendix 1 be imposed.

Duration (Section 123)

204. Section 123 of the RMA details the possible durations of resource consent. The applicant has sought a consent expiry 1 January 2035.
205. In considering an adequate consent duration, I have had regard to the following factors developed through case law that are relevant to the determination of the duration of a resource consent⁵:
 - a. The duration of a resource consent should be decided in a manner which meets the RMA's purpose of sustainable management;
 - b. Whether adverse effects would be likely to increase or vary during the term of the consent;

⁵ *Ngati Rangi Trust v Genesis Power Ltd* [2009] NZRMA 312 (CA); *Genesis Power Ltd v Manawatu-Wanganui Regional Council* (2006) 12 ELRNZ 241, [2006] NZRMA 536 (HC); *Royal Forest and Bird Protection Society of New Zealand Inc v Waikato Regional Council* [2007] NZRMA 439 (EnvC); *Curador Trust v Northland Regional Council* EnvC A069/06.

- c. Whether there is an expectation that new information regarding mitigation would become available during the term of the consent;
- d. Whether the impact of the duration could hinder implementation of an integrated management plan (including a new plan);
- e. That conditions may be imposed requiring adoption of the best practicable option, requiring supply of information relating to the exercise of the consent, and requiring observance of minimum standards of quality in the receiving environment;
- f. Whether review conditions are able to control adverse effects (the extent of the review conditions proposed is also relevant bearing in mind that the power to impose them is not unlimited);
- g. Whether the relevant plan addresses the question of the duration of a consent;
- h. The life expectancy of the asset for which consents are sought;
- i. Whether there was/is significant capital investment in the activity/asset; and
- j. Whether a particular period of duration would better achieve administrative efficiency.

206. Policy 9.1 of the HWRRP states the following;

Policy 9.1 To generally limit the duration of any new resource consent (including the replacement of expired resource consents) to take, use or divert surface water or stream-depleting groundwater from within the Hurunui, Waiau and Jed river catchments to ten years and to an initial common catchment expiry date of 1 January 2025; with subsequent common catchment expiry dates occurring at ten yearly intervals thereafter. Consents granted within three years prior to the next common catchment expiry date may be granted with a duration to align with the subsequent common catchment expiry date (that is the number of years to the next common catchment expiry date plus ten years).

207. Policy 9.1 is specific to water permits i.e. the extended duration does not automatically apply to the related FLU application(s). However, as the nutrients associated with water applications are to be authorised under this application. It is consider that aligning the duration of this resource consents will deliver an integrated approach to freshwater management as the activities and their effects can be considered together upon renewal.

208. In addition to the clear Policy direction outlined above, the consultant has considered that the following reasons provide further support for why an extended consent duration is appropriate in these circumstances:

- a. The applicant has accepted ongoing surface water monitoring and reporting to mitigate potential adverse effects on water quality in the Hurunui River. This monitoring and reporting aligns with the objectives and policies of the NPS-FM. In addition to this and as part of another resource consent (CRC190984), the applicant is undertaking an environmental enhancement project on the property. The restoration planting (with naturally occurring wetland species) will increase the habitat of a wetland environment. In addition, an extensive area of fencing within the McLachlan block, along the Honeymoon Creek corridor, will assist to protect this waterway as well as a number of natural inland wetlands. These actions seek to implement Policies 6 and 7 of the NPS-FM.
- b. The applicant has undertaken a number of additional technical reports to support the application(s) and provide further information on assessment matters pertaining to the NPS-FM/ NES-FM including a recent ecological assessment to confirm suitability of the proposed irrigation areas on the McLachlan Block;

- c. In accordance with s104(2A) of the RMA it is necessary for CRC to have regard to the value of the investment the applicant has made towards giving effect to the resource consents the subject of renewal, including the provision of the irrigation development infrastructure. In addition, it is important to acknowledge the investment the applicant has made in the resource consent application(s) process – a process now spanning a period of 4.5 years since lodgment.
- d. A duration of less than 3 years will not enable the applicant to establish sufficient environment data to support the renewal application as is intended by the draft monitoring conditions as per the conditions agreed in principle in September 2021.
- e. If changes to the HWRRP, RMA (or replacement) or the associated receiving water standards come into force before 2035, that result in different environment outcomes and/or objectives, s128 of the RMA provides a pathway to consider whether the conditions imposed on these resource consents remain appropriate.

