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☒ **MemoReport**

☐ For Information Only

☐ For Your Action

TO Carter Group Limited
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Attention – Tim Carter

FROM Victor Mthamo

DATE 20 May 2026

FILE 318-2024 – Ohoka Fast Track

VERSION Final

SUBJECT **Ohoka Fast Track Application - Assessment of Potential Loss of Productive Land**

1. Introduction

1.1. Applicant's Proposal

Carter Group Limited (Carter Group) propose a residential development at 531 and 535 Mill Road (the Site) which for the most part is bounded by Whites, Mill and Bradleys Roads at Ohoka.

The proposed development covers an area of approximately 154.46 ha. The entire Site is comprised of Land Use Capability (LUC) Classes 2 and 3 soils as delineated by the New Zealand Land Resource Inventory (New Zealand Soil Bureau amended 1986) but is not defined as Highly Productive Land (HPL) under the National Policy for Highly Productive Land 2022(NPS-HPL). The Canterbury Regional Policy Statement (CRPS) recognises Classes 1 and 2 as versatile soils.

Carter Group has engaged Reeftide Environmental & Projects Limited (Reeftide) to assess the actual and potential adverse effects on the productive capacity of the land and soils.

2. Executive Summary

The proposed 154.46 ha Carter Group residential development at Mill Road, Ōhoka is on land that classified LUC Class 2 and 3 land. Under the NPS-HPL land in LUC Class 1-3 are considered to be highly productive and the national policy statement seeks to limit loss of highly productive land.

The proposed subdivision and the LUC Class 2 and 3 land have been assessed against the relevant provisions of the NPS-HPL. As the land is within an area that was part of council initiated plan change to rezone it from a rural zone to a Rural Lifestyle Zone the land is exempt from the provisions of the NPS-HPL under Clause 3.5(7)(b). Therefore, the Carter Group proposal is on land that is not highly productive.

The above notwithstanding, this memo has also assessed the proposed subdivision against the provisions of the Canterbury Regional Policy Statement. The regional policy statement identifies land that is LUC class 1 and 2 as versatile land. 2.86 ha of the 154.46 ha is LUC 2 land. The following conclusions were made as part of this assessment:

- The 2.86 ha of LUC 2 soils are primarily clay with poor to very poor drainage, which impacts productive potential unless crops suited to wet conditions are grown.

- There are drinking water protection zones and these are over an area of 2.11 ha of the LUC Class 2 soils. This reduces the area of LUC Class 2 soils unlikely to be impacted by statutory provisions relating to the drinking water supply protection zone to just 0.75 ha. In summary, we consider the area of versatile soils within the Site to only be 0.75 ha.

Therefore, even considering the regional policy statement the effective area of versatile soils is reduced to just 0.75 ha (or 0.49% of the 154.46 ha). This is a very negligible potential loss of highly productive land.

In summary, there is no loss of highly productive land under the NPS-HPL and there is only 0.75 ha reduction in versatile soils under the regional policy statement. It is therefore concluded that the development is assessed as having less than minor adverse effects on productive land capacity.

3. Author's Qualifications and Experience

Victor Mthamo the author of this report is a Principal Consultant for the environmental science, engineering and project management consultancy Reeftide. He has been in this role for almost 13 years. Prior to this he was a Senior Associate with the surveying, environmental science and engineering, and resource management consulting firm CPG New Zealand Limited (now rebranded to Calibre Consulting Limited), where he was also the South Island Environmental Sciences Manager. He has worked in the area of environmental science and engineering for over 30 years.

Further details of Victor's qualifications and experience in undertaking similar work are detailed in **Attachment 1**.

4. Description of the Site

4.1. Land Use

The current land use within the Site is dairy farming and cattle breeding. The 152.56 ha of 154.46 ha Site is within [redacted] which comprises a 111-ha milking platform and a 41-ha support block. The milking herd averages 170 cows. The replacements and bulls are raised on the support block. The farm winters all the stock on the support block. The other 1.854 ha part of the Site is a lifestyle property located at 531 Mill Road and is surrounded by [redacted].

During autumn, winter and spring any stock on the milk platform spends time on the feed pad. The feed pad reduces the time stock are on the pasture to prevent pugging and the compaction of the soil.

All stock is fed on grass with maize silage grown and used as feed on the pad over winter, autumn and spring.

4.2. Topography

The Site is typically gently sloping (1:180) to flat, sloping from west to east towards Whites Road.

