Waimakariri District Council

Utilities and Roading Committee

Agenda

Tuesday 10 March 2026
9am

Council Chambers
215 High Street
Rangiora

Members:

Cr Philip Redmond (Chairperson)
Cr Tim Bartle
Cr Tim Fulton
Cr Niki Mealings
Cr Joan Ward
Mayor Dan Gordon (ex officio)

WAIMAKARIRI
DISTRICT COUNCIL

AGENDA CONTENTS – UTILITIES AND ROADING COMMITTEE

The Chairperson and Members
UTILITIES AND ROADING COMMITTEE

A MEETING OF THE UTILITIES AND ROADING COMMITTEE WILL BE HELD IN THE COUNCIL CHAMBER, RANGIORA SERVICE CENTRE, 215 HIGH STREET, RANGIORA, ON TUESDAY 10 MARCH 2026 AT 9AM.

Sarah Nichols
GOVERNANCE MANAGER

Recommendations in reports are not to be construed as Council policy until adopted by the Council

BUSINESS

Page No

1 APOLOGIES

2 CONFLICTS OF INTEREST

Conflicts of interest (if any) to be reported for minuting.

3 CONFIRMATION OF MINUTES

3.1 **Minutes of the meeting of the Utilities and Roading Committee held on Tuesday, 9 December 2025.**

9-19

RECOMMENDATION

THAT the Utilities and Roading Committee:

(a) **Confirms** the circulated Minutes of the meeting of the Utilities and Roading Committee held on 9 December 2025 as a true and accurate record.

3.2 **Matters Arising (From Minutes)**

3.3 **Notes of a Workshop of the Utilities and Roading Committee held on Tuesday, 9 December 2025**

20-22

RECOMMENDATION

THAT the Utilities and Roading Committee:

(a) **Receives** the circulated Notes of the Workshop of the Utilities and Roading Committee held on 9 December 2025.

4 DEPUTATION/PRESENTATIONS

Nil.

5 REPORTS

5.1 Amendments to Rangiora Stormwater Management Plan 2025-40 – Sophie Allen (Water Environment Advisor) and Kirtina Ismail (Waterways Engineer)

23-104

RECOMMENDATION

THAT the Utilities and Roading Committee:

(a) **Receives** Report No. 260120008514.

(b) **Approves** the proposed amendments to the SMP as set out in the Rangiora Stormwater Management Plan (SMP) 2025-2040 Version 1.2 (Trim: 260119007726[v03]).

(c) **Approves** staff submitting the revised SMP Version 1.2 to Canterbury Regional Council (CRC) for certification in accordance with the conditions 10 and 13 of the resource consent CRC262840.

(d) **Notes** that the Rangiora Stormwater Management Plan 2025-2040 Version 1.1 was circulated for consultation in 2024/25 to Te Ngāi Tūāhuriri Rūnanga via Mahaanui Kurataiao Ltd, Rangiora Ashley Community Board, and the Waimakariri Water Zone Committee.

(e) **Notes** that, as the amendments made to SMP Version 1.2 are minor in nature, a further round of consultation is not necessary before the document is submitted to CRC for certification.

5.2 New Footpath Programme 2025/26 Update and Approval – Joanne McBride (Roading and Transport Manager)

105-112

RECOMMENDATION

THAT the Utilities and Roading Committee:

(a) **Receives** Report No. 260226065342.

(b) **Approves** the Updated New Footpath Programme for 2025/26 which includes Highfield Lane.

(c) **Notes** that New Life School have approached staff regarding installing a footpath on Denches Road outside the school as part of their site works. This will be the subject of a future report to Council once further information is available.

(d) **Notes** that the full New Footpath Programme for future years (2026/27 onwards) will be taken to the Community Boards to seek feedback in May this year.

(e) **Notes** that this funding is for new footpaths in our major urban areas (Rangiora, Kaiapoi, Woodend and Oxford), and that footpath renewals and maintenance are funded from different budget areas.

6 PORTFOLIO UPDATES

6.1 Roading – Deputy Mayor Philip Redmond

6.2 Drainage, Stockwater and Three Waters (Drinking Water, Sewer and Stormwater) – Councillor Tim Fulton

6.3 Solid Waste– Councillor Niki Mealings

6.4 Transport – Mayor Dan Gordon

7 REPORTS REFERRED FROM THE RANGIORA-ASHLEY COMMUNITY BOARD

7.1 Approval to Install No Stopping Restrictions – Grey View Grove – Joanne McBride (Roading and Transport Manager)

(Refer to the attached copy of report Trim no. 251103208879 to the Rangiora-Ashley Community Board Meeting of 10 December 2025).

113-116

RECOMMENDATION

THAT the Utilities and Recreation Committee:

(a) **Approves** installation of the following no-stopping restriction:

- Grey View Grove on the north side of the road from the intersection with East Belt east to the access to Nos. 3 and 9. This is a length of 75 metres.

(b) **Notes** that the installation of a no-stopping restriction at this location equates to the loss of 11 on-street car parking spaces.

7.2 Request to Approve the Extension of No-Stopping Restrictions on Southbrook Road – Nithin Puthupparambil (Transportation Engineer) and Shane Binder (Senior Transportation Engineer)

(Refer to the attached copy of report Trim no. 260116006869 to the Rangiora-Ashley Community Board Meeting of 11 February 2026).

117-121

RECOMMENDATION

THAT the Utilities and Recreation Committee:

(a) **Approves** installation of the following no-stopping restrictions:

- Southbrook Road, on the east side of the road, for a length of 18.5m south of the existing restriction, starting at the northern end of driveway to 66A, 66B, and 66 Southbrook Road and ending at northern end of driveway to 66A Southbrook Road.
- Southbrook Road, on the west side of the road, for a length of 6m to the south of the existing restriction, starting at the southern end of 55 A, and 55 Southbrook Road and ending at 13m from the northern end of driveway to 53D Southbrook Road.

(b) **Notes** that this extension of existing no-stopping restrictions will not result in on-street parking loss, as the areas are not designed for parking and are too narrow to safely accommodate parking.

(c) **Notes** that consultation was undertaken with nearby residents regarding the proposed No Stopping restrictions, and one opposing response was received.

7.3 Request to Approve Golding Avenue No-Stopping Restrictions – Shane Binder (Senior Transportation Engineer) and Joanne McBride (Roading and Transport Manager)

(Refer to the attached copy of report Trim no. 260109002898 to the Rangiora-Ashley Community Board Meeting of 11 February 2026).

122-131

RECOMMENDATION

THAT the Utilities and Recreation Committee:

(a) **Approves** installation of the following no-stopping restrictions:

- Eastern side of Golding Avenue, for a length of 11m north of the driveway to no. 22 Golding Avenue.
- Western side of Golding Avenue, from a point 10m south of the driveway to no's 19-31 Golding Avenue, for a length of 11m south.

(b) **Notes** that properties adjoining the proposed no-stopping restrictions were sent consultation letters in July 2025, but no feedback was received.

8 REPORT REFERRED FROM THE WOODEND-SEFTON COMMUNITY BOARD

8.1 Request Approval of No Stopping Restrictions on Lacy Gate Place – Shane Binder (Senior Transportation Engineer) and Nithin Puthupparambil (Transportation Engineer)

(Refer to the attached copy of report Trim no. 250827158126 to the Woodend-Sefton Community Board Meeting of 9 February 2026).

132-135

RECOMMENDATION

THAT the Utilities and Recreation Committee:

(a) **Approves** installation of the following no-stopping restriction:

- Lacy Gate Place, from western end of access to no. 12 to the eastern end of the access to no. 15, being a total length of 19.5m.

(b) **Notes** that consultation was undertaken with the properties adjoining the proposed no-stopping restriction, and four of the five responses received supported the proposal.

9 REPORT REFERRED FROM THE OXFORD-OHOKA COMMUNITY BOARD

9.1 Proposed Oxford Minor Safety Improvements – Kieran Straw (Civil Projects Team Leader) and Joanne McBride (Roading and Transport Manager)

(Refer to the attached copy of report Trim no. 251013194306 to the Oxford-Ohoka Community Board Meeting of 4 February 2026).

136-160

RECOMMENDATION

THAT the Utilities and Recreation Committee:

(a) **Approves** the Scheme Plans for the Depot Road Bridge, the Oxford Urban / Rural Speed Thresholds and Oxford Pedestrian Crossings.

(b) **Approves** the implementation of 240m of no passing lines (120m on each bridge approach) on Depot Road, between RP 730m and 850m (westbound), and RP 1215m and RP 995m (eastbound) (as per Trim: 251024203213).

(c) **Approves** the implementation of 200m of no passing lines on Deport Road leading to the approach of the threshold, eastbound between RP 250m and RP 50m (100km/hr / 50km/hr speed threshold) as per attachment ii

(d) **Notes** that the Depot Road bridge has a budget of $70,000 within the 2025/26 financial year.

(e) **Notes** that the Oxford urban / rural speed thresholds project has a budget of $90,000 spread across the 2025/26 and 2026/27 financial years, and that it is anticipated that all line marking, and the proposed kerbed threshold will be completed in the 2025 / 26 year, with the threshold signage being installed within the 2026 / 27 year.

10 REPORT FOR INFORMATION FROM THE OXFORD-OHOKA COMMUNITY BOARD

10.1 Request for Approval to Install One-Lane Road Priority Controls on Perhams Road at the First Eyre Stream Ford – Shane Binder (Senior Transportation Engineer) and Joanne McBride (Roding and Transport Manager)

161-165

10.2 Request to Approve Intersection Controls on Woodfields Road and Catherwoods Road – Nithin Puthupparambil (Transportation Engineer) and Shane Binder (Senior Transportation Engineer)

166-171

RECOMMENDATION

THAT the Utilities and Roading Committee:

(a) **Receives** Item 10.1 and 10.2 for information.

11 QUESTIONS UNDER STANDING ORDERS

12 URGENT GENERAL BUSINESS

13 MATTERS TO BE CONSIDERED WITH THE PUBLIC EXCLUDED

In accordance with section 48(1) of the Local Government Official Information and Meetings Act 1987 and the particular interest or interests protected by section 6 or section 7 of that Act (or sections 6, 7 or 9 of the Official Information Act 1982, as the case may be), it is moved:

That the public be excluded from the following parts of the proceedings of this meeting:

13.1 Contract 25/116 Tender Evaluation and Contract Award Report.
13.2 Contract 26/05 Pipeline Inspections.
13.3 Contract 25/71 Tender Evaluation and Contract Award Report
13.4 Contract 25/67 Tender Evaluation and Contract Award Report

The general subject of each matter to be considered while the public is excluded, the reason for passing this resolution in relation to each matter, and the specific grounds under section 48(1) of the Local Government Official Information and Meetings Act 1987 for the passing of this resolution are as follows:

Item No.	Subject	Reason for excluding the public	Grounds for excluding the public.
REPORTS FOR INFORMATION			
13.1	Contract 25/116 Tender Evaluation and Contract Award Report	Good reason to withhold exists under Section 7	To protect the privacy of natural persons, including that of deceased natural persons, maintain legal professional privilege and enable any local authority holding the information to carry on, without prejudice or disadvantage, negotiations (including commercial and industrial negotiations) **LGOIMA Sections 7 (2)(a), (g) and (i).**
13.2	Contract 26/05 Pipeline Inspections	Good reason to withhold exists under Section 7	To enable any local authority holding the information to carry out, without prejudice or disadvantage, commercial activities **LGOIMA Sections 7 (2)(h).**
13.3	Contract 25/71 Tender Evaluation and Contract Award Report	Good reason to withhold exists under Section 7	To protect the privacy of natural persons, including that of deceased natural persons, maintain legal professional privilege and enable any local authority holding the information to carry on, without prejudice or disadvantage, negotiations (including commercial and industrial negotiations) **LGOIMA Sections 7 (2)(a), (g) and (i).**
13.4	Contract 25/67 Tender Evaluation and Contract Award Report	Good reason to withhold exists under Section 7	To protect the privacy of natural persons, including that of deceased natural persons, maintain legal professional privilege and enable any local authority holding the information to carry on, without prejudice or disadvantage, negotiations (including commercial and industrial negotiations) **LGOIMA Sections 7 (2)(a), (g) and (i).**

CLOSED MEETING

Refer to Public Excluded Agenda (Separate Document).

OPEN MEETING

NEXT MEETING

The next meeting of the Utilities and Roading Committee is scheduled for Tuesday 14 April 2026 at 9am in the Council Chamber, Rangiora Service Centre, 215 High Street, Rangiora.

Workshop

- *Blake Street Carpark Reconfiguration – Heike Downie (Strategy and Centres Team Leader) 20mins*

Briefing

- *Rangiora High Street Water Main – Caroline Fahey (Water and Wastewater Asset Manager) and Kalley Simpson (3 Waters Manager) 30mins*
- *Rangiora Wastewater Pipeline Replacement Programme – Reuben Hunt (Senior Project Manager), Caroline Fahey (Water and Wastewater Asset Manager), Don Young (Senior Engineering Advisor) and Gerard Cleary (General Manager utilities and Roading) 30mins*

WAIMAKARIRI DISTRICT COUNCIL

MINUTES OF A MEETING OF THE UTILITIES AND ROADING COMMITTEE HELD IN THE COUNCIL CHAMBER, RANGIORA SERVICE CENTRE, 215 HIGH STREET, RANGIORA, ON TUESDAY, 9 DECEMBER 2025 AT 9 AM.

PRESENT:

Deputy Mayor Redmond (Chairperson), Councillors T Bartle, T Fulton, N Mealings, and J Ward.

IN ATTENDANCE:

Councillors B Cairns, J Goldsworthy and B McLaren.

G Cleary (General Manager Utilities and Roading), K Simpson (Three Waters Manager), J McBride (Roading and Transport Manager), C Fahey (Water and Wastewater Asset Manager), J Recker (Stormwater and Waterways Manager), C Freeman (Asset Management Engineer – Water and Wastewater), K Waghorn (Solid Waste Asset Manager), M Liu (Infrastructure Resilience Manager), M Henwood (Project Engineer) and K Rabe (Governance Adviser).

1 APOLOGIES

Moved: Deputy Mayor Redmond Seconded: Councillor Fulton

THAT the Utilities and Roading Committee

(a) **Received** and **sustained** requests for leaves of absence from Mayor D Gordon and Councillor W Doody, and an apology for early departure from Councillor McLaren, who left at 10.23am.

CARRIED

2 CONFLICTS OF INTEREST

No conflicts of interest were declared.

3 CONFIRMATION OF MINUTES

3.1 Minutes of the meeting of the Utilities and Roading Committee held on Tuesday, 25 November 2025.

Moved: Councillor Ward Seconded: Councillor Bartle

THAT the Utilities and Roading Committee:

(a) **Confirms** the circulated Minutes of the meeting of the Utilities and Roading Committee held on 25 November 2025 as a true and accurate record.

CARRIED

3.2 Matters Arising (From Minutes)

There were no matters arising from the minutes.

3.3 **Notes of a Workshop of the Utilities and Roading Committee held on Tuesday, 25 November 2025**

Moved: Councillor Bartle Seconded: Councillor Mealings

THAT the Utilities and Roading Committee:

(b) **Receives** the circulated notes of the Workshop of the Utilities and Roading Committee held on 25 November 2025.

CARRIED

4 DEPUTATION/PRESENTATIONS

There were no deputations or presentations.

5 REPORTS

5.1 **Extension of Wastewater Services in Old North Road, Kaiapoi** – K Simpson (3 Waters Manager), C Fahey (Water and Wastewater Asset Manager) and C Freeman (Asset Management Engineer, Water and Wastewater)

C Freeman presented the report, which sought a decision on the extension of wastewater services on Old North Road, Kaiapoi. Staff recommended that the Committee decline the extension and continue with the current approach outlined in the report.

Deputy Mayor Redmond noted that four residents had expressed interest and queried why other residents had not. C Freeman advised that the high cost had been a deterrent, as had the fact that other residents had working septic tanks or had recently upgraded theirs.

Deputy Mayor Redmond then asked whether any recent requests for an extension of wastewater services had been received, and C Freeman replied that none had been received.

In response to Councillor Fulton's query regarding prospective growth in the area, C Freeman noted that there had been no change to zoning in the area. Therefore, no population growth was expected.

Councillor Fulton questioned whether septic tanks were the recommended solution, given that the area was considered a floodplain. C Freeman observed that consent was required to install a septic system, and the conditions of the consent were that the system must meet New Zealand standards and be watertight.

Councillor Mealings asked what the requirements would be if a current septic tank had to be replaced or upgraded, and C Freeman replied that the same principle applied; the system would need to meet New Zealand standards and be watertight.

Deputy Mayor Redmond queried whether all the current septic tanks in the area were compliant. C Freeman responded that this was an Environment Canterbury responsibility and that it was working on a process to monitor septic tanks throughout the district to ensure compliance.

Moved: Councillor Mealings Seconded: Councillor Bartle

THAT the Utilities and Roading Committee:

(a) **Receives** Report No. 240126011587.

(b) **Declines** the request to extend wastewater services in Old North Road, Kaiapoi, as there is currently not adequate interest from the un-serviced properties in Old North Road to warrant extension of the Kaiapoi wastewater scheme due to the high costs associated with connecting on a 'user pays upfront' basis.

(c) **Notes** that Staff will continue with the current approach for extension of wastewater services, which is to:

i. Continue to use the existing Application for Connection to Water Supply or Wastewater Schemes Policy, as this is still the most cost-effective way to manage new wastewater connection requests for Council.

ii. Engage with Council on alternative funding and payment approaches on a case-by-case basis, where there is sufficient property density and landowner interest to demonstrate it will be affordable for the properties to connect.

(d) **Notes** the current funding and payment approach for wastewater service extension requests is 'user pays upfront' whereby the requesting user(s) must fund all costs associated with connecting into the Council wastewater network. This is cost-neutral for Council and existing ratepayers; payment must be made in full and upfront before works commence.

(e) **Notes** that the alternative funding and payment approaches introduce financial risks for the Council associated with bad debts and interest costs, and therefore should only be considered where there is sufficient property density and landowner interest, which will minimise this risk.

CARRIED

Councillor Mealings noted that declining the extension was the correct decision given the prohibitive cost. It was not the Council's role to dictate the best option for residents, nor was it the Council's responsibility to fund a system that most residents did not want or would not use.

Councillor Bartle expressed appreciation to staff for the comprehensive report and observed that the decision to decline the extension was clear and uncomplicated.

Councillor Fulton raised concerns about septic tanks that were repaired after the earthquakes rather than replaced, and whether they remain compliant.

5.2 **Rural Recycling Facility Options** – K Waghorn (Solid Waste Asset Manager)

K Waghorn presented the report, seeking approval to conduct further investigations and to design a public rural recycling drop-off facility located near the entrance to the Oxford transfer station.

Councillor Fulton asked if there had been any consultation with residents on the proposed drop-off facility at Oxford. K Waghorn replied that no consultation had occurred; however, she hoped to have this consultation included in the Annual Plan process.

Moved: Deputy Mayor Redmond Seconded: Councillor Mealings

THAT the Utilities and Roading Committee:

(a) **Receives** Report No. 251125224633.

(b) **Approves** staff undertaking further investigations and design for the location of a rural recycling drop-off facility on the closed landfill site in front of the Oxford transfer station at 46 High Street, Oxford, to be funded out of a total $67,510 budget allowance in the Waste Minimisation Account from "Rural Recycling Facilities" ($42,800) and "Oxford TS Weighbridge" ($24,350) budgets.

(c) **Notes** that staff will report on the outcomes of this work to the Solid and Hazardous Waste Working Party or the Utilities and Roading Committee and would seek endorsement of the concept plan at that time.

(d) **Circulates** Report 251125224633 to the Rangiora-Ashley and Oxford-Ohoka Community Boards for their information.

CARRIED

Councillor Mealings supported the motion, thanking K Waghorn for her thoroughness in identifying and vetting sites for the new drop-off facility.

Councillor Fulton supported the consultation being carried out as part of the Council's 2026/27 Annual Plan process.

Councillor Ward noted that the matter had also been discussed at the Rangiora-Ashley Community Board.

5.3 **October 2025 Severe Wind and High River Event** – G Cleary (General Manager Utilities and Roading), K Simpson (3 Waters Manager), J McBride (Roading and Transport Manager) and M Liu (Infrastructure Resilience Manager)

M Liu presented the report, which provided an overview of the extreme wind and high river event in October 2025 and covered emergency response expenditure, recovery works, and the removal of trees and debris, enabling roads to be reopened. She noted the roading event response was less than $100,000 and therefore did not meet the criteria for the New Zealand Transport Agency's (NZTA) Emergency Fund consideration.

Deputy Mayor Redmond asked whether, if the roading response exceeded $100,000, only the portion over $100,000 would be granted. J McBride replied that if the threshold had been met, the Council would have received 51% of the spend until the designated maximum was reached.

Councillor Fulton questioned whether, by being proactive, efficient, and receiving assistance from local farmers during the clean-up, the Council had jeopardised its access to emergency funding. G Cleary responded that reaching the trigger point would have meant the event would have cost the Council more than it was likely to receive.

Moved: Councillor Ward Seconded: Councillor Mealings

THAT the Utilities and Roading Committee:

(a) **Receives** Report No. 251117217307.

(b) **Notes** unbudgeted expenditure of $85,000 for recovery from the severe wind and high river event on 23rd and 24th of October 2025, with $45,000 being for Roading related response (PJ102327.588.2442), and $40,000 for Water Services.

(c) **Notes** that the cost for the Roading Event response is less than $100,000, and as such does not meet the criteria for NZTA Emergency funding consideration.

(d) **Notes** that for the Roading response, the budgets related to weather-related responses are likely to be overspent, resulting in a $45,000 overspend of the Roading Environmental Maintenance budget for the 2025/26 financial year. Water Services costs are expected to be managed within existing budgets.

CARRIED

Councillor Ward expressed satisfaction that the decision to employ the Resilience Team had proven successful. She commended the Waimakariri District's response and highlighted the efficient and effective use of resources.

Councillor Mealings concurred and believed this model would prove to be the best practice. She thought it was essential to promote neighbour helping neighbour to mitigate the drain on resources that were better served elsewhere.

5.4 **May 2025 Flood Recovery Progress Update and Project Update on Infrastructure Resilience Fund for 2024/25 and 2025/26** – G Cleary (General Manager Utilities and Roading) and M Liu (Infrastructure Resilience Manager)

M Liu presented the report, which provided an update on the May 2025 Flood Recovery Work Programme and on the Infrastructure Resilience Fund for 2024/25 and 2025/26.

Deputy Mayor Redmond asked if the nine projects listed in the report were in order of priority. M Liu replied that those projects were backlogged from the 2022/23 work programme and were being cleared.

Councillor Mealings noted that Mill Road, Ohoka, was included in the nine projects already identified and queried what option was being proposed. G Cleary advised that this was a complex issue and that several options were being considered, integrated with other works in the area. Until the consequences of the other works had been recorded and monitored to assess their effects on Mill Road, no definitive option could be finalised.

Councillor Fulton asked whether staff believed flood resilience in Ohoka had improved, given the remedial work to increase pipe sizes; however, more hard surfaces increased run-off. G Cleary explained that the Code of Practice now governed how drainage was managed; however, given climate change and shifting weather patterns, a simple answer was challenging to provide.

Moved: Councillor Fulton Seconded: Councillor Bartle

THAT the Utilities and Roading Committee:

(a) **Receives** Report No. 251124223567.

(b) **Notes** that 76 out of 80 maintenance checks have been completed, with the remaining four under review.

(c) **Notes** that out of 51 investigations: eight have been completed, seven are under preliminary review, and 21 are in the detailed investigation phase, 21 maintenance/minor works are to be programmed, two improvement works have been proposed, and 14 customer advice actions are in progress.

(d) **Notes** that of the 24/25 projects, seven projects have been completed, and two are in construction.

(e) **Notes** that of the 25/26 projects, one project is under construction, three projects are in the optioneering/investigation phase, and five are in the design phase.

(f) **Circulates** this report to all Community Boards for information.

CARRIED

Councillor Fulton noted that he was impressed by the scope of the work and the challenges faced, and pleased with the outcomes achieved.

Councillor Bartle was interested in the breakdown of the work being undertaken and the flow-on effect for the future.

5.5 **Water Services Network Environmental Performance Measures 2024/25** – C Fahey (Water and Wastewater Asset Manager), D Paz Lobon (3 Waters Asset Analyst) and C Freeman (Asset Management Engineer, Water and Wastewater)

C Fahey presented the Network Environmental Performance Measures for the 2024/25 year.

In response to Deputy Mayor Redmond's query regarding the Infrastructure Leakage Index (ILI), C Fahey explained that the ILI bands for all supplies and networks help identify where water leakage was likely to occur. From the ILI perspective, anything less than four was considered moderate, and anything greater than four was considered conserved. One identified supply was the Mandeville open site, which would require further analysis to understand why the leakage indicator was high; it was at 6.2. The other supplies were mostly sitting at two.

Deputy Mayor Redmond then asked what readings were required to obtain a chlorine exemption. C Fahey noted that the Government wanted networks to be pristine, so it was using percentages rather than the ILI gauge. The European standard used was below 10%, a high benchmark for networks.

Councillor Fulton noted that he was aware that Waimakariri Irrigation Limited were installing a telemetry system to measure water leakage along its channels and pipe network. Councillor Fulton asked whether there was sufficient justification to consider a similar system and whether it would be compatible with current systems. C Fahey agreed that the focus was shifting to leakages and that there was a new requirement to monitor pressure; however, there were other improvements that could be made in some areas to understand better how the networks work.

Councillor Fulton requested that staff arrange a site visit to the water and wastewater sites, and G Cleary agreed, noting that a bus tour would be arranged in the new year and that staff could include the water and wastewater sites.

Council Bartle queried how the Council fits in comparison to other councils in the country. Fahey replied that the format and content of the reporting were still being finalised; however, she believed the Council was performing well. K Simpson agreed to circulate the published National Report once it was available.

Councillor Goldsworthy questioned whether staff believed that reporting would become

easier once the content was standardised, or whether the Government would continue to raise the bar. C Fahey did not believe that reporting would become easier; however, they were still awaiting relevant information on the required steps.

Moved: Councillor Fulton Seconded: Councillor Bartle

THAT the Utilities and Roading Committee:

(a) **Receives** report TRIM No. 251106211322.

(b) **Notes** that the Waimakariri District Council performs relatively well in the key areas of focus identified in the 2024-25 NEPM.

(c) **Notes** that the areas where the Waimakariri District Council performs well are:

(i) Environmental and public health are protected – Drinking water and wastewater resource consents are generally compliant and kept up to date.

(ii) Services are reliable – Drinking water and wastewater services are consistently delivered with very few interruptions.

(iii) Services are resilient – There is a good understanding of the Council's drinking water and wastewater assets.

(d) **Notes** that the following areas for improvement have been identified and will be progressed from existing budgets, and where necessary, additional budgets sought via the Annual Plan / Long Term Plan process:

(i) Include the Firefighting Water Supplies Code of Practice (SNZ PAS 4509:2008), specifically Appendix G, in the Council's fire hydrant test procedure.

(ii) Include Mandeville – Fernside, Waikuku Beach and Rangiora in the targeted water conservation program.

(iii) Ensure maintenance practices and contractor processes are adhered to, to reduce the number of wastewater overflows.

(iv) Increase the length of wastewater mains being inspected by CCTV each year.

(v) Undertake further work to understand better wastewater process emissions in preparation for future reporting requirements.

(e) **Notes** that the NEPM provides numerous performance metrics which can be used for comparative purposes on specific matters nationwide.

CARRIED

Councillor Fulton noted that reporting would become more onerous and congratulated the team on the work achieved, given the complex changes underway.

6 PORTFOLIO UPDATES

6.1 **Roading** – Deputy Mayor Philip Redmond

- Focus areas for staff:
  - Resealing was underway in Pines Beach and Kaiapoi.
  - Asphalt works were underway in Oxford on Main Street, after which the Council's contractor would be moving to the Johns/Plaskett Roads intersection, and all work would be undertaken as night works.
  - Boundary Road, Fernside pavement repairs, and Domain Road, Waikuku Beach pavement rehabilitation were both completed.
  - Minor pavement repairs and mowing were now the focus leading into Christmas.

- Roading Capital Projects:
  - The Woodend to Ravenswood / Pegasus footpath construction was nearly complete, with footpath sections being asphalted last week.
  - Townsend Culvert Renewal Contract had been awarded to Ongrade Ltd and would commence on 5 January 2026. Townsend Road, Rangiora, would be closed while this work was completed. Detours would be in place.

- Other Items:
  - The Council's contractor had started installing a new watermain on Charles Street, Rangiora and would be moving south onto Percival Street. In 2026, they would install a new sewer main along Percival Street north of the Southbrook/South Belt intersection. This work would have significant traffic impacts. Staff were working with the contractor through the planning stages. Public information would be released next year ahead of any work starting. Staff would begin visiting businesses in the area and in Southbrook over the next two weeks to provide advance notice.
  - Decommissioning of the Kippenberger Avenue Underpass was underway.

- Events:
  - Oxford Santa Parade would be on 14 December 2025
  - The Canterbury Half Marathon in Pegasus would also be on 14 December 2025.

Councillor Ward queried whether the work on the Townsend Road culvert and the work in Percival Street would be staggered to minimise disruption. G Cleary confirmed that the staff had considered this, and although the work had been staggered, there would still be disruptions.

Councillor Ward also asked whether the works could be carried out at night, when traffic is low. G Cleary said some work would be carried out at night; however, most of the project would be completed during the day. There were visibility issues when working in trenches at night, and light and noise disruption to neighbouring residents.

6.2 **Drainage, Stockwater and Three Waters (Drinking Water, Sewer and Stormwater)** – Councillor Tim Fulton

- Drinking Water
  - High demand had already been experienced on the Rangiora and Pegasus water supplies. The Summer Water Conservation Campaign was about to commence, including advertising in newspapers, radio, and digital channels (e.g., Stuff, Metservice, and other sites), as well as digital retail screens (e.g., local gyms). This campaign would run from 22 December to 15 March 2026.
  - The proposed changes to the Drinking Water Quality Assurance Rules were currently out for consultation. This was a technical submission related to a change in the reporting timeframe to align with the reporting year and to update rules for supplies serving more than 500 people. Consultation closed on 19 December 2025; staff would respond to the consultation with a submission on behalf of the Council.

- Wastewater
  - There was a dry weather overflow from the Rangiora Wastewater Treatment Plant last month. This incident occurred unexpectedly during planned maintenance to divert wastewater through a bypass line. The overflow was quickly stopped, testing of the South Brook was undertaken, and Environment Canterbury was notified. Signage was installed on the lower Cam River at Smith Street as a precaution. Testing indicated that E. coli levels returned to normal dry-weather levels within about three days of the incident. The debrief

identified several areas for improvement, including improving asset records and documenting bypass procedures, to prevent similar incidents in the future.

- The national Wastewater Standards were released on 17 November 2025, which set out new requirements, limits and conditions for wastewater activities. The standards covered discharges from wastewater treatment plants to land and water, and the disposal of biosolids, which came into force on 19th December 2025; overflows and bypasses, which came into force in three years on 19 December 2028. Staff were currently reviewing the implications of these new standards for the wastewater networks.

- Drainage / Stockwater
  - Works to prevent backflow from the Cam River at 96 Topito Road, Tuahiwi, had recently been completed. Works to reduce overflow from the Cam River at 250 Revells Road, Flaxton, were about to commence.
  - Applications for members on the Drainage Advisory Groups closed on 5 February 2026.

6.3 **Solid Waste** – Councillor Niki Mealings

- The changes to collection times for Christmas Day and New Year's Day would be advertised on the Council's website.
- Southbrook and Oxford Transfer Stations would be closed on Christmas Day, Boxing Day, New Year's Day and 2 January 2026.
- Increase in organics and recycling kerbside collections in October; however, they dropped in November.

6.4 **Transport** – Mayor Dan Gordon

Mayor Gordon was not present; therefore, no update was provided.

7 REPORT REFERRED FROM THE OXFORD-OHOKA COMMUNITY BOARD

7.1 **Oxford Agricultural and Pastoral (A&P) Showgrounds Stormwater Improvements** – M Henwood (Project Engineer) and J Recker (Stormwater and Waterways Manager)

(Refer to report Trim no. 250930185420 to the Oxford-Ohoka Community Board Meeting of 3 December 2025).

J Recker presented the report requesting approval to proceed with the construction of the Oxford Agricultural and Pastoral (A&P) Showgrounds stormwater improvement project before going to market.

Councillor Fulton requested information on the issues which were raised at the Oxford-Ohoka Community Board meeting. J Recker replied that a concern was raised regarding potential downstream impacts, specifically on Church Street and Burnett Street. He explained that the main flow would pass through the 450mm pipe; when it reached Burnett Street, it would flow north into the old gravel pit at the corner of Burnett and Church Streets. J Recker noted that water would be attenuated within the A&P showgrounds during heavy rainfall events, with soak pits proposed to utilise the discharge to the ground.

Moved: Councillor Fulton Seconded: Councillor Ward

THAT the Utilities and Recreation Committee:

(a) **Approves** the proposed solution to construct a bund along the northern and eastern boundaries of Oxford Agricultural and Pastoral (A&P) Showgrounds, along with swales improvements. This includes piping the 1-in-5-year flow through 53 and 53A Burnett Street from Oxford A&P Showgrounds to Burnett Street.