209. Therefore I consider an expiry of 1 January 2035 to be appropriate for this application.

Prepared by:



Date: 10/02/2023

Name:

Victoria Wilson
Senior Consents Planner

Reviewer's comments:

[Reviewer to use this box if there are matters in the s42A report where reviewer and author do not agree. Delete this comment box if there are no comments]

Reviewed by:



Date:

Name:

Nadja McLean
Senior Consents Planner

APPENDIX 1 – RECOMMENDED CONDITIONS

Resource Consent CRC181650

Applicant: Mr N J & Mrs L M Harris & Harakeke Nominees Limited

Recommended Duration: 1 January 2025

	<p><u>Definition</u></p> <p><u>Base year/s</u> means the period in which the nitrogen loss limit for a particular farm system is determined.</p> <p><u>Base year inputs</u> mean records (C22C/110922) that describes the farm system during the base year.</p> <p><u>Effective area</u> means total area of property used for effective farmland as defined in the application.</p> <p><u>Farm system category</u> means farm system of a property as defined by the relevant categories set out in Appendix CRC181650A, attached to, and forming part of the consent.</p> <p><u>Farm system descriptor</u> means a description of the farm system which is based on the total effective area, total irrigation, total winter grazing and farm system category of a property.</p> <p><u>Good Management Practice (GMP)</u> means the practices described in the document entitled “Industry-agreed Good Management Practices relating to water quality” - dated 18 September 2015.</p> <p><u>Irrigation area</u> means lawfully irrigated land on a property.</p> <p><u>Mitigation measures</u> means actions taken on the property that will decrease the nitrogen loss risk OR On-farm changes that will decrease the nitrogen loss risk.</p> <p><u>Nitrogen Loss Limit (NLL)</u> for the property is based on the base year inputs, farm system descriptors and farm system category based on record: CRC181650 Base Year Inputs.</p> <p><u>Winter grazing</u> means the grazing of cattle on a property within the period of 1 May to 30 September, where the cattle are contained for break-feeding of:</p> <ul style="list-style-type: none">a. in-situ brassica and root vegetable forage crops; orb. for consuming supplementary feed that has been brought onto the property (as defined in the LWRP).
	<p><u>LIMITS</u></p>

1	<p>The use of land for farming shall only be within the area shown on Plan CRC181650, attached to and forming part of this consent.</p> <p>Advice Note: This resource consent authorises the use of land for farming, in terms of nutrient management. Other resource consent requirements or restrictions may apply in relation to any activity, including activities within or near the riverbed and wetlands.</p>
FARM ENVIRONMENT PLAN AND AUDITING REQUIREMENTS	
2	<p>Prior to the first exercise of this consent, the consent holder shall:</p> <ul style="list-style-type: none"> a. Prepare a Farm Environment Plan (FEP) in accordance with Appendix CRC181650, which forms part of this consent; b. Include in the FEP: <ul style="list-style-type: none"> i. a description of a process to identify the areas of phosphorous loss risk (i.e. Critical Source Areas); ii. the location of all small gullies, creeks, drains and seepage points on the property that may transport phosphorous to surface water; iii. the location of all riparian planting and/or grass buffer strips on the property as per Condition 6; iv. details of how the consent holder is going to comply with the mitigation measures in Condition 6. c. Ensure that a suitably qualified person has certified that: <ul style="list-style-type: none"> i. the consent holder has identified all small gullies, creeks, drains and seepage points which may transport phosphorous to the rivers and tributaries bordering or within the property; and ii. that the mitigation implemented in accordance with Condition 6 is adequate to prevent nutrient loss and is functioning in accordance with the FEP. d. Submit a copy of the FEP and certification to Canterbury Regional Council, Attention: RMA Regional Leader - Monitoring and Compliance.
3	<p>The Farm Environment Plan (FEP) shall:</p> <ul style="list-style-type: none"> a. be audited in accordance with Part C of Appendix CRC181650. A copy of the audit shall be provided to the Canterbury Regional Council, Attention: RMA Regional Leader - Monitoring and Compliance within two months of the audit being completed; and b. be audited within two years of the first exercise of this consent with subsequent audits in accordance with the frequency required by the property's FEP.

4	The farm shall be managed to achieve and maintain a Farm Environment Plan audit grade, as assigned in accordance with Part C of Appendix CRC181650, of B grade at the minimum. The farm shall be managed such that it is not assigned any C or D grades.
	FARM SYSTEM DESCRIPTION AND NITROGEN LOSS LIMITS
5	<p>For the purpose of Objective 5A (Management Area: Nutrients) in the FEP prepared in accordance with Condition (5), the consented nitrogen loss limit is described by the following farm system descriptors and base year inputs as described in the application:</p> <ul style="list-style-type: none"> a. Maximum area of irrigation: 370 hectares b. Maximum area of winter grazing: 47.8 hectares; c. Maximum effective area: 478 hectares; d. Farm System Category B, D & J as described in Appendix CRC181650A <p>The determination of whether a farm meets the nitrogen loss limit will be whether the farm is:</p> <ul style="list-style-type: none"> a. consistent with the farm system descriptors; and b. in accordance with the base year inputs as assessed using Environment Canterbury Nutrients Management - Guidelines for FEP Auditors. <p>unless the property has been influenced by a severe extraordinary event (including but not limited to droughts and floods).</p> <p>Advice Note: To assist the FEP auditor and the Consent Holder this Objective and Target has been inserted into Appendix CRC181650 attached to this consent.</p> <p>Advice Note 2: The base year inputs can be found in Canterbury Regional Council electronic file reference C22C/110922, referred to as "CRC181650 Base Year Inputs.</p>
6	<p>Prior to the first exercise of the consent, the consent holder shall ensure that for all irrigated areas:</p> <ul style="list-style-type: none"> a. Riparian planting and/or grass buffer strips are in place and functioning along creeks, drains and gullies that may transport phosphorous to the rivers and tributaries bordering or within the property; b. Riparian planting and/or grass buffer strips are in place and functioning around any cropped paddocks (including fodder crops) that may transport phosphorous to the rivers and tributaries bordering or within the property;

