WE ARE CARTERTON.
CARTERTON DISTRICT COUNCIL

24 October 2023

[redacted]

Dear [redacted]

LOCAL GOVERNMENT OFFICIAL INFORMATION AND MEETINGS ACT Request: 2023-71

Thank you for your email of 26 September 2023 to the Carterton District Council (CDC) requesting the following information:

1. *"Could you confirm whether the protozoa defence systems in place meet Taumata Arowai's Drinking Water Quality Assurance Rules 2022, or whether there is more work to do to be fully compliant?*
2. *Has the council had to submit an Acceptable Solution and/or disinfection exemption to Taumata Arowai? Can we see copies of any that have been prepared?*
3. *If in preparation, what stage are they at and when will they be completed and submitted?*
4. *Has the council prepared and submitted a source water risk management plan to Taumata Arowai? Are we able to see a copy?*
5. *If in preparation, what stage are they at and when will it be completed and submitted?"*

Your request has been considered under the Local Government Official Information and Meeting Act 1987 (the Act).

My response to your request is in the number order below.

Question 1

CDC has had UV disinfection in place since 2012 for both Frederick St and Kaipatangata Water Treatment Plants. This forms an effective protozoa barrier. There is ongoing work to update processes for instrumentation and telemetry to be able to consistently demonstrate full compliance of the UV operation.

Question 2

Acceptable Solutions are designed for small supplies and not suitable for Carterton due to the size. Carterton has used chlorine disinfection since the 1960's to provide safe drinking water and in combination with the UV disinfection provide a multibarrier approach for bacteriological, protozoa

and viral contamination, in compliance with the T3 section of the Drinking Water Quality Assurance Rules.

Question 3

Our document was submitted in Nov 2022, and is being revised frequently.

Question 4

Yes, Carterton has a Source Water Management Plan, see document attached as **Appendix 1.**

Question 5

The Source Water Management Plan accompanied the Water Safety Plan. Both were submitted to Taumata Arowai.

Please note, the Council now proactively publishes LGOIMA responses on our website. As such, we may publish this response on our website after five working days. Your name and contact details will be removed.

Thank you again for your email. If you have further questions please feel free to contact our media team in the first instance at comms@cdc.govt.nz.

If you are unsatisfied with my response, you have the right to ask an Ombudsman to review it. You can do this by writing to info@ombudsman.parliament.nz or Office of the Ombudsman, PO Box 10152, Wellington 6143.

Yours sincerely

Geoff Hamilton
Chief Executive
Carterton District Council

Appendix 1

Te Kaunihera-ā-Rohe o Taratahi
CARTERTON
DISTRICT COUNCIL

SOURCE WATER MANAGEMENT PLAN

REVIEWED 2022

Contents

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Revision history

Plan Version and Control Date	Revision	Checked by:
From Doc 39332		
Aug 2022	Draft	L Stephenson
Jan 2023	Version 1	L Stephenson

Next revision date: Jul 2023

1 Executive summary

Raw water is groundwater, surface water or rainwater that has not received any treatment to make it suitable for drinking. A requirement of the Water Services Act is the management of the water sources for water supplies.

The quality of the raw water must be good enough to produce a safe and acceptable drinking-water when treated, and it must come from a source that can consistently provide sufficient required quantity. Contaminated and poorly managed water sources can contain chemical, microbiological or radiological hazards which can lead to sickness.