4.3. Surface Water and Groundwater

There are several waterways or drains that run through the Site. The most significant of the waterways is the Ōhoka Stream that runs from the northwest to the southeast. Two springs and one groundwater seep also originate within the property and these feed into drains that run southeast and across Whites Road. Figures A2 and A3 show the location of the springs and some of the main surface waterways on the Site.

Groundwater flows from northwest to southeast. Bore M35/0596 shows that groundwater is approximately 0.6 m below ground level (mbgl). Groundwater levels fluctuate seasonally and are highest in winter (wetter months) and lower in the dry summer.

4.4. Existing Infrastructure

Sherraine Holsteins Farm has a farmhouse and farm buildings which are in a cluster towards the western corner and an additional cluster of farm buildings near the boundary of 531 Mill Road. 531 Mill Road has a house, garage and a shed.

Open paddocks predominate, but the Site comprises a variety of mature trees and shelterbelts.

The [redacted] has consents to take groundwater for irrigation. 146 ha of the property is irrigated using guns and k-line systems. The irrigated areas and the irrigation systems are shown in Figure A4.

5. District Plan Zoning

5.1. Existing Zoning

The Site is currently zoned Rural under the Operative Waimakariri District Plan (2005).

5.2. Proposed District Plan Zoning

The Site is now zoned Rural Lifestyle (RLZ) under the Partially Operative Waimakariri District Plan (Appeals Version).

6. Description of Soils

6.1. Existing Soils and Drainage

S-Maps Online[1] and Canterbury Maps[2] provide details of the soils under the Site. Table A2 (**Attachment 1**) provides details of the soils and Table A3 summarises the soil drainage properties. The tables show that 98% of the soils have poor to very poor drainage. Permeability is moderate to slow. This is also to be expected given the relatively high groundwater levels.

Poor drainage can have significant impact on the soil's productive potential and crop/plant yields, unless the crop types grown are suited to wet feet.

7. Land Use Capability (LUC) and Quantifying LUC Classes with the Site

7.1. Land Use Capability

The LUC described by Lynn et al. (2009)[3] defines eight LUC classes. Classes 1–4 are classified as arable land, while LUC Classes 5–8 are non-arable. Versatile soils are defined as Class 1, 2, or 3 soils as delineated by the New Zealand Land Resource Inventory (New Zealand Soil Bureau amended 1986). Figure A5 (**Attachment 2**) shows the potential land uses and the relationship between the soil versatility and LUC classes.

7.2. LUC Classes of the Soils within the Site

The LUC classes of the soils within the Site are mapped on Canterbury Maps[4] and Landcare Research[5]. Figure A6 (**Attachment 2**) has been extracted from Canterbury Maps[6] and it shows that the soils across the Site are LUC Class 2 (2.86 ha) and LUC Class 3 (151.56 ha). Table A4 (**Attachment 1**) provides details of the LUC classes and the relative proportions of each class.

The "w" in Table A4 reflects the subclass and indicates that *"soil wetness resulting from poor drainage or a high-water table, or from frequent overflow from streams or coastal waters first limits production"*. This is the dominant limitation on the Site's productive capacity. While the LUC 2-3 classes in Table A4 mean the soils are theoretically suitable for a wide range of arable cropping activities, these are subject to limitations imposed by the degree of wetness.

[1] https://smap.landcareresearch.co.nz/
[2] https://canterburymaps.govt.nz/
[3] *Lynn IH, Manderson AK, Page MJ, Harmsworth GR, Eyles GO, Douglas GB, Mackay AD, Newsome PJF 2009. Land Use Capability survey handbook: a New Zealand handbook for the classification of land, 3rd ed. Hamilton, AgResearch; Lincoln, Landcare Research; Lower Hutt, GNS Science. 163 p.*
[4] https://mapviewer.canterburymaps.govt.nz
[5] https://ourenvironment.scinfo.org.nz/maps-and-tools/app/Land%20Capability/lri_luc_main
[6] https://mapviewer.canterburymaps.govt.nz

Remediation (e.g. drainage) would be necessary to make the soil attain their full productive potential.

8. National Policy Statement for Highly Productive Soils

8.1.1. Introduction

The NPS-HPL came into effect in October 2022 and has been amended a number of times with most recent amendment occurring in December 2025. The objective of the NPS-HPL is to protect HPL for use in land-based primary production, both now and for future generations. "*Land-based primary production*" encompasses production from agricultural, pastoral, horticultural, or forestry activities that are reliant on the soil resource of the land[7]. To achieve this, the NPS-HPL requires the identification of HPL at a regional level, and imposes varying levels of constraint on the rezoning, subdivision, land use and development of that land.