	<ul style="list-style-type: none"> c. Riparian planting and/or grass buffer strips are in place and functioning below any seepage zones that may transport phosphorous to the rivers and tributaries bordering or within the property; d. Infrastructure surfaces, including but not limited to, tracks and laneways, shall drain away from waterways and onto vegetated surfaces; e. Soil test Olsen P levels shall not exceed the agronomic optimum levels specific to the crop being grown; and f. Ensure all gullies that may transport phosphorous are isolated through fencing or planting.
7	<p>The consent holder shall:</p> <ul style="list-style-type: none"> a. Not apply fertiliser on land within 20 metres of any surface water bodies; b. Exclude intensively farmed stock from any water bodies within the property boundary; and c. Ensure erosion and sediment control measures are in place to prevent sediment entering waterways. <p>Advice Note: For the purposes of this consent intensively farmed stock is defined as:</p> <ul style="list-style-type: none"> 1. cattle or deer grazed on irrigated land or contained for break-feeding of winter feed crops; 2. dairy cattle, including cows, whether dry or milking, and whether on irrigated land or not; or 3. farmed pigs
8	<p>Good management practices shall be implemented to minimise the loss of sediment and phosphorous to surface waters. Good management practices shall be specified in a Farm Environment Plan prepared in accordance with Condition 2. Such measures shall include but are not limited to:</p> <ul style="list-style-type: none"> a. Fertiliser shall be applied in accordance with a nationally recognised quality assurance program for fertiliser application. b. For the purposes of this condition an approved quality assurance program is: <ul style="list-style-type: none"> i. The New Zealand Fertiliser Manufacturers Research Association Code of Practice for Fertiliser Use; or ii. The Code of Practice for Nutrient Management (with emphasis on fertiliser use) NZFMRA 07; or iii. Any other method approved by the Canterbury Regional Council.
9	Detailed records shall be maintained of:

	<ol style="list-style-type: none"> fertiliser application rates; location and crop type (including winter feed/forage crops); cultivation methods; stock units by reference to type and breed; and all other inputs to the Overseer, or equivalent, nutrient budgeting model. <p>A copy of these records shall be provided to the Canterbury Regional Council, Attention: RMA Monitoring and Compliance Manager on request.</p>
MONITORING AND REMEDIAL ACTION PLAN	
10	<p>Prior to the commencement of the irrigation season (01 September every year) if Surface Water Quality Monitoring undertaken by the Canterbury Regional Council within the Hurunui River between:</p> <ol style="list-style-type: none"> State Highway one, located at NZTM 2000: 5250443mN 1607912mE, and Downstream of the consent holder's property, located at NZTM 2000: 5251418mN 1620374mE <p>within the previous year shows an exceedance of any of the Trigger Values in condition 10(a) – 10 (e), and where Canterbury Regional Council – Surface Water Quality Scientists have determined that the exceedance in any of the Trigger values is not able to be attributed to other factors, including but not limited to natural variability, within the catchment, then the Canterbury Regional Council Compliance and Enforcement Manager may serve notice on the consent holder, prior to the commencement of the irrigation season (01 September), that the consent holder must undertake a Surface Water Quality and Ground Water Quality Investigation required by Condition 11.</p> <p><u>Trigger Values:</u></p> <ol style="list-style-type: none"> Dissolved reactive phosphorus (DRP) - 0.0044 mg/L; nitrate-nitrogen (NO₃-N) – 2.3 mg/L (annual median); nitrate-nitrogen (NO₃-N) – 3.6 mg/L (95th Percentile); Periphyton biomass -120 mg/m² chlorophyll a (95th percentile); Filamentous algae (>2 cm long) 20% cover. <p>If Canterbury Regional Council determines the exceedance of the Trigger Values in condition 10(a) – 10(e) are due to natural variability within the Hurunui River or due to other factors then conditions 11-14 are not required for that irrigation season.</p>