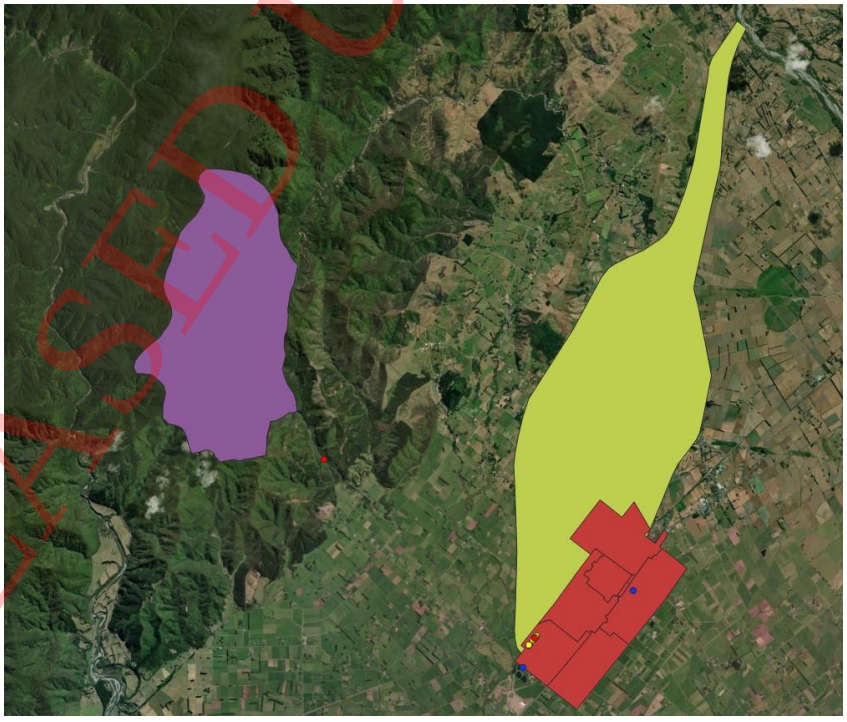
The Carterton water supply is currently serviced by 2 sources; these consist of:

- Ground water source on the west side of town.
- Surface water take from the Kaipaitangata stream to west of town.

The Carterton drinking-water supply abstracts water primarily from three bores located next to Lincoln Street, Carterton. The water is pumped to Frederick St plant where it is UV disinfected pH adjusted and chlorinated before storage. The stored water is then pumped into the Carterton network. The other source, with water supplied from the Kaipatangata Water Treatment Plant. The Kaipatangata plant abstracts water from the Kaipatangata stream via a couple of concrete chambers within the stream. The Kaipatangata plant filters water through a 2 stage process, sand filters then bag filter, before UV disinfection, chlorination and pH correction and stores the water in two reservoirs on-site. This water can be delivered under gravity to the Carterton network.

The Carterton water supply serves 5820 (2021) people.

Figure 1: Overview of Carterton water sources



This source water management plan will review each catchment area and identify risks within the area. The risk of each catchment will be evaluated separately. Each has been prepared by

evaluating the nature of the source, historic monitoring data, land use in the catchment and sources of contaminants and discharges within the catchment, including records of resource consents held by Wellington Regional Council.

Information regarding the source and catchment zone was obtained from the Carterton District Council staff, topographical maps (GIS), aerial photography (GIS), the Land Cover Database from MFE (GIS) and water quality monitoring records held by District Council and the Wellington Regional Council (WRC).

As part of the management plan, it will outline:

1. Further investigations to be carried out.
2. Monitoring of activities within the area.
3. Monitoring of the source water quality.
4. Review of plan and timelines.