8.1.2. Highly Productive Land (HPL)

Until that regional identification (through mapping) occurs, the NPS-HPL (including its various constraining provisions) will only apply to land that, at the commencement date of the NPS-HPL, meets the transitional definition of "highly productive land" under Clause 3.5(7) of the NPS-HPL[8].

Under Clause 3.5(7) states that until a regional policy statement containing maps of highly productive land in the region is operative, each relevant territorial authority and consent authority must apply this National Policy Statement as if references to highly productive land were references to land that:

a) is:

   i. zoned general rural or rural production at the commencement date; and

   ii. LUC 1, 2 and 3 land; but

b) is not:

   i. identified for future urban development at the commencement date; or

   ii. subject to a council initiated, or an adopted, notified plan change to rezone it from general rural or rural production to urban or rural lifestyle at the commencement date; or

   iii. subject to a resource consent application for subdivision, use or development on LUC 3 land for any activity other than rural lifestyle, where that consent has been lodged at or after the commencement date.

"LUC 1, 2 and 3 land" is defined in the NPS-HPL as land identified as Land Use Capability Class 1, 2 or 3, as mapped by the NZLRI or by any more detailed mapping that uses the Land Use Capability classification.

Clause 3.5(7)(b) of the NPS-HPL provides the basis for excluding land identified for future urban development or Council initiated urban or rural lifestyle plan change or that is LUC3 and is subject to a resource consent application for subdivision even if it meets the criteria under Clause 3.5(7)(a).

The intent of Clause 3.5(7)(b) is to ensure future urban development areas are only excluded from the NPS-HPL in circumstances where there is a high level of certainty that the land will be developed for urban use in the next 10 years (Section 1.3 of the NPS-HPL).

The Site was zoned Rural under the Waimakariri District Plan (2005). However, at the commencement date (i.e. 17 October 2022). The site was identified to be rezoned to RLZ through the Proposed Waimakariri District Plan (PDP). On 24 June 2025 date Waimakariri

[7] *National Policy Statement for Highly Productive Land 2022, clause 2.1.*
[8] *National Policy Statement for Highly Productive Land 2022, clause 3.5(7).*

District Council resolved to accept the recommendations of the hearings panel on the PDP to rezone the Site RLZ. The Site is now zoned RLZ in the Partially Operative Waimakariri District Plan (Appeals Version) (Section 5.2). For completeness, we note that the RLZ zoning is subject to appeal. However, we understand that the appeal seeks rezoning of the Site to residential. Accordingly, the likely outcome is that the Site will either remain zoned RLZ or be rezoned to residential, meaning it will not revert to a general rural zoning in any scenario.

The NPS-HPL does not apply to the Site because Clause 3.5(7)(b)(ii) excludes land that (i) was subject to a Council initiated notified plan change to rezone land to RLZ prior to the NPS-HPL coming into effect in 2022 and (ii) now under the now Partially Operative District Plan under which the site is zoned RLZ.

9. Assessment of the Site and Proposal Against the CRPS

9.1. Versatile Soils

As we noted in Section 1 the CRPS identifies land within LUC Classes 1 and 2 as containing versatile soils.

Table A4 shows that the Site is comprised of LUC Class 2 (2.86 ha) and LUC Class 3 (151.56 ha) soils. This means only the 2.86 ha is classified as versatile under the CRPS. The small area of versatile soils in combination with the previously identified drainage issues mean that the potential adverse effects associated with the loss of versatile soils are considered to be minor.

9.2. Impact of the Drinking Water Protection Zone

In addition to the above, it is relevant to consider the impact drinking water protection zones that affect the site. The Ōhoka Township water supply comes from Wells M35/5609 and BX24/0262. The Canterbury Map GIS shows the drinking water protection zones for these bores. Figure A7 (**Attachment 2**) shows the extent of the two protection zones. The protection zones cover 6.23 ha of the Site. 4.12 ha of this is LUC Class 3 and 2.11 ha of LUC Class 2 soils. This leaves 0.75 ha of LUC Class 2 soils outside of the protection zone.

The purpose of the protection zone is to ensure that activities that might have adverse effects on the drinking water supply are restricted so as to protect the community water supply. This does not mean that all activities are prohibited but rather means that intense agricultural activity within the protection zone may be limited if it increases the risk to the drinking water source. This reduces the productive area under the CRPS or LUC Class 2 land to just 0.75 ha.