	<p>Advice note: Surface water quality data can be requested from Canterbury Regional Council, Attention: Regional Leader – Monitoring and Compliance</p>
11	<p>Within 14 days of receiving notification under Condition 10, the consent holder shall commence surface water monitoring within the Hurunui River and groundwater monitoring on the applicant's property.</p> <ol style="list-style-type: none"> 1. The surface water monitoring: <ol style="list-style-type: none"> a. Water quality samples shall be collected by a Suitably Qualified and Experienced person sampled at the following two monitoring locations: <ol style="list-style-type: none"> i. At or about NZTM2000 5252085mN 1614786mE (upstream of property) ii. At or about NZTM2000 5251630mN 1619893mE, , (downstream of property – northern most braid) b. Include a minimum of four rounds of water quality sampling: <ol style="list-style-type: none"> i. the samples shall be undertaken during the irrigation period following any notification received under Condition 10; and ii. sampling rounds must be undertaken 4 weeks apart from previous round. 2. The groundwater monitoring shall: <ol style="list-style-type: none"> a. Water quality samples shall be collected by a Suitably Qualified and Experienced person sampled at the following two monitoring locations: <ol style="list-style-type: none"> i. Upgradient of the applicant's property; and ii. Downgradient of the applicant's property b. Include a minimum of four rounds of water quality sampling: <ol style="list-style-type: none"> i. the samples shall be undertaken during the irrigation period following any notification received under Condition 10; and ii. sampling rounds must be undertaken 4 weeks apart from previous round <p>Advice note: Irrigation period for the purposes of this condition are defined as being between September and April</p>
12	<p>The water quality samples collected under Condition 11 shall be assessed as follows:</p> <ol style="list-style-type: none"> a. The samples shall be analysed against the Trigger Values for dissolved reactive phosphorus and nitrate nitrogen stated in Condition 10(a) and 10(b); b. The samples shall be analysed using the most appropriate method, by a laboratory that is certified for the method by International Accreditation New Zealand or an equivalent accreditation body;

	<p>c. The results of the analysis shall be reported in milligrams per litre.</p> <p>Results of the analyses including the name of the person who collected the samples, the methods used, and the date and time of sampling, shall be provided to the Canterbury Regional Council, Attention: Regional Leader – Monitoring and Compliance, within ten working days of receipt of the results by the consent holder.</p>
13	<p>If the monitoring undertaken in accordance with Condition 11 of this consent shows an exceedance in the trigger values identified in Condition 10 (a)-10(e) and which is maintained across more than one sampling round identified at condition 11 above, the consent holder shall:</p> <ul style="list-style-type: none"> a. Commission a report into the cause of the exceedance, prepared in accordance with Condition 14, and provide a copy of the report to the Canterbury Regional Council, by 30 July the year following the water quality investigation is undertaken; and b. If required by Condition 15, prepare a Remedial Action Plan and provide it to the Canterbury Regional Council by 30 September that year, or prior to any irrigation commencing on the property for the season; whichever is sooner; and c. If required by condition 15, Implement any measures required by the Remedial Action Plan within the timeframes specified in that document. <p>Advice note: The timeframes specified in this condition are intended to ensure that immediate action is taken prior to and during the first irrigation season after any exceedance of the limits is detected, and the longer-term RAP measures are implemented prior to the second irrigation season after any exceedance is detected.</p>
14	<p>The report required under condition (13)(a) shall at minimum:</p> <ul style="list-style-type: none"> a. be prepared by a suitably qualified and experienced independent scientist and shall be peer reviewed by either: <ul style="list-style-type: none"> i. Canterbury Regional Council Scientist(s); or ii. A suitably qualified person that has been approved in writing by Canterbury Regional Council. b. include the experts' conclusion on whether the exceedance(s) above the trigger values were as a result of natural influences, influences outside the consent holder's control, or in whole or part by the use of land authorised by this consent, or by nutrient loss associated with the farming practice authorised by this consent; and c. include an assessment as to whether the exceedance measured by the monitoring is likely to continue; and

	<p>d. be completed and provided to the to the Canterbury Regional Council, Attention: Regional Leader - Monitoring and Compliance, by 30 July following the sampling.</p>
15	<p>If both the author and peer review of the report prepared in accordance with Condition (14) of this consent conclude, after considering all the relevant available information (including on-site monitoring, sub catchment monitoring, and catchment resource consent compliance and audit reports made available by the Canterbury Regional Council) that:</p> <ul style="list-style-type: none"> a. the exceedance of a trigger value identified in Condition 13 was unlikely to have been caused in whole or in part by nutrient loss associated with the land use authorised by this consent, then no further action needs to be undertaken by the consent holder; or b. the exceedance of a trigger values identified in Condition 10 was likely to be caused in part or wholly by the land use authorised by this consent. Then the consent holder shall engage an independent, suitably qualified person to prepare a Remedial Action Plan (RAP), which must include mitigation recommendations to ensure that the water quality limit(s) are met, to the extent that exceedance(s) are determined to be a result of the farming activity authorised under this consent, including if a reduction in the consented loss limit is required, the quantum of the reduction if required, and the date at which the reduced consented loss limit is to apply from; c. any actions to be undertaken to remedy this will be included in the FEP required by condition (2). <p>Advice Note: This report may be prepared for an individual consent holder, or on a collective basis for all relevant consent holders who may also be subject to the limit that has been breached limit.</p>
16	<p>If the RAP requires mitigation this must be adhered to by the consent holder until the trigger values in Condition 10 are no longer in exceedance.</p>
17	<p>In relation to the RAP referred to in Condition (15b):</p> <ul style="list-style-type: none"> a. It shall set out the methods altering and/or adapting farm land use practices, including irrigation management practices, to ensure that the exceedance of the limit in the trigger values is returned as soon as practicable to the specified level for the relevant monitoring site. b. It shall set out timeframes for implementing the methods described in (a) above, including immediate action to reduce nutrient losses from the property. c. If the RAP is prepared in collaboration with other consent holders who are required to prepare a RAP for this sub catchment a common RAP shall be deemed to comply with this condition.