2 Kaipatangata Stream

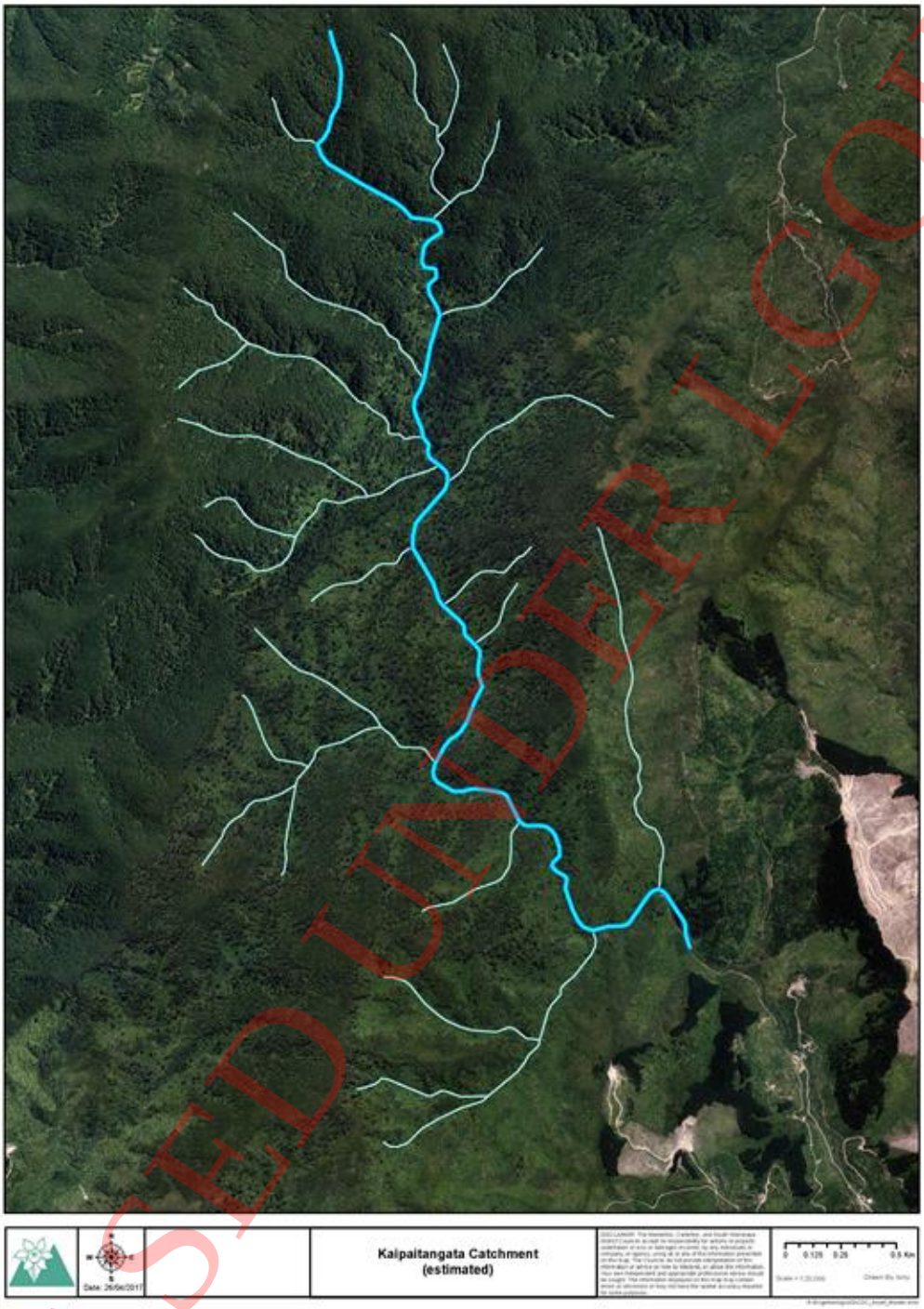
2.1 Catchment Delineation

The catchment for the Kaipatangata upstream of the intake chambers is approximately 600 hectares. The topographic maps (Figure 1, Figure 2) provides an outline of the catchment area. It has been determined using GIS analysis to include the small tributaries with potential to contribute water to the point of abstraction for the Kaipatangata drinking-water supply.

2.2 Catchment Charateristics

The land use map below (Figure 2) identifies the area of the catchment and the land use of that area. The vast majority of the catchment is within the Tararua State Forest Park and is covered with indigenous forest and some pine forestry.

Figure 2: Kaipatangata stream catchment



There is likely to be feral animals in the forested areas of the catchment such as possums, rodents, wild pigs and deer. There are likely to be few human activities in the catchment aside from recreational activities, such as, tramping, cycling and hunting. The water course is small and does not enable any in stream activities.

The owners of the land in the catchment is Department of Conservation and CDC, so control of the area and the activities is easy to control. A review of the landuse over time shows that the managed pine forestry area is decreasing over time.

2.3 Source Risks and Management

The risks are presented in a similar table format as the Water Safety Plan tables to make sure risks are covered and easily transferrable. Controls and management actions are focussed on source protection, treatment options are addressed in the Water Safety Plan.

Table 1: Carterton District Council Water Source Risks - Kaipatangata

Risk type	Risk	Management Action	Date	Responsibility
Chemical	Chemical spill in catchment	DOC and CDC controlled area with experienced operators, spill containment – communicate with operators	Nov 2022	Ops Manager, Compliance officer
Chemical	Pest control	DOC and CDC controlled area – create approved list of pest control	Feb 2023	Compliance officer
Microbiological	Feral animals	Pest control (approved contractors) – review pest control with DOC	Dec 2022	Ops Manager, Compliance officer
Microbiological	High turbidity	Mature vegetation and reduced forestry blocks – Review processes for forestry operations; Telemetry, increased monitoring for turbidity and conductivity	Dec 2022	Ops Manager
Microbiological	Faecal contamination	Mature vegetation and few formed track - Review access controls and information signs	Dec 2022	Ops Manager, Compliance officer
Microbiological	Cyanobacteria	Mature vegetation and shaded stream – Intake monitoring and impoundment dam only used in emergency. Create cyanobacteria monitoring tool for operators	Dec 2022	Ops Manager, Compliance officer
Radiological	Surface water, no risk			Ops Manager

3 Frederick Street Bores

3.1 Catchment Delineation

The catchment for the Frederick St bores extends over a large distance. The topographic maps (Figure 1, Figure 3) provides an outline of the catchment area. This area has been taken from the zone protection area modelled by Wellington Regional Council (WRC) as part of proposed natural resources plan. The calibrated model capture zones highlights the area where influences from the surface may flow through to the bore abstraction points over a 10 year period. Figure 4 shows the different time periods; 1, 2, 5, and 10 year that were evaluated.