10. Summary and Conclusion

Carter Group proposes to develop the Site for urban use. A summary of our findings includes the following:

- Current land use: The majority of the Site is currently used for dairy farming and cattle breeding.
- Soil and drainage: The soils are primarily clay with poor to very poor drainage, which impacts productive potential unless crops suited to wet conditions are grown.
- Soil classification: The site is mainly LUC Class 3, with a small portion of Class 2. The primary limitation on productivity is soil wetness due to poor drainage. Only 2.86 ha of the site is classified as versatile soil under the CRPS. However, drinking water protection zones cover 2.11 ha of the LUC Class 2 soils. This reduces the area of LUC Class 2 soils unlikely to be impacted by statutory provisions relating to the drinking water supply protection zone to just 0.75 ha. In summary, we consider the area of versatile soils within the Site to only be 0.75 ha or 0.49% of the 154.46 ha site.
- NPS-HPL: The NPS-HPL does not apply because the site was subject to a council-initiated plan change which rezoned it from Rural to RLZ and is also now zoned RLZ under the Partially Operative District Plan.

Overall, we consider that the proposed development would have less than minor adverse effects in terms of the loss of productive land.

ATTACHMENT 1 – VICTOR MTHAMO'S QUALIFICATION AND EXPERIENCE

Victor report holds:

- A Bachelor of Agricultural Engineering (Honours) with a major in Soil Science and Water Resources (University of Zimbabwe).
- Master of Engineering Science in Water Resources (University of Melbourne in Victoria, Australia).
- Master of Business Administration (University of Zimbabwe).
- An Advanced Certificate in Overseer Nutrient Management modelling qualification.

Victor is a member of Engineering New Zealand (MEngNZ), a Chartered Professional Engineer (CPEng) and an International Professional Engineer (IntPE). He was a past National Technical Committee Member of (i) Water New Zealand and (ii) New Zealand Land Treatment Collective (NZLTC).

Victor Mthamo's specific experience relevant to this report includes:

- Stormwater planning, catchment hydraulic and hydrological modelling and design.
- Presenting evidence at a regional council hearing on catchment wide modelling that he carried out to assess the effects of flooding in the lower reaches of the Waitaki catchment in South Canterbury.
- Regular engagement by Christchurch City Council (CCC) as a Three Waters Planning Engineer. In this role as a stormwater planning engineer, he reviews stormwater designs and modelling by various engineers from consulting firms. This work requires a good understanding of soils and water movement in soils.
- Designing and implementing numerous on-farm irrigation schemes, soil investigations and land use assessments. Examples of projects include Hunter Downs Irrigation Scheme, North Bank Hydro Project, Mararoa-Waiau Rivers Irrigation Feasibility Study and the North Canterbury Lower Waiau Irrigation Feasibility Assessment.
- Assessing large subdivisions in relation to stormwater management, earthworks and the associated actual and potential impacts on soils, groundwater and surface waterways and how to effectively use erosion and management control plans to mitigate the potential impacts that may occur during the construction works.
- Assessing effects on soils and groundwater associated with onsite and community wastewater discharge systems such as the Wainui Community wastewater discharge consent.
- Assessing actual and potential effects on groundwater and surface water associated with groundwater and surface water takes.
- Providing quarry soils and rehabilitation expert evidence for new quarries and extensions to existing quarries. Examples of these are:
  - The Road Metals Quarry on West Coast Road in Templeton in 2018.
  - Fulton Hogan Roydon Quarry.
  - Fulton Hogan's Miners Road Quarry.
  - Fulton Hogan's Rolleston Quarry Extension.
  - Road Metals' Rolleston Quarry extension.
- More recently, he has been involved with a number of Plan Changes across Canterbury. These include:
  - Plan Change 66 (PC66) in Rolleston.
  - Plan Change 67 (PC67) in West Melton.
  - Plan Change 68 (PC68) in Prebbleton.
  - Plan Change 69 (PC69) in Lincoln.
  - Plan Change 71 (PC71) in Rolleston.
  - Plan Change 74 (PC74) in Rolleston.
  - Plan Change 75 (PC75) in Rolleston.
  - Plan Change 79 (PC79) in Prebbleton.
  - Plan Change 80 (PC80) in Rolleston.
  - Plan Change 81 (PC81) in Rolleston.
  - Plan Change 82 (PC82) in Rolleston.
  - Plan Change 31 (PC31) in Ohoka.