(b) **Notes** that the secondary flow path will be altered to convey stormwater into Pearson Park during storm events larger than a 1-in-5-year event. Stormwater modelling indicates no additional impacts from diverting the flow into Pearson Park.

(c) **Notes** that this project is intended to mitigate flooding issues experienced during larger storm events by residents downstream of Oxford A&P Showgrounds, including at 189 High Street.

(d) **Notes** that this is the second stage of a two-stage improvement process, following the previously approved and constructed upgrades at Church Street Reserve. This was signalled as part of that approval process.

(e) **Notes** that this project is estimated to cost $562,000 to be funded from the Burnett Street Capacity Upgrades (P.J. 102397.000.5123) capital budget, which has an allowance of $680,600 which is allowed for in the 2026/27 financial year, and that this is proposed to be publicly tendered.

CARRIED

Councillor Fulton stated that he had been involved in some of the meetings with user groups and would like to commend staff for addressing the concerns raised and for taking the time to develop the final solution.

8 QUESTIONS UNDER STANDING ORDERS

Nil.

9 URGENT GENERAL BUSINESS

Nil.

10 NEXT MEETING

The next meeting of the Utilities and Roading Committee was scheduled for Tuesday, 10 February 2026, at 9am in the Council Chamber, Rangiora Service Centre, 215 High Street, Rangiora.

THERE BEING NO FURTHER BUSINESS, THE MEETING CONCLUDED AT 10.30AM.

CONFIRMED

_____
Chairperson

9 December 2025

_____
Date

Workshop

Please refer to Trim 251210235515

- *Parking and Traffic Bylaw 2026*
- *Requests for Rural Seal Extensions*

WAIMAKARIRI DISTRICT COUNCIL

NOTES OF THE UTILITIES AND ROADING COMMITTEE WORKSHOP SESSION HELD IN THE COUNCIL CHAMBERS, HIGH STREET, RANGIORA, ON TUESDAY, 9 DECEMBER 2025, COMMENCING AT 10.32AM.

PRESENT:

Deputy Mayor Redmond (Chairperson), Councillors T Bartle, T Fulton, N Mealings, and J Ward.

IN ATTENDANCE:

Councillors B Cairns and J Goldsworthy.

G Cleary (General Manager Utilities and Roading), G Maxwell (Business and Project Advisor), S Binder (Senior Transportation Engineer), J McBride (Roading and Transport Manager), L Lee (Senior Environmental Compliance Officer), S Docherty (Strategy and Business Manager), and K Rabe (Governance Adviser).

1. APOLOGIES

Moved: Deputy Mayor Redmond Seconded: Councillor Fulton

THAT the Utilities and Roading Committee

(a) **Received** and **sustained** requests for leaves of absence from Mayor D Gordon and Councillor W Doody, and an apology for early departure from Councillor McLaren, who left at 10.23am.

CARRIED

2. CONFLICTS OF INTEREST

No conflicts of interest were declared.

3. PARKING AND TRAFFIC BYLAW - J McBride (Roading and Transport Manager), B Charlton (Environmental Services Manager), S Docherty (Strategy and Business Manager), G Maxwell (Business and Project Advisor), and S Binder (Senior Transportation Engineer),

Trim Ref: 251205231969

Key Issues:

- Why was a review required?
  - Legal Mandate to review after the first five years and every 10 years after that.
  - Importance for local control – to enable operational compliance and manage local needs.
  - Responding to emerging trends – addresses new demands, e.g., sustainable transport, urban growth, and improves tools to support fair and consistent compliance.
- Findings and recommendations.
  - Current limitations – review needed to address enforcement gaps and emerging parking issues.
  - Traffic Control gaps – lacked coverage for traffic controls such as turn bans, one-way roads, shared zones and engine braking restrictions.
  - Recommendations – ensured alignment with legislation and community needs.
  - Effectiveness – local regulation remained essential.

- Proposed changes for 2026.
  - Broadened scope – Expand the framework to include network traffic management tools such as turn bans, one-way streets, and special vehicle lanes that the Council could activate by resolution when needed.
  - Flexible network management – Enabled the Council to manage parking and traffic flow proactively. Provided options for temporary restrictions for events or maintenance without a full bylaw review.
  - New definitions - Added terms such as 'Mobile Trading' and 'Verge' for clarity. Supports the regulation of temporary trading and roadside use, improving consistency and reducing confusion for residents and businesses. Expanded schedule of registration - Included bus stops, engine braking bans, intersection controls, keep clear zones, no-stopping areas, one-lane bridges, one-way streets, zebra crossings, and other existing/new traffic restrictions. This provided transparency and legal backing for enforcement.

Questions/ Feedback:

- Comprehensive classification for trip control by vehicle type – should this be more directed, like the size of the vehicle?

  Size was too prescriptive – not targeting any specific vehicle, and allowed the bylaw to be used for boy racers or other disruptive traffic.

- Would this address heavy vehicles in town centres? Such as large trucks using Charles Street in Kaiapo.

  It was probably better to use alternative traffic controls rather than targeting trucks, buses, or motorhomes.

- How would the Council enforce mobile trading?

  Focus would be on safety and the surrounding environment. This would not try to control competition between traders. Regulating traders would fall under the Public Space Bylaw.

- Should there be a definition of campers, i.e., station wagons converted to allow sleeping, etc.?

  The wording used was '…. any vehicle converted for living purposes …' and if the vehicle was registered as a campervan/motorhome. This had limitations as some vehicles were informal conversions and not registered.

- How would the Council determine damage to berms caused by parking?

  Currently, the Council paid for all berm remediation; however, this clause would allow the Council to seek redress against anyone who regularly damages the berm.

- The current wording was misleading, especially when it came to berms outside businesses – could this be clarified?

  This would be on a case-by-case basis and would not apply to one-off events. It would be used for permanent decisions.

- What about markets or schools – if not allowed, then how would the parking be addressed?

  Not looking at the damage in isolation. Safety and a strategic approach would be the drivers, and discussions with relevant parties would be held to resolve them.

- What about areas that are both urban and rural, e.g., outside the Rangiora A&P grounds?

  The determination would be the road's centre line.

- Section 29 – no explanation of waiving infringements.

  That was a different process and would not fall under this Bylaw.

- Probably needed clarification between urban and rural.

  This was addressed in the Definitions section.

4. REQUESTS FOR RURAL SEAL EXTENSIONS - J McBride (Roading and Transport Manager)

Trim Ref: 251210235528

Key Issues:

- Current Policy
  - Sealing an unsealed road could be considered when:
    - Co-funding was approved by the NZTA (very rare / 400vpd), or
    - When roading financial contributions taken for development reached 30% of the cost of sealing, or
  - Where adjoining property owner(s) were willing to fund 50% of the cost.
  - Budgets allowed sealing of one kilometre per year.
  - Delegation to approve up to 1km per year sits with the General Manager, Utilities and Roading (subject to conditions).

- Current requests
  - Lilly Road, Fernside
  - Broad Road, Balcairn
  - Foresty Road / Mowatts Road / Boundary Road, Fernside
  - Fullers Road, Woodend
  - Barkers Road, Loburn
  - Starvation Hill Road / Horns Road, Oxford
  - Catherwoods Road, Cust

Questions/ Feedback:

- Quality of life for residents was important, and sealing would reduce maintenance costs if roads were sealed. Increased traffic, including heavy vehicles, caused issues for residents.
- Changes to the environment from rural to industrial – what was the capacity to look at areas proactively?

  Readymix approached the Council to request subsidisation for resealing, which would reduce maintenance costs for its trucks. It depended on the corporation and its openness to discussions. However, in most cases, insufficient vehicle movement would prevent resealing.
- Unsealed roads were generally narrow – if sealing the roads, do they have to be widened?

  Resealing included redesign; therefore, roads were rebuilt and reshaped.
- Was there an overall ranking system to prioritise?

  No, as each case was different. General discussion on merits and the number of vehicles using the road, resident support and future use.
- How would this affect the new sawmill in Cust?

  Currently, there were still too few vehicle movements. Needed 300 to 400 vehicles per day to trigger the sealing of the road.
- A report on this matter would be presented to the Council next year.

THERE BEING NO FURTHER BUSINESS, THE WORKSHOP CONCLUDED AT 11.57AM.

WAIMAKARIRI DISTRICT COUNCIL

REPORT FOR DECISION

FILE NO and TRIM NO:	EXT-04-385/ 260120008514
REPORT TO:	UTILITIES AND ROADING COMMITTEE
DATE OF MEETING:	10 March 2026
AUTHOR(S):	Sophie Allen – Water Environment Advisor Kirtina Ismail – Waterways Engineer
SUBJECT:	Amendments to Rangiora Stormwater Management Plan 2025-40
ENDORSED BY: (for Reports to Council, Committees or Boards)	General Manager / Chief Executive

1. SUMMARY

1.1. This report presents the revised Rangiora Stormwater Management Plan (SMP) 2025-2040 Version 1.2 which includes the amendments made after receiving feedback from Environment Canterbury, the Canterbury Regional Council (CRC). This report seeks the approval of the amendments made and approval to submit this revised version of the SMP to CRC for certification.

1.2. The draft SMP Version 1.1 for Rangiora was approved by the Utilities and Roading Committee in February 2025 (Trim reference 250120008174[v2]) and adopted by Council on the 4 March 2025. Following this approval, SMP Version 1.1 was subsequently submitted to Canterbury Regional Council (CRC) for certification, as required under the resource consent condition 12 of CRC184601.

1.3. Following this submission, CRC has identified some minor areas where amendments are required before certification is granted. These requested changes relate to matters that CRC considers necessary to achieve full compliance with the consent conditions. Staff met with CRC staff in October 2025 to discuss the amendments proposed.

1.4. The preparation and implementation of a SMP was required under the Rangiora Stormwater Network Discharge consent CRC184601, which was superseded by CRC262840 in January 2026. The consent was reissued at the request of WDC to change boundaries of the Consent to match urban areas in the Partially Operative District Plan (2025) and a few other minor updates. Consent variation or re-issue is required to change the boundaries of the area of where a Stormwater Network Discharge Consent applies, as it is fixed with no automatic expansion to align with re-zoning under a District Plan.

1.5. The draft SMP Version 1.1 for Rangiora completed all required consultation in 2024/2025 Given that the revisions to SMP Version 1.2 are limited to minor amendments and do not alter the intent or scope of the document, a repeat consultation is not required prior to submitting the SMP to CRC for certification.

Attachment:

i. Draft Rangiora Stormwater Management Plan 2025-2040 (Version 1.2) - TRIM 260119007726

2. RECOMMENDATION

THAT the Utilities and Roading Committee:

(a) **Receives** Report No. 260120008514.

(b) **Approves** the proposed amendments to the SMP as set out in the Rangiora Stormwater Management Plan (SMP) 2025-2040 Version 1.2 (Trim: 260119007726[v03]).

(c) **Approves** staff submitting the revised SMP Version 1.2 to Canterbury Regional Council for certification in accordance with the conditions 10 and 13 of the resource consent CRC262840.

(d) **Notes** that the Rangiora Stormwater Management Plan 2025-2040 Version 1.1 was circulated for consultation in 2024/25 to Te Ngāi Tūāhuriri Rūnanga via Mahaanui Kurataiao Ltd, Rangiora Ashley Community Board, and the Waimakariri Water Zone Committee.

(e) **Notes** that, as the amendments made to SMP Version 1.2 are minor in nature, a further round of consultation is not necessary before the document is submitted to CRC for certification.

3. BACKGROUND

3.1. Rangiora stormwater discharges primarily to the Cam River Ruataniwha catchment, with some discharges also to the Ashley River Rakahuri (via North Drain) and Cust River (via No.7 Drain).

3.1. The SMP seeks to achieve the receiving environment objectives set in Condition 9 of consent CRC262840; including mitigation of downstream flooding of dwellings, scour and erosion (9a and b); improving stormwater quality (9c), and protecting wāhi tapu, wāhi taonga and mahinga kai species and habitat (9d and e). Prioritised projects for the SMP focus primarily on the objective 9c for improved stormwater quality, as this is the area where the need is greatest, however there are other projects that seek to meet the other receiving environment objectives.

3.2. The draft SMP Version 1.1 was developed primarily ‘in-house’ by Council staff by the Water Services team and the Network Planning team (Project Delivery Unit) with expertise from other teams where required.

3.3. The duration of the SMP is from 2025-2040, as 2040 was stated in the CRC184601/262840 consent application as the date by which the Council intends to meet the Land and Water Regional Plan limits.

3.4. The SMP 2025-2040 will be revised as required and fully reviewed at least every five years.

4. ISSUES AND OPTIONS

4.1. Overall, the feedback received on the draft SMP Version 1.1 was positive. CRC’s suggested improvements and requests for clarification focused mainly on Conditions 8 (receiving environment objectives) and 9 (requirements of the SMP) in the Rangiora consent CRC184601, particularly regarding how the SMP demonstrates compliance with these conditions.

4.2. There have been no changes to the SMP from a budget perspective, therefore Council approval is not required.

4.3. Subsequent discussions and negotiations between CRC and WDC staff were undertaken to consider the proposed amendments and determine the most appropriate refinements to the SMP. The details of this process are documented in a summarised table (Trim No. 260116006831)

4.4. These revisions made to draft SMP Version 1.2, along with the facilitated discussions with CRC required to achieve agreed outcomes for the final changes, were undertaken in-house by Council staff. This work was led by the Water Services team with specialist input from other teams as required. An overview of the scope and key areas of amendment to the draft SMP Version 1.2 is provided below

i. Revisions to reflect the revised consent number and numbering.

ii. Additional information on the potential for stream erosion and scour.

iii. Additional information on flood risk management, in particular regarding providing additional attenuation if an increase in peak flow is found by the Rangiora Urban Stormwater Model.

iv. Additional information on potential sources of stormwater contamination.

v. Additional information on the level of service of the stormwater network.

4.5. CRC have advised that the amendments to the SMP must be made before the SMP can be certified.

4.6. The draft SMP Version 1.1 has already been circulated for consultation to Te Ngāi Tūāhuriri Rūnanga via Mahaanui Kurataiao Ltd, Rangiora Ashley Community Board, and the Waimakariri Water Zone Committee. The amendments made to SMP Version 1.2 are minor in nature, a further round of consultation is not necessary before the document is submitted to CRC for certification.

5. COMMUNITY VIEWS

5.1. Mana whenua

Te Ngāi Tūāhuriri hapū are not likely to be affected by and have an interest in the subject matter of this report. WDC staff have already carried out consultation with Te Ngāi Tūāhuriri Rūnanga for the SMP Version 1.1 via Mahaanui Kurataiao Ltd, and changes to Version 1.2 are minor in nature.

5.2. Groups and Organisations

There are no specific groups and organisations likely to be affected by, or to have an interest in the subject matter of this report such as environmental organisations.

5.3. Wider Community

The wider community is likely to not be affected by and to have an interest in the subject matter of this report.

6. OTHER IMPLICATIONS AND RISK MANAGEMENT

6.1. Financial Implications

There are no financial implications resulting from the changes made to the SMP and the recommendations of this report. A placeholder budget of $9.8 million capital expenditure is currently in the Long Term Plan 2024-34 for stormwater improvements in Rangiora, which is allocated by the SMP, and this remains unchanged.

6.2. Sustainability and Climate Change Impacts

The recommendations in this report do have sustainability and/or climate change impacts. The waterways of Rangiora and downstream will provide a healthier environment for indigenous biodiversity, mahinga kai, amenity and recreation.

6.3. **Risk Management**

There are no specific risks arising from the adoption of the recommendations in this report.

6.4. **Health and Safety**

There are no health and safety risks arising from the adoption/implementation of the recommendations in this report.

7. CONTEXT

7.1. **Consistency with Policy**

This matter is not a matter of significance in terms of the Council's Significance and Engagement Policy.

7.2. **Authorising Legislation**

Resource Management Act (1991) – under which CRC has issued consents CRC184601, superseded by CRC262840.

7.3. **Consistency with Community Outcomes**

The Council's community outcomes are relevant to the actions arising from recommendations in this report, particularly provision of a 'healthy and sustainable environment for all' through healthier waterways in Rangiora.

7.4. **Authorising Delegations**

There have been no changes to the SMP in terms of budgets. Therefore approval at a Council meeting is not required. The Utilities and Roading Committee holds the delegation to approve the submission of the revised Rangiora SMP 2025-40 Version 1.2 to CRC for certification.

WAIMAKARIRI
DISTRICT COUNCIL

Rangiora Stormwater Management Plan 2025-40

CRC262840 (CRC184601) | Water Services | February 2026

Prepared for: Kalley Simpson 3 Waters Manager

Prepared by:  Sophie Allen Water Environment Advisor

 Kirtina Ismail Waterways Engineer

 Janet Fraser Infrastructure Planner

Reviewed by:  Chris Bacon Network Planning Team Leader

 Jason Recker Stormwater and Waterways Manager

Approved by:  Gerard Cleary General Manager Utilities and Roading

on behalf of Waimakariri District Council

Published: February 2026

File / Record Number: EXT-04-385 / 260119007726

Version Number	Prepared By	Comments	Date
1	Sophie Allen, Kirtina Ismail, Janet Fraser	Submitted to MKL for review	September 2024
1.1	Sophie Allen, Kirtina Ismail	Incorporated recommendations from Te Ngāi Tūāhuriri Rūnanga	December 2024
1.2	Sophie Allen	Incorporated comments from Environment Canterbury for certification	February 2026

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List of Abbreviations

AEP	Annual Exceedance Probability
ARI	Annual Return Interval
ASPM	Average Score Per Metric
BMP	Best Management Practice
CLM	Contaminant Load Model
CLWRP	Canterbury Land and Water Regional Plan
CWMS	Canterbury Water Management Strategy
DIN	Dissolved Inorganic Nitrogen
DRP	Dissolved Reactive Phosphorus
ECoP	Engineering Code of Practice
GIS	Geographic Information System
GPT	Gross Pollutant Trap
HAIL	Hazardous Activities and Industries List
IMP	Iwi Management Plan
LGA	Local Government Act
LLUR	Listed Land Use Register
MfE	Ministry for the Environment
MKL	Mahaanui Kurataiao Ltd
MOU	Memorandum of Understanding
NPS-FM	National Policy Statement for Freshwater Management
NTCSA	Ngāi Tahu Claims Settlement Act
ODP	Outline Development Plan
PAH	Polycyclic Aromatic Hydrocarbon
PCG	Project Control Group
PIM	Project Information Memorandum
QMCI	Quantitative Macroinvertebrate Community Index
RCP	Representative Concentration Pathway
RMA	Resource Management Act
RUSM	Rangiora Urban Stormwater Model
SMA	Stormwater Management Area
SMP	Stormwater Management Plan
SQEP	Suitably Qualified Environmental Practitioner
SSMP	Site-specific Stormwater Management Plan
TAN	Total Ammoniacal Nitrogen
TSS	Total Suspended Solids
TRoNT	Te Rūnanga o Ngāi Tahu
WDC	Waimakariri District Council
WSD	Water Sensitive Design
WWDG	Waterways, Wetland and Drainage Guide (Christchurch City Council, updated 2012)
ZIPA	Zone Implementation Programme Addendum

1. Executive Summary

A Stormwater Management Plan (SMP) for Rangiora township is required by the Stormwater Network Discharge Consent CRC262840 (superseding consent CRC184601). Its purpose is to reduce the adverse effects of stormwater discharges on surface water quality and quantity, wāhi tapu, wāhi taonga, as well as protect and enhance mahinga kai.

This SMP sets out methods the Council will implement to meet the consent objectives set out in Condition (9), which requires the Council to use 'best practicable options' to achieve specified water quantity and water quality outcomes.

Rangiora stormwater discharges primarily to the Cam River Ruataniwha catchment, with some discharges also to the Ashley Rakahuri River and Cust River.

Most developed areas are adequately protected from flooding by the drainage network. There has been previous work on prevention of downstream flooding, scour and erosion. This has included projects from the Rangiora SMP in 2001 and flood recovery work after the 2014 flood event. Therefore, this SMP focuses primarily on stormwater quality improvement projects. Water quality monitoring from 2021-2023 shows that there are exceedances of compliance targets, particularly during wet weather. Waterway values have been affected in Rangiora from urbanisation and industrial activities, which has in turn had an impact on mahinga kai practices. Ecological health of waterways has also been shown to be affected by urbanisation using fine sediment and macro-invertebrate indices.

The position of Ngāi Tūāhuriri Rūnanga, as mana whenua of the takiwā, is that they do not support or oppose this Rangiora Stormwater Management Plan. Stormwater management in Rangiora is expressed in the Mahaanui Iwi Management Plan (IMP) (2013) objective that states *'the discharge of contaminants is discontinued, and all existing direct discharges of contaminants to water are eliminated.'*

Current stormwater treatment in Rangiora consists primarily of wet and dry ponds, infiltration basins, and constructed wetlands, with some proprietary devices also installed. The majority of Rangiora township has existing infrastructure, such as basins, that provide attenuation and/or some form of treatment. However, there are developed areas where there is no significant attenuation or treatment, for example, the Middle Brook sub-catchment, parts of the South Brook, the Newnham Street industrial area of the North Brook and the majority of the North Drain sub-catchment.

Some catchment areas that were developed in the past without stormwater infrastructure are suitable for retrofitting treatment solutions before reaching the receiving environment. However other catchments have fewer practicable opportunities to treat with wet or dry basins or constructed wetlands, primarily due to constraints with space and high groundwater levels. For these areas source controls will be more important. Risk assessment in this SMP found the North Brook and Middle Brook to be high risk sub-catchment, and the North Drain and No. 7 Drain as medium risk sub-catchments.

This SMP proposes to carry out investigations for options for retrofitting stormwater treatment in all of the North Drain, and parts of the Middle Brook, North Brook catchments, as the best solution to achieve improved water quality outcomes.

Stormwater from new developments is required to be attenuated and treated to meet the Waimakariri District Council (WDC) Engineering Code of Practice (ECoP), with the Waterways Wetland and Drainage Guide (Christchurch City Council) and TP10 (by Auckland Regional Council, replaced by GD01 - Auckland Council) recognised as best practice guidance documents for treatment.

WDC proposes an adaptive management approach to stormwater management, where this SMP will be revised annually and reviewed every 5 years. This allows for progress checks of monitoring against the consent objectives, adaptation and learning as well as the adoption of emerging technologies.

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2. Introduction

On 14 January 2026, Waimakariri District Council was granted consent CRC262840 to discharge stormwater and water treatment chemicals into land and to surface water by Environment Canterbury. This superseded consent CRC184601 that was granted on 7 May 2021. It is effective until 30 June 2045.

Condition 10 of the consent requires that before 1 January 2025, a Stormwater Management Plan (SMP) shall be prepared, and from 1 January 2025, be maintained and implemented for the duration of the consent. The purpose of the SMP is to detail the options to manage the stormwater discharges authorised by CRC262840 so that the receiving environment objectives and targets set out in Condition (9) of the consent will be met.

2.1. Receiving Environment Objectives of CRC262840

Waimakariri District Council (WDC) shall use best practicable options to achieve the following receiving environment objectives as stated in Condition 9 of the Rangiora Stormwater Network Discharge Consent:

> ***9(a) Avoid stormwater that is discharging from the reticulated stormwater system from entering any dwelling house located downstream of any network discharge point during any duration two percent Annual Exceedance Probability rainfall event; and***
>
> ***9(b) Avoid stormwater that is discharging from the reticulated stormwater system from causing erosion or scour of any receiving or downstream waterway, or causing damage to any downstream infrastructure; and***
>
> ***9(c) The receiving environment objectives for management of stormwater discharge quality and which measure the associated effects on receiving waterways set out in Schedule 1 of CRC262840; and***
>
> ***9(d) The protection and culturally appropriate treatment of wāhi tapu and wāhi taonga habitats and sites (if or where identified by Te Ngāi Tūāhuriri Rūnanga) and cultural items or artefacts; and***
>
> ***9(e) The management of stormwater discharges in a manner that protects and enhances mahinga kai species of value to Te Ngāi Tūāhuriri Rūnanga, and enhances mahinga kai areas.***

2.2. Requirements of this SMP

This SMP is required under Condition 10 of the Rangiora Stormwater Network Discharge Consent CRC262840 to include:

2.2.1. Details of the current status of stormwater quality improvement measures implemented within the catchment (see Section 3.6);

2.2.2. A description of the understanding of the overall effects the existing discharge is having on the receiving environment (see Sections 4.1 and 4.2);

2.2.3. A description of the catchment areas covered by the SMP that are developed at the time of writing the SMP (see Section 3.3), and an assessment of what additional development is anticipated in the Rangiora township prior to the next review of the SMP (see Section 3.4.5);

2.2.4. Details of the outcome of investigations undertaken into water quality or water quantity (see Sections 4.1, 4.2), and any investigations that are proposed to occur to inform future SMP decisions and implementation (see Section 8);

2.2.5. Details of the contaminant load model (CLM) developed for the township, including outcomes of the modelling (see Section 3.5.3 and Appendix C);

2.2.6. Details of measures that will be used to manage discharges of stormwater authorised by CRC262840 (see Section 6);

2.2.7. Details of the management of stormwater from sites requiring or that will require a pollution prevention plan and / or from sites involving the use, storage or disposal of hazardous substances (see Section 6.1);

2.2.8. A description of funding available for stormwater improvement projects proposed over the next ten years and how these funds will be allocated among the prioritised highest risk areas within the Rangiora township (see Section 9);

2.2.9. Methods that will be used to:

- Maintain compliance with the water quantity limits and requirements in condition (9)(a) and (b) (see Section 6.1);
- Work toward achieving the limits and targets in the monitoring programme "urban impact" sections, as required by condition 9(c), including:
  - A detailed description of the adaptive management approach that will be implemented, and how decisions will be made (see Sections 7 and 11);
  - Reflecting the outcomes of the CLM developed (see Section 8);
  - Consideration of innovative technologies, including trials which have been undertaken (Sections 7.3.2 and 8);
  - Implementation of source controls (Sections 6.2 and 8);
  - The use of sustainable urban design in sub-catchments (see Section 6.3); and
  - Considering the feasibility/practicability of retrofitting existing catchments (Sections 7 and 8).
- Progress toward meeting the objectives and values of Ngāi Tūāhuriri as set out in condition 9(d) and (e) (Sections 7, 8 and 9); and
- Implement the measures set out in Condition (15) of CRC262840 (Sections 2.4.5. and 3.4.5).

2.2.10. Requirements for appropriate disposal of contaminated material removed from stormwater basins in accordance with the requirements of CRC262840 to a disposal location authorised to receive that material (Appendix B).

2.3. Scope Exclusions

Effects of the discharge of stormwater to groundwater is not considered in this SMP, except for consideration of the maintenance of infiltration basins, such as replacement of filter media.

Flood risk from an Ashley Rakahuri River breakout scenario is out of scope of the Rangiora stormwater network discharge consent. The Ashley Rakahuri River is managed by Environment Canterbury for flood protection.

Contaminants from rural sources or from groundwater inflows into the Rangiora urban area are not considered for actions and projects under this SMP, as these contaminants are out of scope of the consent CRC262840.

2.4. Planning Requirements and Key Non-Statutory Documents

The following planning requirements, or other non-statutory documents are relevant to consider, to understand the context that the SMP operates within.

2.4.1. National Policy Statement for Freshwater Management (2020)

The National Policy Statement for Freshwater Management (NPS-FM) uses the concept of Te Mana o te Wai, that recognises that protecting the health of freshwater protects the health and well-being of the wider environment. As part of Te Mana o te Wai, the hierarchy of obligations prioritises the health and well-being of water bodies and freshwater ecosystems, over the health needs of people (such as drinking water), which is over the ability of people and communities to provide for their social, economic, and cultural well-being, for now and in the future.

2.4.2. Resource Management Act (RMA, 1991) and the Canterbury Land and Water Regional Plan (CLWRP)

Section 5 (Purpose), 6 (Matters of National Importance), 7 (Other Matters), and 8 (Te Tiriti o Waitangi) of the Resource Management Act 1991 prescribe what all persons exercising functions and powers under the Resource Management Act need to consider in relation to managing the use, development and protection of natural and physical resources. The CLWRP is the regional plan developed by Environment Canterbury under the RMA.

2.4.3. Waimakariri Partially Operative District Plan (2025)

The Partially Operative District Plan (2025) considers stormwater, primarily in the Subdivision Chapter. In particular, this chapter sets out certain requirements and standards in relation to sustainable design and stormwater management (Policies SUB-P3 and SUB-P6 and SUB-P8). Policy SUB-P6 is subject to appeal.

2.4.4. Mahaanui Iwi Management Plan (2013)

The Mahaanui Iwi Management Plan (IMP) is a written expression of kaitiakitanga, setting out how to achieve the protection of natural and physical resources according to Ngāi Tahu values, knowledge, and practices. The plan has the mandate of the six Papatipu Rūnanga, and is endorsed by Te Rūnanga o Ngāi Tahu, as the iwi authority.

2.4.5. WDC Engineering Code of Practice (ECoP) – (last updated July 2020)

The WDC ECoP provides controls to ensure that all developed infrastructure is, and will remain, fit for the intended life of the asset. The document sets out guidelines to assist developers and contractors to comply with the WDC District Plan, bylaws, policies and consents. For water quality, the ECoP refers to the guidelines in the Christchurch City Council Waterways Wetlands and Drainage Guide (2003, partly amended 2012) and the Auckland Regional Council guidelines TP10 (2003), which was updated by Auckland Council in the document GD01 (Cunningham *et al.* 2017).

2.4.6. Canterbury Water Management Strategy (CWMS)

The Canterbury Water Management Strategy provides a collaborative framework to help manage the multiple demands on freshwater resources in the Canterbury region. This includes the control of discharges.

3. Catchment and Network Overview

3.1. Catchment Background

Rangiora is an urban town with a population of approximately 20,000 people. It is located some 8km north of the Waimakariri River, 1km south of the Ashley River and about 6km from the coast. It is bisected by three major spring-fed streams (the 'Three Brooks' - North Brook, Middle Brook, and South Brook) and their tributaries, traversing the lower half of the Rangiora urban area (Figure 1).

Figure 1 indicates the layout of the Rangiora urban drainage network and shows the natural fall of the land. It shows the location of the network in relation to the location of nearby towns, and the Ashley Rakahuri, Kaiapoi and Waimakariri Rivers.

In summary, this SMP has considered stormwater effects on five natural streams (receiving environments) within the Rangiora urban limits; North Brook, Middle Brook, South Brook, South South Brook, and the No. 7 Drain. Most of these streams are spring-fed with year-round baseflow and are generally considered to have high ecological and cultural values. The North Drain is also considered within this SMP, with discharge to the Ashley Rakahuri River (the receiving environment) beyond the urban limits.

3.1.1. Cam Ruataniwha catchment

The Rangiora urban stormwater network predominantly discharges to the three brooks, which form part of the extended tributaries of the Cam River (Ruataniwha) catchment. The Cam River flows into the Kaiapoi and Waimakariri Rivers.

In the eastern part, the town centre is drained by the Railway Stream, with spring-fed base flow emerging at its lower end where it drains into the Kowhai Ave Stream and then into the North Brook mainstem. Both the Railway Stream and the North Brook primarily flow into Io Io Whenua (North Brook ponds) before re-joining a North Brook mainstem baseflow downstream. The principal purpose of these ponds is to attenuate flows and reduce the amount of sediment entering the river systems from stormwater runoff from the town. The Newnham Street industrial area stormwater flows along Boys Road into the North Brook, without passing through Io Io Whenua (North Brook Ponds), with some flows in large rain events also potentially flowing into the Middle Brook catchment.

At Southbrook Park there are smaller ponds that cater for the Green Street catchment. There is also a small pump station (on Rowse St) in the Green Street catchment that provides a groundwater base flow to the upper reaches of the Middle Brook for ecological purposes.

3.1.2. North Drain

The northern part of the town is served by the ephemeral "North Drain" which discharges directly to the Ashley Rakahuri River. A long, grassed swale area provides some infiltration and an unquantified amount of treatment of the flow prior to discharge to the Ashley Rakahuri River.

3.1.3. No. 7 Drain

When the Southbrook industrial area was further developed in 2011 the upper section of the South-South Brook was diverted to the south. This diversion resulted in the upper part of the South-South Brook becoming part of the No.7 Drain (flowing to the Cust Main Drain) catchment, with the lower section of the South-South Brook continuing as part of the Cam River catchment.

3.1.4. Discharge to Ground

There are significant areas to the north of Rangiora that discharge to ground, particularly the north-west subdivisions of Westpark and Arlington. The recent development of the Bellgrove area in the Northeast of Rangiora discharges to ground, except in a 1 in 50-year storm event or above, during which, this area will discharge stormwater into the headwaters of the Cam River itself. Similarly, future development of Bellgrove further stages to the north-east of Rangiora are also proposed to discharge stormwater to ground, with discharge to the headwaters of the Taranaki Stream, in a 1 in 50-year storm event.