Note: the modelling assumes groundwater travel, no evaluation was made of the effect through the top soil profiles.

Figure 3: Frederick St protection zone

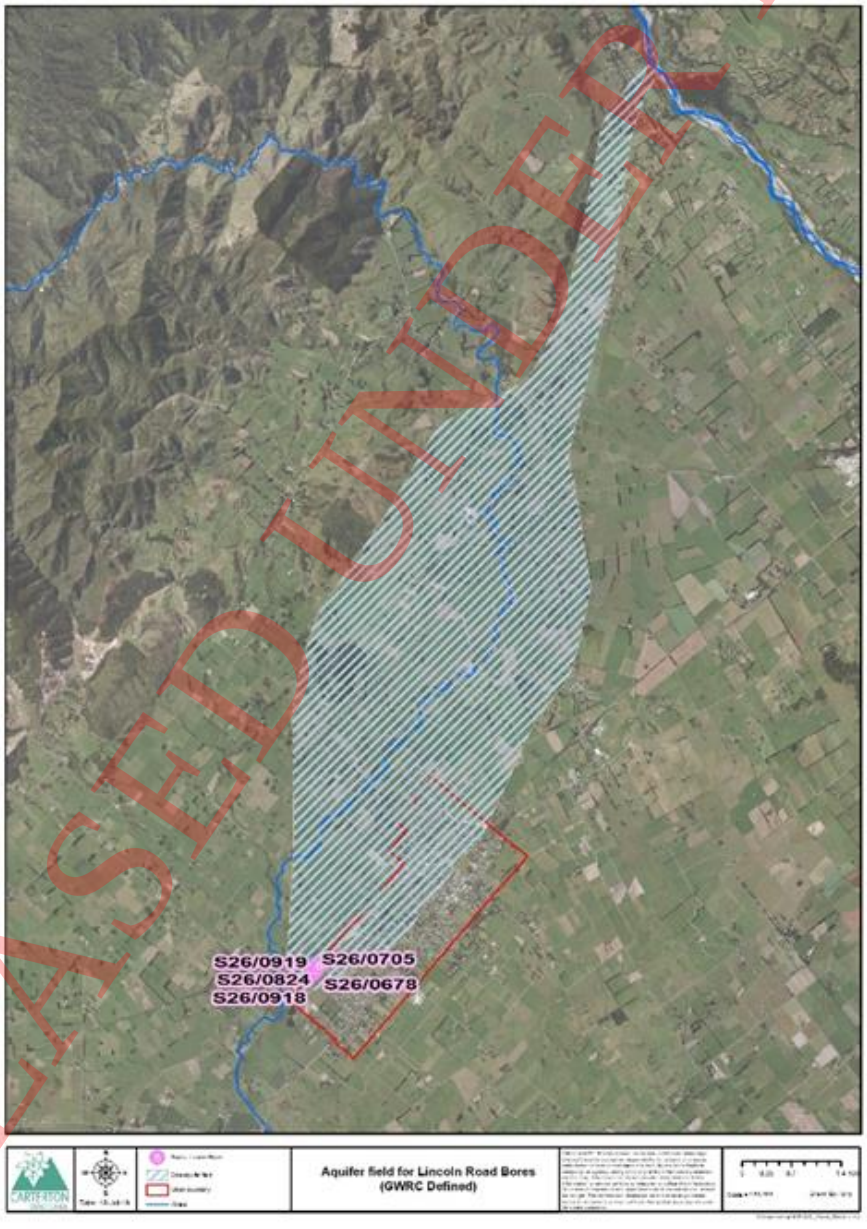
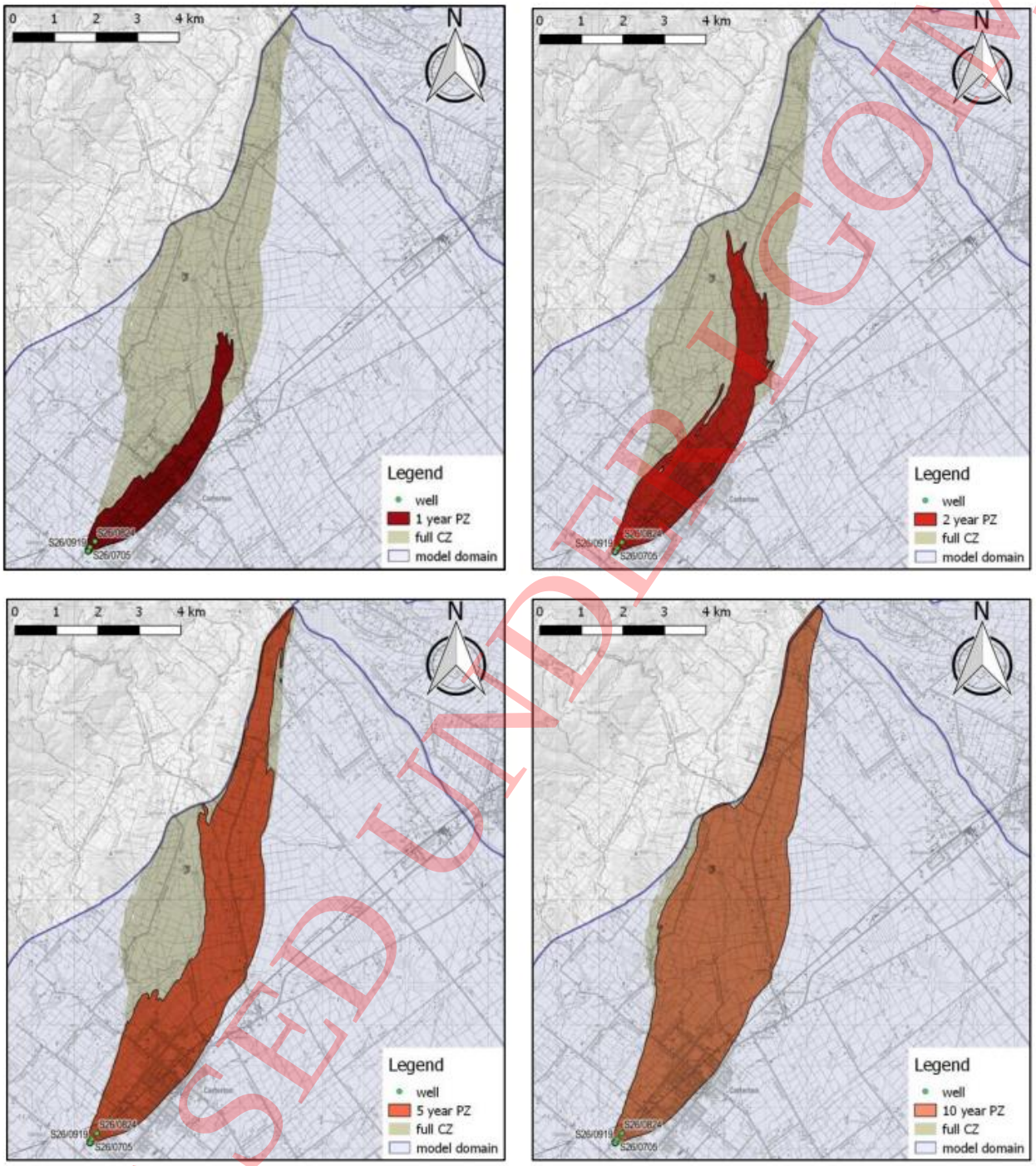


Figure 4: Frederick St protection zones 1, 2, 5 and 10 year zones



Extract from draft 2017 report.

3.2 Catchment Characteristics

The land use maps identifies that large areas within the catchment are mainly rural in nature, with the dairy component.

There is likely to be a wide mix of agricultural uses above the aquifer.

3.3 Source Risks and Management

As per section 2.3, the risks are presented in a similar table format as the Water Safety Plan tables to make sure risks are covered and easily transferrable. Controls and management actions are focussed on source protection, treatment options are addressed in the Water Safety Plan.