ATTACHMENT 2 – TABLES

Table A1 - Details of the Individual Land Parcels

Legal Description	Area (ha)
Lot 2 DP61732	20 (part of [redacted])
Lot 2 DP318615	22.922 (part of [redacted])
Lot 3 DP318615	43.7275 (part of [redacted])
Lot 2 & Part Lot 1 DP8301	65.9144 (part of [redacted])
Lot 1 DP318615	1.8540
Total	**154.4179**

Table A2 – Soil Types and Area Under Each Soil Type

Soil Name	SMap Name	Soil Texture	Soil Depth (cm)	Permeability	Area (ha)	Percentage (%)
Ayreburn	Ayre_2a.1	Clay	45-100	Moderate/Slow	74	47.7%
Leeston	Lees_1a.1	Clay	20-45	Moderate/Slow	31	20.0%
Ayreburn	Ayre_1a.1	Clay	>100	Moderate/Slow	31	20.0%
Paynter	Payn_6a.1	Peat over Clay	>100	Slow	16	10.3%
Pahau	Paha_31a.1	Silty Loam over Clay	45-100	Moderate/Slow	<1	0.6%
Darnley	Darn_1a.1	Silty Loam	20-45	Moderate/Slow	<1	0.6%
Leeston	Lees_3a.1	Stony Clay	20-45	Moderate/Slow	<1	0.6%
Total Area					**154.4**	**100**

Table A3 – Drainage Properties of the Soils

Drainage Description	Area (ha)	Percentage (%)
Very Poorly Drained	16	10.32%
Poorly Drained	137	88.39%
Imperfectly Drained	<1	<0.65%
Moderately Well Drained	<1	<0.65%
Total Area	**154.4**	**100**

Table A4 – Gross Default LUC Classes within the Site

LUC Class	Area (ha)	%age
LUC 2w	2.86	1.85%
LUC 3w	151.56	98.15%
Total	**154.42**	**100%**