3.1.5. Stormwater exclusion

In addition to the main natural streams there are also several smaller tributary waterways. For example, Kōura (Crayfish) Creek is a spring-fed creek draining to the North Brook, originating above North Brook Road, with high ecological values. The area surrounding this creek is within the Rangiora urban area. To preserve the ecological values of this creek, none of the stormwater from the development is discharged into the creek.

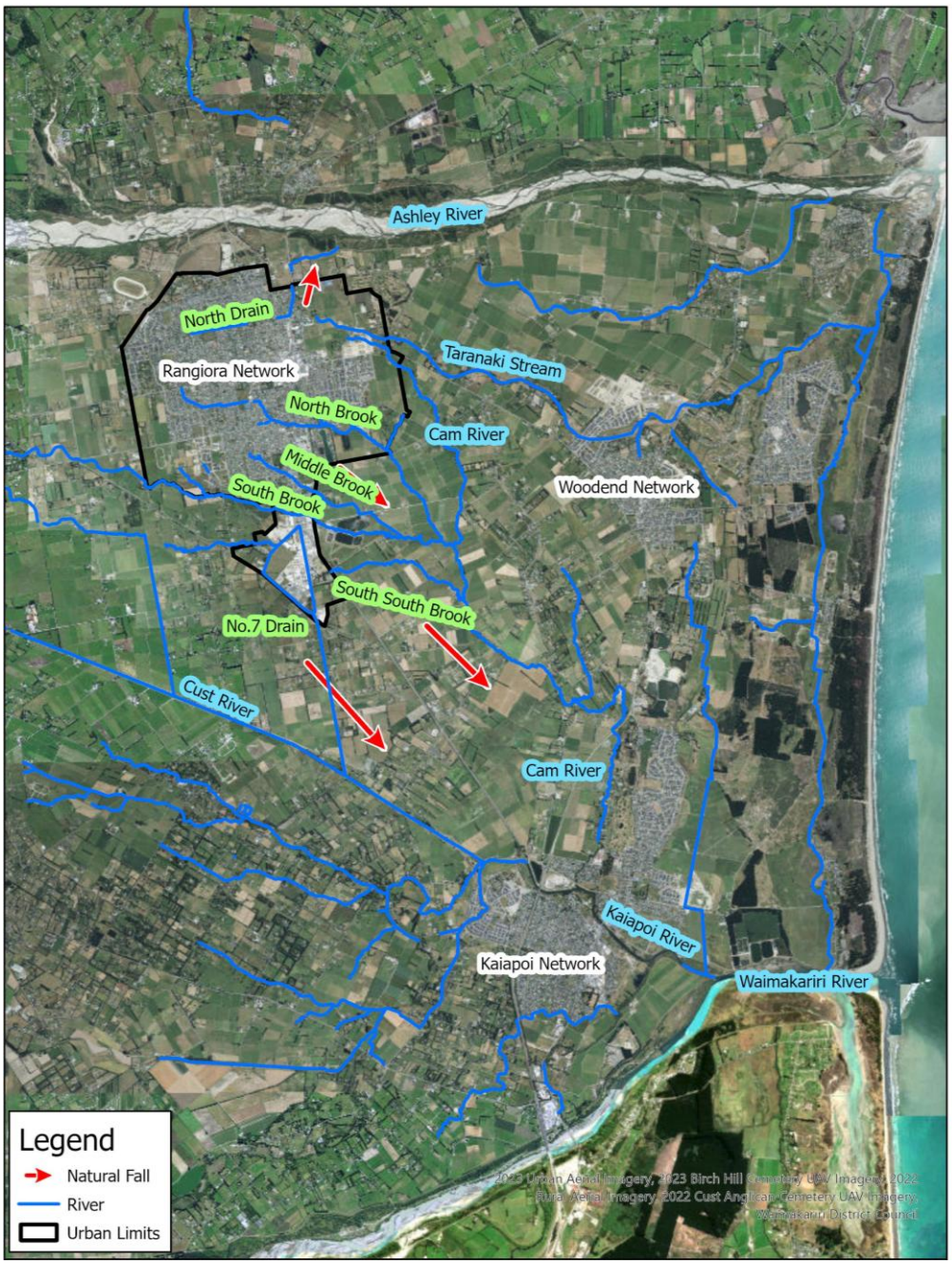

Figure 1: Rangiora network location plan

3.2. The Receiving Environment

Stormwater discharge from Rangiora is primarily to the Cam River Ruataniwha catchment, with some discharge to the Cust and Ashley Rakahuri Rivers.

3.2.1. Cam River Ruataniwha

The Cam River Ruataniwha originates as spring-fed tributaries on the plains to the west of Rangiora (South Brook) or within Rangiora township itself (Middle Brook, North Brook, and Cam River headwaters). The Cam River Ruataniwha flows to the Kaiapoi River then the Waimakariri River before entering the sea.

The macrofauna species in the Cam River Ruataniwha catchment include[1]:

- Tuna / Longfin eel (*Anguilla dieffenbachii*) and shortfin eel (*Anguilla australis*)
- Pātiki / Black Flounder (*Rhombosolea retiarii*)
- Inanga (*Galaxias maculatus*) – a whitebait species
- Toitoi / Common Bully (*Gobiomorphus cotidianus*), Upland Bully (*Gobiomorphus breviceps*), Giant Bully (*Gobiomorphus gobioides*)
- Common smelt (*Retropinna retropinna*)
- Yellow-eyed mullet (*Aldrichetta forsteri*)
- Kanakana / pouched lamprey (*Geotria australis*)
- Brown trout (*Salmo trutta*) – An introduced sport fish
- Kākahi / freshwater mussels (*Echyridella menziesi*)
- Freshwater shrimp (*Paratya curvirostris*)
- Wai kōura / freshwater crayfish (*Paranephrops zealandicus*).

There is a historical (1946) record for the Canterbury mudfish (*Neochanna burrowsius*). However, this species is no longer known to be present in this catchment.

Parts of the South Brook, North Brook, Cam River mainstem and Kōura (Crayfish) Creek are mapped as areas of Critical Habitat for Indigenous Species under Plan Change 7 of the CLWRP (Figure 2). This is likely to be due to the presence of species such as wai kōura / freshwater crayfish (*Paranephrops zealandicus*) which is ranked as “At Risk- Declining” and kanakana / pouched lamprey (*Geotria australis*) which is “Nationally Vulnerable”.

The presence of larval and juvenile kanakana at multiple sites in 2023 ecological surveys indicates kanakana are likely to be spawning in the South Brook, and potentially wider Cam River catchment (Boffa Miskell, 2024). Wai kōura are also known to be present in the South Brook, North Brook and its tributaries through WDC staff observations.

[1] source: New Zealand Freshwater Fish Database and WDC staff observations

Figure 2: Critical habitat for indigenous species shown in orange (source: CLWRP)

3.2.2. Cust River (No.7 Drain)

The Cust River originates on the plains near Oxford. In the lower reaches the river has been diverted into a channel, often called the Cust Main Drain. The No.7 Drain, which receives stormwater from Rangiora, is one of the drainage channels flowing into the Cust River that was constructed to drain wetland areas in the 19th century.

Macrofauna species in the Cust River catchment include[2]:

- Tuna / Longfin eel (*Anguilla dieffenbachii*) and shortfin eel (*Anguilla australis*)
- Pātiki / Black Flounder (*Rhombosolea retiarii*)
- Inanga (*Galaxias maculatus*) – a whitebait species
- Toitoi / Common Bully (*Gobiomorphus cotidianus*), Upland Bully (*Gobiomorphus breviceps*), Giant Bully (*Gobiomorphus gobioides*), Bluegill Bully (*Gobiomorphus hubbsi*), Redfin Bully (*Gobiomorphus huttoni*)
- Yellow-eyed mullet (*Aldrichetta forsteri*)
- Kanakana / pouched lamprey (*Geotria australis*) – one record from 1998 only
- Brown trout (*Salmo trutta*), Chinook Salmon (*Oncorhynchus tshawytscha*), Rainbow Trout (*Oncorhynchus mykiss*)– Introduced sport fish
- Kākahi / freshwater mussels (*Echyridella menziesi*)
- Freshwater shrimp (*Paratya curvirostris*)
- Panoko / Torrentfish (*Cheimarrichthys fosteri*)
- There is one undated record for the Canterbury mudfish (*Neochanna burrowsius*). However, this species is no longer known to be present in this catchment.

[2] Source: New Zealand Freshwater Fish Database

3.2.3. Ashley Rakahuri River

The Ashley Rakahuri River originates in the Puketeraki Range, which are the foothills to the west of Lees Valley, that then passes through a gorge before coming a braided river on the plains. The Ashley Rakahuri estuary (Te Aka Aka) is a large estuarine area that is a wāhi taonga for tāngata whenua (Mahaanui IMP, Jolly *et al*. 2013).

Macrofauna species in the Ashley Rakahuri catchment include[3]:

- Tuna / Longfin eel (*Anguilla dieffenbachii*) and shortfin eel (*Anguilla australis*)
- Pātiki / Black Flounder (*Rhombosolea retiarii*)
- Inanga (*Galaxias maculatus*) – a whitebait species
- Toitoi / Common Bully (*Gobiomorphus cotidianus*), Upland Bully (*Gobiomorphus breviceps*), Giant Bully (*Gobiomorphus gobioides*)
- Common smelt (*Retropinna retropinna*)
- Yellow-eyed mullet (*Aldrichetta forsteri*)
- Kanakana / pouched lamprey (*Geotria australis*)
- Brown trout – An introduced sport fish (*Salmo trutta*)
- Kākahi / freshwater mussels (*Echyridella menziesi*)
- Freshwater shrimp (*Paratya curvirostris*)
- Bluegill Bully (*Gobiomorphus hubbsi*)
- Estuarine triplefin (*Grahamina sp.*)
- Panoko / Torrentfish (*Cheimarrichthys fosteri*)
- Canterbury galaxias (*Galaxias vulgaris*)
- Koaro (*Galaxias brevipinnis*).

3.3. Rangiora Sub-catchments

A combined area of 3,050 ha contributes to the Rangiora stormwater catchment area and includes both urban and rural areas. A crucial objective of the SMP is to meet established consent limits for water quality within the receiving waterways. In line with this objective, sub-catchments for the purpose of the SMP were defined based on where the waterway intersects the urban limit (see sub-catchment delineation points shown on Figure 3). These locations were selected to, as best possible, align with the existing sampling locations outlined in the Rangiora Stormwater Monitoring Programme. This intentional overlap facilitates efficient and coordinated ongoing monitoring efforts, enabling:

Clear identification of areas exceeding consent limits.

By correlating water quality data with specific discharge points from each sub-catchment, the SMP identifies areas within the urban landscape where targeted interventions can be implemented to work towards improvements needed to meet established consent limits for discharge.

Assisted in identifying gaps in sampling locations.

Alignment with sampling locations also provided a clear indication of additional sample points to be considered for ongoing monitoring.

Effective tracking of progress towards compliance.

Using aligned sampling locations allows for consistent data collection and analysis, providing a clear picture of progress made towards achieving compliance with water quality consent limits and other water quality objectives.

Streamlined data interpretation and resource allocation.

Aligning boundary definition of sub-catchments and sampling points simplifies data analysis and interpretation, helping to guide resource allocation and improvement efforts within the SMP, ensuring resources are directed towards areas with the greatest impact on achieving consent limits.

[3] Source: New Zealand Freshwater Fish Database and WDC staff personal observations

This strategic coordination between the SMP and the CRC262840 Stormwater Monitoring Programme fosters a data-driven approach to stormwater management, ultimately leading to improved water quality within the receiving waterway ensuring steps towards achieving established consent limits.

The following seven sub-catchments, one of which is categorised as areas with discharges to ground, were identified within the Rangiora township, listed below and presented in Figure 3. Total catchment areas for each of these catchments are shown in Table 1.

1. North Brook
2. South Brook
3. Middle Brook
4. North Drain
5. No. 7 Drain
6. South South Brook
7. Areas that discharge to ground.

Table 1: Total area of each sub-catchment

Sub-catchment	Area (ha)
Discharge to Ground	300
Middle Brook	75
No. 7 Drain	295
North Drain	97
North Brook	594
South South Brook	30
South Brook	1463

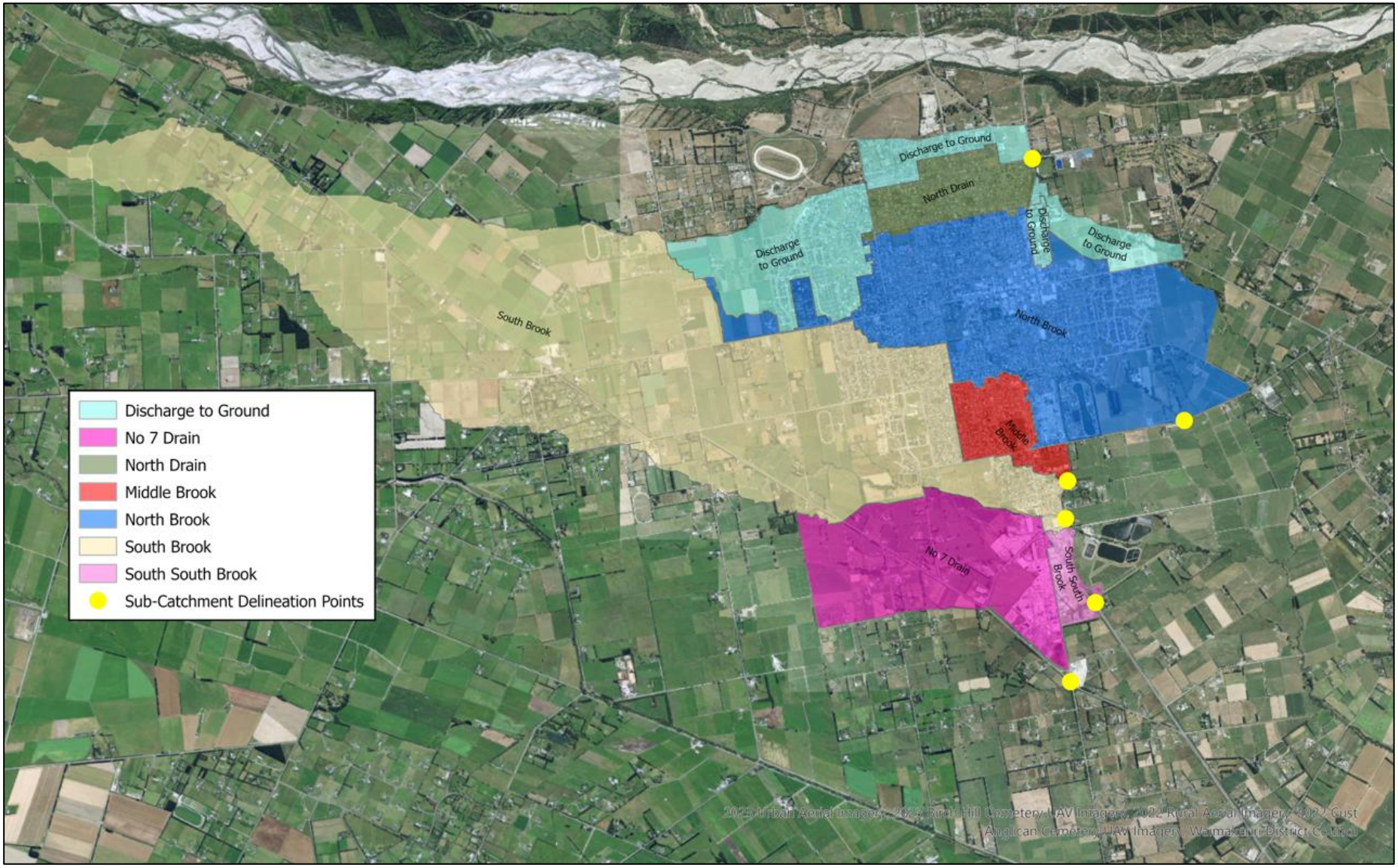

Figure 3: Rangiora SMP sub-catchments

3.4. Sub-catchment Characteristics

Characterisation of each sub-catchment within the township was undertaken, encompassing the following:

- land-use classifications (residential, industrial, rural, and commercial);
- soil properties and infiltration rates;
- groundwater levels;
- existing stormwater infrastructure; and
- projected growth areas within Rangiora.

This spatial analysis, documented through comprehensive mapping, provided a valuable foundation for understanding the unique hydrological behaviour of each sub-catchment.

These factors included land use, stormwater drainage and infrastructure, groundwater levels, soil conditions, and future growth areas. The spatial analysis also identified locations with existing treatment facilities, highlighting areas lacking necessary stormwater management controls. This comprehensive mapping exercise provided a detailed overview of each sub-catchment's unique characteristics which leads to informed decision making for this SMP. This information was critical in:

- Identifying high-risk areas within the township. Locations with specific land uses or inadequate treatment that led to increased runoff and contributed to high contaminant generation (further discussed in Section 3.5).
- Analysing the capacity of existing infrastructure and identifying potential flood prone areas or upgrade needs.
- Best Management Practices (BMP) selection. Choosing appropriate BMPs considering specific sub-catchment constraints and opportunities.
- Prioritisation of projects. Improved project implementation plans – resources are directed towards highest risk areas and or projects that would that provide the most significant impact (i.e. poor water quality, directed efforts for areas particularly vulnerable to flooding, highlighted areas where existing treatment systems are lacking in performance and efficiency).

By employing this approach, the plan ensures effective and adaptable stormwater management practices are implemented across the diverse sub-catchments within the township. This ultimately translates to a more efficient and cost-effective method for managing stormwater within Rangiora. Additionally, this characterization allows for future flexibility and adaptability in the face of changing land-use patterns or evolving environmental regulations. By understanding the baseline conditions and potential challenges of each sub-catchment, the plan can readily be updated and refined to maintain optimal stormwater management practices for the township.

3.4.1. Rangiora Drainage Network and Infrastructure

The discharge of stormwater from the Rangiora urban stormwater network is via the following combination of key infrastructure:

- Kerb and channel, sumps, manholes and pipes
- Passive treatment devices such as swales
- Open drains (naturalised and boxed)
- Dry ponds
- Wet ponds
- Wetlands
- Discharges to ground such as infiltration trenches/soakage basins.

The town centre is drained by the Railway Stream, with a spring-fed base flow. First flush from the Railway Stream and the North Brook discharge into the Io Io Whenua (North Brook Ponds) before re-joining the North Brook downstream. The principal purpose of these ponds is to attenuate flows and reduce the amount of sediment entering the downstream river systems from stormwater runoff from the town.

At Southbrook Park there are smaller ponds that cater for the Green Street catchment. There is also a small pump station in the Green Street catchment that provides a base flow of spring water to the upper reaches of the Middle Brook, for ecological purposes.

In the northwest of the township, stormwater runoff is discharged directly to ground. Runoff from urban areas is conveyed via various combinations of infrastructure such as kerb and channel, sumps, manholes and pipes into swales or soakage systems such as soak pits or infiltration basins to be discharged into ground.

All the basins within the network provide a water quantity function of managing flows, reducing / maintaining flow peaks, managing flood water levels and reducing erosion. In addition, some of these basins are also designed as infiltration/first flush basins which, in addition to attenuating flows, are designed to treat stormwater discharges by discharging contaminants to land and filtering contaminants across grass or vegetation.

The Rangiora stormwater network infrastructure and points where stormwater runoff exits the urban boundary of Rangiora are shown in Figure 4.

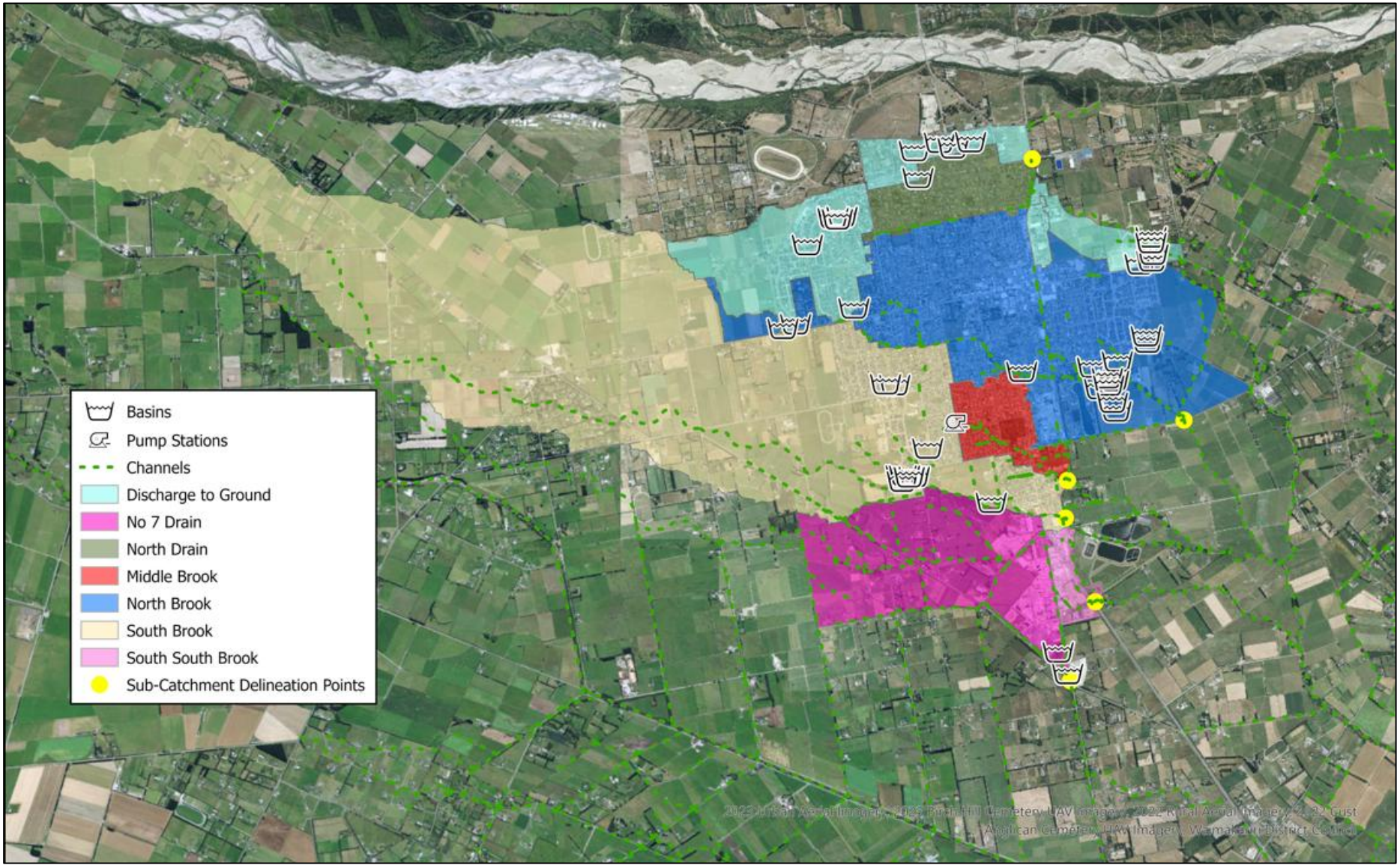

Figure 4: Rangiora stormwater drainage network and infrastructure

3.4.2. Land Use

The spatial distribution of various land use types was identified within each sub-catchment and quantified (Figure 5 and Table 2). This data provides insights into potential types and loads of contaminant generation from runoff based on land use activities. Three main land use types were mapped: rural, business (which include both commercial and industrial sites) and residential zones.

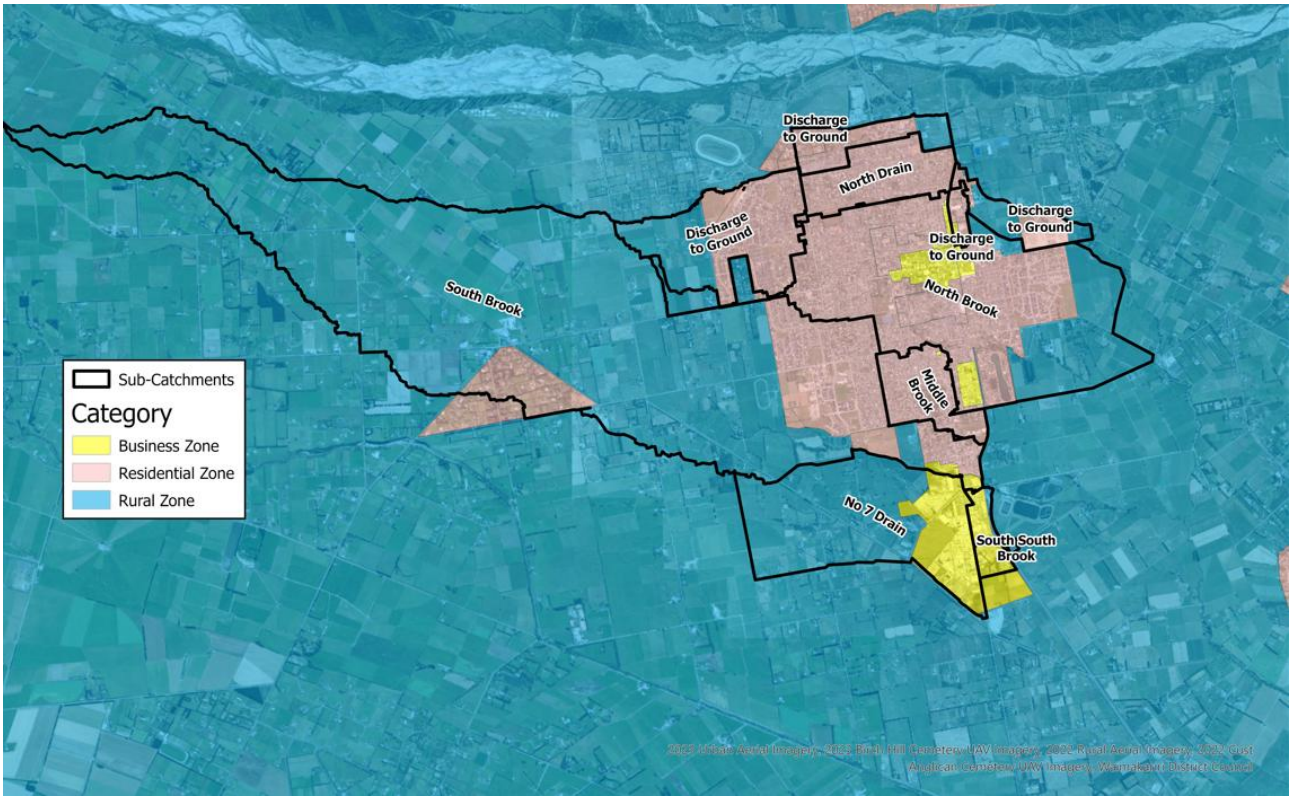

Figure 5: Land Use Zones for Rangiora as of 2024 under the District Plan 2005.

Table 2: Land use distribution (%) by sub-catchment.
Note that due to rounding, percentages do not always equal 100%.

Catchment	Business		Residential		Rural	
	Percentage	Ha	Percentage	Ha	Percentage	Ha
Discharge to Ground	1%	2	58%	173	42%	125
No 7 Drain	27%	79	0%	0	73%	217
North Drain	0%	0	99%	96	1%	1
Middle Brook	0%	0	99%	75	0%	0
North Brook	8%	45	63%	374	29%	175
South Brook	1%	8	17%	244	83%	1210
South South Brook	83%	25	0%	0	17%	5

Conclusions drawn from the mapping of land use areas are:

Business zones (industrial and commercial) areas are concentrated.

Business zones within the township are largely located in only three of the seven sub-catchments: North Brook; which includes the entire Rangiora Central Business District (CBD) and some industrial areas, the No. 7 Drain, and South South Brook; with a small portion within the areas that Discharge to Ground (2 Ha) and South Brook (8 Ha).

Industrial and commercial land use activities are recognized as significant sources of pollutants which contain high contaminant load generating activities. Overall, in terms of total area (ha), business zones make up only 6% of land use over the seven sub-catchments. The concentration of industrial and commercial land use being mainly within three sub-catchments leverages economies of scale, allowing for the implementation of treatment measures at a more efficient and cost-effective level. Focusing on treating similar contaminants in concentrated areas avoids logistical and financial challenges associated with scattered treatment across diverse industrial and commercial areas, thus allowing for more effective implementation of necessary treatment measures at a sub-catchment level.

A large portion of overall land use within Rangiora sub-catchments is rural.

Almost all sub-catchments contain areas with rural land use (overall 61% of land use area (Ha) across the seven sub-catchments are zoned as rural), with the exception of Middle Brook and North Drain (1 Ha). South Brook contains the largest amount of rural land use (83%), followed by No.7 Drain (73%), with North Brook and area that discharge to ground consisting of less than 50% of rural area.

While removing total suspended solids (TSS) effectively addresses common urban pollutants, rural run-off poses a distinct challenge due to its prevalence of dissolved contaminants like ammonia, dissolved inorganic nitrogen, and dissolved reactive phosphorus. Rural areas that are not within the reticulated service area of WDC are excluded from the scope of the SMP. Having said that, it is recognised that these dissolved contaminants stemming from rural activities have an impact on overall receiving environment water quality. Source control methods (in line with BMP) and community education are valuable mechanisms that can be utilised to approach mitigation of stormwater pollution from rural areas.

Residential areas are predominant.

Overall, 34% of land use area (Ha) across the seven sub-catchments are zoned as residential. All catchments contain residential areas, except for No.7 Drain and South South Brook. North Drain and Middle Brook has 99% of total area zoned as residential but are the smallest in terms of total area for residential zones within a sub-catchment (96 and 75 Ha respectively). North Brook on the other hand has the largest residential zone in terms of area, 374 Ha which is approximately 63% of land use within the sub-catchment. This indicates the need for a diverse range and sub-catchment specific stormwater management solutions across the catchments, considering the varying densities, size of catchment areas and contaminant concentrations.

Discharge is mostly to ground in the north-west.

In the north, northeast and northwest of Rangiora, land use is predominantly either rural or residential and the soil composition is ideal for stormwater to be disposed of into ground. In more recent builds of subdivisions in this area, a dwelling may have an individual soakpit to dispose of roof water. Runoff from roadways and other impervious areas are normally discharged to a treatment basin before discharging to ground. Secondary flow is sometimes discharged to ground. However, overland flow paths are always required to carry the full secondary flow overland to the receiving waterways.

Currently, in Rangiora, most of the northwestern subdivisions dispose of stormwater to ground; these include The Oaks, Arlington, Chesterfield Place, Covan Mews, Enverton Drive and River Road subdivisions.

3.4.3. Soil Drainage Conditions

The distribution of soil drainage capacity across the sub-catchments (Figure 6) was mapped, highlighting their influence on infiltration capacity and potential runoff generation. Understanding this characteristic is crucial for selecting and designing effective stormwater treatment (infiltration-based solutions) and flood mitigation and water quantity storage strategies.

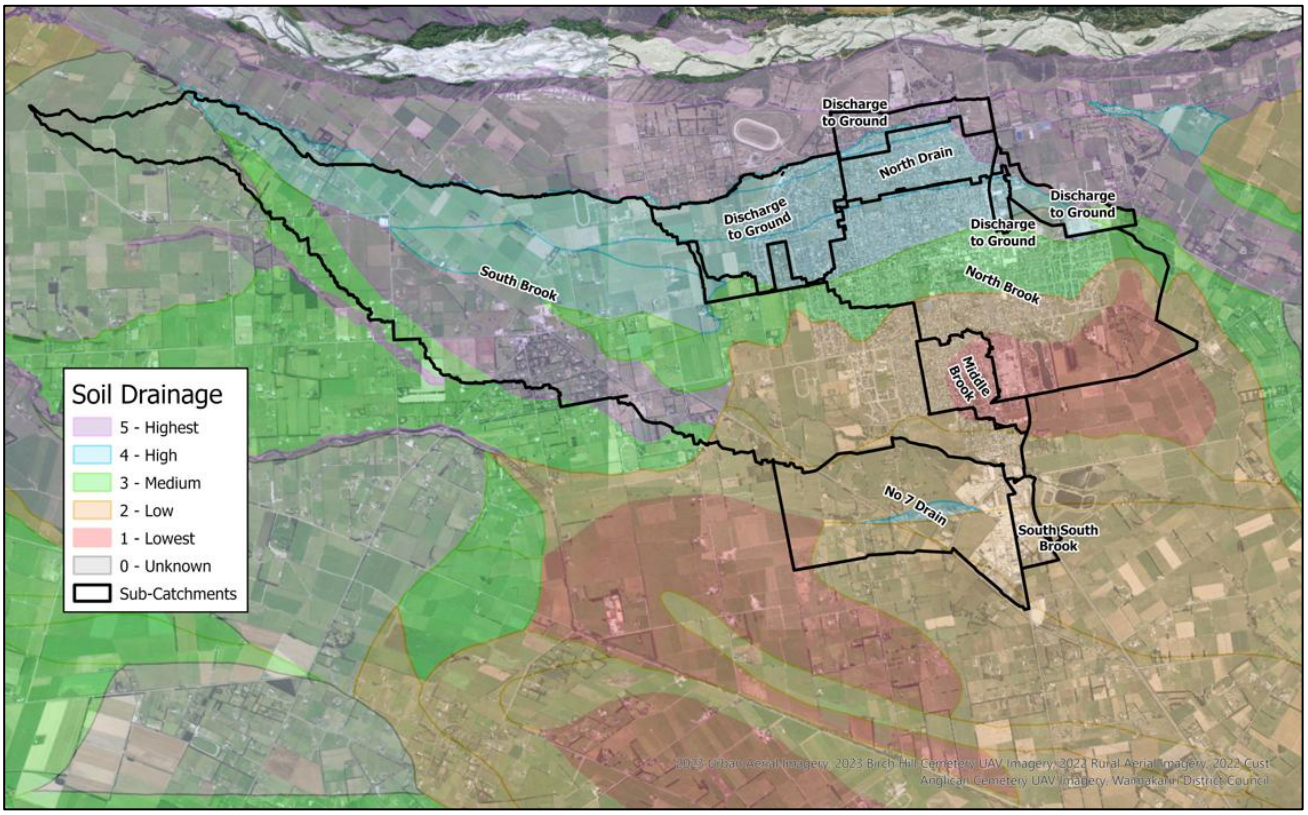

Figure 6: Soil Drainage capacity across sub-catchments within Rangiora

Table 3: Soil drainage capacity distribution (%) by sub-catchment.
Note that due to rounding, percentages do not always equal 100%.