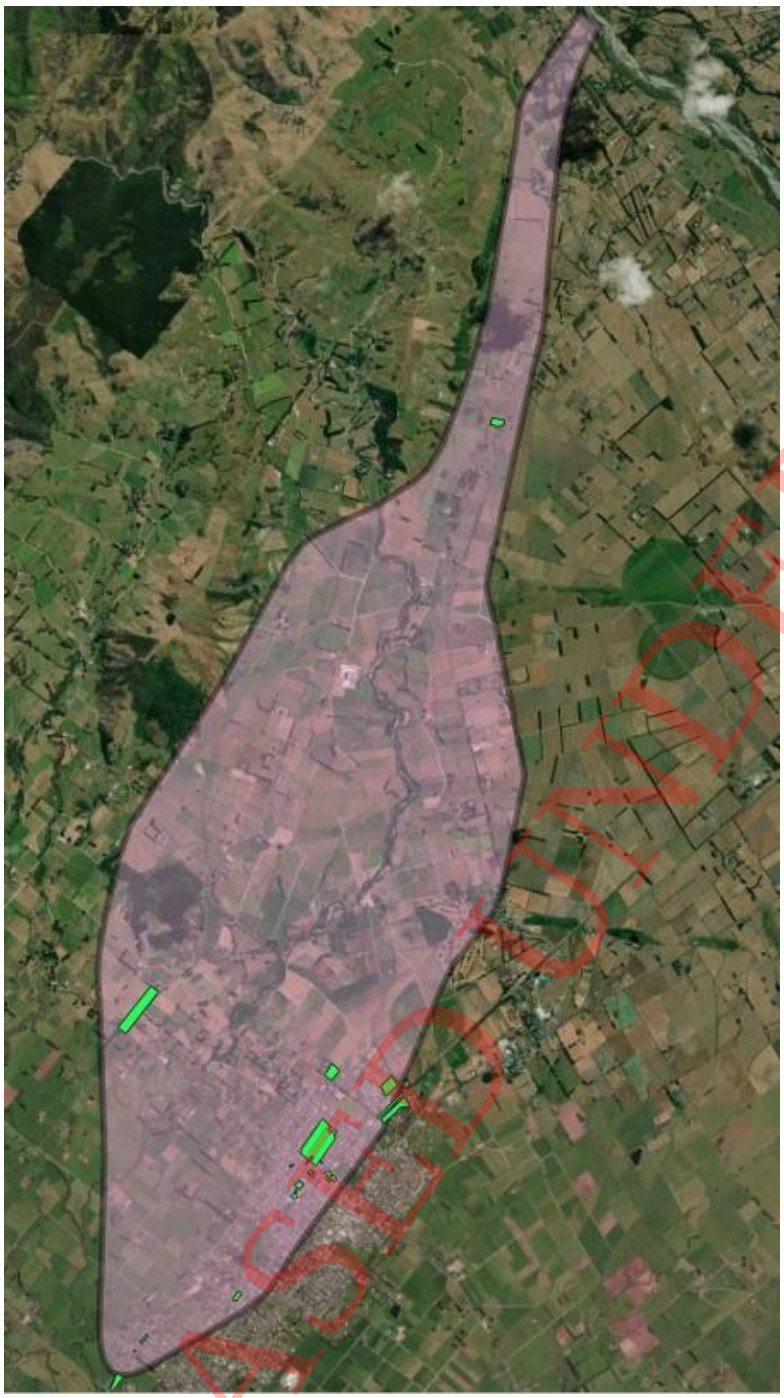
Table 2: Carterton District Council Water Source Risks – Frederick St bores

Risk type	Risk	Management Action	Date	Responsibility
Chemical	Chemical spill in catchment	Filter through soil, monitor for large spills and produce action plan to minimise extent	Feb 2023	Ops Manager, Compliance officer
Chemical	Pesticides used in agriculture	Monitoring upstream groundwater. Farmer education. Monitoring of pesticides in monitoring (below detection level baseline)	Jan 2023	Compliance officer
Chemical	Fertiliser used in irrigation	Backflow prevention inspections. Work with WRC officer to assess/improve bore protection – see appendix list of bores in catchment	Jan 2023	Compliance officer
Chemical	Medication used in stock drinking water	Backflow prevention inspections. Work with WRC to assess bore protection	Jan 2023	Compliance officer
Chemical	Contaminated land	Review of SLUR register and create GIS map (Appendix A)	Dec 2022	Compliance officer/ GIS
Microbiological	Stock drinking water through unsecure bores	Backflow prevention inspections. Work with WRC to assess bore protection	Jan 2023	Compliance officer
Microbiological	Intensive land use affects groundwater	Create GIS map (Appendix B) for farm uses. Work with WRC for compliance and environmental plans	Jan 2023	Compliance officer
Microbiological	Land use affects groundwater – discharge consents	Create GIS map (Appendix B) for land discharges. Work with WRC for compliance and environmental plans	Jan 2023	Compliance officer
Microbiological	Land use affects groundwater – septic discharge consents	Create GIS map (Appendix B) for land discharges. Work with regulatory team for management of development	Jun 2023	Compliance officer