ATTCHMENT 3 – FIGURES

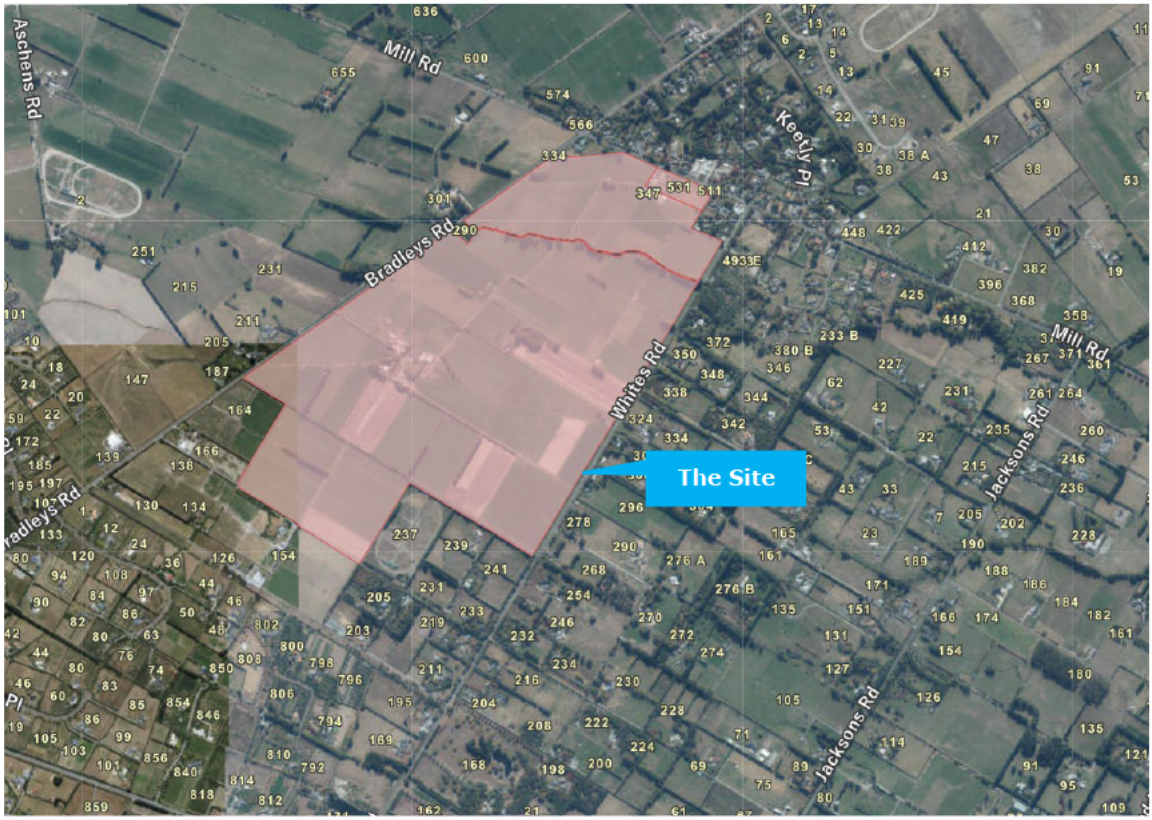

Figure A1 – Location of the Site

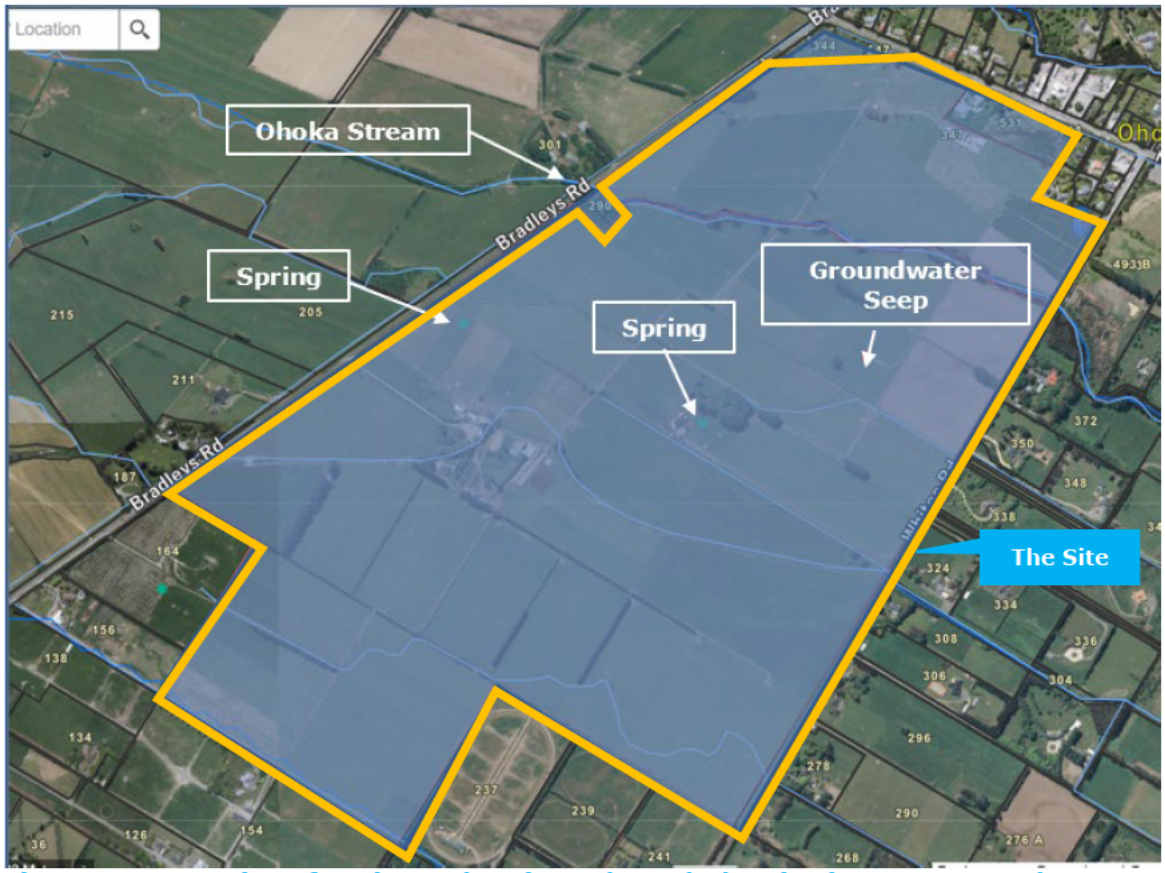

Figure A2 – Location of Drains and Springs Through the Site (Source: Canterbury Maps)