Sub-Catchment	Very Low	Low	Medium	High	Very High	Unknown
Discharge to Ground	0%	0%	4%	74%	20%	2%
No 7 Drain	6%	90%	0%	5%	0%	0%
North Drain	0%	0%	0%	89%	11%	0%
Middle Brook	61%	39%	0%	0%	0%	0%
North Brook	22%	20%	33%	22%	0%	2%
South Brook	0%	24%	19%	30%	21%	6%
South South Brook	0%	100%	0%	0%	0%	0%

The modelling infiltration information is extracted from Manaaki Whenua (Landcare Research), who use a scale of 1-5 to classify the drainage capacity of the soil (or infiltration capacity). A classification number of 1 indicates a soil with low infiltration rates, a 5 indicates a soil with high infiltration rates.

Areas to the north, northwest and northeast of the township have excellent to good soil drainage (ranked high and highest). The North Drain sub-catchment is almost entirely within the “high” soil drainage classification. Towards the middle of the township, soil drainage is average and continues to decline towards the south of Rangiora, with the No.7 Drain catchment in the south being classified mostly with low soil drainage. South Brook, North Brook and Middle Brook catchment areas have varying levels of soil drainage.

For new developments, geotechnical investigations are undertaken during which infiltration tests are undertaken to determine if there is sufficient infiltration capacity at the site for the required runoff volumes. It is a requirement for WDC Engineers to review any information provided via the Land Development team, who will make recommendations regarding any such proposals via the

consenting process for any new subdivisions.

As the infiltration capacity of the soil deteriorates over time, the WDC normally requires that a subdivision has soakage solutions are able to convey a 5-year Annual Return Interval (ARI) but constructed to convey a 50-year ARI. This allows the infiltration system to deteriorate to a level still meeting a 5-year ARI storm before being renewed.

Some sub-catchments exhibit a single, consistent soil drainage classification, while others display variations in infiltration capacity across the area. Due to the varying soil drainage characteristics across different sub-catchments within the township, a multipronged approach incorporating diverse strategies and tailored solutions will likely be more effective than relying on a single, uniform approach for managing water quantity runoff and stormwater treatment throughout Rangiora.

3.4.4. Groundwater

Groundwater levels in Rangiora range from high (less than 1m depth, to greater than 3.0m (Figure 7). Depth shown are an average and vary seasonally.

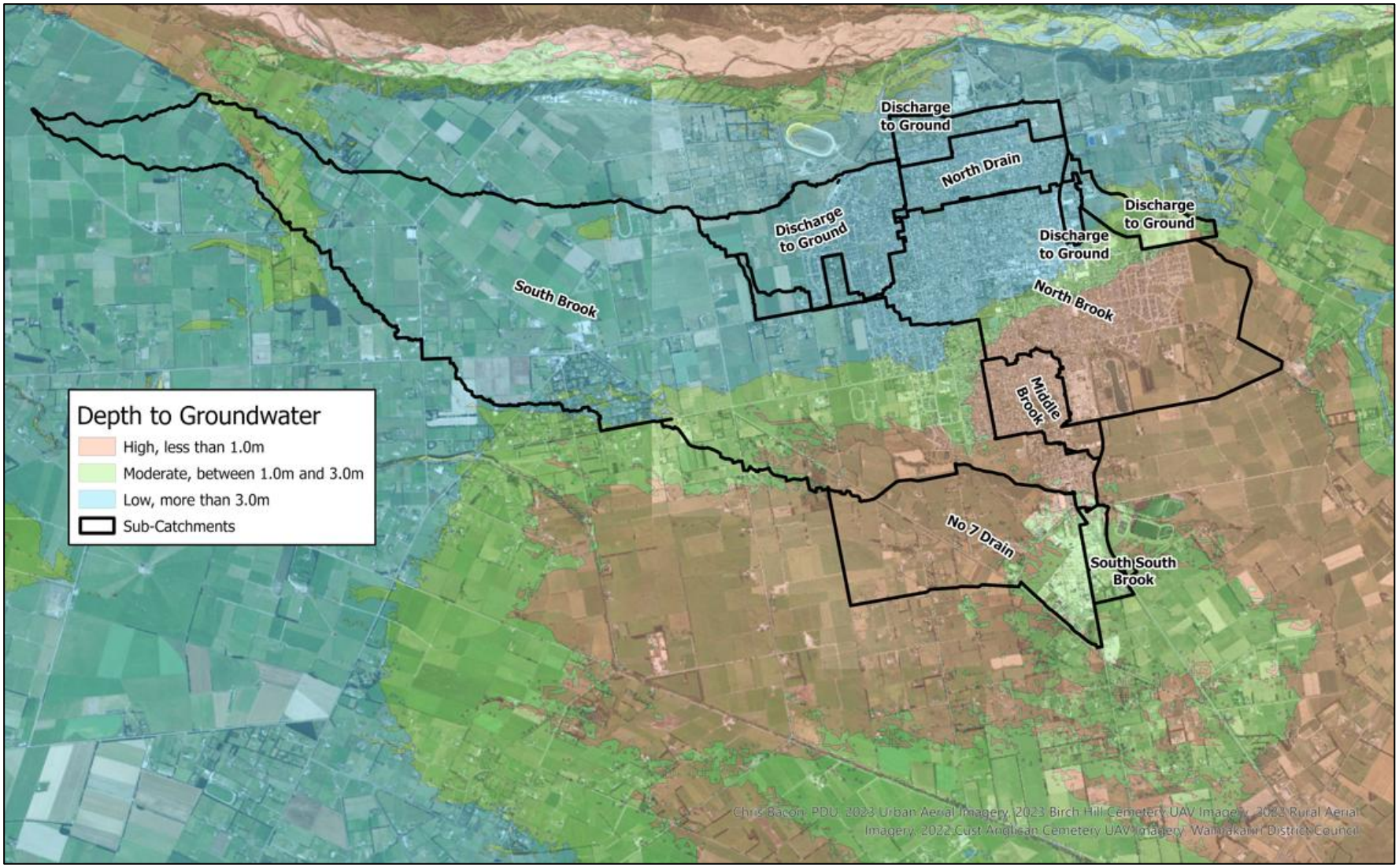

Figure 7: Depth to groundwater for sub-catchments within Rangiora

Table 4: Depth to groundwater (%) for sub-catchments within Rangiora.
Note that due to rounding, percentages do not always equal 100%.

Sub Catchments	High <1m	Moderate 1-3m	Low >3m
Discharge to Ground	1%	11%	88%
No 7 Drain	78%	22%	0%
North Drain	0%	0%	100%
Middle Brook	100%	0%	0%
North Brook	52%	11%	37%
South Brook	12%	21%	67%
South South Brook	4%	96%	1%

Discharge to Ground areas and the North Drain catchment in majority are classified as having “Low” groundwater levels (i.e. depth to groundwater more than 3m); which makes infiltration or soakage systems an ideal stormwater management solution for these areas. On the other hand, Middle Brook and No.7 Drain land area is largely as having high groundwater levels (i.e depth to groundwater at less than 1m). Areas of the South Brook catchment within the urban limits are a mixture of ‘High”,” Moderate and “Low” groundwater. South South Brook land area is in majority classified as “Moderate” (between 1 and 3m). Other sub-catchments have varying levels of depth to groundwater across the catchment area.

The impacts of stormwater runoff on groundwater and its connections to urban infrastructure are complex and multifaceted. This is a relatively new and evolving area of discussion within the industry. Understanding groundwater levels plays a pivotal role in effective stormwater management providing key information that informs the following key factors:

Flood Risk Vulnerability

During heavy rainfall, high groundwater levels can prevent infiltration, leading to increased surface runoff and potentially contributing to flooding. Understanding groundwater dynamics helps assess areas susceptible to flooding due to interactions with surface water, informing decisions and selection of preventive measures.

Suitability of Stormwater Treatment Systems

Different treatment systems rely on various mechanisms to manage stormwater. Infiltration-based systems like infiltration basins or dry ponds require permeable soils and sufficient space below the water table for infiltration. Conversely, solutions like wetlands or wet ponds, that require a permanent water level to function are most suitable for soil conditions with low permeability and are more appropriate for areas with high groundwater levels. Mapping groundwater levels helps identify suitable locations for these systems and inform design, preventing potential issues like ponding, oversaturation, and potential groundwater contamination.

Groundwater Interaction and Quality

Stormwater can interact with groundwater, potentially impacting its quality. If contaminated runoff infiltrates into shallow aquifers, it can endanger drinking water sources. Mapping groundwater levels and flow direction helps assess this risk and inform the selection of treatment systems.

The groundwater levels beneath Rangiora are also illustrated on the Environment Canterbury online GIS viewer (Canterbury Maps) which shows groundwater depth contour lines and shows that the area of the network consent application overlies an unconfined or semi-confined aquifer.

In 2004 MWH Ltd conducted an investigation into the Rangiora groundwater water supply and the capacity of the Ashley River aquifer; (see *Rangiora Water Supply Issues and Options* report, TRIM 040614097). These backup drinking water sources for Rangiora from the Ashley River are not considered to be significantly impacted by the interaction with surface water due to their depth, which is 8.8m and 13.7m for the Ayers Street wells and 22.9m and 19.5m for the Dudley Park wells.

3.4.5. Growth Areas

Possible growth areas of Rangiora have been derived from census data and are shown in Figure 8. Note that these growth areas were indicative only as of 2024, without changes from the Partially Operative District Plan (2025).

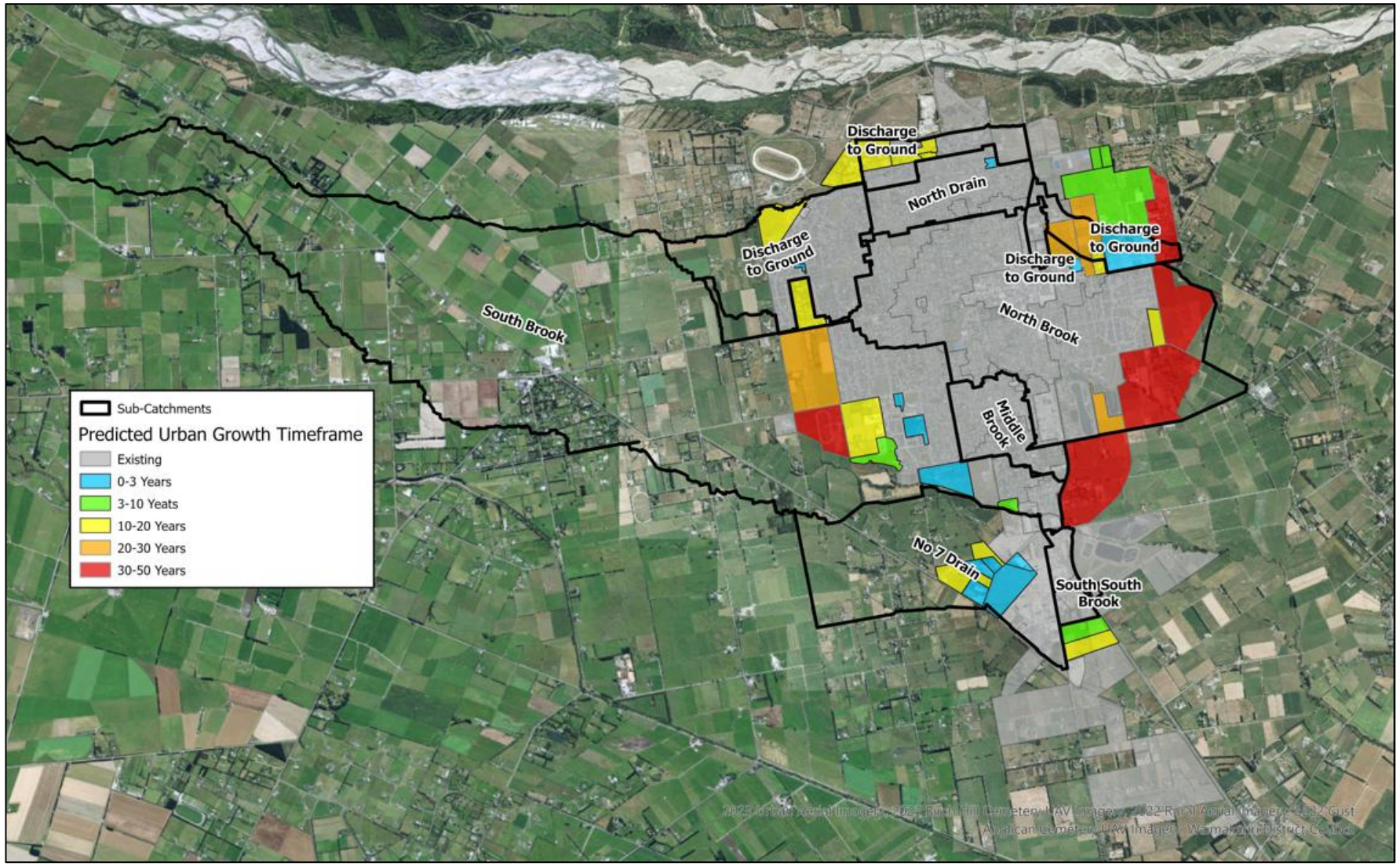

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Figure 8: Projected growth areas within Rangiora

Table 5: Projected growth area distribution (%) by sub-catchment.
Note that due to rounding, percentages do not always equal 100%.

Sub-Catchment	Existing	0-3 Years	3-10 Years	10-20 Years	20-30 Years	30-50 Years	>50 years	Rural
Discharge to Ground	57%	7%	0%	11%	5%	2%	20%	0%
No 7 Drain	22%	9%	0%	5%	0%	0%	0%	65%
North Drain	99%	1%	0%	0%	0%	0%	0%	0%
Middle Brook	99%	0%	0%	0%	0%	1%	0%	0%
North Brook	73%	0%	0%	3%	3%	14%	4%	3%
South Brook	11%	1%	1%	1%	3%	1%	4%	77%
South South Brook	100%	0%	0%	0%	0%	0%	0%	0%

Table 6: Projected growth area distribution (Ha) by sub-catchment

Discharge to Ground	Existing	0-3 Years	3-10 Years	10-20 Years	20-30 Years	30-50 Years	Rural
Discharge to Ground	169	20	0	32	14	5	1
No 7 Drain	64	26	0	13	0	0	192
North Drain	96	1	0	0	0	0	0
Middle Brook	75	0	0	0	0	0	0
North Brook	431	2	0	17	16	84	21
South Brook	167	19	10	21	41	20	1126
South South Brook	0	0	0	0	0	0	0

Figure 8 predicts urban growth within the Rangiora catchment area to be concentrated in the south, southeast, north-east and west of the township over the next 10 years. Over this period, the No.7 Drain, South Brook and the Discharge to Ground areas are anticipated to have the most growth and new development in terms of area (Ha).

It is important to take into consideration that the Council requires all new (or greenfield) developments to have their own SMA in the ECoP. This requires developers to consider flood capacity and projected flows in the downstream network and receiving environments when designing their stormwater systems. This requires attenuation of peak flows and peak velocities to match pre-development levels (i.e. to achieve stormwater neutrality). The management of flow regimes to pre-development levels is intended to prevent any damage to structures downstream of the developments, including dwellings located near the lower Three Brooks or alongside the Cam River. Discharge to ground is also required where practicable.

Similarly, any new developments are required to implement stormwater treatment solutions, addressing urban pollutants and will be assessed for approval by the WDC to meet the provisions of Consent CRC262840, such as Condition 15. Land use consents issued by WDC require stormwater from new developments to be treated to meet the ECoP, with the Waterways, Wetlands and Drainage Guide (WWDG) (Christchurch City Council) and TP10 (replaced by GD01, Auckland Council) stated as best practice to follow. This is to ensure potential adverse impacts of the development on water quality in the downstream receiving environment are managed and mitigated close to source.

The following Outline Development Plan (ODP) maps have further detail on these future growth areas within Rangiora and can be found on the WDC website. These maps also include additional information on stormwater, land use, water, wastewater and greenspaces for the projected growth area.

Outline Development Plans:

- Northwest Rangiora Development Area
  https://waimakariri.isoplan.co.nz/draft/rules/0/297/0/0/0/226
- South Belt Development Area
  https://waimakariri.isoplan.co.nz/draft/rules/0/296/0/0/0/226
- Southbrook Development Area
  https://waimakariri.isoplan.co.nz/draft/rules/0/278/0/0/0/226
- North Rangiora Development Area
  https://waimakariri.isoplan.co.nz/draft/rules/0/275/0/0/0/226
- West Rangiora Development Area
  https://waimakariri.isoplan.co.nz/draft/rules/0/224/0/0/0/226
- North East Rangiora Development Area
  https://waimakariri.isoplan.co.nz/draft/rules/0/225/0/0/0/226
- South East Rangiora Development Area
  https://waimakariri.isoplan.co.nz/draft/rules/0/290/0/0/0/226

Some of these ODP areas are partially developed. If the associated stormwater discharges are already consented by Environment Canterbury the consent conditions will be transferred to the stormwater network consent CRC262840 at the same time at which the corresponding infrastructure is vested in the Council.

3.5. High Risk Areas within Rangiora Township

3.5.1. Approach

Maintaining healthy receiving environments requires effective stormwater management. This section outlines the methodology used to identify high risk areas within the township, allowing WDC to allocate resources towards priority areas that need improvement. Sub-catchments are prioritised based on determining the risk levels for each sub- catchment. High risk areas are determined by evaluating which sub-catchments pose the greatest potential for negative impact on the receiving environment.

3.5.2. Key factors

This assessment methodology assigns risk levels to six sub-catchments based on assessment against three key factors which have a high impact on stormwater quality:

a) Areas with existing treatment infrastructure versus untreated areas

Lack of existing treatment infrastructure is a significant risk as it allows contaminants to enter receiving environments without mitigation. Existing stormwater treatment infrastructure reduces the immediate need for significant investment as preexisting systems in place lowers the likelihood of contaminants exceeding trigger levels.

b) Land use composition

The type of land use is a key factor when determining the risk of that area having a negative impact on the downstream system. For example, areas dominated by business zones (industrial and commercial activities) are typically known sources of higher pollutant loads and more harmful contaminant types. Therefore, the type and extent of land use is a factor when determining the risk of a given area.

c) Water quality sampling results for dissolved copper and zinc

Water quality sampling is crucial for confirming potential issues highlighted by the methodology used to identify and rank elevated risk areas. The collected data from the Rangiora Stormwater Monitoring Programme offers clear proof of stormwater quality issues; be it non-compliance with regulations, possibility of a spill event, or an indication of subpar performance of existing treatment systems. This data is instrumental in designing targeted improvement measures. By analysing this information, we can gain a deeper understanding of the problem areas and ensure that implemented solutions directly address the root causes (i.e upgrading existing treatment systems, implementing additional

treatment measures and or review of maintenance practices and frequencies).

At present, water quality sampling results for dissolved copper and zinc from the identified discharge points are available for all sub-catchments (sampling years 2021 -2023). Sampling for 2024 had not been reported at the time of the SMP development, and therefore has been excluded. Ongoing monitoring over the next few years will highlight any emerging trends. This will not only enhance verification of current water quality but also potentially inform future adjustments to the monitoring program and risk assessment, ensuring an adaptive management approach to stormwater management.

Note: *Factor B excluded rural areas of a sub-catchment. Factors B and C both excluded areas that discharge to ground.*

3.5.3. Contaminant Load Modelling (CLM)

To complement the three factors for risk assessment, CLM was conducted for each catchment by the WDC Network Planning Team in 2022, using a CLM developed by Auckland Regional Council (see Appendix C for development of the CLM).

The model provided projections of contaminant loads in each sub-catchment area based on land use type and considers any existing treatment systems that are in place. Results of the CLM modelling for TSS, total zinc and total copper for each sub-catchment are shown in Table 7. The results (kg/year) from the CLM model, although not directly comparable to the water quality sampling results, are in line with the risk assessment that identifies Middle Brook as high risk based on the total loads (kg/yr).

The modelling results indicate that from all the sub-catchments, contaminant loads from South Brook are within the three highest levels (shown in cells shaded red in Table 7) of contaminant loads contributing towards total zinc, total copper and TSS.

Table 7: CLM results for projected contaminant loads at discharge point for Rangiora sub-catchments

Catchment	Zn (kg/yr)	Cu (kg/yr)	TSS (kg/yr)	Zn kg/ha/yr	Cu kg/ha/yr	TSS kg/ha/yr
North Drain	14.216	0.567	2230.598	0.426	0.017	66.816
North Brook	30.723	4.215	**45356.895**	0.121	0.017	178.870
South Brook	**69.696**	**6.683**	**62921.095**	0.048	0.005	43.053
Middle Brook	**90.883**	**6.353**	**21014.035**	1.213	0.085	280.453
South South Brook	8.685	1.676	1019.293	0.285	0.055	33.465
No. 7 Drain	**53.995**	**8.740**	16260.976	0.283	0.046	85.207

Note: Shading indicates areas of higher loads.

The outputs from the model are the total load in kilograms per year in each catchment. Alternatively, results are also presented in kilograms per hectare per year, where the large rural area of the South Brook catchment masks the higher loads from the developed area of the sub-catchment.

This CLM can be a useful tool to give indicative contaminant concentrations for scenarios and should not be interpreted as a precise measurement tool. Alongside sampling results, this model can be used to target sources of contamination and the effectiveness of treatment devices. The output of the model is total copper and zinc per year, therefore direct comparison to CRC262840 water quality limits for dissolved copper and zinc in mg/L is not possible.

Overall, CLM provides a valuable tool for understanding the potential for pollution across Rangiora, even if it does not directly influence the risk assessment. Instead, it can help prioritise areas for further investigation, plan for future risks, and project effectiveness of contaminant concentration reductions for a proposed treatment system or treatment train.

By combining these factors with data-driven assessments, this methodology of assigning risk levels, allows a Project Control Group (PCG) to effectively prioritise funding and targeted improvement

initiatives within Rangiora that will provide the most impact on water quality outcomes. This ensures that funds and resources are directed towards areas with the greatest need and enabling flexibility and adaptability to raise or reduce risk levels as needed, maximizing the overall environmental benefit of our stormwater management efforts.

3.5.4. Scoring criteria for each factor

Sub-catchments were assessed against each of the following factors, with scores between 1 to 5 applied to each factor based on the following criteria score bands:

Factor A – Water Quality

This factor was calculated as the percentage of water quality sampling results (dissolved zinc and dissolved copper only) during first flush rain events that were above CLWRP guideline values across the 2021 -2023 monitoring period for all sites in each sub-catchment. During this period a total of 3 sampling rounds were undertaken for each of the six sub-catchments. It is important to note that due to resourcing issues, for North Brook and South South Brook there were only two rounds of sampling undertaken (Q3 2021/2022) and (Q4 2022/2023).

Table 8: Scoring criteria for water quality

Score	Zn and Cu % exceedances of total samples taken
1	= 0-20%
2	≥ 20-40%
3	≥ 40-60%
4	≥ 60-80%
5	≥ 80-100%

Factor B - Untreated areas

Total area (in hectares) within a sub-catchment where stormwater runoff does not pass through a stormwater treatment system prior to discharging into a receiving environment.

Table 9: Scoring criteria for untreated areas

Score	Untreated Areas (Ha)
1	= 0-20 Ha
2	≥ 20-40 Ha
3	≥ 40-60 Ha
4	≥ 60-80 Ha
5	≥ 80-100 Ha

Factor C - Land use composition

The total amount of land use area (in hectares) within a catchment that consists of business zones (commercial or industrial activities).

Table 10: Scoring criteria for land use composition

Score	Business Zone Areas (Ha)
1	= 0-20 Ha
2	≥ 20-40 Ha
3	≥ 40-60 Ha
4	≥ 60-80 Ha
5	≥ 80-100 Ha

3.5.5. Risk Classification

After assigning scores to each factor, the final score for every sub-catchment was determined by

calculating the mean of the three factors, using equal weighting for each factor. Based on this average score, risk levels were categorized using the following classification:

Risk Classification

- **Low Risk**: Average score of 1-2
- **Medium Risk**: Average score of >2-3
- **High Risk**: Average score greater than >3-4
- **Very High Risk**: Average score >4-5

This classification system allows for a clear and systematic assessment of risk levels across the sub-catchments based on the averaged factor scores.

Results

The following table displays the results of applying sections 3.5.4 and 3.5.5 above.

Table 11: Risk levels for Rangiora sub-catchments

Sub-catchment	(A) Water quality sampling results	(B) Limited or No Treatment	(C) Land Use - Contains business zone	Average of all 3 factors (A, B & C)	Risk Level
North Drain	3	5	1	3.0	Medium
North Brook	5	2	3	3.3	High
South Brook	1	3	1	1.7	Low
Middle Brook	5	4	1	3.3	High
South South Brook	3	1	2	2.0	Low
No.7 Drain	2	1	4	2.3	Medium

The result of the risk assessment identified the North Brook and Middle Brook as high risk sub-catchments, and the North Drain and No 7. Drain as medium risk. Therefore, these four catchments are the primary focus for implementing future stormwater improvement projects.

This approach leverages existing knowledge to verify the effectiveness of the scoring mechanism, ensuring that the prioritization matrix is not just theoretically sound, but also practically applicable.

Feedback was sought from the 3 Waters Manager on scores and was used in fine-tuning the prioritization matrix by adjusting the scoring mechanisms for greater accuracy and recalibration of criteria thresholds to better reflect real-world conditions. The process underscores the importance of incorporating diverse viewpoints in developing effective decision-making frameworks.

The Newnham Street Industrial area in the North Brook sub-catchment is a business zone with currently no treatment. It is a significant untreated area within Rangiora and therefore is a specific area worthy of focus for stormwater improvement.

Although ecological values of the receiving environment are not evaluated within the risk assessment criteria, they are in line with the identification of the North Brook as a priority sub-catchment. The North Brook (including Kōura Creek tributary) along together with the South Brook have been mapped by Environment Canterbury as Critical Habitat for Indigenous Species (Figure 2). This was re-confirmed by recent ecological survey results (Boffa Miskell, 2024) which found threatened species kanakana (pouched lamprey, *Geotria australis*) in the South Brook, and wai kōura (freshwater crayfish, *Paranephrops zealandicus*) are present in both waterways.

The results from this assessment can be used to serve a dual purpose. While it effectively identifies priority areas that require focus, it also offers valuable insights into lower risk areas. By strategically allocating resources to these high and medium-risk areas, there is possibility to implement some smaller-scale projects aimed at further improving low risk areas to ultimately posing no risk where environmental outcomes are fully met. Conversely, these medium risk areas can be prevented from being escalated into high-risk ranked areas; by targeting areas with the potential for substantial improvement (even with existing treatment). This approach can potentially yield significant benefits for water quality. This risk assessment process is intended to be re-run for each review of this stormwater management plan to assess progress to downgrade catchments from high through to medium, low or no risk over time.

Sub-catchments that have existing treatment systems, but demonstrate poor water quality results could indicate potential issues such as:

- Overwhelmed systems
- Treatment systems might be overwhelmed by the high volume or specific types of pollutants, leading to inefficient pollutant removal and non-compliance with environmental regulations.
- Improper functioning or inadequate systems
- Existing systems may be malfunctioning due to wear and tear, improper design size, or lack of maintenance.
- Mismatch of treatment system versus type of contaminant
- The current treatment system in place does not target removal of dissolved metals, and therefore may require additional treatment measures.
- Upstream issues
- In rare cases, temporary upstream events like spills or accidents could temporarily compromise water quality before reaching the treatment system.

One-off investigations could include additional water quality sampling into medium risk areas to understand root causes of poor performance of existing systems and or to determine the best solution for improvement measures, in addition to sampling for the Rangiora Stormwater Monitoring Programme.

This methodology for assessing risk provides a high-level overview of sub-catchment risk by employing a quantitative approach. Inclusion of CLM modelling data helps proactively identify potential issues even before they appear, allowing for pre-emptive planning. This method also highlights the need for further investigation into existing treatment systems that show poor performance. This could indicate a need for enhanced treatment, improved maintenance, need for improved source control, or even system remediation.

The limitation to this methodology is that it relies on readily available data and may oversimplify complex decisions that does not capture all intricacies of each sub-catchment. Despite attempts at objectivity, scoring systems can still be influenced by inconsistent interpretation of criteria across different evaluators. Therefore, this risk assessment is meant to highlight problem areas within the township at a high level, further site-specific assessments are necessary to refine the risk ranking and identify additional factors. More detailed assessments should be undertaken during the project prioritisation and implementation phase.

3.6. Current Status of Stormwater Quality Improvement Measures

This section provides an overview of the current stormwater quality improvement measures that are currently in place within Rangiora.

3.6.1. Existing Stormwater Treatment

The Rangiora stormwater network services all streets and properties within the developed urban limits (Figure 9). All new (greenfield) developments are required to consider the downstream network and receiving environments when designing their stormwater system. This is done so that the existing receiving waterways are protected. From a stormwater quantity perspective, this is commonly achieved through attenuating peak flows and peak velocities to match pre-development levels.

The majority of the Rangiora stormwater system enters either a retention or detention system consisting of either a wetland, dry pond, wet pond or infiltration swale/basin before being discharged to the receiving environment.

As well as providing attenuation, these systems also provide treatment. Refer to Section 6.3 for types of treatment.

Figure 9 provides an overview of areas that have existing treatment and areas that currently are “untreated” i.e. defined as not passing through a pond or a stormwater management area (SMA) (dry or wet pond, infiltration basin, or wetland) before discharge.

The majority of the Rangiora urban area has an existing pond or basin that provides attenuation and or treatment. There are several urban areas where there is no treatment: for example, all of the Middle Brook catchment and the majority of the North Drain catchment.

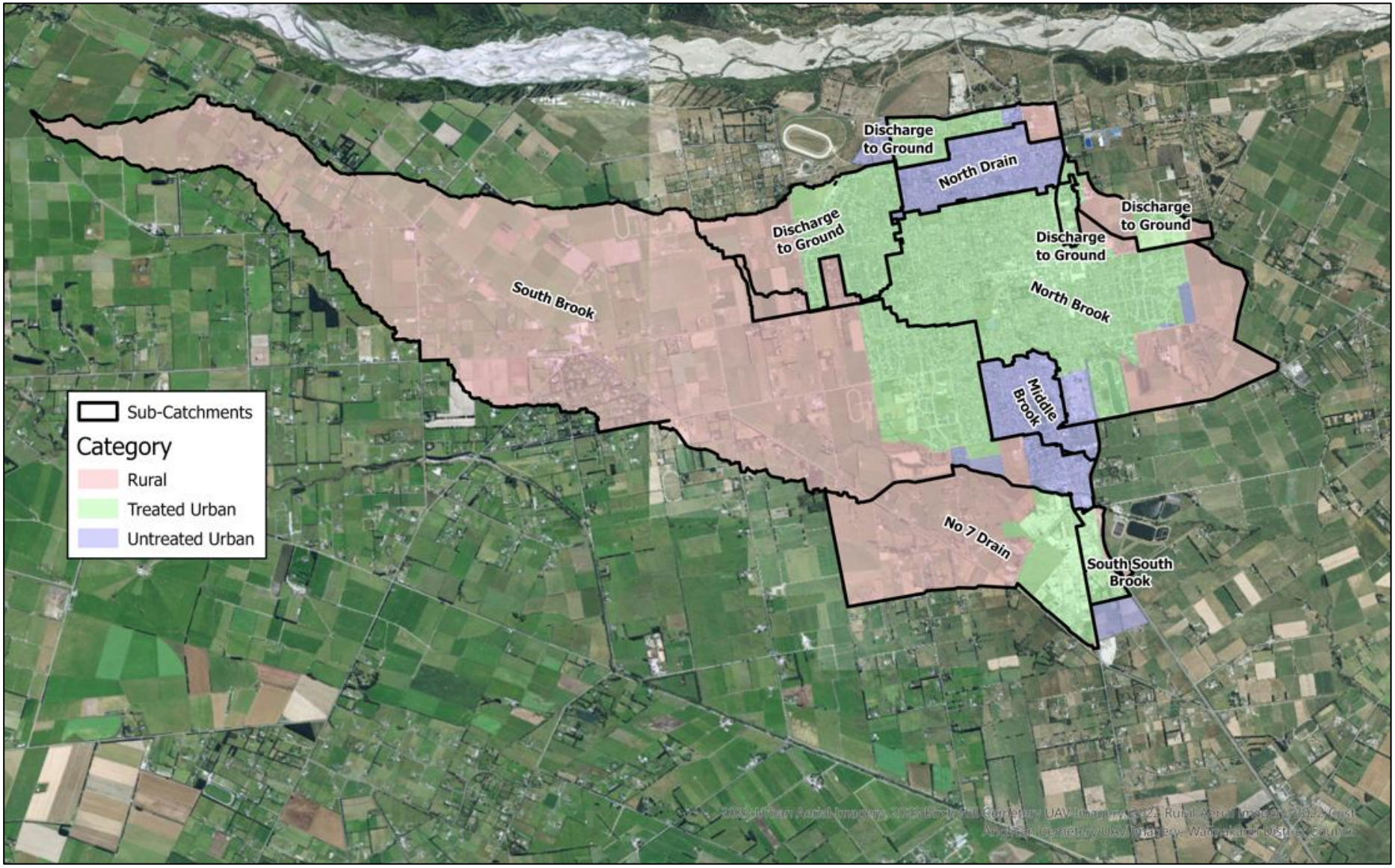

Figure 9: Treated and untreated areas within Rangiora sub-catchments

Table 12 Distribution of treated and untreated areas by sub-catchment

Sub-Catchment	Untreated Urban		Treated Urban		Rural %	
	%	Ha	%	Ha	%	Ha
Discharge to Ground	1%	4	65%	194	34%	102
No 7 Drain	0%	0	27%	79	73%	217
North Drain	99%	96	0%	0	1%	1
Middle Brook	100%	75	0%	0	0%	0
North Brook	4%	23	67%	396	29%	175
South Brook	3%	43	10%	153	87%	1266
South South Brook	0%	0	83%	25	17%	5

There are over 23 stormwater basins (the number varies with definition), which are a combination of both wet and dry ponds within the Rangiora urban boundary. The catchment areas served by each of these systems are shown in Figure 10. These ponds aid in reducing/maintaining flow peaks, flood water levels and erosion within the receiving waters. Many of these ponds also function as first flush treatment basins which are primarily designed to treat stormwater discharge but also provide attenuation.