Microbiological	High turbidity	Telemetry, increased monitoring for turbidity and conductivity, annual review of LAWA monitoring sites	Dec 2022	Ops Manager
Microbiological	Faecal contamination	Telemetry, increased monitoring for turbidity and conductivity, annual review of LAWA monitoring sites	Dec 2022	Ops Manager, Compliance officer
Radiological	Category B, link to surface water	Radiological testing completed to assess risk, 10 year review	Oct 2022	Ops Manager

Appendix A

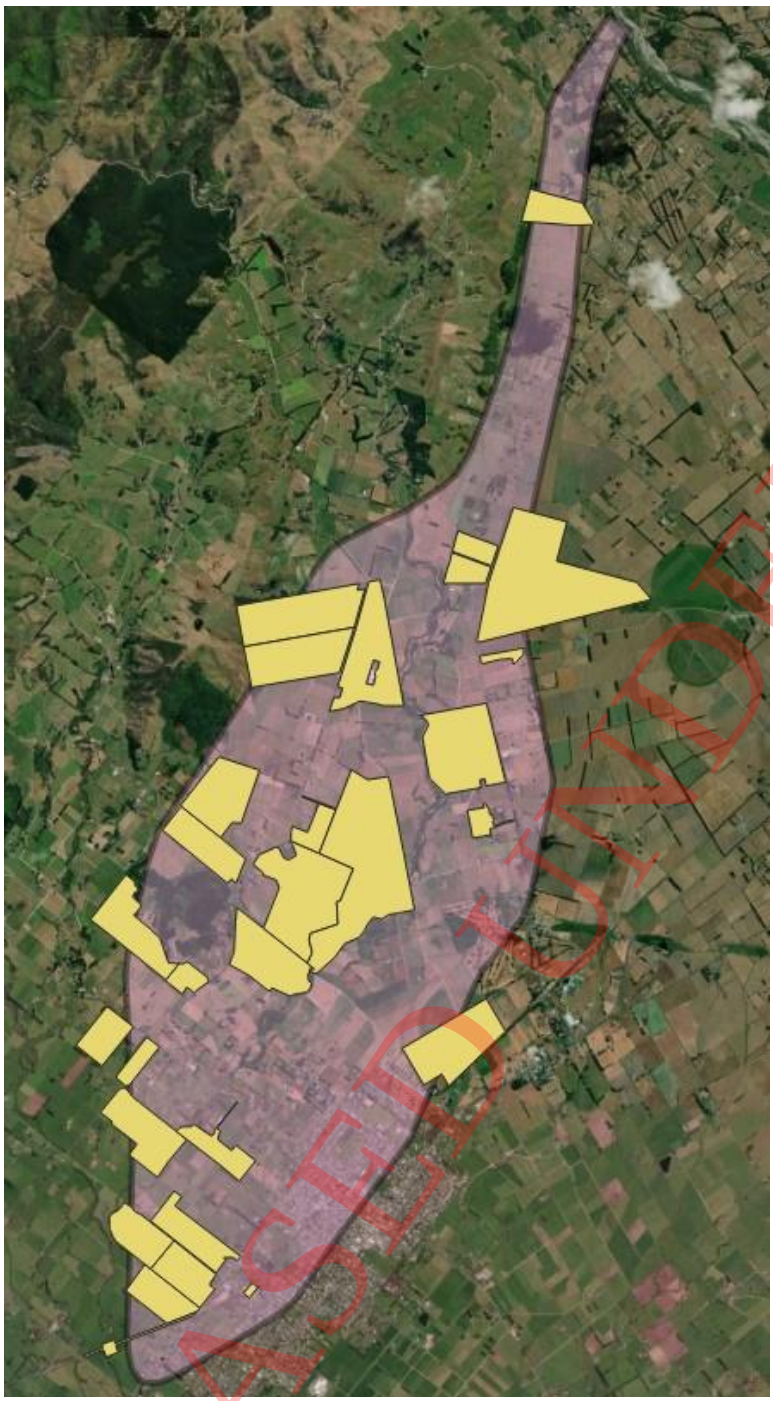
Figure 5 Site with land use risks – SLUR register map