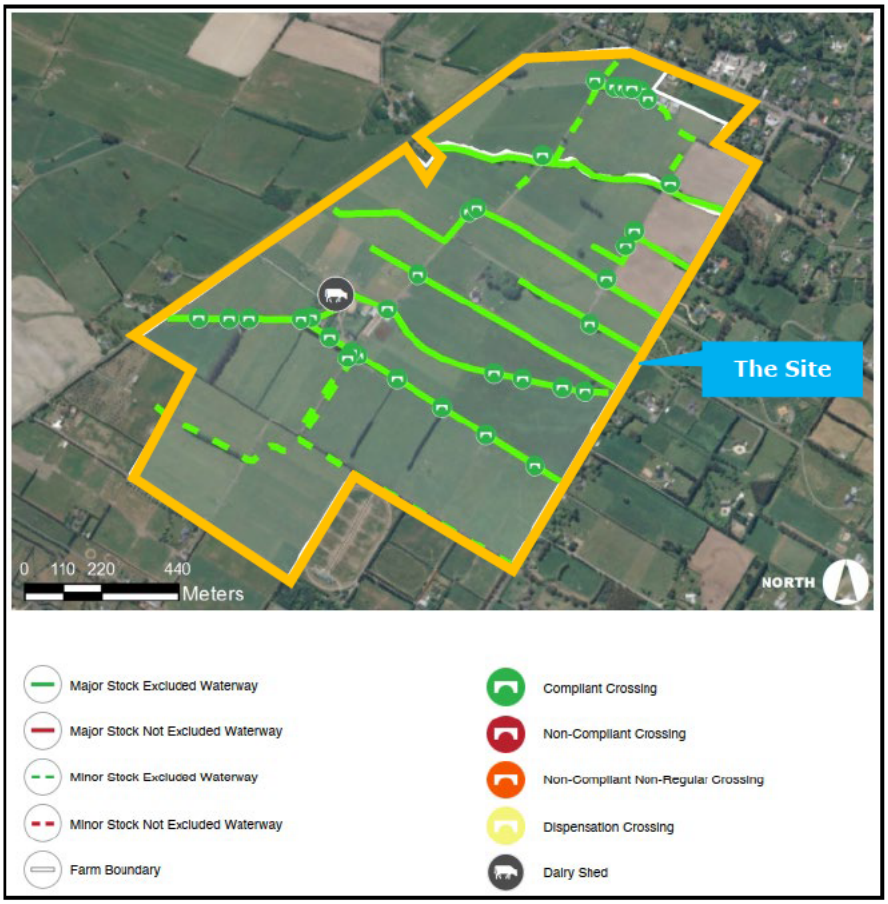

Figure A3 - Location of the Drains and Springs Through the Site (Source: Farmsource)[9]

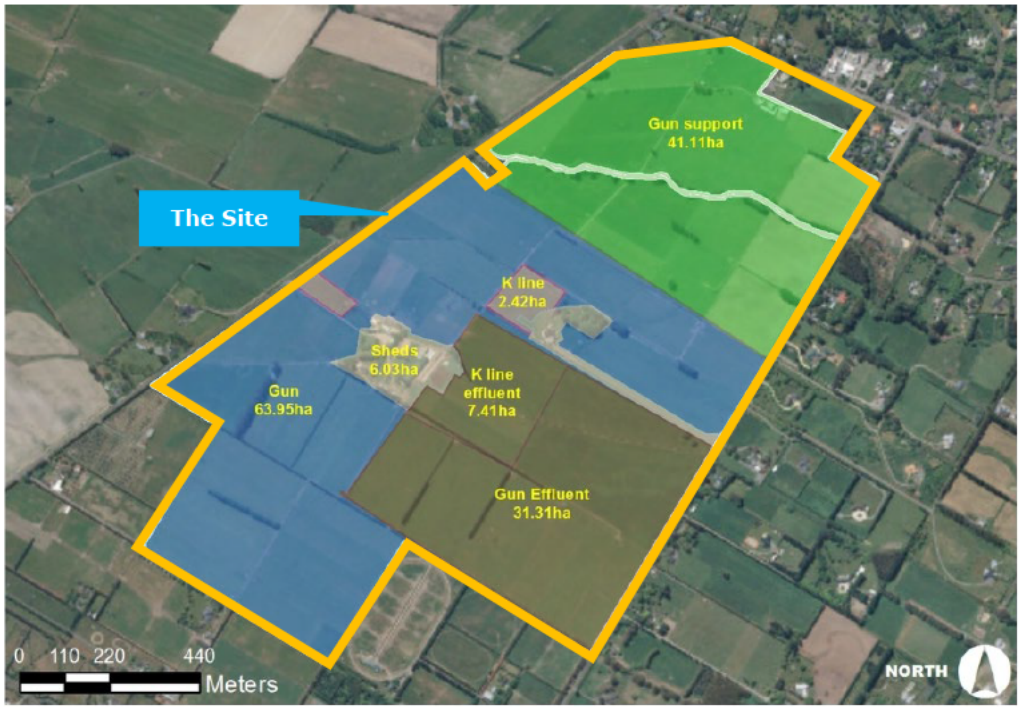

Figure A4 - Current Irrigation Plan (Original Source - Farm Environment Plan Prepared By Farmsource[9])