A schematic showing configuration of these systems is included in Appendix D of this report.

It should be noted that data used in mapping Figures 9 and 10 focuses on larger stormwater treatment and storage systems like basins, ponds, and wetlands. It excludes smaller features within the township, such as swales and specialised proprietary treatment devices. Previous studies that utilised this data were focused on water quantity analysis, therefore these smaller systems were omitted at the time, as their primary function is treatment of stormwater, not water quantity management.

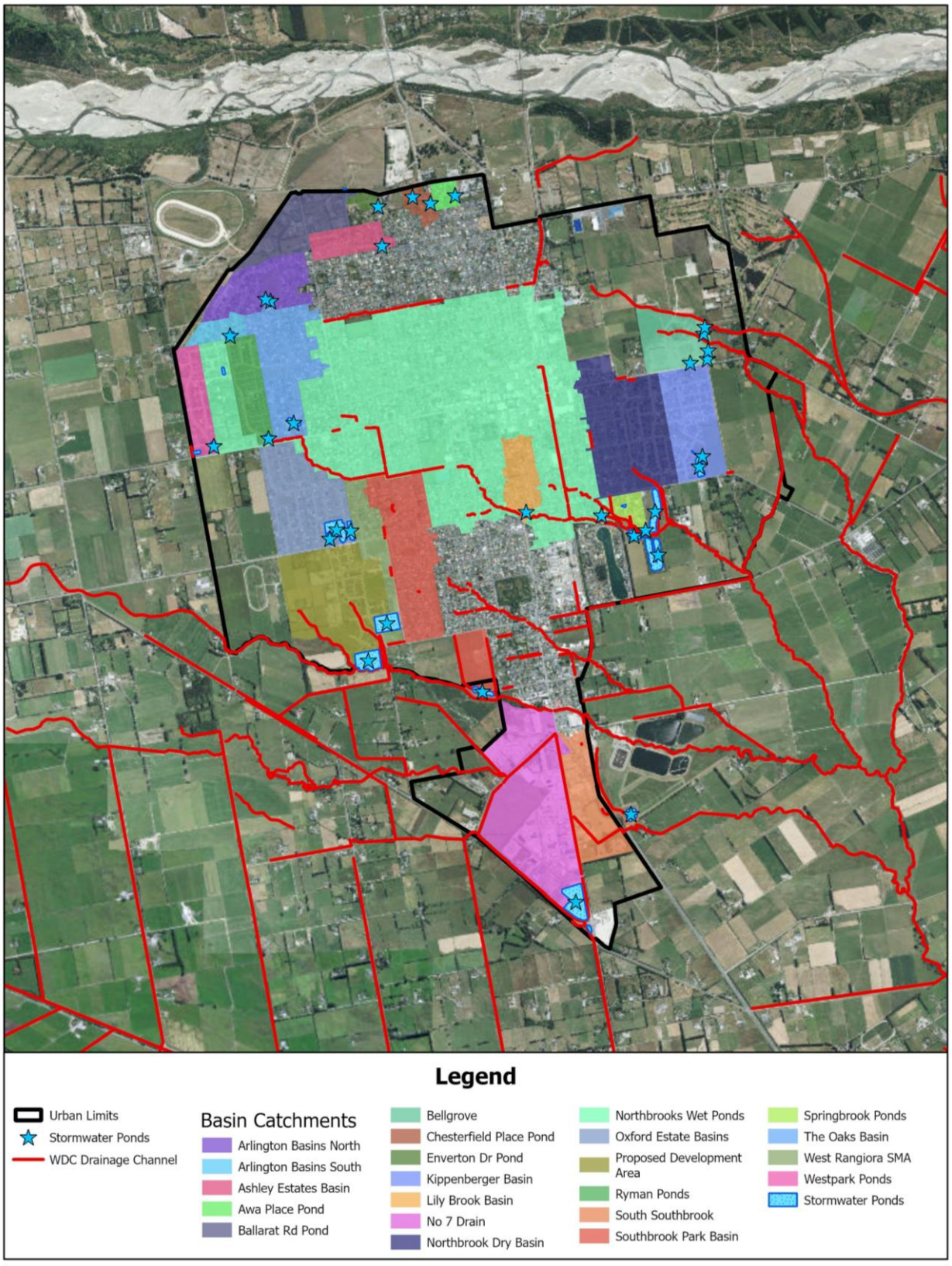

Figure 10: Stormwater Ponds within Rangiora

A record and map of Enviropods or other similar catchpit filters such as the Littatrap across Rangiora is shown in Figure 11 below. Additionally, a record of other proprietary devices such as Stormfilters and soak pits are shown in Table 13 below. A preliminary gap analysis of existing treatment systems such as these proprietary systems revealed that there is some missing asset information. It is important to note that the figures showing records of these assets are not exhaustive. Further improvement on how asset data is recorded, mapped and maintained is needed; to ensure accurate and complete data registry of treatment systems installed within the township.

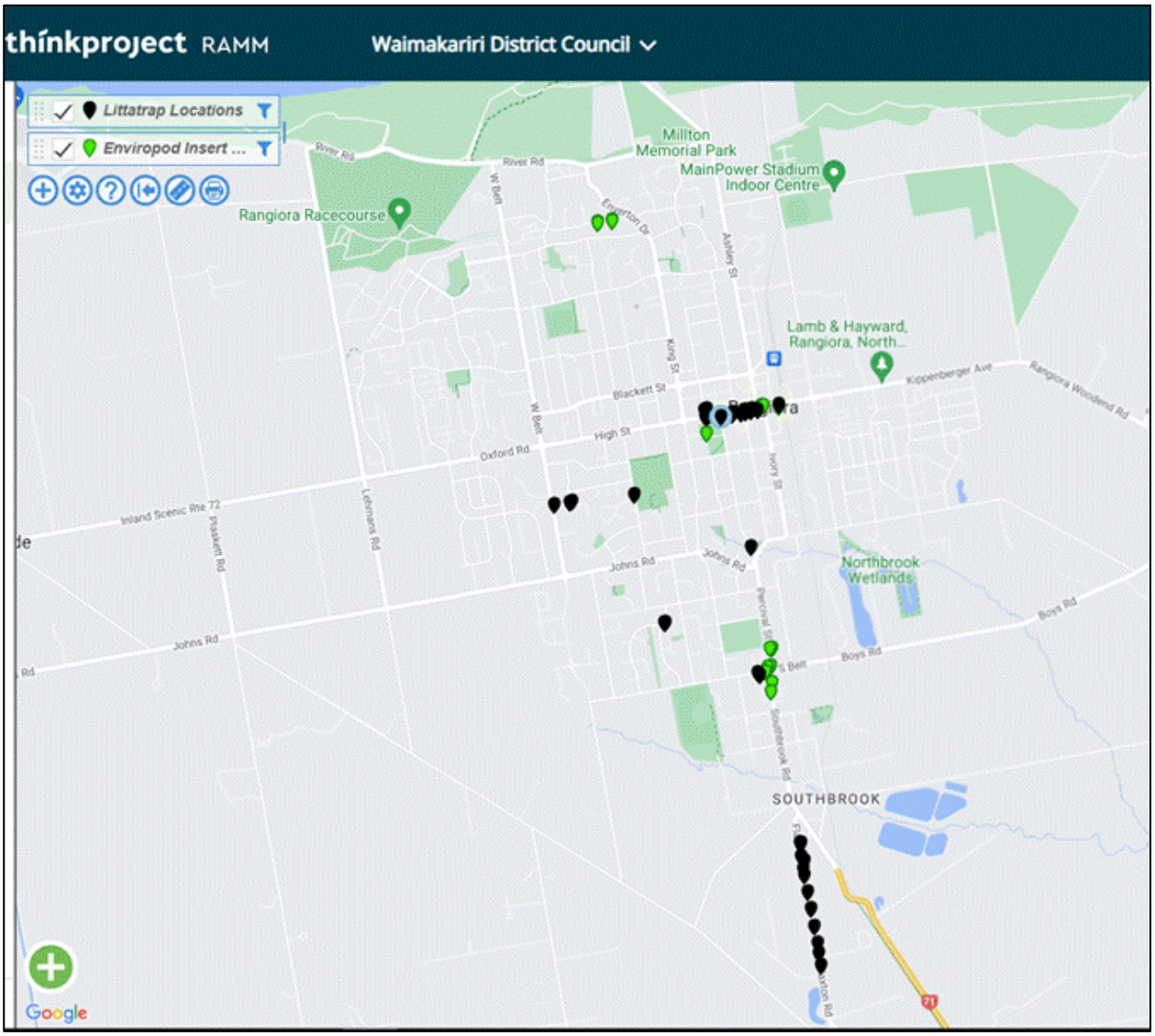

Figure 11: Location of catchpit filters within Rangiora (Littatraps and Enviropods)

Table 13: Record of proprietary devices in Rangiora urban area.

Asset Number	Asset	Asset Description
SW026426	Cartridge Stormwater Filter System	95 Townsend Rd Rangiora
SW011403	Gross Pollutant Trap (GPT)	Stormwater Chamber acting as GPT -366 Flaxton Rd
SW014797	Arlington Park Soakpit System	Chamber 1 for Arlington Park Soakpit System- Epsom, Drive Rangiora
SW006611	Arlington Park Soakpit System	Chamber 2 for Arlington Park Soakpit System- Epsom, Drive Rangiora

4. Issues

Issues analysis has been carried out to review the effect the existing stormwater discharge is having on the receiving environment. Some issues analysed for the Rangiora Interim SMP (2017, TRIM 171206132761) were found to have minimal effect on the receiving environment; namely negligible erosion and scour caused by discharges with erosion sites already addressed. The Interim SMP referred to a 2013 report (TRIM 131112104705) that explained why there are no recognised erosion areas within Rangiora.

'*Because most of the streams in Rangiora are in the upper reaches of the Cam River catchment, the flows rarely reach significant eroding velocities. The WDC does not investigate stream erosion regularly, however the streams are often inspected and there are no noticeably eroded areas'*.

The Rangiora Interim SMP (2017) also identified a lack of effects on downstream private drinking water supplies.

4.1. Flooding and Network Capacity

The Rangiora urban stormwater network has a 20% Annual Exceedance Probability (AEP) level of service design standard (i.e. 1 in 5-year flood) that has generally been applied since 2000. However, older parts of the network were often not designed to this level. In some cases, even if systems were designed to that level, as rainfall intensity projections have increased over time, they will not meet that level based on current rainfall forecasts. A specific capacity of 2% AEP (i.e. a 1 in 50-year flood) is provided for with secondary overland flow paths. The commercial town centre has a 10% AEP level of service design standard (i.e. a 1 in 10-year flood).

Rangiora flooding issues or challenges identified include:

- Excess rural flows entering the town, particularly during a period of high groundwater causing rural flows to overwhelm the urban network (such as during the June 2014 flood event).
- Poorly drained areas, particularly in the south-east of Rangiora, where this can lead to increased run-off for the network and poor soakage as there is little depth to groundwater.
- The southern part of Rangiora (including the Southbrook Industrial area), a strip to the west of the railway line, and small localised low points have been identified as having a significant flood risk in WDC natural hazard modelling for a 1 in 200-year flood event (localised and Ashley River Breakout models).
- Limited and undersized pipe network in older parts of the town where infrastructure was designed and constructed prior to adoption of the current design standards. This causes stormwater to flow overground when the pipe system is full or not available.
- In general, increasing impervious areas, combined with more frequent heavy rainfall events.

The most recent run of the Rangiora Urban Stormwater Model (RUSM) in May 2024 (TRIM 240508073139) confirmed that water quantity issues where flooding of private property (i.e. outside of secondary flow paths) in a 1 in 50-year event are likely to occur are:

- Blackett Street / Central Business District North
- White Street / Kingsbury Avenue
- Blackett St West and White St North
- Watson Place
- Douglas Street
- West Belt Between Blackett Street and High Street.

It is noted that this work was not to the level of detail to determine whether dwellings are at risk; only that private property is subject to flooding in these areas. Further detail is required, including consideration of dwelling locations and floor level (particularly of dwellings downstream of network discharge points) and infrastructure, to understand this risk in more detail. Environment Canterbury,

for example, maintains flood protection scheme infrastructure for the Cam Ruataniwha and Cust Rivers which receive stormwater from Rangiora. An increase in peak flows downstream could potentially result from pipe upgrades, if appropriate attenuation is not provided.

Climate Change has been factored into the RUSM using the 100-year Recommended Concentration Pathway scenario (RCP) 8.5 as adopted by WDC for flood modelling. This means that the model results discussed are conservative for current weather patterns, as they are based on rainfall intensities that are expected to occur approximately 100 years from now, with the impacts from climate change factored in.

Environment Canterbury is responsible for providing Ashley Rakahuri River flood protection works that protect the town from flooding events. The Ashley Rakahuri River is the only significant watercourse posing a direct threat to Rangiora township. However, this flood risk is out of scope of the Rangiora stormwater network discharge consent.

4.2. Water Quality

Stormwater runoff picks up contaminants from hard surfaces such as roads, carparks, industrial yards and certain building materials. Polluted stormwater that is discharged to the environment can put a strain on the health of our waterways. This can affect the aquatic ecosystem and how the community views and interacts with the waterways. Water quality guideline values (Appendix A) have been primarily set where an estimated 90% of aquatic species are protected, with increasing negative impacts on native species when these guidelines are exceeded.

The Rangiora Stormwater Monitoring Programme has 22 visual discharge inspection outlets in the stormwater network (6 of which are also sampled for Total Suspended Sediment). Thirteen sites are located in the receiving environment and are sampled for urban contaminants during first flush conditions, and there are 6 sites within waterways for stream health sampling during dry weather.

The following stormwater contaminant-related issues have been identified in Rangiora through the stormwater monitoring programme annual reports for CRC184601 (TRIM 230919146639 and 220512075696) and baseline sampling from 2014-2017:

- Guideline values in 2021-2023 were routinely exceeded for Dissolved Copper, Dissolved Zinc, Dissolved Reactive Phosphorus (DRP) and *E. coli*. during wet weather events in waterways that were sampled. Guideline values were not exceeded for Total Ammoniacal Nitrogen (TAN).
- Visual monitoring of stormwater outlets from 2021-23 generally does not raise any issues for hydrocarbons or smell. Sediment was occasionally noted to be visible during discharge outlets inspections. The discharge from Pond C (SMA on the corner of Flaxton and Fernside Road) into the No. 7 Drain, however has once measured above the guideline value for TSS and is frequently above the *E. coli* guideline value.
- From 2021-2023 during dry weather “Stream Health” sampling in selected waterways, guideline values were not exceeded for TSS, pH, temperature, TAN, DRP, and dissolved oxygen. The exception was a low value at the North Brook at Lilybrook Park, that is thought to be due to low oxygen in groundwater inflows. Guideline values for Dissolved Inorganic Nitrogen (DIN) and *E. coli* were occasionally not met in the North Brook, Middle Brook, South Brook, or the No. 7 Drain.

Copper is likely to be from urban sources, such as car brake pads, industrial sites and copper roofing and guttering. Zinc also has urban sources from sources, such as wearing down of car tyres, particularly from high traffic areas, and galvanised roofs that have deteriorated. Roof deterioration, causing release of zinc, is thought to be more likely in older areas of the township such as the North Brook and Middle Brook sub-catchments, but this is speculative. Sources of DRP could be attributed to use of residential garden fertilisers, leaf litter, groundwater inflows, and from airborne particulates settled onto impermeable surfaces during (e.g. from rural land west of Rangiora) and released as surface runoff during subsequent rainfall. Wastewater overflows are also a potential source of DRP and faecal bacteria (indicated by *E. coli*), however there are no regular wastewater overflows identified to occur in Rangiora (e.g. during rain events). There are only one-off overflows due to accidental pipe damage which is rectified when identified. Other sources of *E.coli* could be animal

waste from pets, livestock in rural areas, and wildlife like birds.

Recommendations to address contaminants and actions for waterways have been included in the annual Rangiora Stormwater Monitoring Reports of 2021-22 and 2022-23 and incorporated where appropriate into this SMP. It is believed that some exceedances of *E. coli*, DRP and DIN, particularly for the South Brook and No. 7 Drain could be due to rural inputs, beyond the scope of the Consent CRC262840.

Macroinvertebrates are an important and commonly used measure of stream health. Invertebrate communities are in a degraded state throughout the spring-fed rivers in the Ashley Rakahuri and Cam River Ruataniwha catchments. Deposited fine sediment cover is high in all spring-fed streams in both catchments and is likely a key driver of poor ecosystem health and high macrophyte cover in these systems. In terms of recreational value, spring-fed rivers in the Ashley and Cam River / Ruataniwha catchments are unsuitable for primary contact recreation due to significant faecal contamination (Greer and Meredith 2017). Fine sediment and nutrients, such as nitrate and phosphorus in particular, are contaminants sourced from rural inputs as well as Rangiora township urban sources, which could be from wastewater overflows or residential use of garden fertiliser for example.

In a stream health ecological and sediment contaminant investigation in December 2023, as part of the Rangiora Stormwater Monitoring Programme, Boffa Miskell Ltd (2024) found:

- Two sites of six monitored sites, (in the South Brook at Marsh Road, and the Middle Brook at Hegan Reserve) met the Quantitative Macroinvertebrate Community Index (QMCI) NPS-FM National Bottom-Line value, all other sites did not meet the National Bottom-Line. Average Score Per Metric (ASPM) scores were variable between the six sites, but only one (South Brook at Marsh Road), met the NPS-FM National Bottom-Line of ASPM > 0.3. All other sites did not meet the National Bottom-Line value.
- Fine sediment cover was high (exceeding the CLWRP guidelines) at all six sites surveys across key sub-catchments. Fine sediment cover means coarser substrates, like cobbles, are less available to aquatic biota (for grazing, egg laying, using as refugia), highlighting the need to stabilise eroding banks, using best practice stormwater treatment, and minimising intensive land-use change in the catchment to reduce inputs of fine sediments. Fine sediment depth and cover is particularly extensive in the South South Brook catchment.
- Guidelines for in-stream sediment concentrations of copper, total polycyclic aromatic hydrocarbons (PAH), cadmium, chromium, BTEX, and nickel were met at all eight sites that were tested. Stream sediment contaminants exceed guideline values in the South South Brook at Lineside Road (for zinc, arsenic and mercury), Middle Brook at Gefkins Road (for zinc), and North Brook at Ward Park (for zinc and lead).
- Total macrophyte cover was above (i.e. did not meet) guidelines at two of the six monitoring sites- both were sites in the North Brook.

Interim results from a WDC SMA sediment sampling investigation carried out from December 2023-May 2024 (unpublished data) found levels of:

- Total recoverable zinc were above guideline values in eight SMAs (of 25 SMAs sampled);
- Total petroleum hydrocarbons were above guideline values in nine SMAs (of 25 SMAs sampled); and
- Total recoverable copper, arsenic, mercury, lead, and chromium were above guideline values in one or two SMAs each of the 25 SMAs sampled. These were primarily SMAs with industrial/commercial land use, namely Pond C on the corner of Flaxton and Fernside Road (No. 7 Drain catchment), Pond A on Lineside Road (South South Brook sub-catchment) and Io Io Whenua Northbrook Ponds (North Brook sub-catchment).

A programme of further sampling investigations and recommendations for remedial action, such as soil disposal where required is being carried out, commencing in 2024-25.

Industrial Sites, Contaminated Sites and Hazardous Substances

Some industrial activities are a higher risk source of contaminants to stormwater such as heavy

metals and hydrocarbons. Environment Canterbury maintains a Hazardous Activities and Industries List (HAIL), which identifies these types of land uses.

Many of the potentially contaminated sites located within the Rangiora Urban Limits have been identified in the Environment Canterbury Listed Land Use Register (LLUR) for areas where potentially hazardous activities are or have occurred previously. Types of LLUR sites in Rangiora are mainly industrial contaminant discharges due to current land use or contaminated stormwater discharges due to past land use, and human effluent discharges (i.e. from private septic tanks).

4.3. Impacts on Wāhi Tapu, Wāhi Taonga, and Mahinga Kai

Stormwater infrastructure can create scour of downstream wāhi tapu or wāhi taonga sites such as urupā, modify habitat (i.e. to increase conveyance) with negative impacts on aquatic life, and also present fish passage barriers to migration upstream and/or downstream for migratory species. Stormwater infrastructure can also create restricted areas for access, so that mahinga kai practices are no longer able to be carried out.

Stormwater contaminant discharges can impact the survival of species so that they are less abundant and reduce the safety and quality of mahinga kai for consumption so that traditional collection areas are no longer available. Bioaccumulation of a contaminant could lead to restrictions in recommended consumption amounts.

4.4. Exacerbators of Issues

4.4.1. Urban Development and Construction

Urban development of new greenfield subdivisions or brownfield redevelopment, as well as during the construction phase (i.e. house-building) can lead to exacerbated contaminant release, such as sediment from poor erosion and sediment control. When constructed, these developments often result in a net increase in impervious surface area of a catchment, with higher peak flows during rain events to be managed by the stormwater infrastructure.

4.4.2. Poor Maintenance

Delayed or incorrect stormwater infrastructure maintenance can lead to blockages and flooding, erosion from higher peak flows and additional contaminant discharges, for example if filters of proprietary devices are not regularly serviced. Maintenance and minor works in the stormwater network can exacerbate issues if best practice is not followed, such as causing sediment disturbance and resuspension.

4.4.3. Climate Change

Climate change is an exacerbator of stormwater issues. Possible climate change effects predicted in the Waimakariri District that would likely affect Rangiora township include the following, as defined in the Zone Implementation Programme Addendum (ZIPA, Environment Canterbury 2018):

- Increase in the frequency, duration and severity of droughts causing increased stress on water resources and impacts on stream health.
- An increase in evapotranspiration with associated increase in groundwater abstraction, depending on rainfall.
- Further flow decreases in the Ashley Rakahuri River, increasing length and duration of dry reaches in the river and causing reduced flows in the spring-fed streams, such as has been noted in the North Brook and Cam River headwaters, (spring-fed waterways sustained by groundwater flow from the river).
- The potential for less winter rainfall with more rainfall in summer and autumn.

Higher intensity rainfall is also predicted, resulting in surpassing the capacity of the stormwater network and an increased risk of pluvial flooding. This type of high rainfall is associated with an increasing number and duration of atmospheric rivers.

As Rangiora is generally located at an elevation of approximately 20 to 40 metres above sea level it

will not be affected by sea level rise and its streams will continue to be unaffected by tidal influence.

In terms of planning for the impacts of climate change, the Council requires that new infrastructure be built taking into account projections for increased rainfall intensities, in accordance with the RCP 8.5 scenario – a conservative (worst case) climate change scenarios involving increasing rainfall intensity and duration. This ensures that new infrastructure that is built is sized to take into account the impacts of climate change.

5. Mana Whenua Values

Ngāi Tahu are tangata whenua of the Canterbury region and hold ancestral and contemporary relationships with Canterbury. The contemporary structure of Ngāi Tahu is set down through the Te Rūnanga o Ngāi Tahu Act 1996 (TRoNT Act). The TRoNT Act and Ngāi Tahu Claims Settlement Act (NTCSA) 1998 sets the requirements for recognition of tāngata whenua in Canterbury. The TRoNT Act (1996) and the NTCSA (1998) give recognition to the status of Papatipu Rūnanga as kaitiaki and mana whenua of the natural resources within their takiwā (boundaries). Each Papatipu Rūnanga has their own respective takiwā, and each is responsible for protecting the tribal interests in their respective takiwā, not only on their own behalf of their own hapū, but again on behalf of the entire tribe (Mahaanui Kurataiao Ltd, 2024). Ngāi Tūāhuriri Rūnanga hold mana whenua over Rangiora, as it is within their takiwā.

Natural resources – water (waterways, waipuna (springs), groundwater, wetlands); mahinga kai; indigenous flora and fauna; cultural landscapes and land - are taonga to mana whenua and they have concerns for activities potentially adversely affecting these taonga. These taonga are integral to the cultural identity of ngā rūnanga mana whenua and they have a kaitiaki responsibility to protect them. The policies for protection of taonga that are of high cultural significance to ngā rūnanga mana whenua are articulated in the Mahaanui IMP 2013 (Mahaanui Kurataiao Ltd, 2024).

The Mahaanui IMP details the cultural importance of the Ruataniwha and Cust River, which are part of the Waimakariri River catchment, and the Rakahuri (Ashley River) to tāngata whenua. The Waimakariri catchment was recognised for its cultural significance in the Ngāi Tahu Claims Settlement Act (1998). Objectives of the Mahaanui IMP (Jolly *et al.* 2013) include:

- Water quality and flows in the Waimakariri and its tributaries are improved to enable whānau and the wider community to have places they can go to swim and fish.
- The mauri and mahinga kai values of the Waimakariri and its tributaries and associated springs, wetlands and lagoons are protected and restored; mō tātou, ā, mō kā uri ā muri ake nei (for us and our children after us).

The Rakahuri (Ashley River), Waimakariri and Ruataniwha (Cam River) have continued to sustain Ngāi Tahu even after the land purchases in Canterbury (i.e. Kemps's Deed in 1948 and subsequent purchases), therefore there are strong mahinga kai associations with these waterways for Ngāi Tahu (IMP, 2013).

The position of Ngāi Tūāhuriri Rūnanga regarding stormwater management in Rangiora (Mahaanui Kurataiao Ltd, 2024) is that it *'neither supports, nor opposes, the Rangiora Stormwater Management Plan. Ngāi Tahu have traditionally strongly opposed the use of global consents for stormwater discharge. Stormwater run off from urban, industrial and rural environments can have significant effects on water quality and waterway health. Improving stormwater management requires on site, land-based solutions to stormwater disposal, alongside initiatives to reduce the presence of sediments and contaminants in stormwater, and reducing the volume of stormwater requiring treatment. Tāngata whenua have always supported discharge to land as an alternative to discharge to water, given the natural ability of Papatūānuku to cleanse and filter contaminants from waste. However, support for discharge to land is provisional on appropriate management of the activity. Over-saturation and over-burdening of soils with stormwater discharges compromises the mauri of the land and can result in run off or seepage into groundwater and waterways in the area. Low impact development and low impact urban design are fundamental features of sustainable stormwater management.*

The discharge of contaminants such as wastewater, stormwater or sediment to water, or to land where they may enter water, is culturally unacceptable. The effects of these discharge activities on tāngata whenua values may be significant despite the activity having only been assessed as having only minor ecological effects. It is critical that local authorities recognise that Ngāi Tahu concerns with discharges of contaminants to water extend beyond the existence of silent files or areas of cultural significance. Rather, these concerns are based on protecting the mauri of waterways, and the relationship of Ngāi Tahu to them. Clear limits are required for reducing and managing contaminants at the source, both in rural and urban environments, and for controlling those land use activities which pose the highest risk to water quality. For Ngāi Tahu, water quality is a measure of how well we are doing regarding land and water management and hāpua, coastal lakes and river mouth environments are the indicators. At the bottom of the catchment, the health of these environments reflects our progress in the wider catchment.'

The relevant policy sections of the Mahaanui IMP (2013) for Rangiora stormwater management were identified in the Cultural Impact Assessment for consent CRC184601 (Hullen 2017, TRIM 230824131017) as:

- Section 5.3 WAI MĀORI CHANGING THE WAY WATER IS VALUED
- Section 5.4 PAPATŪĀNUKU EARTHWORKS
- Section 5.5 TĀNE MAHUTA MAHINGA KAI
- Section 5.8 NGĀ TŪTOHU WHENUA RECOGNISING CULTURAL LANDSCAPES

The Cultural Impact Assessment for consent CRC184601 (2017, TRIM 230824131017) by Joseph Hullen for Mahaanui Kurataiao Ltd detailed mana whenua values that apply to stormwater management.

Mana Whenua Values for Rangiora Stormwater Management (Hullen, 2017 for MKL Ltd)

Kaitiakitanga

Kaitiakitanga is an integral aspect of Rangatiratanga and entails an active exercise of authority in a manner beneficial to the resource in question. The rights and responsibilities of kaitiaki derive from mana whenua, and this has been reflected in the definition of kaitiakitanga in the Resource Management Act 1991 where it is made clear that only tāngata whenua of an area are able to exercise kaitiakitanga. Traditionally speaking kaitiaki were spiritual guardians associated with particular resources and locations. Their essential function was to indicate the well being of their environment thereby warn local human guardians accordingly. Those that claim mana whenua have a responsibility to maintain natural and physical resources within their rohe and as such are considered kaitiaki. How to recognise and provide for Kaitiakitanga? Appropriate participation by tāngata whenua whether that be on any Board, Trust or Committee set up for the purpose of managing the natural or physical resources, and/or through "on the ground" maintenance and monitoring of those sites and resources within the project area affected by the activities presently under application.

Outcomes sought:

a.) Adoption of a Planting Plan that utilises plant species that would historically occur within the project area and that addresses:

i) Enhancement of Biodiversity;

ii) Protection of Cultural and Historic Values; and

iii) Protection of in stream values.

b.) Where necessary the engagement of members of Ngāi Tūāhuriri who are trained in the recognition of archaeological sites to monitor earthworks and assist the lead archaeologist.

c.) Consultation with Te Ngāi Tūāhuriri Rūnanga regarding the display and or storage of prehistoric artefacts located within the proposed Rangiora Stormwater Consent.

Mauri

In Māori thought all things are believed to have a mauri, or vital essence. It is this mauri which provides all living things and every place with a unique personality. The key to the traditional Māori view towards environmental issues is the importance of not altering a mauri to the extent that it is no longer recognisable.

How to recognise and provide for Mauri?

Appropriate input or involvement - whether in person or via plans and policies- in the management, maintenance and monitoring of culturally significant sites or resources affected by the activities presently under application. Outcomes sought:

a.) Adoption of a multi-faceted approach to Water Sensitive Urban Design treatment methods.

Manaakitanga

A term to express love and the concepts of hospitality and mutual obligation. Manaakitanga defines the obligation of Tāngata Whenua towards their Manuhiri (guests) and, when exercised appropriately, enhances the mana of the hosts. Traditional expressions of manaakitanga require an ability to provide a selection of the local delicacies. There is an intimate and inextricably linked relationship between the values of manaakitanga, kaitiakitanga and Rangatiratanga, and without one it is very difficult to exercise another. The relative health and availability of mahinga kai is one of the principal means by which manaakitanga can be expressed. How to recognise and provide for Manaakitanga? Recognition of the value of mahinga kai within any relevant management plans or regimes established to manage the natural resources within or directly affected by the proposed project area. Provide for the ongoing sustainability of mahinga kai through the recognition of mauri.

Mahinga Kai

Mahinga kai are central to the traditional way of life for Ngāi Tahu. Highly organised seasonal timetables were followed to best utilise the resources available. The term mahinga kai, therefore, refers to the whole resource chain, from the mountain tops to the ocean floor. It encompasses social and education elements as well as the process of food gathering, including the way it is gathered, the place it is gathered from, and the actual resource itself. How to recognise and provide for Mahinga Kai? Appropriate input or involvement - whether in person or via plans and policies- in the management, maintenance and monitoring of culturally significant sites or resources affected by the activities presently under application.