	d. Subject to condition 16 above, any actions required by the RAP shall be incorporated into the consent holder's FEP. The amended FEP shall be implemented as soon as physically possible.
18	Conditions 10-17 only apply where there has been a conversion from dryland to irrigated land use on the McLachlan block identified in Plan CRC181650 attached to this consent.
COMMUNITY DRINKING WATER SUPPLY	
19	<p>The consent holder shall as soon as is reasonably practicable, notify the owner of community supply well N33/0094 and the Canterbury Regional Council, Attention: Regional Leader - Compliance, if an event occurs due to the exercise of this consent that may have a significant adverse effect on the quality of the water in well N33/0094.</p> <p>Advice Note: Such an event may be, but not limited to, an incident within the well protection zone of well N33/0094 that may contaminate the water supply from that well; such as accidental release of pollutants or stock access, combined with the saturation of soil beyond the water retaining capacity (e.g. flood, over-irrigation etc.).</p>
20	<p>Within the area marked 'Community Drinking Water Protection Zone for well N33/0094' as shown on Plan CRC181650;</p> <p>a. There shall be no irrigation applied.</p>
ADMINISTRATION	
21	The Canterbury Regional Council, Attention: Regional Leader - Monitoring and Compliance, shall be informed within five days of first exercise of this consent by the consent holder.
22	<p>The Canterbury Regional Council may, once per year, on any of the last five working days of May or November, serve notice of its intention to review the conditions of this consent for the purposes of:</p> <ul style="list-style-type: none"> a. dealing with any adverse effect on the environment which may arise from the exercise of the consent; and b. ensuring that the provisions of Appendix CRC181650 relating to the FEP audit grading system and timeframes are still appropriate.

Appendix CRC181650A: Farm System Categories

CATEGORY	FARM SYSTEM	DESCRIPTION
A	DAIRY 1	Tonnes DM/ha (Calculate feed eaten per ha, as per defined process)
B	DAIRY SUPPORT	Mixture of crops and pasture grown for the rearing of dairy replacements and/or wintering of milking cows
C	SHEEP & BEEF	Mixture of pasture and crops grown for the breeding of sheep, beef and/or deer, and could include a mixture of breeding and finishing
D	STOCK FINISHING	Mixture of pasture and crops grown for stock finishing
E	DEER	Mixture of pasture and crops grown for deer breeding and/or finishing
F	OUTDOOR PIGS	Management of land for production of pigs
G	OTHER LIVESTOCK	Horses, camelids and other livestock categories
H	CUT AND CARRY	Production of a range of forage crops for use off-paddock
I	ARABLE 1	Mixture of crops (small seed, cereals and/or vegetable) grown for harvest
J	ARABLE 2	Mixture of crops (small seed, cereals, pasture and/or vegetable) grown for harvest and stock grazing
K	HORTICULTURE	Fruit, nuts and/or vegetables grown for harvest
L	VITICULTURE	Production of grapes grown for wine production
M	OTHER	Describe:



Plan CRC181650

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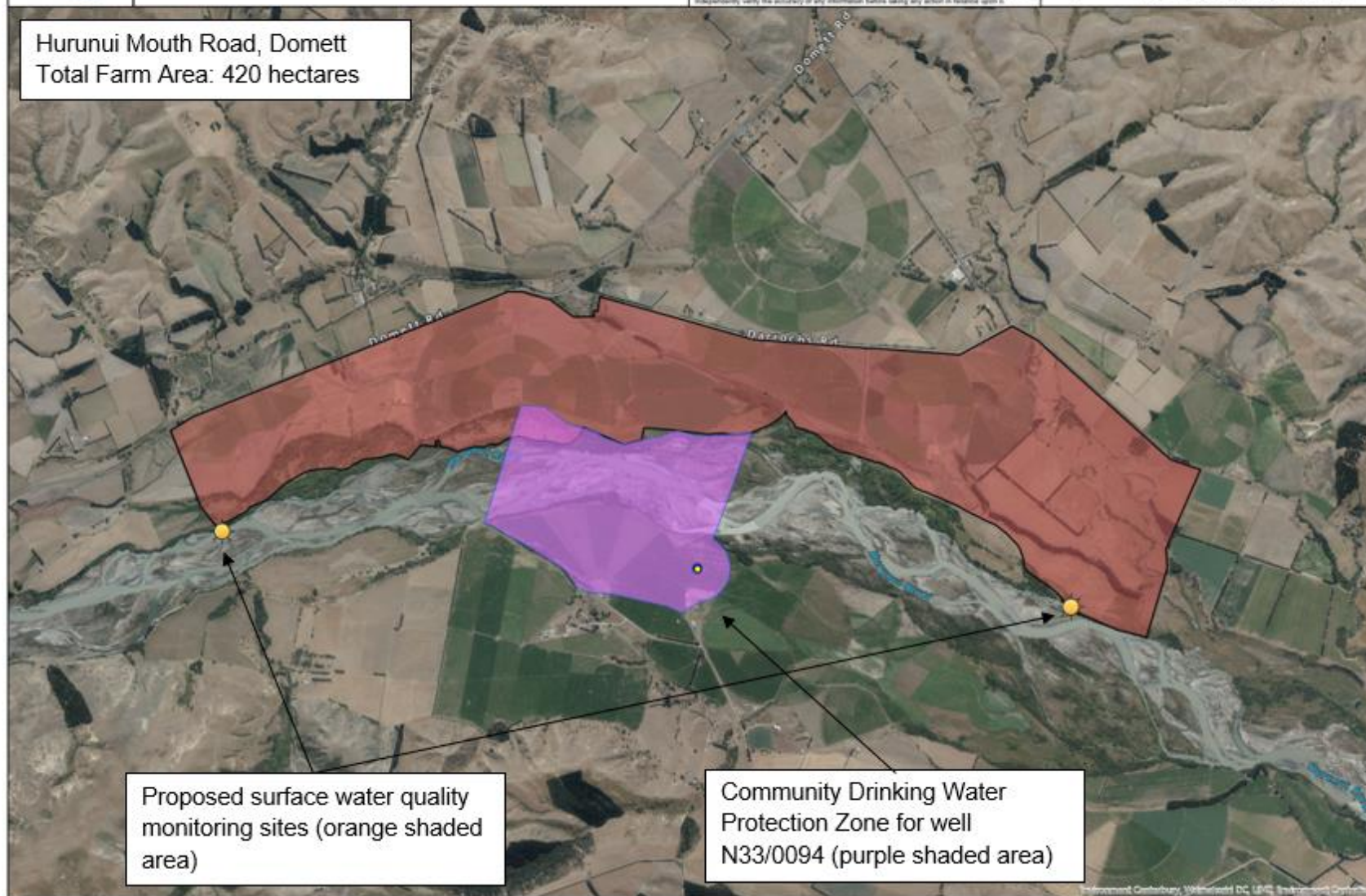


0 0.25 0.5 0.75 1 Kilometres

Scale: 1:20,000 @A3

Map Created by Canterbury Maps on 13/07/2021 at 10:17 AM

Hurunui Mouth Road, Domett
Total Farm Area: 420 hectares



Proposed surface water quality
monitoring sites (orange shaded
area)

Community Drinking Water
Protection Zone for well
N33/0094 (purple shaded area)

Environment Canterbury, Whitirewa DC, LINZ, Environment Canterbury

Appendix CRC181650 – Farm Environment Plan

Definitions

In Schedule 7 the following definitions apply:

Management Area means the areas of farm management practice as set out below:

- (a) Nutrients
- (b) Irrigation
- (c) Cultivation and soil structure
- (d) Animal effluent and solid animal waste
- (e) Waterbodies (riparian areas, drains, rivers, lakes, wetlands)
- (f) Point sources – offal pits, farm rubbish pits, silage pits
- (g) Water use (excluding water associated with irrigation) – stock water and wash-down water

Objective – means the overarching outcome sought in relation to each **Management Area**.

Target – means a measurable, auditable statement that contributes to achievement of the **Objective** in each **Management Area**.

Part A – Farm Environment Plans

A Farm Environment Plan can be based on either of:

1. The material set out in Part B below;

OR

2. Industry prepared Farm Environment Plan templates and guidance material that:
 - (a) includes the following minimum components:
 - (i) the matters set out in 1, 2, 3, 4B and 5 of Part B below;
 - (ii) contains a methodology that will enable development of a plan that will identify actual and potential environmental effects and risks specific to the property, addresses those effects and risks and has a high likelihood of appropriately avoiding, remedying or mitigating those effects;
 - (iii) performance measures that are capable of being audited as set out in Part C below; and
 - (iv) matters or requirements set out in Part B of Schedule 7 that have been added as a result of a sub-region planning process; and
 - (b) has been approved as meeting the criteria in (a) and being acceptable to the Canterbury Regional Council by the Chief Executive of the Canterbury Regional Council.

Part B – Farm Environment Plan Default Content

The plan requirements will apply to:

- (a) a plan prepared for an individual property or farm enterprise; or
- (b) a plan prepared for an individual property which is part of a collective of properties, including an irrigation scheme, principal water supplier, or an Industry Certification Scheme

The plan shall contain as a minimum:

1. Property or farm enterprise details
 - (a) Physical address
 - (b) Description of the ownership and name of a contact person
 - (c) Legal description of the land and farm identifier