[9] *FarmSource. Tiaki Farm Environmental Plan. December 2020.*

Increasing Limitations to Use ↓	LUC class	Arable Cropping Suitability†	Pastoral Suitability	Production Forestry Suitability *	General Suitability	Decreasing Versatility of Use ↓
	1	High	High	High	Multiple Use Land	
	2					
	3					
	4	Low				
	5	Unsuitable	Low	Low	Pastoral or Forestry Land	
	6					
	7					
	8		Unsuitable	Unsuitable	Catchment Protection	

Figure A5 – Relationship between the Versatility and LUC Classes (Lynn et al, 2009[10])

Figure A6– LUC Classes Within the Site

[10] http://envirolink.govt.nz/assets/Envirolink/83-mldc7-MarlboroughSoilsAdvice.pdf

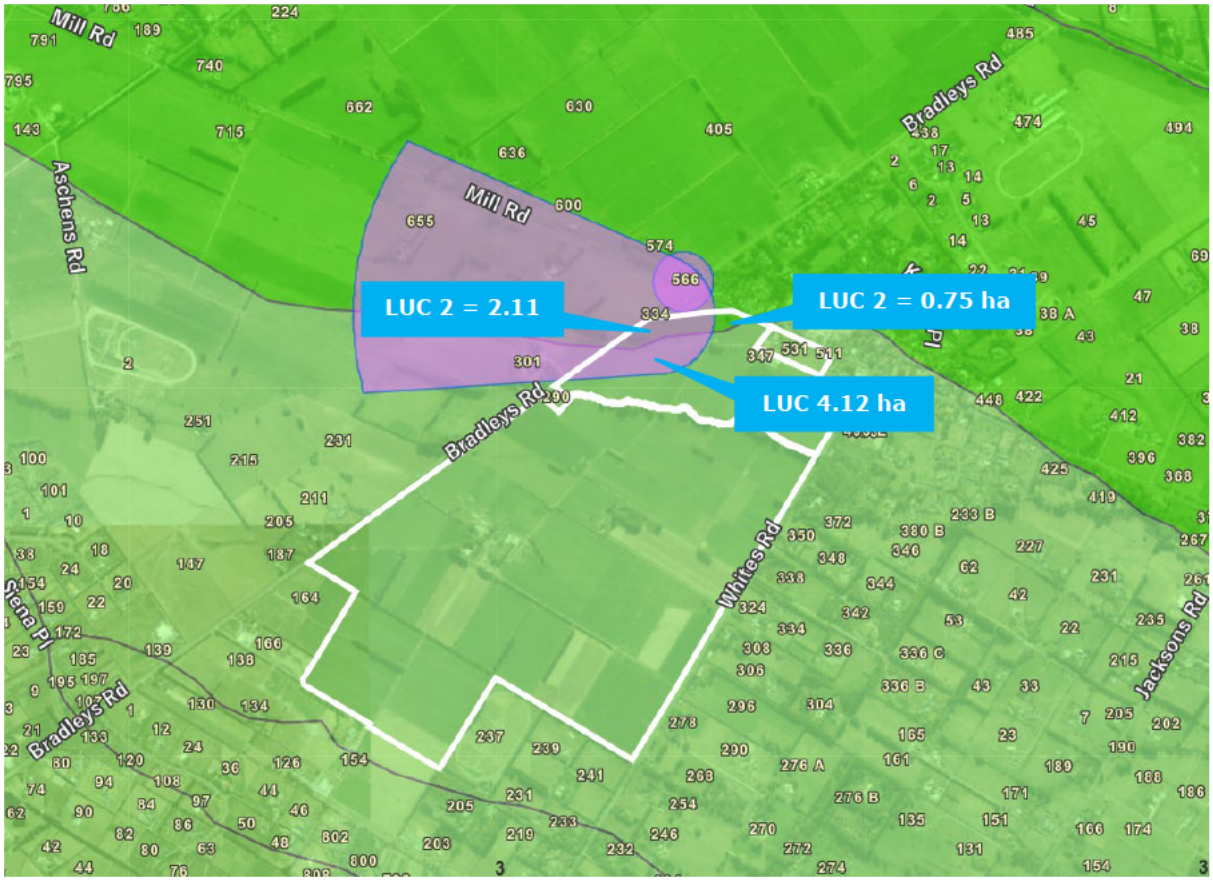

Figure A7 - Drinking Water Protection Zones for Wells BX24/0262 and M35/5609