Outcomes sought:

a.) Adoption of a Restoration Re-vegetation Planting Plan that utilises plant species that would historically occur within the project area and that addresses:

i) Enhancement of Biodiversity.

ii) Protection of Cultural and Historic Values.

iii) Protection of in stream values.

b.) Adoption of a multi faceted approach to Water Sensitive Urban Design treatment methods.

Wāhi Tapu/Wāhi Taonga and Urupā

In modern terms - in the Ngāi Tahu rohe - the term wāhi tapu refers to places held in reverence according to local tribal custom and history. Some wāhi tapu are important to the Iwi while others are important to individual hapu or whānau. Of all wāhi tapu, urupa (burial sites) are considered to be the most significant.

How to recognise and provide for Wāhi Tapu/Wāhi Taonga and Urupā?

“It is important for Ngāi Tahu that wāhi tapu sites are protected from inappropriate activity; and there is continued access to such sites for Ngāi Tahu. Outcomes sought:

a.) Adoption of a Wāhi Taonga/Wāhi Tapu and Urupā Protocol.

6. Toolbox of Options

This section describes the current toolbox of options available to manage and mitigate the issues identified in Section 4. Tools available include regulatory and planning tools, site design and source control tools and stormwater treatment systems.

6.1. Regulatory and Planning Tools

Regulations are able to require best practice to be employed and restrict activities that have negative outcomes. Planning tools are useful for assessing and managing risk, such Pollution Prevention Plans or flood modelling. A number of such tools are currently used for Rangiora.

6.1.1. Network Stormwater Modelling

The Rangiora Urban Stormwater Model (RUSM) is the planning tool which determines if the Council is meeting water quantity outcomes of the network consent CRC262840, Condition 9 a. The most recent run of the RUSM with a system performance analysis was in May 2024 (TRIM 240508073139). Prior to that, this model was last run in 2013 with a system performance analysis (TRIM 131112104705). The model is planned to be re-run at least every 5 years from 2024 to examine if stormwater network discharges have increased in volume, which could cause flooding of downstream dwellings or damage downstream infrastructure in a two percent AEP rainfall event. The model is also used to make recommendations to plan upgrades or add attenuation, where deficiencies are identified.

Climate Change has been factored into the RUSM using the Recommended Concentration Pathway scenario (RCP) 8.5 as adopted by WDC for flood modelling. This means conservative (worst case) climate change scenarios involving increasing rainfall intensity and duration are factored into model outputs.

6.1.2. Stormwater, Drainage and Watercourse Protection Bylaw (2024)

The Stormwater, Drainage and Watercourse Protection Bylaw (2024) is the legal mechanism enabling the Council to require and enforce actions of third parties discharging stormwater into the reticulated networks. The Bylaw provides the basis for the Council to control the quality and quantity of all discharges from private properties into its reticulated stormwater networks. It enables the Council to manage discharges from high and medium risk sites and construction activities and provides for Council approvals of pollution prevention and erosion and sediment control plans. High risk sites are defined in schedule 1A of the Bylaw; as sites where an activity is occurring that is described in the current version of the Canterbury Land and Water Regional Plan Schedule 3 "*Hazardous Industries and Activities List"* i.e. sites involving the use, storage or disposal of hazardous substances. A list of activities and sites that are considered medium risk are included in schedule 1B of the Bylaw. In general, heavy industrial sites, workshops and manufacturing and/or processing plants are considered medium risk activities.

The Bylaw includes provision for Council to assume full control of all discharges from high risk sites into the reticulated networks from 1 January 2025. The review will align the Bylaw with Policy 4.16A of the CLWRP, which requires the Council to manage the quality of all discharges into and from the reticulated networks from 1 January 2025.

6.1.3. Pollution Prevention Plans

Pollution Prevention Plans are required by WDC for medium risk sites discharging into the reticulated stormwater networks. These plans are required to identify any potential contamination generating areas and/or activities, provide the detail of how contaminants generated from activities on these sites are managed so that they do not discharge into the stormwater systems.

High risk activities are subject to additional requirements such as an approval of a Site-Specific Stormwater Management Plan (SSMP) as well as a Pollution Prevention Plan. The SSMP will cover details such as how hazardous substances on site are stored and managed and emergency storage and bunding for spill containment on site. In addition to this, high risk sites will require to obtain written discharge approval from the Council. The approval and installation of an on-site stormwater treatment system may also be required. These updated requirements tailor the approval process and documentation for high-risk site discharges to the degree of risk these pose to stormwater quality. The Pollution Prevention Plan requirements for medium-risk sites are relatively less stringent. A link within the Bylaw is provided to the Council website where best practice information is available to support customers with navigating these new requirements and approval processes (which is required under the updated Bylaw from 1 January 2025).

There is a template available for developing a Pollution Prevention Plan (TRIM 220401049637).

6.1.4. Construction Phase Discharge Approvals

The Council can directly authorise construction phase discharges into its reticulated networks through its function as the reticulated network operator, under Rule 5.93A of the CLWRP. This means, with a network discharge consent in place, construction phase discharges into the reticulated networks do not require a separate Environment Canterbury consent if WDC approval is granted and its conditions complied with. The approval document includes an Erosion and Sediment Control Plan requirement together with other conditions to manage risks assessed specifically for each site.

A template titled "*Template Approvals Document Construction Phase Stormwater"* can be viewed at TRIM 221004171610.

6.1.5. ECoP and Development Consents

The Council authorises new subdivisions and site redevelopments as defined in its District Plan through requiring private property owners to obtain subdivision and / or land use consents from the Council to manage the effects of the activity. These consents include managing stormwater discharges into the reticulated networks.

The ECoP sets out stormwater system design standards that private property owners need to meet, when seeking to connect into or change a connection into the Council reticulated network. An AEP standard for the primary reticulation system, secondary system (including flowpaths), culverts and bridges is set in the ECoP. These ECoP standards are applied and approved by the Council through the conditions of a resource consent, which also must give effect to conditions of the Rangiora network discharge consent CRC262840.

The ECoP requires stormwater systems and infrastructure to have post-development peak flows for all intensity events to be less than pre-development flows. The way in which this is demonstrated includes consideration of a range of design events (5-year, 10-year, 50-year and 100-year ARI) and durations (10 minute through to 72 hour), and also consideration of off-site effects. As a minimum. SMAs are required to be sized to manage flows from the 10-year and 100-year ARI events. Prior to February 2025, the requirement in the ECoP was for an SMA to manage flow from the 5-year and 50-year ARI events.

6.1.6. Building Sites Erosion and Sediment Control Inspections

The Council is working on a new process with staff who regularly visit development areas to include reporting of erosion and sediment control issues to 3 Waters staff on sites via the Snap Send Solve app. The legal basis for the Council staff to investigate and remedy any breach of TSS levels in stormwater discharges is established through the Stormwater Drainage and Watercourse Protection Bylaw (2024) which allows the Council to require all necessary action to manage discharges from private sites into the stormwater networks.

Following initial investigations a process is being set up to advise and educate the property owner / site manager on necessary improvements to erosion and sediment control methods on building sites to protect the downstream stormwater system and receiving environment. Education resources will

be developed and disseminated by 3 Waters staff.

This approach may need to be followed up through Council issue of warnings and statutory notices to private property owners under the Bylaw.

6.1.7. MOU for High Risk Sites with Environment Canterbury / Exclusion of Sites

The Council may encounter ongoing non-cooperation of private property owners / site managers discharging unauthorised contaminants into the stormwater networks including non-compliance with Pollution Prevention Plans, Site-specific Stormwater Management Plans, Erosion and Sediment Control Plans or from discharges into the networks from contaminated sites. To address this situation a Memorandum of Understanding (MOU) has been developed with Environment Canterbury which sets out the process to exclude non-complying discharges from authorisation under CRC184601.

If excluded a private property site discharge would require a separate consent from Environment Canterbury. The MOU clarifies responsibilities of the Council and Environment Canterbury and determines circumstances when an exclusion can be sought.

The document is titled *"Memorandum of Understanding for Process for Exclusion from Stormwater Discharge Consent CRC184601 in Waimakariri District*" (see TRIM 230925149963).

A companion document, titled "*Assessment Criteria for HAIL Sites from 1 January 2025"* (see TRIM 230412051135) sets out the specific criteria for the Council to follow when determining the level of risk of the construction phase discharge of the medium or high risk site (HAIL site) discharge. This provides guidance about how the Council will manage the effects of the discharge into its network or alternatively when it should refer the discharge to Environment Canterbury for authorisation if there is deemed to be an unacceptable risk.

6.2. Site Design and Source Control Tools

A key approach to managing the impact of stormwater and effect of contaminants downstream is through prevention, before considering mitigation through treatment or regulation. Designers and asset managers should consider non-structural approaches to minimise the impacts of development and re-development on stormwater. Water sensitive design (WSD) concepts for site design of new developments in Rangiora should be encouraged. In some sub-catchments, particularly where treatment options are limited due to space and high groundwater levels (such as the Middle Brook, South Brook, No.7 Drain sub-catchments and parts of the North Brook sub-catchment) source control options are likely a preferable option for water quality improvements. Table 7 of the GD01 document by Auckland Council (Cunningham *et al*. 2017) provides a full list of site design and source control measures that are summarised below.

6.2.1. Site Design

Site design measures can include:

- Preserve and use existing site features during development (re-development) such as watercourses, springheads, depressions, floodplains, wetlands, vegetation and permeable areas that contribute to the current balance in the hydrological cycle.
- Reduce impervious surfaces with site design (such as to minimise driveways), and to provide pervious channels and surfaces and infiltration (e.g. grass swales).
- Configure lots to cluster housing so that developments are more pervious overall, and also with opportunities for common recreational areas, and existing hydrological channels can be retained.
- Minimise site disturbance to reduce compaction of soils from earthworks machinery through deliberate site design. Retain existing vegetation for its role in maximising infiltration and promoting evapotranspiration by planning incorporating natural site features. Keep topsoil and leaf litter to capture rainfall and slowly infiltrate it into the ground.

6.2.2. Source Control

Avoiding the use of a contaminant is a preferred option. If a contaminant is required for an activity, procedures should seek to control the release of contaminants or remove them before they come into contact with stormwater. Businesses should carry out self-audits to avoid and minimise any pollutants through an action plan, such as a PPP, Environmental Management Plan or Emergency Spill Response Plan.

Contaminant sources can be identified and physical works carried out to prevent contact with stormwater, such as bunding of storage areas for hazardous substances.

Management practices such as reviewing street sweeping procedures, refuelling, chemical handling, staff training, community education initiatives can minimise transfer of contaminants to stormwater.

National regulation is appropriate to reduce contaminants at source where local Bylaws would be ineffective, such as regulation of copper content in car brakes, and potentially restriction of building materials such as zinc and copper from roofing and cladding materials through the Building Code.

6.3. Stormwater Treatment Systems

This section outlines the various stormwater treatment methods and devices that are primarily used within Rangiora, types of contaminants that they target, and the selection process and considerations the Council will use when selecting a treatment system for a project.

6.3.1. Treatment Selection

This plan prioritises WSDs for treatment, also known as Low Impact Designs or Water Sensitive Urban Designs for stormwater treatment. WSDs are the preferred approach because they can offer multiple benefits beyond just treating and managing stormwater. They can enhance the landscape, provide ecological benefits, and align with community goals. Additionally, WSDs often offer broader advantages compared to proprietary treatment systems.

However, WSDs may not always be feasible due to limitations like space constraints, project budget, or specific site characteristics. In such cases, this plan will consider alternative treatment methods such as GPTs and filter media systems (such as the Stormfilter or Upflo Filter). These proprietary devices (and equivalents) will be evaluated when a WSD is not the most viable option due to project constraints.

The Christchurch City WWDG (2012) notes that in determining what is an appropriate stormwater treatment system for any catchment, it should be understood that whilst sediment is the primary contaminant during the early stages of any urban development, it becomes a lesser concern as urban developments mature. Chemical contaminants, however, do become more important as the intensity of urban contaminant sources (buildings, roads, vehicles, etc) increase. These chemical contaminants are either in dissolved form or bound to particulate matter, with bound contaminant concentrations being higher for fine particles than coarse particles (Christchurch City Council, 2012). Adsorption of contaminants onto the surface of suspended particles, sediment, organic matter, and vegetation, is a principal mechanism for removal of dissolved contaminants and contaminants bound to fine particulate matter (Leersnyder, H. 1993, as cited in Christchurch City Council, 2012).

Stormwater treatment system selection requires a site-specific approach. Each system should be sized and chosen based on the specific contaminants it needs to target for effective removal. Site constraints, characteristics, and potential downstream effects either during construction or post construction of the system should also be taken into account when selecting treatment systems. Additionally, the selection process should also consider any additional benefits that can be achieved such as flood control, erosion prevention, and habitat creation. The chosen system should ideally contribute to achieving these additional objectives where possible.

Even with BMPs in place, proposals should always place significant emphasis on controlling contaminants at their source and by protecting unmodified tracts of land (Christchurch City Council, 2012). Source control options are previously discussed in section 6.2.2 of the SMP.

WDC reference the following nationally accepted design guidelines and methodology when selecting

a treatment system for a specific project:

- Waterways and Wetland Drainage Guide (WWDG) by Christchurch City Council (specifically the selection steps are outlined in Section 6.2, The Treatment System Selection Process of the guide).
- Technical Publication No 10, Design Guideline Manual: Stormwater treatment devices by Auckland Regional Council, updated by Auckland Council to publication GD01 (Cunningham *et al.* 2017).

Design and implementation of stormwater treatment systems is a complex issue that can only be adequately addressed by considering whole catchments and seeking input from an experienced multi-disciplinary team (Christchurch City Council, 2012). The Christchurch City Council WWDG also states that key to effective treatment systems will be dependent upon catchment characteristics, good environmental design, and long-term operation and maintenance of the system. The SMP will need to balance effectiveness with long-term operational efficiency. While achieving desired water quality outcomes is paramount, consideration must also be given to:

- Lifecycle costs should be evaluated, encompassing initial investment, regular maintenance requirements, and potential for replacement parts;
- Access - accessibility for ease of inspection and maintenance should also be weighed and are equally crucial to keep systems effective and efficient; and
- Frequency of maintenance and inspection, and type and complexity of equipment needed for maintenance should also be considered.

6.3.2. Treatment Systems within Rangiora

The current Rangiora stormwater management system primarily relies on basins or ponds that are located downstream of a large catchment area (wetlands, dry ponds, wet ponds, or infiltration basins). These larger systems treat the bulk of the stormwater runoff before it is released into the receiving environment. Treatment is primarily targets coarser particles settling out in the basins, and contaminants that dissolved or attached to fine particular material become attached via adsorption to vegetation, sediment or organic matter.

In addition to these major systems, Rangiora also utilises smaller-scale treatment solutions in specific locations throughout the township. These smaller systems include small swales; shallow, vegetated channels that help filter pollutants and slow down runoff, and proprietary devices; manufactured treatment systems designed for specific purposes. Examples include GPTs which capture larger debris and sediment, vortex separators which target total suspended solids, hydrocarbons and sediment, and filter media systems which remove finer particles in addition to dissolved metals and nutrients.

A brief overview of each of the commonly-used devices are provided in the following sections below.

6.3.2.1. Infiltration Basins and Soakpits

An infiltration system captures stormwater runoff and allows runoff to soak or infiltrate back into ground over a period of time. These systems are suited for locations that have sufficient subsoil permeability. The primary function of an infiltration device is to meet retention requirements through the recharge of groundwater. Infiltration devices may form part of a suite, where full mitigation is not achievable due to soil infiltration rate limits (e.g. where retention volumes can be achieved but not detention volumes) (Auckland Council, 2017).

A wide variety of design options are available for infiltration devices which allow for multiple functions, in addition to groundwater recharge, to be added to the infiltration device (Cunningham *et al*, 2017). Within Rangiora the most common form of infiltration system used are infiltration basins and in some limited areas for smaller catchments, soakage pits (Rapid Infiltration Chambers). Infiltration basins are also often referred to as soil adsorption basins. They provide a storage area for stormwater from where it can pass at a pre-determined rate through a filter bed designed to remove contaminants (such as hydrocarbons, suspended sediment and attached metals) (Christchurch City Council, 2012). The filtered runoff then percolates down to the water table or via an under drainage system to surface

water or a soakage chamber (Christchurch City Council, 2012).

6.3.2.2. Stormwater Ponds

Ponds can effectively remove coarse to fine particles. The definition and descriptions of stormwater ponds under section 6.3.2.2 of this SMP are excerpts from the Auckland Regional Council Stormwater Treatment Devices Operation and Maintenance document TR053 (Healy *et al.* 2010).

Stormwater ponds remove sediments and other contaminants from stormwater before discharging to a receiving open water body or piped stormwater system. They provide a flood control and water treatment function as well as creating an aesthetically pleasing habitat that can be used by birds and aquatic life. Ponds have a long-life span if maintained correctly and are one of the most common stormwater treatment tools worldwide. Two types of ponds are generally recognised; wet ponds and dry ponds and both are described below:

- **Wet Ponds**

  Wet ponds have a standing (permanent) pool of water and are permanent structures providing water quality treatment and flood protection. Wet ponds are usually “offline” i.e. not located within an existing watercourse.

- **Dry Ponds**

  Dry ponds do not have a permanent pool of water but operate similarly to a wet pond by providing some water quality treatment but mostly flood protection. Dry ponds typically do not provide as much water quality improvement as wet ponds.

Within Rangiora dry and wet ponds are commonly used methods of stormwater treatment. However, they require a considerable land area. In Rangiora, wet ponds are generally used for catchments in areas of high groundwater levels. Dry ponds are primarily used in Rangiora for residential areas with sufficient depth to groundwater.

The components of a wet stormwater pond are identified in the figure below.

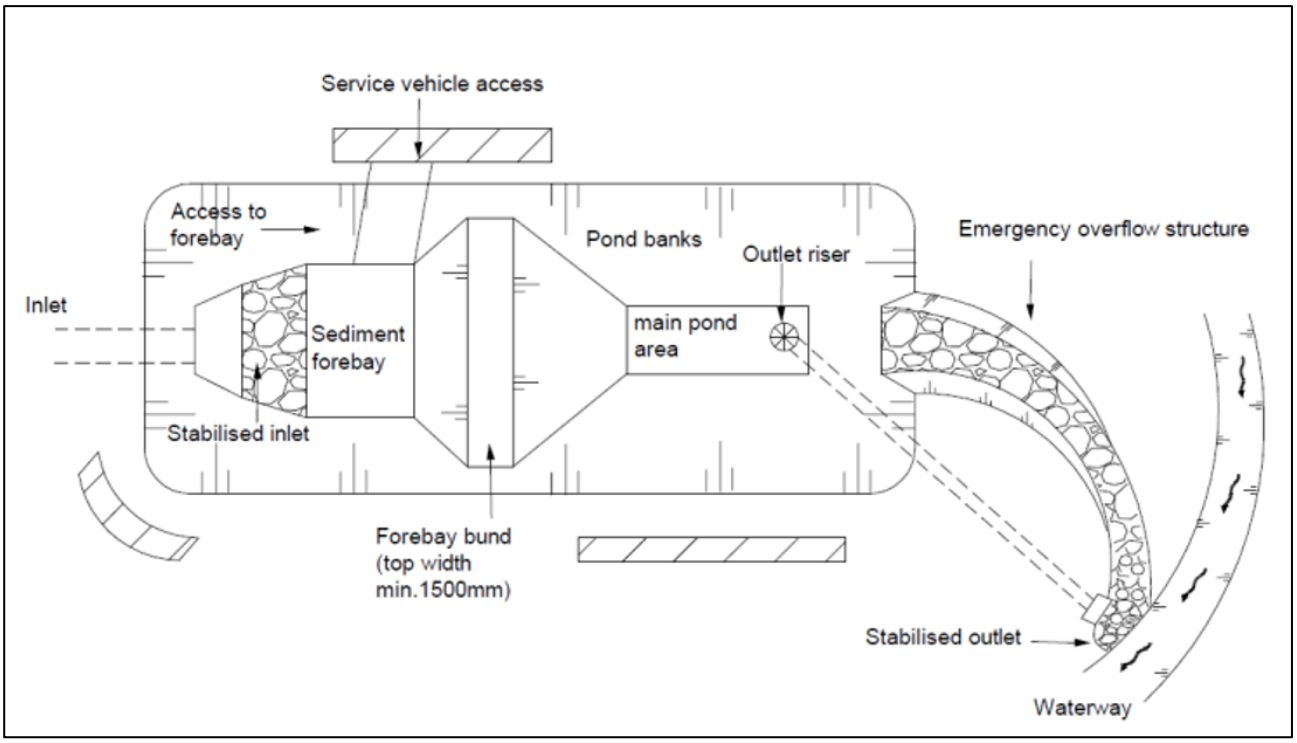

Figure 12: Typical components for a stormwater pond (Auckland Regional Council TR053, (Healy *et al*. 2010)

6.3.2.3. Wetlands

Wetlands have been used in some industrial areas of Rangiora. Pond C (corner of Flaxton and Fernside Road, No. 7 sub-catchment) and Pond A (Lineside Road, South South Brook sub-

catchment) are examples of constructed wetlands in Rangiora. Constructed wetlands are a means of water treatment with robust effectiveness over a wide range of hydrological conditions, and potentially high landscape and ecological values (Christchurch City Council, 2012).

Auckland Regional Council TR053, (Healy *et al.* 2010) states that level of treatment and types of contaminants capable of being treated via wetlands; that constructed wetlands remove nitrogen, phosphates, sediments and heavy metals such as zinc and copper from stormwater run-off, as well as control the flow rates of stormwater. Pollutant removal is achieved by the settling out of sediment from the run-off and sticking to biofilms (layers of microorganisms that coat plants and other surfaces) in the water column. Additionally, dissolved nutrients are removed from stormwater by natural biological processes such as uptake by plant and microbial communities (see Figure 13).

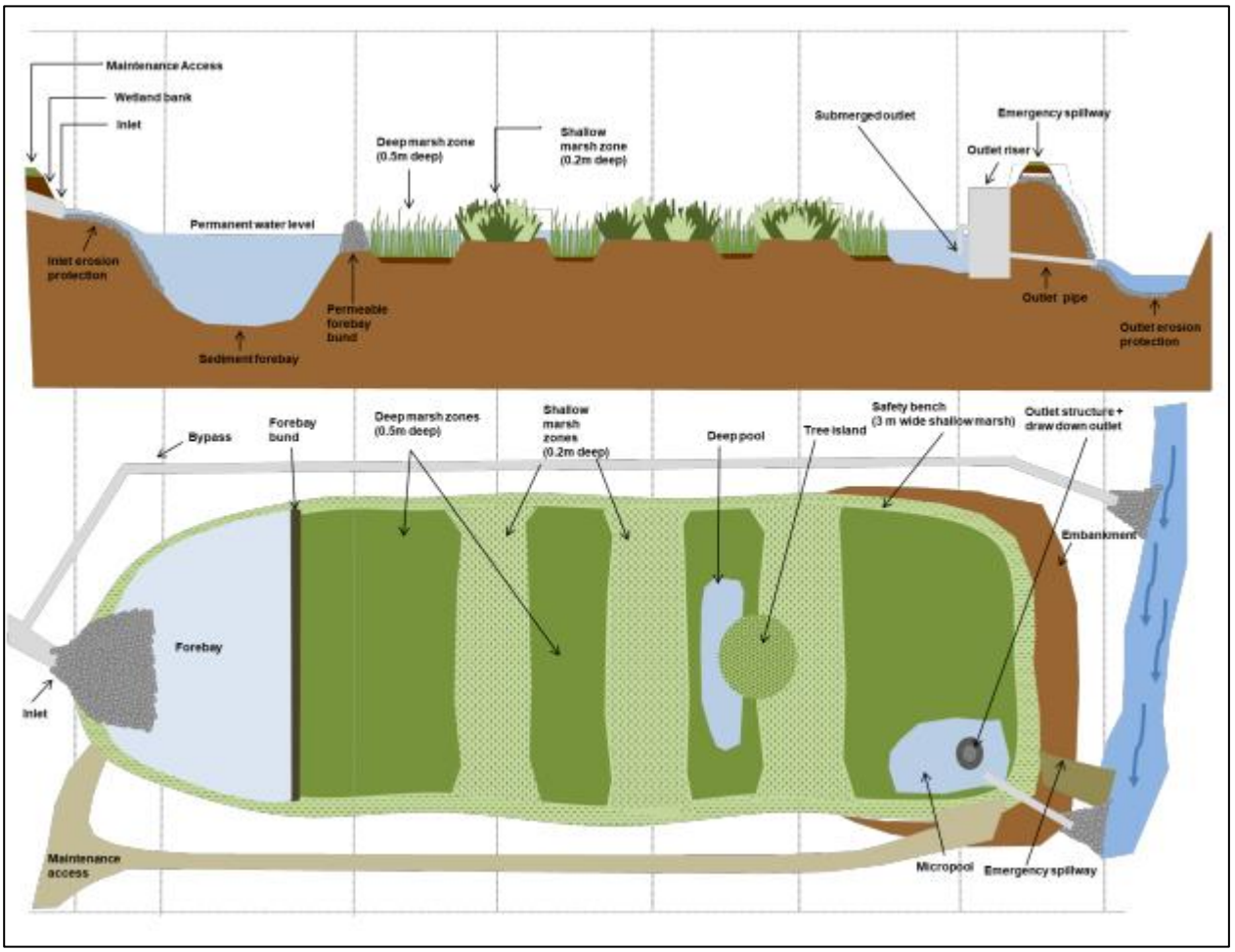

Figure 13: General components of a banded bathymetry wetland (Auckland Council, GD01, 2017)

The following Figure 14 is taken from the Christchurch Waterways, Wetlands and Drainage Guide, (2012) and shows an example treatment train that utilises both a pond and wetland.

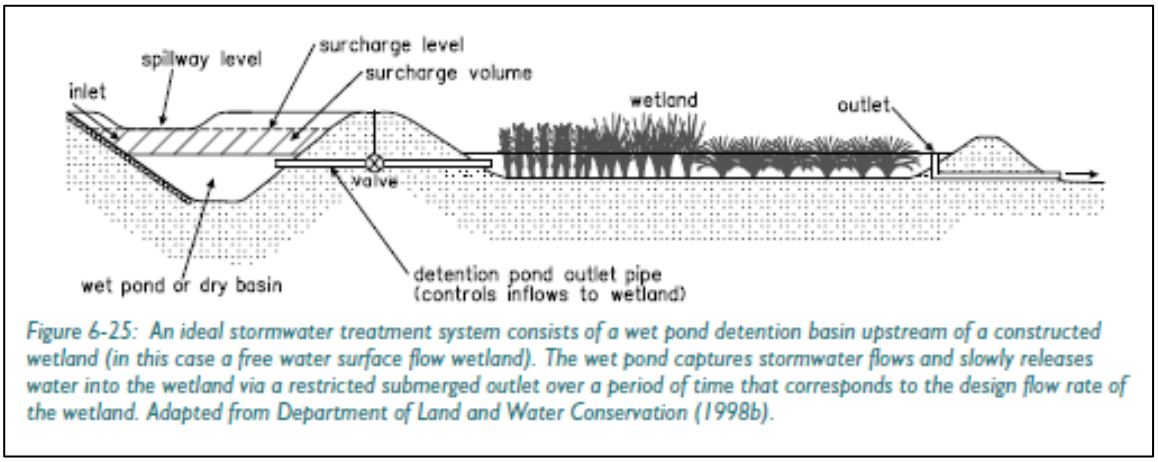

Figure 6-25: An ideal stormwater treatment system consists of a wet pond detention basin upstream of a constructed wetland (in this case a free water surface flow wetland). The wet pond captures stormwater flows and slowly releases water into the wetland via a restricted submerged outlet over a period of time that corresponds to the design flow rate of the wetland. Adapted from Department of Land and Water Conservation (1998b).

Figure 14: Example treatment train utilising a pond and wetland

6.3.2.4. Grassed Swales and Filter Strips

Swales:

Swales are present in The Oaks subdivision in Rangiora, among other locations, to provide pre-treatment. Vegetated swales having gently sloping sides (typically flatter than 6H:1V) and flat longitudinal grades, are primary channels designed to intercept, convey, and provide inline primary treatment of stormwater (Christchurch City Council, 2012). Vegetation, either grass or other dense ground cover plants, slow the water flow to allow the water to filter through the vegetation and soil to remove pollutants including clay and silt (sediment), dissolved nutrients and metals (e.g. nitrogen, phosphorous and zinc) (Auckland Regional Council, 2010). Swales are commonly placed closed to point source and can act as conveyance to a secondary stormwater treatment system such as a larger infiltration basin or wetland. They can also function as a treatment system independently for a specific site and then conveyed to join the council network via pipes or directly to a receiving environment.

Filter Strips:

A key point of difference between swales and filter strips is that; where swales collect concentrated flow which is directed into the channel, a filter strip intercepts stormwater as distributed or sheet flow before they become concentrated and then distribute the flow evenly across the filter strip (Auckland Council, 2010). The filter strip reduces flow velocities, and a percentage of runoff may infiltrate back into ground.

Typical components of a grassed swale are shown the Figure 15 below, and is an excerpt from the Auckland Regional Council Technical Report 053 document (Healy *et al*. 2010):

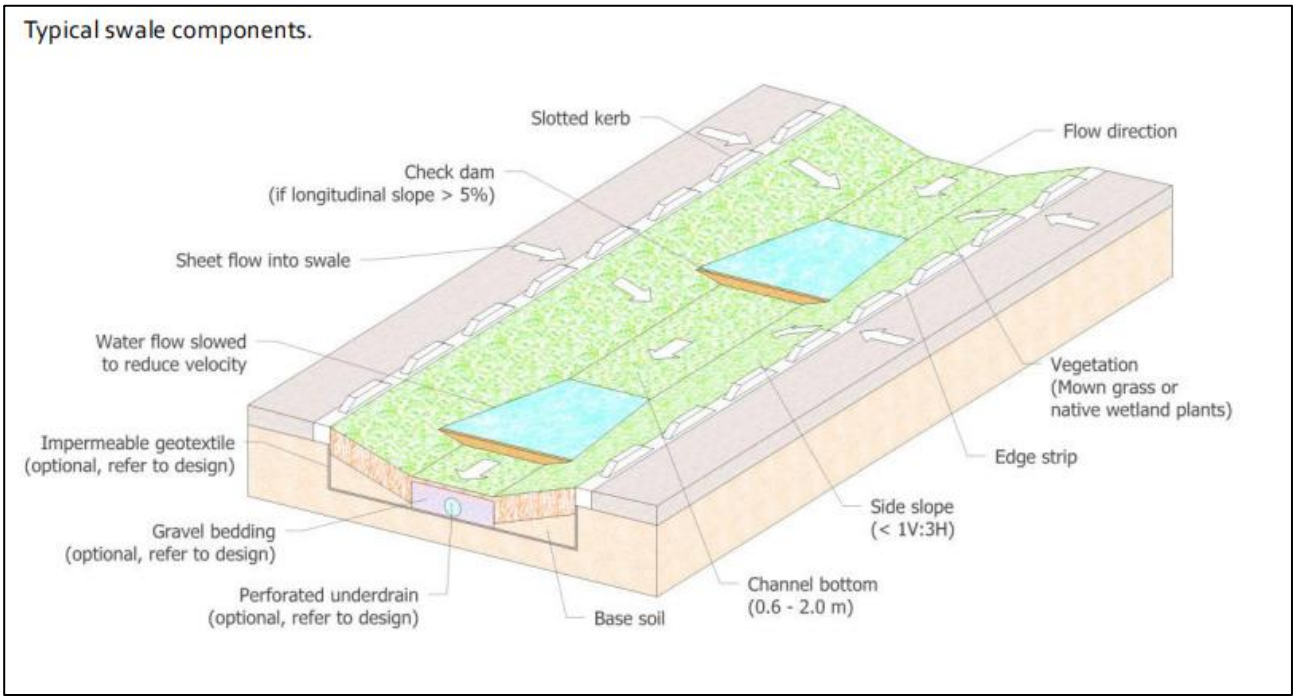

Figure 15: General components of a swale (Auckland Council, 2010)

6.3.2.5. Rain gardens

Rain gardens were installed on East Belt in 2024, however, are not commonly used in Rangiora. The following points are summarised from Christchurch City Council Rain Garden Design, Construction and Maintenance Manual, (2016); and provides an overview of design and function of a rain garden.

- Rain gardens (also known as bio-retention devices); are engineered gardens designed to harness the natural ability of vegetation and soils to treat stormwater.
- Treatment occurs through sedimentation, filtration, adsorption and uptake by vegetation and operate to reduce effects of stormwater volumes, peak flows and provide treatment.
- Stormwater tree pits can be considered a special type of rain garden that accommodates a large tree. The treatment mechanism and form is largely the same and most design, construction and maintenance aspects of rain gardens also apply to tree pits.
- The advantage of a rain garden, besides its primary function noted above, is that aesthetically they are pleasing and are a good option in city centres as it provides a natural feel to otherwise hard concrete structures.
- Rain gardens work by ponding stormwater in the planted area, which is then filtered through the soil mix and by plant roots. These absorb and filter contaminants before stormwater flows into surrounding ground, pipes, drains and onto final receiving environments.