List and map image attached

Appendix B

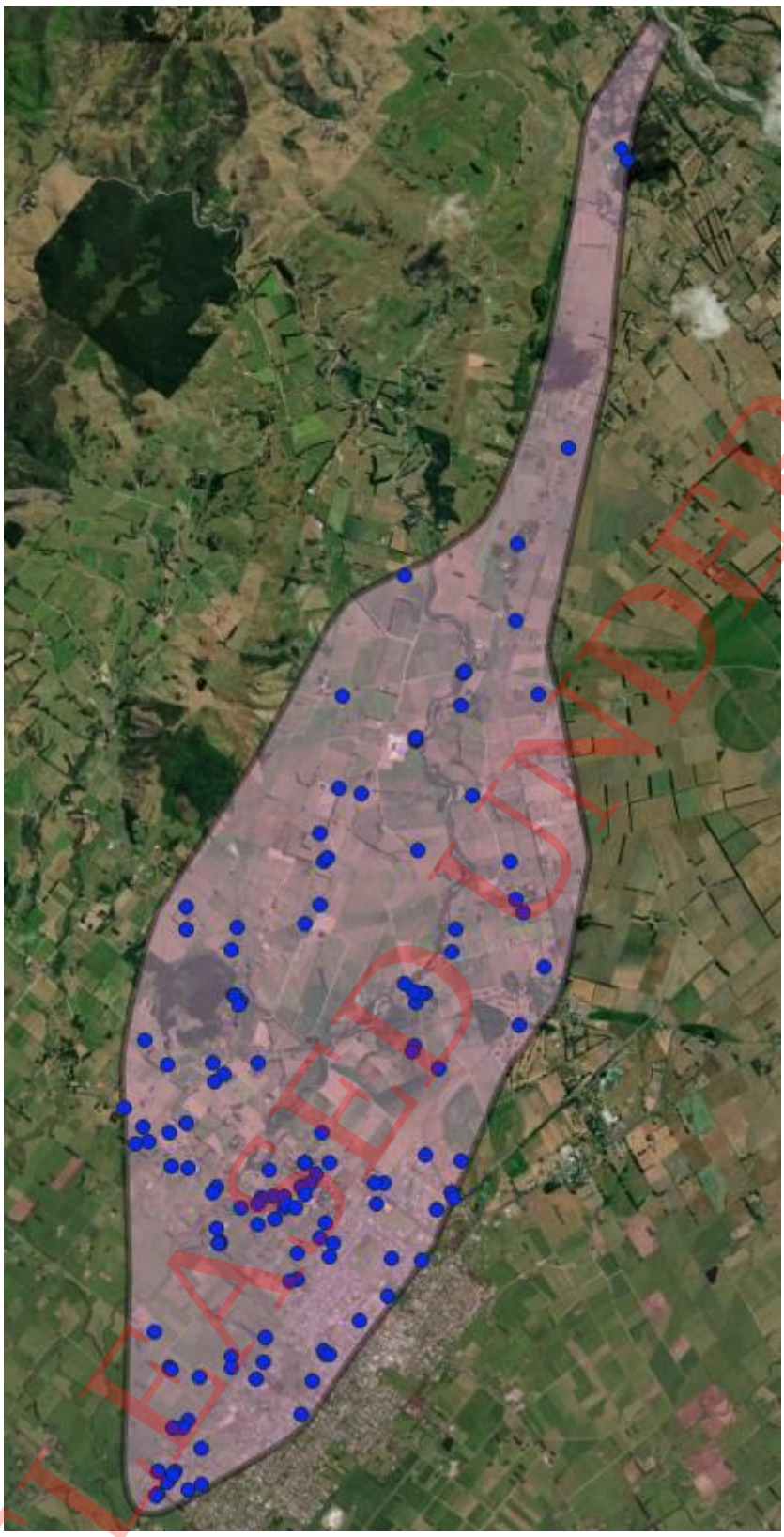
Figure 6 Site with land use risks – Land discharges



List and map image attached

Appendix C

Figure 7 Known bores within catchment



List and map image attached