2. A map(s) or aerial photograph at a scale that clearly shows:
 - (a) The boundaries of the property or land areas comprising the farming enterprise.
 - (b) The boundaries of the main land management units on the property or within the farming enterprise.
 - (c) The location of permanent or intermittent rivers, streams, lakes, drains, ponds or wetlands.
 - (d) The location of riparian vegetation and fences adjacent to water bodies.
 - (e) The location on all waterways where stock access or crossing occurs.
 - (f) The location of any areas within or adjoining the property that are identified in a District Plan as "significant indigenous biodiversity".
 - (g) The location of any critical source areas for phosphorus or sediment loss for any part of the property including any land within the High Runoff Risk Phosphorus Zone.
 - (h) The location of flood protection or erosion control assets, including flood protection vegetation.
 - (i) Public access routes or access routes used to maintain the rivers, streams, or drains.
3. A list of all Canterbury Regional Council resource consents held for the property or farming enterprise.
- 4A. An assessment of the adverse environmental effects and risks associated with the farming activities and how the identified effects and risks will be managed, including irrigation, application of nutrients, effluent application, stock exclusion from waterways, offal pits and farm rubbish pits.
- 4B Nutrient budgets which show the nitrogen discharge allowance
5. A description of how each of the following objectives and targets for each Management Area, where relevant, will be met and the specific actions that will be implemented to attain the targets.

5A Management Area: Nutrients

Objectives:

- (1) Use nutrients efficiently and minimise nutrient losses to water.
- (2) Nutrient losses do not exceed consented nitrogen loss limits.

Targets:

- (1) Nitrogen losses from farming activities are at or below the:
 - (a) Baseline GMP Loss Rate or Good Management Practice Loss Rate (whichever is the lesser); or
 - (b) consented nitrogen loss limits.
- (2) Available nitrogen loss mitigation measures (excluding those associated with irrigation, fertiliser or effluent management) are implemented.
- (3) Phosphorus and sediment losses from farming activities are minimised.
- (4) Manage the amount, timing and application of fertiliser inputs to match the predicted plant requirements and minimise nutrient losses
- (5) Store and load fertiliser to minimise the risk of spillage, leaching and loss into water bodies.

Advice Note 1:

The consented loss limits (as per condition 5 of CRC181650) are:

- a. Maximum area of irrigation: 370 hectares
- b. Maximum area of winter grazing: 47.8 hectares;
- c. Maximum effective area: 478 hectares;
- d. Farm System Category B, D & J as described in Appendix CRC181650A

The determination of whether a farm meets the nitrogen loss limit will be whether the farm is:

- a. consistent with the farm system descriptors; and
- b. in accordance with the base year inputs as assessed using Environment Canterbury Nutrients Management - Guidelines for FEP Auditors.

unless the property has been influenced by a severe extraordinary event (including but not limited to droughts and floods).

Advice Note: *To assist the FEP auditor and the Consent Holder this Objective and Target has been inserted into Appendix CRC181650 attached to this consent.*

Advice Note 2: The base year inputs can be found in Canterbury Regional Council electronic file reference C22C/110922, referred to as "CRC181650 Base Year Inputs.

5B Management Area: Irrigation

Objective:

The amount and timing of irrigation is managed to meet plant demands, minimise risk of leaching and runoff and ensure efficient water use.

Targets:

- (1) New irrigation systems are designed and installed in accordance with industry codes of practice and standards.
- (2) The performance of irrigation systems is assessed annually and irrigation systems are maintained and operated to apply irrigation water at their optimal efficiency.
- (3) The timing and depth of irrigation water applied takes account of crop requirements and is justified through soil moisture monitoring or soil water budgets and climatic information.
- (4) Staff are trained in the operation, maintenance and use of irrigation systems.

5C Management Area: Cultivation and Soil Structure

Objective:

The physical and biological condition of soils is maintained or improved in order to minimise the movement of sediment, phosphorus and other contaminants to waterways.

Targets:

- (1) Farming activities are managed so as to not exacerbate erosion.
- (2) Farming practices are implemented that optimise infiltration of water into the soil profile and minimise run-off of water, sediment loss and erosion.

5D Management Area: Animal Effluent and Solid Animal Waste

Objective:

Animal effluent and solid animal waste is managed to minimise nutrient leaching and run-off.

Targets:

- (1) Effluent systems meet industry Codes of Practice or an equivalent standard.
- (2) The timing and rate of application of effluent and solid animal waste to land is managed so as to minimise the risk of contamination of groundwater or surface water bodies.
- (3) Sufficient and suitable storage is available to enable animal effluent and wash-down water to be stored when soil conditions are unsuitable for application.

- (4) Staff are trained in the operation, maintenance and use of effluent storage and application systems.

5E Management Area: Waterbodies (wetlands, riparian areas, drains, rivers, lakes)

Objective:

Wetlands, riparian areas and the margins of surface waterbodies are managed to avoid damage to the bed and margins of the water body, and to avoid the direct input of nutrients, sediment, and microbial pathogens.

Targets:

- (1) Stock are excluded from waterbodies in accordance with regional council rules or any granted resource consent.
- (2) Vegetated riparian margins of sufficient width are maintained to minimise nutrient, sediment and microbial pathogen losses to waterbodies.
- (3) Farm tracks, gateways, water troughs, self-feeding areas, stock camps, wallows and other farming activities that are potential sources of sediment, nutrients and microbes are located so as to minimise the risks to surface water quality.
- (4) Mahinga kai values are protected as a result of measures taken to protect and enhance water quality and stream health.