The key components of a rain garden are shown in Figure 16 below.

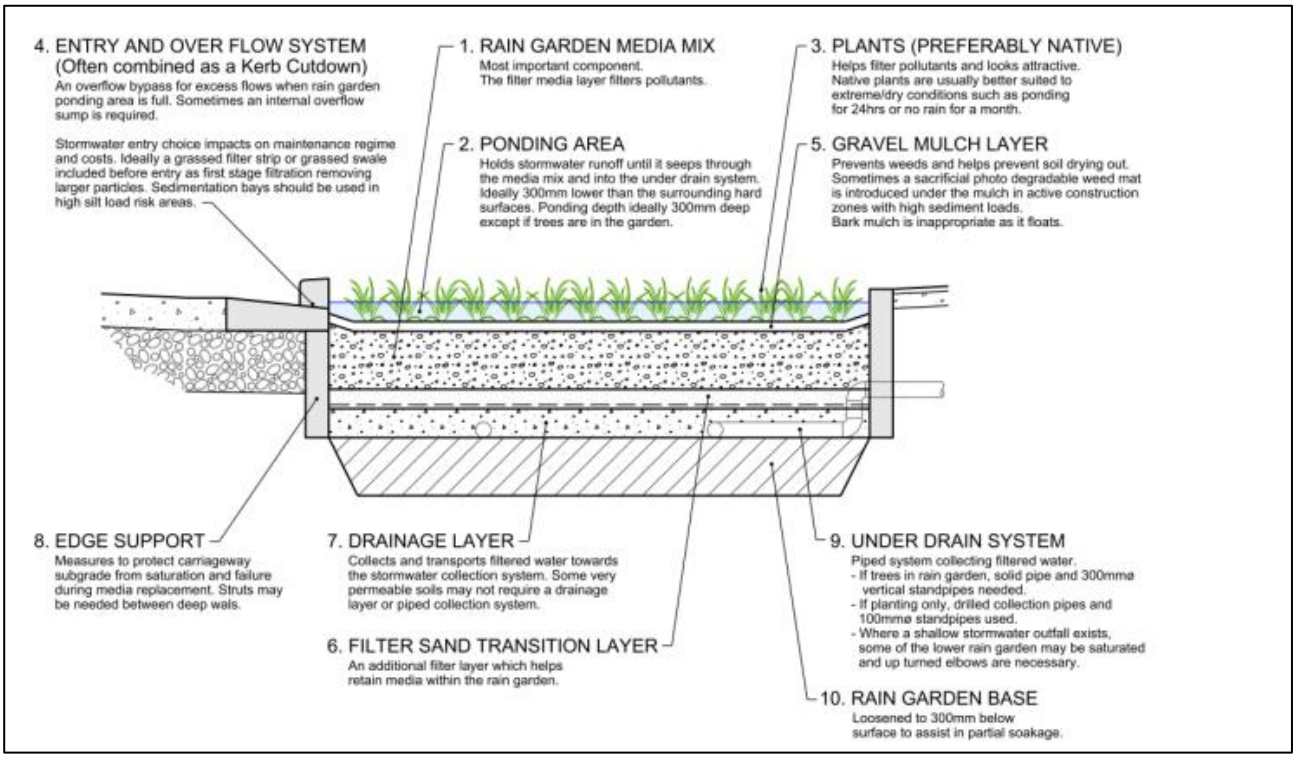

Figure 16: Key components of a rain garden (Christchurch City Council, 2016)

Figure 17: Example of a rain garden (Christchurch City Council, 2016)

6.3.2.6. Proprietary Devices

Stormwater treatment can be achieved through a variety of devices designed and manufactured by specific companies. These proprietary treatment devices offer a pre-engineered solution for managing and treating stormwater runoff. Key characteristics of these devices is that they vary in terms of removal efficiencies, types of contaminants removed, costs, maintenance requirements and total catchment area served. Commonly used systems within Rangiora are:

Gross pollutant traps (such as LittaTraps, and Enviropods)

Designed as an easy low-cost solution for sites and environments that require the removal of sediments and gross pollutants and a reduction of particulate-bound heavy metals and oils and grease from entering into the downstream stormwater or waterways.

Hydrodynamic separators (Vortex Separator)

Utilises hydrodynamic flow paths to separate out contaminants such as hydrocarbons, sediment and floatables. These systems can cater for larger catchment areas and flows.

Filter media systems (such as the StormFilter)

One of the widely used solutions in this space are the cartridge filter systems. These systems contain cartridges that are filled with a specific media mix (defers between manufacturers). Besides TSS, gross pollutants and hydrocarbon, these filter media systems can also target removal of nutrients, organics, and organic trapped bacteria. They are generally designed to treat only the first flush of a stormwater event and can remove contaminants both in particulate and dissolved form.

Another new type of engineered media system from Stormwater 360 includes the Filterra and Bioscape filters. The Bioscape filter is a new technology which resembles a rain garden, however contains high-flow engineered media so can achieve equivalent treatment in a much reduced space. These systems that can be designed and manufactured to various sizes to suit a range of catchment area. This system is a new technology that has been indicated recently will be installed by Christchurch City Council to treat selective urban areas in the proposed Avon Ōtakaro Stormwater Management Plan and is also a system that WDC is considering trialling as a solution for stormwater quality improvement projects in areas with limited space for WSD solutions.

7. Project Implementation Framework

7.1. Introduction

One of the objectives for this SMP is to outline the framework used to prioritize and select projects that are to be implemented for stormwater improvement within Rangiora. This section outlines the simple and structured framework that was developed for the SMP. The aim of the framework was to ensure effective allocation of budget to maximize the impact of stormwater management improvement projects, and in alignment of the Rangiora Network Discharge Consent objectives, encourage WSD and NPS-FM Te Mana o Te Wai principles.

7.2. Goals and Objectives

The proposed duration of the SMP is from 2025-2040. This SMP seeks to achieve the receiving environment objectives set in Condition 9 of consent CRC262840 (Section 2.1) within this timeframe.

Water quality monitoring results from Rangiora baseline monitoring in 2014-17 and 2021-2023 under consent CRC184601 show non-compliance for several contaminants. In the consent application, WDC proposed to Environment Canterbury to implement stormwater improvement projects to meet compliance levels by 2040. A budget for these stormwater quality improvements is earmarked to cost $9.8 million in the Long Term Plan 2024-34 (in addition to existing stormwater project allocations). The section provides an overview of the potential stormwater improvement capital projects that this funding will be allocated for, and the framework used to prioritise and assess the projects that will be delivered.

There has been previous work on prevention of downstream flooding, scour and erosion, such as projects from the Rangiora SMP in 2001 and flood recovery work after the 2014 flood event. It is projected that the Rangiora SMP will focus primarily on stormwater quality improvement projects, the area where the need is greatest, to be in compliance with contaminant guideline values (as set in CRC262840 Schedule 1 and the Rangiora Stormwater Monitoring Programme) which forms part of the consent. Consultation with Te Ngāi Tūāhuriri Rūnanga (via Mahaanui Kurataiao Ltd) has been undertaken for inclusion of actions in the work programme for objectives in consent condition 9 (d) and (e) regarding wāhi tapu, wāhi taonga and mahinga kai.

7.3. Framework Methodology and Application

The following steps of identification, categorisation, and evaluation were taken into account for the development of this methodology.

7.3.1. Project Identification

A list of potential stormwater management projects within the Rangiora township boundaries were identified and compiled. Identifying projects involved soliciting proposals from internal departments and via consultation with Te Ngāi Tūāhuriri Rūnanga,and gathering any relevant information for each project i.e description, objectives, alignment of projects to project categories and estimated timeline for implementation. Project approvals are through WDC standard planning processes, i.e. inclusion of budget in Annual and Long Term Plans.

A list of the capital expenditure projects identified to-date for inclusion in the SMP are shown in Section 9. Future projects will use the same framework methodology for evaluation.

7.3.2. Project Categorisation and Subcategorization (Tier 1 and 2 Factors)

Project groups were developed based on their key objectives of the project and alignment with CRC262840 objectives. Each project was then classified into the most relevant project group based on its primary focus. The following project categories were identified:

Table 14: Project groups

	Project Group	Description
1	**Water Quality Improvement**	Focusing on projects with the most significant impact on improving water quality in priority waterways and high-risk areas within the township.
2	**Waterway Restoration**	Focusing on projects that actively restore the ecological health and function of waterways impacted by stormwater runoff while ensuring the protection of wāhi tapu and wāhi taonga. (i.e: streambed and bank stabilization work, riparian zone planting and restoration, access for and enhancement of mahinga kai activities, habitat enrichment of native and or endangered species.)
3	**Flood Mitigation**	Prioritising projects based on severity of flood risk, vulnerable communities and areas of networks that require water quantity management improvements.
4	**Community Engagement & Education**	Promoting public awareness and understanding of stormwater management issues and solutions. (Educational workshops and community events, public signage and informational campaigns, public data collection initiatives, school programs.)
5	**Compliance and Infrastructure**	Addressing urgent needs like critical asset upgrades, meeting regulatory requirements, and remediating existing non-compliance issues.
6	**Innovation and Collaboration**	Encouraging innovative approaches and partnerships with tangata whenua, community groups, and other stakeholders to address emerging challenges and opportunities. Including trialling of new technology and green infrastructure solutions

7.3.2.1. Project Evaluation Within Categories

Each project category has a set of established subcategories or prioritization factors categorized into Tier 1 and Tier 2. The two-tiered evaluation system is used to assess potential projects in more detail and ensure a consistent evaluation process.

Tier 1 Factors: These are essential criteria applied to all projects within any category. Projects are initially evaluated against these core factors and assesses their alignment with overall goals and objectives of the category.

Tier 2 Factors: These are more specific criteria that depend on the outcome of the Tier 1 evaluation. If a project meets a specific Tier 1 factor, it is then further assessed against the corresponding Tier 2 factor(s); which provides a more in-depth understanding into project impact and effectiveness. Conversely, if a project does not meet a specific Tier 1 factor, the corresponding Tier 2 factor becomes irrelevant for that project.

The Tier 1 and Tier 2 factors are shown in the Project Assessment Table (Table 12).

This approach ensures all projects are evaluated against the same essential criteria while allowing for additional, project-specific considerations for those that demonstrate strong potential.

7.3.3. Continuous Improvement

This framework is designed to be adaptable and accommodate ongoing revisions and 5-yearly reviews, aligning with the concept of a SMP as a living document that evolves to address changing needs and opportunities. While formal consent conditions mandate a comprehensive SMP review every five years, more frequent internal revisions can ensure this plan stays current and that the review captures all emerging requirements. Recognising the importance of continuous improvement

and accountability, WDC will monitor the progress and effectiveness of implemented projects based on the framework's outcomes. This exercise will inform future updates of the framework; potentially including adjustments to specific criteria (like Tier 1 and Tier 2 factors) to better align with the evolving priorities of the Council, the Rangiora community and national requirements, as set out by The Water Services Authority - Taumata Arowai.

Project assessments or re-assessments could be updated and evaluated using the framework outlined whenever there is a budgetary opportunity to do so, such as for Annual Plans, Long Term Plans, as well as for reviews of this SMP every 5 years. Additionally, the weighting of each factor and the potential adoption of a scoring system in the future will be reviewed.

7.4. Project Evaluation Outcomes

7.4.1. List of Projects Identified for Stormwater Improvement within Rangiora.

Section 9 (Table 17) details a budget with a list of CAPEX projects recommended by this SMP. Note that this budget requires consideration and approval through a Council Annual Plan and/or Long Term Plan to be finalised.

Appendix E contains a template for further scoping of CAPEX projects for inclusion into the Council capital works programme and facilitate project initiation.

Additionally, an operational action programme is detailed in Section 8 for stormwater management initiatives that improve operations and maintenance, or that are one-off investigations.

7.4.2. Project Prioritisation Framework

Table 15 outlines the developed prioritization framework for stormwater improvement projects. All remaining identified projects, not currently included in the budget, will be evaluated using this framework and the methodology detailed in section 7.3.

Table 15: Project Prioritization Assessment Table (240321045439)

Project Prioritsation Assessment Table				
Project Group: **Project Title:** **Description** **Key NDC Objective**				
Tier 1 Factors	**Yes**	**Tier 2 Factors**	**Yes2**	**Internal Use: Context/Measure**
Project within a high risk area		Serves an Industrial area with no exsiting treatment		Check SMP
		Exceedance in compliance limits in receiving waterway		Check monitoring programme results (e.g. TRIM 230919146639)
		Serves an urban residential area with no exsiting treatment		Check SMP
		Has exsiting treatment but poor water quality results		Check SMP and monitoring programme results (e.g. TRIM 230919146639)
Urgency: Immediate Threat to Public Safety		Risk of flooding in critical areas		Check Rangiora Urban Stormwater Model report (TRIM 240508073139)
		Failing or inadequate infrastructure		Service requests, CCTV footage and inspections
		Critical infrastructure and high population at risk		Service requests, CCTV footage and inspections
		Public health concerns		Service requests, other - Health NZ Community and Public Health or ECan concerns
Urgency: Risk to environment		Erosion control		Check Rangiora Urban Stormwater Model reports (TRIM 240508073139, 131112104705)
		Pollution control		Pollution Prevention Plans, site-specific SMPs, ECan consents to discharge
		Habitat restoration		Ecological Surveys - 5 Yearly surveys for CRC184601 (TRIM 24061809882)
Urgency: Regulatory Compliance		Non compliant to meeting NDC dicharge limits /others		ECan non-compliance reports
		Reporting deadlines		
		New regulatory requirements		New regulations
Urgency: Resource Availability/Disruptions		Seasonal constraints		
		Emergency funding		
		Minimizing service disruptions		
Urgency: Long-Term Cost Implications		Preventative maintenance need		Operations and Maintenance manuals
		Cascading infrastructure failures		Service request information
Identified as Culturally significant by Mana Whenua		Cultural and histroical significance		MKL report (2018) for the Proposed District Plan with wahi tapu and wahi taonga (TRIM 180910103490), Cultural Impact Assessment for Rangiora CRC184601 (TRIM 230830134536)
		Mahinga Kai Sites		MKL report (2018) for the Proposed District Plan with wahi tapu and wahi taonga (TRIM 180910103490), Cultural Impact Assessment for Rangiora CRC184601 (TRIM 230830134536), listed as taonga species in schedule 97 of the Ngai Tahu Claims Settlement Act (1998)
Socially significant		High Public Interest/ Publich health and Safety		Feedback from Environment Services Unit (for health and safety)
		Improving access to green spaces and recreation		Feedback from WDC Greenspace Team
		Promoting community participation and decision-making		Feedback from WDC Community Team
		Educational and Awareness-Raising Opportunities		Feedback from WDC Community Team
		Enhancing aesthetics and neighborhood livability		Feedback from WDC Development Planning Unit
Receving environment of high ecological value		Threat to endangered species/habitat		Check 'Critical Habitat of Indigenous Species' map - Plan Change 7 of the Land and Water Regional Plan and New Zealand Freshwater Fish Database records
		Habitat diversity and complexity		Feedback from WDC Ecologist / Water Environment Advisor - assess both aquatic and terrestrial habitats
		Benfits to ecological corridors		Feedback from WDC Ecologists / Water Environment Advisor
		Restoration potential		Feedback from WDC Ecologists / Water Environment Advisor
Multifunctional benefit		Ecosystem Services Water quality improvement		Feedback from WDC Ecologists / Water Environment Advisor
		Flood control and erosion mitigation		Feedback from the Network Planning Team
		Carbon sequestration and climate change adaptation		Feedback from / WDC Ecologists / Water Environment Advisor
		Community involvement and stewardship		Feedback from WDC Community Team
		Community Engagement, Education and Outreach		Feedback from WDC Community Team
		Utilizing common timelines or funding sources		Capex budget spreadsheets for Drainage, Wastewater, Water, Roading projects
Potential allignment with other projects		Shared Resources and Infrastructure		Capex budget spreadsheets for Drainage, Wastewater, Water, Roading projects
		Phased implementation		Timeframes of other projects
Meets WDC Community Outcomes		Efficient and resilient core services		WDC LTP 2024-2034
		Caring for the environment		WDC LTP 2024-2034
		Positive about the future		WDC LTP 2024-2034
		Proud to be local		WDC LTP 2024-2034
Allignment with LGA 4 well beings		Social well-being		Local Government Act (2002) and Local Government (Community Well-being Amendment Act (2019)
		Environmental well-being		Local Government Act (2002) and Local Government (Community Well-being Amendment Act (2019)
		Economic well-being		Local Government Act (2002) and Local Government (Community Well-being Amendment Act (2019)
		Cultural well-being		Local Government Act (2002) and Local Government (Community Well-being Amendment Act (2019)
Flood Risk Mitigation/Water Quantity Control		Critical infrastructure and high population at risk		Criticality of assets and risk assessments - Feedback from Stormwater and Waterways Manager
		Frequent and severe flooding		Check Rangiora Urban Stormwater Model report (TRIM 240508073139)
		Potential flood depth and damage		Feedback from the Network Planning Team
		Volume reduction and storage		Feedback from the Network Planning Team
		Peak flow reduction		Feedback from the Network Planning Team
		Improved drainage capacity		Feedback from the Network Planning Team

8. Action Work Programme

The action work programme proposed for this SMP (Table 16) are operational initiatives, to be carried out alongside capital expenditure projects (see Section 9). Actions for the period 2025-2030 are the primary focus, with an update of actions to be carried out for each 5-yearly review of the SMP. Changes to current "business as usual" practices have been listed. However, current "business as usual" practices with no change proposed have been excluded for clarity and brevity purposes.

Progress on the action work programme will be overseen by the WDC Stormwater and Waterways Manager.

Table 16: Action work programme for the Rangiora SMP

Flood Mitigation Aligns with consent objective 9 (a)				
Work Programme	**Actions**	**Role (Implemented by who)**	**Timeframe**	**Expected outcomes**
Stormwater reticulation master planning for Rangiora	Develop a stormwater reticulation master plan for Rangiora township based on expected level of development	Network Planning Team	Every 5 years (for SMP review)	Highlight any deficiencies within the stormwater network and allow for forward planning.
Prevent flooding of habitable floors to a 1:50 Annual Recurrence Interval (ARI) event	Regular Rangiora Urban Stormwater Model flood model re-runs that monitor changes to impervious areas and stormwater network capacity. Appropriate use of District flood hazard modelling to set Finished Floor Level requirements. Compensate with planning changes (i.e. District Plan restrictions on land use) or capacity and attenuation upgrades where required.	Network Planning Team Development Planning Unit / Infrastructure Resilience Team	Every 5 years re-run of model Compare model with flood events (e.g. service requests) – as required	Habitable floor levels will not be flooded through controls on development and/or capacity upgrades. Identification and rectification of any peak flow increases below network discharge points resulting from network upgrades (above a 5% modelled increase)
Water Quality Improvement Aligns with consent objective 9 (c)				
Work Programme	**Actions**	**Role (Implemented by who)**	**Timeframe**	**Expected outcomes**
Erosion and sediment control guidance for small construction sites	Create a guideline document for erosion and sediment control plans for small sites. Attach this guide to building consents issued by Council.	Guidance prepared by 3 Waters. PIM Team and Building Team to implement	1 July 2026	Decrease in sediment discharges from construction sites

Investigate the treatment efficiency of strategic SMAs	Investigate current state functioning of strategic SMAs (North Brook Ponds *Io Io Whenua*, North Brook sub-catchment, Pond A – South South Brook sub-catchment, and Pond C, No. 7 Drain sub-catchment) and recommend treatment improvements	3 Waters Team (via external contracts)	30 June 2027	Ability to improve treatment efficiency of strategic SMAs
Construction phase discharges - Best practice used at construction sites for sediment control	WDC requirement Erosion and Sediment Control Plans for all construction sites (as required by the Stormwater Drainage and Watercourse Protection Bylaw 2024, Section 11) Investigation of potential non-compliances	Building Unit 3 Waters Team, with possible referral to ECan for enforcement	30 June 2030	Sediment from 95% of construction activities is treated to best practice by 2030
Target contaminants (sediment, zinc and copper) from high traffic and industrial areas	Analyse options for improving street sweeping sump cleaning frequency and methodology, and adopting innovative technologies	3 Waters Team	Every time the Road and Drainage Maintenance Contract is renewed (approx. 5-yearly)	Understanding of how to carry out innovation for water quality improvements from high traffic and industrial areas
Retrofitting treatment or source control of high and medium risk sub-catchments	Investigate feasibility and practicability of options for source control or retrofitting treatment of existing high and medium risk catchments (North Brook, particularly Newnham St industrial area, Middle Brook, selective areas of the South Brook) where there is no dissolved metal treatment, or where contaminant levels exceed the guideline value after treatment (No. 7 Drain)	3 Waters Team	30 June 2032	Reduction in contaminants sources (such as dissolved zinc and copper) and/or increased contaminant treatment in retrofitted catchments
Review modelled and monitoring sources of zinc and copper	Use CLM outcomes and stormwater monitoring programme results to find hot spots, then propose treatment or source control options	Network Planning Team, 3 Waters Team	Prior to each review of SMP Update a CLM every 5 years	Up-to-date information for prioritising projects
SMA sediment remediation programme	Remediate SMAs that have been assessed by a SQEP to require actions, based on 2024 sediment sampling investigation results and any further investigations	3 Waters (externally contracted to a SQEP)	Consent timeframes	Minimise risk of groundwater contamination from SMAs
Water Quality Improvement - Control industrial and contaminated sites Aligns with consent objectives 9 (c) and (e)				
Work Programme	**Actions**	**Role (Implemented by who)**	**Timeframe**	**Expected outcomes**
Implement high risk site management from Bylaw changes	Implement changes from the Stormwater, Drainage and Watercourse Bylaw (2024) Set-up and refine processes for site-specific stormwater management plan review,	3 Waters Team, Land Development Team	1 January 2025	Annual compliance monitoring programme of high risk sites commences by 1 January 2025

	approval, and monitoring for high risk sites. Promote Pollution Prevention Plan requirements and process for high and medium risk site approvals Apply process to assess applications from LLUR sites prior for acceptance or exclusion of discharge into Council stormwater network under CRC262840 Consent			Site-specific Stormwater Management Plans and Pollution Prevention Plans in place for 95% of high risk sites by 2030
Spill response	Require appropriate spill kits at medium and high risk sites	3 Waters Team	Ongoing	Contaminants prevented from reaching the stormwater network
High and medium risk businesses database	High and medium risk businesses database compiled based on existing Environment Canterbury consent information	3 Waters Team	1 January 2025	Engagement with high and medium risk sites enabled by a contacts database
Heavy metals in the South South Brook	Investigate sources of heavy metals in the South South Brook to establish whether there are legacy or recent sources of contaminants	3 Waters Team	30 June 2025	Improved receiving environment (the South South Brook) for aquatic organisms
Waterway Restoration - Provide protection and culturally appropriate treatment of wāhi tapu and wāhi taonga habitats. **Protect and enhance mahinga kai** Aligns with consent objectives 9 (d) and (e)				
Work Programme	**Actions**	**Role (Implemented by who)**	**Timeframe**	**Expected outcomes**
Faecal bacterial contamination	Carry out *E. coli* investigations (potentially with source tracking) and follow up with remediation measures for wastewater sources such as point sources or cross-connections with stormwater pipes Update wet weather overflow modelling	3 Waters Team, Network Planning Team	Ongoing	Decrease in dry weather and wet weather *E.coli* counts
Enhancement of habitat for taonga species, targeted planting, and exotic species removal	Carry out drainage maintenance works under the Drainage Maintenance Management Plan, and enhancement projects under the Zone Implementation Programme Addendum (ZIPA), Arohatia te Awa (Cherish the River) and potentially other WDC work programmes.	3 Waters Team, Greenspace Team	Ongoing	Improved abundance and health of taonga species
Regular 'State of the Takiwā' monitoring and reporting	Support the programme design and implementation of 'State of the Takiwā' monitoring	Environment Canterbury, Te Ngāi Tūāhuriri Rūnanga – supported by WDC	To be confirmed	Waterways will be monitored for cultural health and mahinga kai trends
Enhancement of waipuna/springs, wetlands and riparian areas in	Carry out drainage maintenance works under the Drainage Maintenance Management Plan, and enhancement projects under	3 Waters Team,	Ongoing	Improved abundance and health of taonga species

the Ruataniwha Cam River catchment	the Zone Implementation Programme Addendum (ZIPA), Arohatia te Awa (Cherish the River) and potentially other WDC work programmes.	Greenspace Team		
Habitat enhancement projects within waterways, particularly Critical Habitats for Indigenous Species (CLWRP)	Boulder placement for kanakana (lamprey) spawning habitat enhancement in the South Brook, Middle Brook and North Brook	Water Environment Advisor	1 July 2026	Improved habitat for kanakana (lamprey) spawning
Maintain habitat complexity, such as woody debris for kekewai / wai kōura (freshwater crayfish)	Review Drainage Maintenance Management Plan 2020 for management of kekewai / wai kōura (freshwater crayfish) vegetation and woody debris	Water Environment Advisor, Land Drainage Engineer	Next review of the Drainage Maintenance Management Plan (2020)	Key habitat for kekewai / wai kōura (freshwater crayfish) is maintained or will improve over time from management
Encourage WSD (also known as low impact design)	Incorporate further WSD in the ECoP, such as to encourage minimising impervious surface area	Land Development Team	Next ECoP review	Attenuation of peak run-off
Watercress enhancement projects in the Ruataniwha Cam River catchment	Experiment with weeding of competitor species to watercress, bank enhancements, and enabling access to watercress areas	Potentially Te Ngāi Tūāhuriri Rūnanga or their nominated entity (from WDC ZIPA budget)	TBC	Increased abundance of watercress available for mahinga kai
Review watercress drainage management practices	Review existing exclusion areas where watercress is to not be removed for drainage maintenance		Next review of the Drainage Maintenance Management Plan (2020)	Increased abundance of watercress available for mahinga kai
Community engagement and education programmes Aligns with consent objectives 9 (a)-(e)				
Work Programme	**Actions**	**Role (Implemented by who)**	**Timeframe**	**Expected outcomes**
Source control through behaviour change	Community engagement programmes regarding source control for dog owners (faecal bacteria) residential and industry land use (zinc and other contaminants) Support catchment groups and environmental organisations promoting healthy waterways	3 Waters Team	Ongoing	Decrease in stormwater contaminants
Innovation and Collaboration Aligns with consent objectives 9 (a)-(e)				
Work Programme	**Actions**	**Role (Implemented by who)**	**Timeframe**	**Expected outcomes**

Evaluation of innovative technologies	Monitoring of any novel technology installed e.g. Mussel shell filter bunds or biofilters for contaminant removal rates	3 Waters Team	As required	Informed decision-making for future treatment decisions

9. Budget

In the WDC Long Term Plan 2024-2034 there is a total budget of $9.8 million of capital expenditure for projects identified by this SMP. Table 14 indicates how this $9.8 million could be spent. This SMP is not seeking any additional budget above what is currently allocated in the Long Term Plan 2024-2034. Note that these indicative costs require further option scoping and costing and will be confirmed through the Council Annual Plan or Long Term Plan budgeting process. This is in addition to existing budgets for stormwater treatment and capacity improvement projects which have been included in Table 17 for completeness.

Table 17: Stormwater Capital Projects Budget (240701106310)

Stormwater Capital Projects Budget			
Project Title	**Indicative spend for SMP water quality improvement projects[1]**	**Existing allocation in Long Term Plan 2024-34**	**Total $ (indicative spend and existing allocation)**
Project Works			
Newnham Street Industrial Area Treatment (North Brook)	4,500,000		4,500,000
North Brook Treatment	1,800,000		1,800,000
North Drain Treatment - potential infiltration basin	1,200,000	1,183,110	2,383,110
Middle Brook Treatment	1,800,000	397,860	2,197,860
SMA treatment efficiency improvements or alternate options	500,000		500,000
North Brook - Railway Drain Treatment		282,690	282,690
Under Channel Piping		565,380	565,380
North Brook Retaining Wall - Janelle to White		921,360	921,360
North Drain Piping - Ashley to Edward		575,850	575,850
Belmont Avenue Drainage Upgrades		481,620	481,620
Stormwater Minor Improvements		471,150	471,150
Blackett Street Piping		1,256,400	1,256,400
East Belt to Cam River Connection		523,500	523,500
Three Brooks Enhancement Work - North Brook / Geddis Street		287,925	287,925
Three Brooks Enhancement Work - Middle Brook Tributary		209,400	209,400
Three Brooks Enhacement Project - North Brook Victoria to Newnham		471,150	471,150
Three Brooks Enhancement Work - Middle Brook Martyn to Bush		235,575	235,575
Three Brooks Enhancement - Middle Brook Bush to King		628,200	628,200
Wiltshire / Green Pipework Upgrade Stage 2		499,419	499,419
Stormwater Reticulation Renewals			
Rangiora Urban Drainage Long Term Headworks Renewals		68,055	68,055
Blackett Street Piping		130,875	130,875
Rangiora Urban Drainage Long Term Renewals		261,750	261,750

Note:

1. The figures allocated in this column are an indicative spend of a total allocation of a pool of $9.8m in the 2024-2034 Long Term Plan. This indicative spend is in addition to stormwater budgets for specific projects that are also allocated in the LTP and included in Table 17 for completeness.

10. Review

This SMP shall be reviewed at least once every 5 years, and revised annually, if required, to respond to:

- The results of monitoring undertaken in accordance with this consent;
- The results of updated hydraulic modelling for the catchments which receive stormwater under this consent;
- Any changes to relevant national and/or regional planning documents, including those that result from the Land and Water Regional Plan sub-regional chapter development process;
- New technologies or changes in good practice stormwater treatment.

In addition to the revisions required under Condition (11) of CRC262840, as per Condition (12), the SMP shall be revised at other times if requested by the Canterbury Regional Council under the following conditions:

- Any changes to relevant national, and/or regional planning documents including those that result from the CLWRP sub-regional chapter development process; or
- The results of monitoring or modelling, including any investigations or outcomes in relation to the responses to modelling and monitoring; or
- The use of new technologies which may provide new opportunities for mitigation treatment and source control; and
- Upon the release of any amendment to the Resource Management Act 1991, or any document accepted as a New Zealand Guideline or Standard, which addresses the stormwater management requirements set out in Consent CRC262840.

11. Adaptive Management

WDC intends to apply an adaptive management approach to the management of the stormwater in Rangiora. Adaptive management is an investigational approach to management, often defined as ‘structured learning by doing’. It has three elements, (1) monitoring, (2) adapting and (3) learning.

The monitoring programme assesses the performance of the management of Rangiora’s stormwater management systems relative to the specified CRC262840 Objectives, as well as identify projects or management actions that would progressively improve the management of stormwater or address a specific issue(s).

The SMP will be revised annually, and reviewed every 5 years, which in turn will feed into WDC Annual Plan and Long-term planning processes. A continual review of emerging technology and consideration of the performance of the implemented projects or management actions will ensure that WDC expenditure will be directed to projects and actions that will progressively address the objectives of the SMP. The Rangiora Stormwater Monitoring Programme and CLM for CRC262840 allows WDC to evaluate the performance and progress of the stormwater management infrastructure to achieve these objectives, and more importantly, trigger the identification of additional projects that would improve the outcomes of the stormwater network.

12. References

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Boffa Miskell (2024). *Rangiora Freshwater Ecology – 5 Yearly Aquatic Ecology Monitoring*. Report prepared by Boffa Miskell Ltd for Waimakariri District Council

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Greer, M., Meredith, A., (2016). *Waimakariri Zone water quality and ecology: State and trend*. Environment Canterbury Technical Report No. R16. Draft report

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Hullen, J. (2017). *Rangiora Stormwater Network Consent Cultural Impact Assessment Report. An assessment of effects on Ngāi Tūāhuriri and Ngāi Tahu Values.* Mahaanui Kurataiao Ltd

Jolly, D., & Ngā Papatipu Rūnanga Working Group (2013). *Mahaanui IMP*. Mahaanui Kurataiao Ltd. https://www.mahaanuikurataiao.co.nz/iwi-management-plan/

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APPENDIX A - Schedule 1 of CRC262840 – Water Quality

Contaminant	Guideline	Guideline Source
Total Suspended Solids	<50 gm3	CLWRP
Dissolved Copper	< 0.0018 mg/L	CLWRP *spring fed – plains – Urban* Water 90% of the Australian New Zealand Guidelines
Dissolved Zinc	< 0.015 mg/L	CLWRP *spring fed – plains – Urban* Water
pH	Shall be between 6.5 - 8.5	CLWRP, *section 16, schedule 5*
Dissolved Reactive Phosphorus	< 0.016mg /L	CLWRP, *section 16, schedule 5*
E. coli	95% of the samples should have less than 550 E. coli per 100 mL	CLWRP, *section 16, schedule 5*
Total Ammoniacal Nitrogen	Depends on pH level	CLWRP, *Table S5C, Schedule 5*
Hardness	5 yearly adjustment of Guideline Value	
Dissolved Organic Carbon	To characterise the waterway – adjust Guideline Value	

Note: The limits and targets which measure stormwater discharge quality and receiving waterway effects, and which prompt required responses, apply when managing contaminants demonstrated to be discharging from the reticulated stormwater system including from private connections to the system that are authorised under consent CRC262840.