5F Management Area: Point Sources (offal pits, farm rubbish pits, silage pits)

Objective:

The number and location of pits are managed to minimise risks to health and water quality.

Target:

- (1) All on-farm silage, offal pit and rubbish dumps are managed to avoid direct discharges of contaminants to groundwater or surface water.

5G Management Area: Water-use (excluding irrigation water)

Objective:

To use water efficiently ensuring that actual use of water is monitored and efficient.

Targets:

- (1) Actual water use is efficient for the end use.

The plan shall include for each objective and target in section 5 above:

- (a) detail commensurate with the scale of the environmental effects and risks;
 - (b) a description of the actions and Good Management Practices (and a timeframe within which those actions will be completed) that will be implemented to achieve the objectives and targets.
 - (c) records required to be kept for measuring performance and attainment of the targets and objectives.
6. Nutrient budgets, prepared by a suitably qualified person using the Overseer nutrient budget model, or equivalent model approved by the Chief Executive of Environment Canterbury, for each of the identified land management units and the overall farm or farming enterprise.

Part C – Farm Environment Plan Audit Requirements

The Farm Environment Plan must be audited by a Certified Farm Environment Plan Auditor who is independent of the farm being audited (i.e. is not a professional adviser for the property) and has not been involved in the preparation of the Farm Environment Plan.

The farming activity occurring on the property will be audited against the following minimum criteria:

1. An assessment of the performance of the farming activity against the objectives, targets, and timeframes specified in the Farm Environment Plan;

2. An assessment of the robustness of the nutrient budget/s;
3. An assessment of the efficiency of water use (if irrigated).

The auditor shall determine the level of confidence they have that each objective has been achieved. This level of confidence shall be categorised into the following:

1. High = The objective has probably been achieved;
2. Medium = The objective has possibly been achieved; or
3. Low = It is unlikely that the objective has been achieved.

The audit shall record the justification for each level of confidence assessment, including noting the evidence, or lack of, used to make the determination. Where an objective has received a Medium or Low level of confidence, the audit shall include the required actions for the farm to meet the objective. Where an objective has received a Medium level of confidence (and the farm has received no Lows), the audit shall also determine whether or not the farm is on-track to achieve the objectives.

The audit shall record the overall audit grade based on the results of the level of confidence assessment as follows:

1. A grade = All Highs;
2. B grade = One or more Mediums and no Lows, but on-track to achieve the objectives;
3. C grade = One or more Mediums and no Lows, but not on-track to achieve the objectives; or
4. D grade = Any Lows.

The grade of the previous audit sets the timeframe until the next audit is required as follows:

1. A grade = 3 years;
2. B grade = 2 years;
3. C grade = 12 months; or
4. D grade = 6 months.

Exceptions to the timeframes for repeat audits apply in the following circumstances:

1. Where an audit grade of A or B has been achieved, but where the manager of the farm changes or the farm system changes, then an audit shall be undertaken within 12 months of the change.
 - A change in the farm system means whole farm operation conversions, including but not limited to, converting between dairy support, dairy platform, sheep & beef and cropping; and also any introduction of a new stock type to the farm, e.g. deer or wintering dairy cows. Changes such as, varying the type of crop grown or varying the relative proportions of stock types do not constitute a farm system change.
 -
2. Where a farm is subject to Farm Environment Plan audit requirements under a nutrient discharge consent held by an irrigation scheme, the audit frequency specified in the irrigation scheme's consent shall prevail over the timeframes set out above.
 -
3. Where a farm is subject to a Farm Environment Plan audit as part of an ISO Accredited audit programme, then the audit frequency for an A or B grade shall be consistent with that of the ISO accredited audit programme for a 'passed' audit under the programme.

The Environment Canterbury Certified Farm Environment Plan Auditor Manual sets out the standards and methods to be used by a Certified Farm Environment Plan Auditor to demonstrate proficiency and competency in the auditing of Farm Environment Plans.

DEFINITIONS

Base year/s means the period in which the nitrogen loss limit for a particular farm system is determined.

Base year inputs mean records (C22C/110922) that describes the farm system during the base year.

Effective area means total area of property used for effective farmland as defined in the application.

Farm system category means farm system of a property as defined by the relevant categories set out in Appendix CRC181650A, attached to, and forming part of the consent.

Farm system descriptor means a description of the farm system which is based on the total effective area, total irrigation, total winter grazing and farm system category of a property.

Good Management Practice (GMP) means the practices described in the document entitled "Industry-agreed Good Management Practices relating to water quality" - dated 18 September 2015.

Irrigation area means lawfully irrigated land on a property.

Mitigation measures means actions taken on the property that will decrease the nitrogen loss risk OR On-farm changes that will decrease the nitrogen loss risk.

Nitrogen Loss Limit (NLL) for the property is based on the base year inputs, farm system descriptors and farm system category based on record: CRC181650 Base Year Inputs.

Winter grazing means the grazing of cattle on a property within the period of 1 May to 30 September, where the cattle are contained for break-feeding of:

- a. in-situ brassica and root vegetable forage crops; or
- b. for consuming supplementary feed that has been brought onto the property (as defined in the LWRP).