The Rangiora stormwater network monitoring programme also includes a "stream health" section including requirements to gather baseline and trend information on environmental targets for environmental reporting purposes. These are not compliance requirements of CRC262840. The stream health reporting may demonstrate progress toward receiving environment objectives that are the result of interventions undertaken or natural processes occurring outside of the scope of consent CRC262840.

APPENDIX B - SMA Remedial Strategy and Soil Disposal Procedure

An exceedance of trigger values specified for any infiltration basin, soakpit or dry detention basin may prompt a site-specific risk assessment/s of effects of the recorded contaminant levels on groundwater quality prior to confirming whether excavation of the affected soil layers or other suitable modifications to the basin are required based on expert advice from a contaminated land practitioner (SQEP). This will include any mitigation provided from either:

(a) for infiltration basins and soakpits, the extent of soil depth and associated separation between the affected soil layer and the seasonal high groundwater level (e.g. what attenuation is provided if the contaminated layer is not in direct contact with groundwater and the extent to which this reduces the risk); or

(b) for dry detention basins, the attenuation provided by soil type and ground infiltration and attenuation potential, including whether infiltration and effects on groundwater from the basin are likely to be occurring or are mitigated by the soil type and infiltration rate.

For wet ponds and constructed wetlands, once the lateral and vertical extent of the contamination has been determined, then any combination of the following mitigation options may apply:

- excavation to remove all contaminated soils until contaminant concentrations in the remaining soils, as determined by a repeat of the sampling and analysis methods (above) are less than or equal to the trigger concentrations;
- the redesign of hydraulic conveyance within the wetland to reduce the disturbance and disbursal of silts being conveyed into the downstream environment; and/ or
- other suitable action/s, such as improvements to sediment trapping, addition of new or alternative plants or addition of new filtration media that will better perform the desired treatment functions to protect the site and downstream waterway.

The immediate reinstatement of a wetland or wet pond may not always be the best option for the management of water quality in both the facility and its downstream environment. This is due to various factors including effects of disturbance of the wetland habitat and extent of effects on species present during reinstatement on the ecology of the wetland. A further factor is the length of time required to reestablish wetland vegetation and habitat within a reinstated site. The draining of a wet pond with contaminated water or sludge into a downstream waterway is undesirable. The relative extent of effects of any ongoing discharge into surface water should also be considered in comparison with the extent of the effects of site reestablishment. Some constructed wetlands are lined with clay or low permeability liners, which reduces the risks of leaching materials into nearby springs or waterways. All of these factors will be considered in determining the most suitable mitigation option for each constructed wetland, or wet pond, when Guideline Values are exceeded.

WDC may commission a site-specific assessment of risks to groundwater quality to determine whether excavation to remove affected soil layers or other actions are required. Results of the risk assessment will be reported to Environment Canterbury.

Sediment for disposal will be transported to only a landfill or managed fill which are approved to accept the contaminated material.

This SMA Remedial Strategy and Soil Disposal Procedure detailed in this SMP also is incorporated into the Rangiora Stormwater Monitoring Programme and brief for basin sediment sampling that forms part of the CRC262840 consent.

APPENDIX C - Contaminant Load Model

An annual contaminant load model (CLM) has been used in this SMP to estimate contaminant loads. The model is a version of the former Auckland Regional Council (ARC) CLM adjusted for Rangiora precipitation conditions. It uses GIS land use information and converts it to likely annual loads of the following contaminants:

- TSS
- Total Zinc
- Total Copper.

The land areas analysed are:

- Grasslands (subcategorised by land use)
- Roofs (subcategorised by material)
- Roads (subcategorised by daily traffic volume)
- Non-road Paved Surfaces (subcategorised by land use).

The CLM estimates the contaminant load reduction from treatment.

Comparison from land use to contaminant load is based on calibrated factors generated by ARC. These have been adjusted for total rainfall but have otherwise not been calibrated for local conditions. It is noted that there is uncertainty around roofing materials as detailed roof material information is not held by WDC.

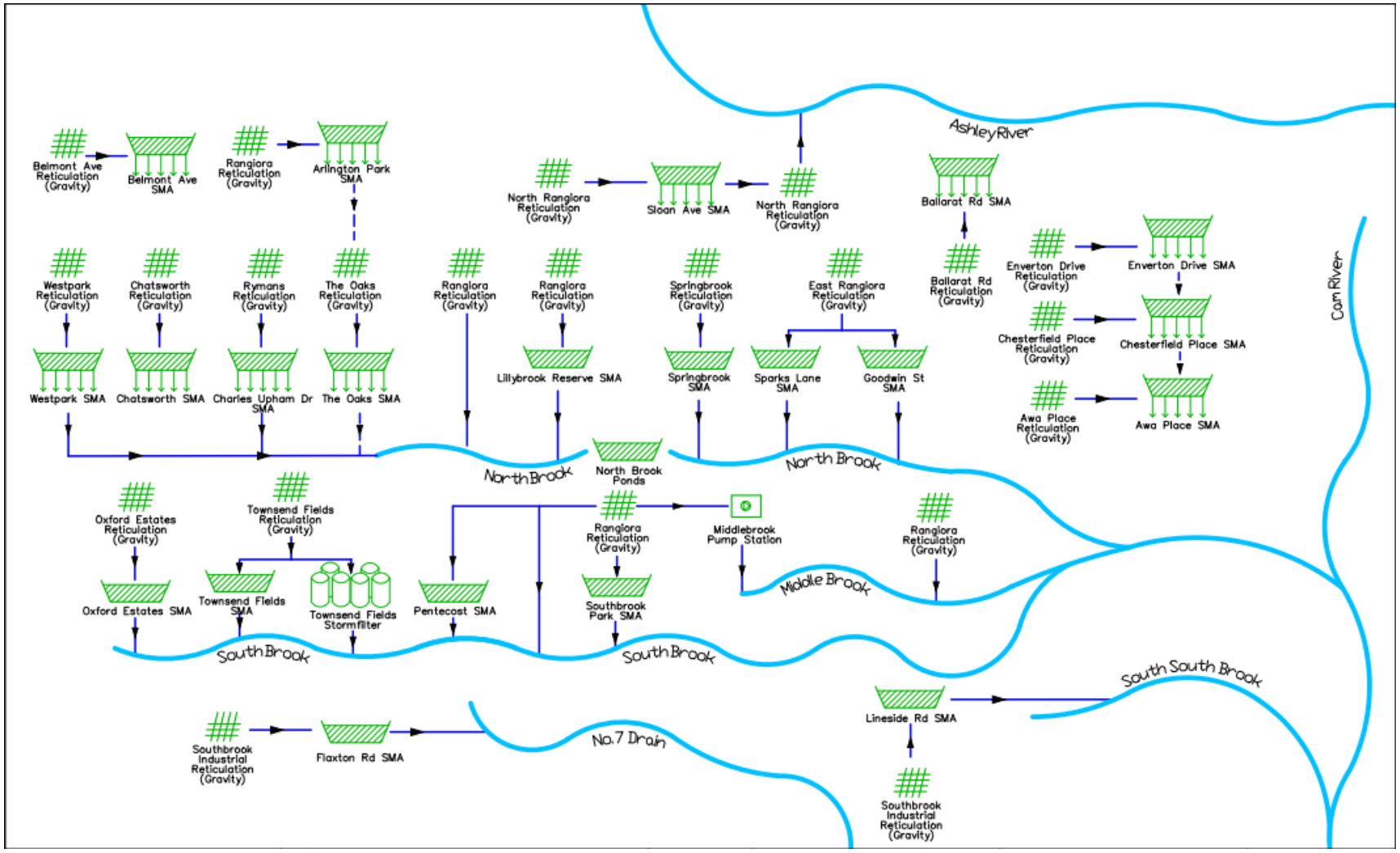
Existing treatment devices in Rangiora use load reduction factors generated by ARC. These assume the devices are operating effectively.

TRIM document 220916161020 provides a summary report of CLM findings.

While CLM results were not directly used to identify high-risk areas in this SMP, they can offer valuable insights, such as:

- CLM results can highlight areas where existing data might be insufficient. If the model predicts high potential pollution in a specific area, but may have limited sampling data to verify projections, it flags the need for further investigation. This helps target sampling efforts to areas where the risk is most likely and assist to fill knowledge gaps.
- The model can simulate how contaminants move through the stormwater system, and the effectiveness of a treatment system. This can help identify potential sources of pollution beyond land use. For example, the model might indicate that a specific industrial site or a historical spill zone could be contributing disproportionately to the overall contaminant load. This information can be crucial for developing targeted mitigation strategies.
- CLM can predict future contaminant loads based on potential changes in land use. This allows for proactive planning. For example, if a new development project is planned, CLM can help assess the potential impact on contaminant loads in the surrounding area and or final discharge points. This foresight allows WDC to implement preventive measures like stormwater treatment systems or updated regulations to mitigate future risks.
- CLM can also be utilised as a tool for project-specific assessments. By simulating different scenarios, the CLM model can be used to project which combination of areas and treatment solutions will yield the greatest water quality improvements. Additional project specific water quality monitoring should be undertaken to verify predictions of the CLM when evaluating projects, providing further confidence for decision-making.

APPENDIX D - Rangiora Stormwater Schematic Diagram (as of July 2023)



APPENDIX E - Project Brief Template

TRIM No. 240625103476 *Note: Text in italics included as an example only*

WAIMAKARIRI DISTRICT COUNCIL

PROJECT BRIEF
STORMWATER MANAGEMENT PLAN

Refer SMP

PROJECT NAME :		
PROJECT GROUP :		Section 7.3.2
OBJECTIVE(S) :		
a		
b		
c		
DESCRIPTION :		
PROJECT AREA :		
SUB CATCHMENT :		Section 3.3
RISK LEVEL :		Section 3.5.6
IDENTIFIED SOLUTION BMP(s)		
WSD	*Wetland*	
Conventional/Proprietary	*GPT vortex separator as Pre treatment*	
Non Structural Measures	*(e.g Public education, street sweeping, signage)*	

COSTS : CAPITAL COSTS

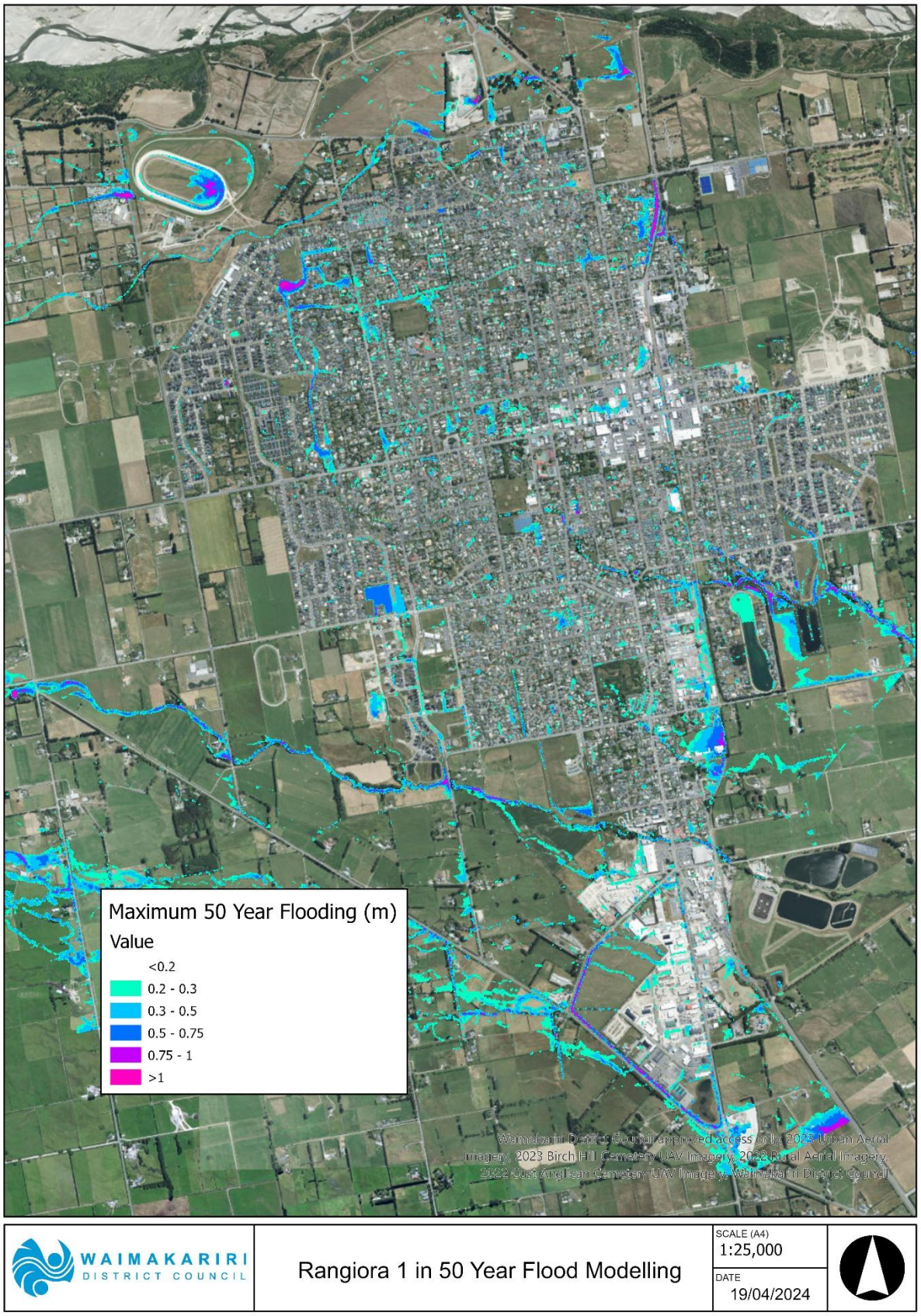
a	*Peliminary Investigations*
b	*Design*
c	*Land purchase? /Modification of existing infrastructure*
d	*Consent?*
e	*Supply*
f	*Install*
Total :	

ANNUAL MAINTENANCE COSTS

a	*Inspections*
b	*Replacement filters*
c	*Media*
d	*Chamber suck out and disposal*
e	
f	
Total :	

NOTES/COMMENTS :		
SUGGESTED PRIORITY :	*LOW/MEDIUM/HIGH*	
ASSUMPTIONS :		TBC for erach project

APPENDIX F – Rangiora Urban Stormwater Model 1 in 50 Year (2% AEP) flood modelling



WAIMAKARIRI DISTRICT COUNCIL

REPORT FOR DECISION

FILE NO and TRIM NO:	RDG-32-51 / 260226065342
REPORT TO:	UTILITIES AND ROADING COMMITTEE
DATE OF MEETING:	10 March 2026
AUTHOR(S):	Joanne McBride, Roading and Transport Manager
SUBJECT:	New Footpath Programme 2025/26 - Update and Approval
ENDORSED BY: (for Reports to Council, Committees or Boards)	General Manager / Chief Executive

1. SUMMARY

1.1. This report is to provide an updated on the New Footpath Programme, including sites to be delivered in 2025/26. Highfield Lane footpath is an additional site proposed to be constructed this financial year (2025/26 financial year).

1.2. Included in the 2024-34 Long Term Plan is $100,000 per year for new footpaths in Rangiora, Kaiapoi, Woodend and Oxford. This allows for construction of approximately 200 to 250m of new footpath each year.

1.3. A programme is taken through the Community Boards and the Utilities & Roading Committee on an annual basis to provide feedback on and approve the programme.

1.4. A review of the programme and the prioritisation have been undertaken, and this has included a review of market costs, consideration of community feedback and a review of Service Requests.

1.5. The programme currently has a focus of providing a footpath on one side of the road for local roads that currently have no footpath, and for providing footpaths on both sides of the road for collector or arterial roads, where there is currently a footpath on one side of the road only.

1.6. A prioritisation method is used to score the different paths which includes consideration of:

- Pedestrian Usage
- Environment
- Connectivity
- Affordability
- Community Views

1.7. While the ranking process is used to help inform the decision as to which footpaths should be constructed and what priority they should be given, it is used as a guide to decision making and other factors may be taken into consideration.

1.8. The Partially Operative District Plan requires a footpath on both sides of the road on all roads, and as such this will be the standard to be provided as part of new developments going forward. This is a change from the previous District Plan. While Council may choose

to move to this higher level of service in the future, this is not allowed for in the current programme.

1.9. New footpaths do not receive co-funding through the National Land Transport Programme currently, and as such the budget for this work is unsubsidised.

1.10. This report approves the additional site being undertaken this financial year (2025/26), however it is noted that the future New Footpath Programme (2026/27 and beyond) will go to the Community Boards for feedback in approximately May 2026, seeking feedback ahead of formal approval by the Utilities & Roading Committee. This allows for feedback from the Community Boards to be incorporated into next year's programme.

Attachments:

i. Updated New Footpath Programme for 2025/26 (TRIM No. 260226065492).

2. RECOMMENDATION

THAT the Utilities and Roading Committee:

(a) **Receives** Report No. 260226065342.

(b) **Approves** the Updated New Footpath Programme for 2025/26 which includes Highfield Lane.

(c) **Notes** that New Life School have approached staff regarding installing a footpath on Denches Road outside the school as part of their site works. This will be the subject of a future report to Council once further information is available.

(d) **Notes** that the full New Footpath Programme for future years (2026/27 onwards) will be taken to the Community Boards to seek feedback in May this year.

(e) **Notes** that this funding is for new footpaths in our major urban areas (Rangiora, Kaiapoi, Woodend and Oxford), and that footpath renewals and maintenance are funded from different budget areas.

3. BACKGROUND

3.1. Included in the 2024-34 Long Term Plan is $100,000 per year for new footpaths in Rangiora, Kaiapoi, Woodend and Oxford.

3.2. The 2025/26 New Footpath Budget is $214,000 which includes carry over from the 2024/25 financial year.

3.3. The new footpath budget was included to bring the footpaths in the main towns up to the agreed level of service as per the previous District Plan. This allowed for a footpath on both sides of the road on Strategic, Arterial and Collector Roads and a footpath on one side of Local Roads.

3.4. The New Footpath Programme has been reviewed and updated with a review of market costs and further consideration of community feedback.

3.5. The new Partially Operative District Plan does require a footpath on both sides of the road on all roads, and as such this will be the standard to be provided as part of new developments going forward, and that which Council may choose to move towards in the future.

3.6. Staff and Councillors have received a number of requests for a footpath in Highfield Lane and this is strongly supported by residents along the street. This can be accommodated within this year's programme within the current budget.

3.7. New Life School have also approached staff requesting a new footpath be incorporated along their frontage, as this is a major deficiency outside of the school. The school are undertaking site works and have approached staff to ask for this work to be incorporated with the site works, with Council funding the path. The cost of construction of a path is to be provided by the school, with a separate report to then be brought to Council on this matter.

3.8. Staff currently take the annual programme around the Community Boards in May each year and seek feedback on the proposed programme. As such any additional feedback can be incorporated into future year programmes.

4. ISSUES AND OPTIONS

4.1. The following options are available to the Utilities and Roading Committee:

4.2. Option One – Approve the updated 2025/26 Programme including Highfield Lane

This is the recommended option as the programme has been developed based on existing known footpath deficiencies and prioritised to ensure a robust programme is in place.

Highfield Lane has a high level of support and has been strongly advocated for by residents along the street.

4.3. Option Two – Decline to approve the updated 2025/26 Programme.

This is not the recommended option as these sites are all known footpath deficiencies and have been prioritised with consideration of a number of factors.

Implications for Community Wellbeing

There are implications on community wellbeing by the issues and options that are the subject matter of this report.

By providing safe pedestrian connections, this encourages use of active transport modes as an alternative to a private motor vehicle, which provides wider health benefits.

4.4. The Management Team has reviewed this report and support the recommendations.

5. COMMUNITY VIEWS

5.1. **Mana whenua**

Te Ngāi Tūāhuriri hapū are not likely to be affected by, or have an interest in the subject matter of this report.

5.2. **Groups and Organisations**

There are groups and organisations likely to be affected by, or to have an interest in the subject matter of this report.

The residents of Highfield Lane have strongly advocated for a footpath on Highfield Lane, and this was discussed as part of a wider workshop with Council in 2025. At the time Council were supportive of bringing this back in a formal report for decision making.

5.3. **Wider Community**

The wider community is not likely to be affected by, or to have an interest in the subject matter of this report. The effects are considered to be localised.

6. OTHER IMPLICATIONS AND RISK MANAGEMENT

6.1. **Financial Implications**

There are financial implications of the decisions sought by this report.

The budget for new footpaths in the 2024-34 Long Term Plan is $100,000 per year. This is to allow for the construction of new footpaths in Rangiora, Kaiapoi, Woodend and

Oxford. It is specifically for new footpaths, with renewal and maintenance of existing footpaths being funded from different funding areas.

The 2025/26 New Footpath Budget is $214,000 which includes carryover from the 2024/25 financial year. At this stage staff have been working to a forecast spend of $100,000.

The current programme includes a footpath in Blake Street to be delivered this financial year and there is sufficient remaining budget to progress a smaller project, which is proposed to be Highfield Lane.

Project	**New Footpath Programme**
Budget (includes carry over)	$214,000
Blake St Footpath	$75,000
Highfield Lane Footpath (proposed)	$20,400
Total Forecast Spend	**$95,400**
Currently uncommitted	$118,600

This budget is included in the Annual Plan/Long Term Plan.

6.2. **Sustainability and Climate Change Impacts**

The recommendations in this report do have sustainability and/or climate change impacts.

Providing safe pedestrian connections encourages use of active transport modes as an alternative to a private motor car, which reduces carbon emissions and has health benefits.

6.3. **Risk Management**

There are risks arising from the adoption/implementation of the recommendations in this report however they are considered to be low.

There is a risk that residents or other stakeholders may not want a footpath installed outside their property. This risk will be addressed by providing good information on public benefits and the important links these facilities will deliver.

Project Information notice will be developed to inform residents and businesses of the requirements, and the reasons for the footpath installations.

6.4. **Health and Safety**

There are health and safety risks arising from the adoption/implementation of the recommendations in this report. All new facilities will be designed to meet Council standards.

Any contractors undertaking condition assessment or physical works contracts will be required to be SiteWise registered and meet minimum score requirements appropriate for the risk of the work being undertaken.

7. CONTEXT

7.1. **Consistency with Policy**

This matter is not a matter of significance in terms of the Council's Significance and Engagement Policy.

7.2. **Authorising Legislation**

The Land Transport Act is relevant to this matter.

7.3. **Consistency with Community Outcomes**

The Council's community outcomes are relevant to the actions arising from recommendations in this report. In particular, the following community outcomes are of relevance to the issue under discussion:

Social: a place where everyone can have a sense of belonging

- Our community has equitable access to the essential infrastructure and services required to support community wellbeing.

Environmental: a place that values and restores our environment

- The natural and built environment in which people live is clean, healthy and safe.
- Our communities are able to access and enjoy natural areas and public spaces.

Economic: a place that is supported by a resilient and innovative economy

- Enterprises are supported and enabled to succeed.
- Infrastructure and services are sustainable, resilient, and affordable.

7.4. **Authorising Delegations**

The Utilities and Roading Committee have the delegated authority to receive this report and approve the recommended programme.

New Footprint Prioritisation - Major Towns

Priority Order	Town	Road	Road hierarchy	Length of footpath required	Cost to construct new footpath	Importance Rating: Pedestrian Use	Environment	Connectivity	Affordability	Community Views	Total	Comment
COUNCIL RESPONSIBILITY												
1	**Rangiora**	Highfield Lane	Local Road	85	$ 20,400.00	1	2	1	3	3	**10**	Short cul-de-sac. High community interest. Residents currently walk on the road.
2	**Woodend**	Chinnerys Road (No. 49 to Woodglen Dr)	Local Road	360	$ 116,400.00	2	2	2	1	2	**9**	In programme for 2026/27. Requires more work and land purchase. Section is located at edge of residential area. Access to properties on south side of Chinnerys Rd. Medium pedestrian use as it is used as a pedestrian route. Large berm provides low environment rating.
3	**Woodend**	Chinnerys Road (No. 94 to no.49)	Local Road	350	$ 114,000.00	2	2	2	1	2	**9**	In programme for 2026/27. Requires more work and land purchase. Section is located at edge of residential area. Access to properties on south side of Chinnerys Rd. Medium pedestrian use as it is used as a pedestrian route. Large berm provides low environment rating.
4	**Oxford**	Harewood Road (Burnt Hill Rd to Park Ave)	Local Road	350	$ 84,000.00	2	3	2	1	1	**9**	Higher cost but reasonable pedestrian demand.
5	**Rangiora**	Station Road (PAK'nSave entrance to Railway Rd)	Local Road	115	$ 27,600.00	2	2	2	1	2	**9**	Northern side of the road.
6	**Oxford**	Redwood Place (Start to End)	Local Road	85	$ 20,400.00	1	1	2	3	1	**8**	In programme for 2026/27. Residential properties on both sides of Redwood Place. Short cul-de-sac with low pedestrian traffic. Medium connectivity importance. Low environment rating due to large berms on both sides of street.
7	**Woodend**	Woodfield Place (Start to End)	Local Road	124	$ 20,000.00	1	1	2	3	1	**8**	In programme for 2028/29. Access to properties on both sides of Woodfield Pl. Short cul-der-sac with low pedestrian traffic. Grass berm provides a good pedestrian environment. Medium connectivity as the section is disconnected from Woodglen Dr.
8	**Oxford**	Knight Street (Start to End)	Local Road	129	$ 45,000.00	1	1	2	3	1	**8**	In programme for 2027/28. Residential properties on both sides of King Street. Short cul-de-sac with low pedestrian traffic. Medium connectivity importance. Low environment rating due to large berms on both sides of street.
9	**Oxford**	Queen Street (High St to Karadean Court Lifecare)	Local Road	299	$ 250,000.00	2	2	2	1	1	**8**	Property accesses on both sides of street. Retirement home in the area provides medium pestrian use. Environment rating is medium due to roadside drain on both sides. Medium connectivity importance. **Cost is high due to piping of drain.**
10	**Kaiapoi**	Smith Street (Ranfurly St to the eastern end of Kaiapoi Park)	Secondary Collector	300	$ 72,000.00	2	2	1	2	1	**8**	Outside of Rugby Park which is used for events and as such has high pedestrian usage. Bus stop on north side of the road currently has no footpath connection.
11	**Rangiora**	Queen St (Church to King St)	Secondary Collector	90	$ 66,600.00	2	1	2	1	1	**7**	Would require new k&C and removal of parking to accommodate a footpath.

Importance Rating Categories

Pedestrian Use = Based on the amount of residential housing and the different types of amenities within the area.

Environment = Based on how close pedestrians must walk to traffic and how fast/frequent the traffic flow is.

Connectivity = Based on whether the footpath is continuous and how important this is for pedestrians.

Affordability =

≤ $25,000	High Score
$25,000 - $75,000	Medium Score
≥ $75,000	Low Score

Community Views = Scored based on feedback recieved from the Community & the Boards.

Importance Rating Values

3 = High

2 = Medium

1 = Low

Priority Order	Town	Road	Road hierarchy	Length of footpath required	Cost to construct new footpath	Importance Rating: Pedestrian Use	Environment	Connectivity	Affordability	Community Views	Total	Comment
COUNCIL RESPONSIBILITY												
26	**Rangiora**	Enverton Drive	Collector Road	230	$ 85,200.00	1	1	2	1	2	**7**	Footpath on the westerns side of the road. Eastern side would rquire K&C to be installed. Berm area would require significant reshaping to accommodate a path.
12	**Oxford**	Rimu Place (Start to End)	Local Road	68	$ 10,000.00	1	1	1	3	1	**7**	Short cul-de-sac with low pedestrian traffic and low connectivity importance. Large berms on both sides provide good environment for pedestrians.
13	**Oxford**	Matai Place (Start to End)	Local Road	111	$ 15,000.00	1	1	1	3	1	**7**	Programmed for 2027/28. Short cul-de-sac with low pedestrian traffic and low connectivity importance. Large berms on both sides provide good environment for pedestrians.
14	**Woodend**	Grange View (Start to End)	Local Road	131	$ 20,000.00	1	1	1	3	1	**7**	Access to properties on both sides of Grange View. Short cul-der-sac with low pedestrian traffic. Connectivity rating is low but would increase if Chinnerys Road was provided with a footpath. Large grass berm provides a good environment.
15	**Oxford**	Weld Street (High St to edge of subdivision)	Local Road	150	$ 20,000.00	1	1	1	3	1	**7**	Property accesses on both sides of Weld St. Section is located at edge of residential area. Low pedestrian use. Low connectivity importance. Low environment rating due to large grass berms provided. Some financial contribution available.
16	**Oxford**	Victoria Street (High St to Town Rating Boundary)	Local Road	169	$ 25,000.00	1	1	1	3	1	**7**	Property accesses on both sides of Victoria Street. Low pedestrian use due to section being located at edge of residential area. Large grass berm provides low environment rating. Low connectivity importance.
17	**Oxford**	High Street (end of footpath to Victoria St)	Collector Road	130	$ 20,000.00	1	1	1	3	1	**7**	Property accesses generally on east side of High Street. Low pedestrian use due to distance to amenities. Large grass berm provides low environment rating. Low connectivity importance. Will connect to Victoria Street footpath.
18	**Woodend**	Judsons Road (End of footpath to Town Rating Boundary)	Local Road	226	$ 30,000.00	1	2	1	2	1	**7**	Minimal accesses to properties on both sides of Judsons Rd. Existing footpath up to end of seal and preschool. Low pedestrian traffic at east end. Rural environment rating and low connectivity importance.
19	**Rangiora**	Ellis Road (Todds Rd to End of Seal)	Local Road	244	$ 35,000.00	1	2	1	2	1	**7**	Low pedestrian traffic due to industrial businesses on both sides. Limited space provided for a footpath. Connectivity rating is low but would increase if footpath was provided on Southbrook Road.
20	**Rangiora**	West Belt (River Rd to Kensington Ave)	Urban Collector Road	424	$ 60,000.00	2	1	1	2	1	**7**	Limited residential properties on west side of West Belt. Section is located at edge of residential area. Medium pedestrian use. Low connectivity importance. Low environment rating as large berm space is provided.

Priority Order	Town	Road	Road hierarchy	Length of footpath required	Cost to construct new footpath	Importance Rating: Pedestrian Use	Environment	Connectivity	Affordability	Community Views	Total	Comment
COUNCIL RESPONSIBILITY												
21	**Woodend**	Chinnerys Road (west reserve entrance to east reserve entrance)	Local Road	610	$ 85,000.00	2	1	2	1	1	**7**	Section is located at edge of residential area. Sparsely populated area with low pedestrian use. Large berm provides low environment rating. New development on opposite side of the road likely to have a future footpath.
22	**Oxford**	High Street (Victoria St to Weld St)	Collector Road	354	$ 240,000.00	1	2	2	1	1	**7**	Residential housing on east side of High St. Sections of existing footpath on east and west side. Medium connectivity rating. Medium environment rating due to roadside drain on west side of street. Low pedestrian use due to section located at edge of residential area. **Cost is high due to piping of drain.**
23	**Woodend**	Main North Road (End of footpath to No. 146)	Strategic	245	$ 80,000.00	1	2	1	1	1	**6**	Residential properties on both sides. Low pedestrian usage. Wide sealed shoulder provides alternative walking area; therefore, medium connectivity. **Cost is high due to traffic management on state highway and allowance for kerb and channel.**
24	**Woodend**	Main North Road (Chinnerys Road to Church)	Strategic	295	$ 250,000.00	1	2	1	1	1	**6**	Church on the west side. Low pedestrian usage. Wide sealed shoulder provides alternative walking area; therefore, medium connectivity. **Cost is high due to piping of drain and traffic management on state highway.**
25	**Rangiora**	Railway Road (Lineside Rd to start of footpath)	Local Road	318	$ 45,000.00	1	1	1	2	1	**6**	Area is largely industrial. Lower pedestrian traffic due to the type of businesses within the area. Large berm space provides a safe area for pedestrians to walk. Connectivity is low due to limited footpaths to connect up to.
	TOTAL			**3,725**	**$ 1,019,800.00**							

WAIMAKARIRI DISTRICT COUNCIL

REPORT FOR INFORMATION /DECISION

FILE NO and TRIM NO:	RDG-03-09 / 251103208879
REPORT TO:	RANGIORA-ASHLEY COMMUNITY BOARD
DATE OF MEETING:	10 December 2025
AUTHOR(S):	Joanne McBride, Roading and Transport Manager
SUBJECT:	Approval to Install No Stopping Restrictions – Grey View Grove
ENDORSED BY: (for Reports to Council, Committees or Boards)	General Manager / pp Chief Executive

1. SUMMARY

1.1. This report seeks approval to establish the following no-stopping restriction:

- Grey View Grove on the north side of the road from the intersection with East Belt east to the access to Nos. 3 and 9. This is a length of 75m.

1.2. Staff have received a number of service requests and complaints relating to parked vehicles along Grey View Grove limiting manoeuvring space for two-way traffic.

1.3. The residents living on Grey View Grove are predominantly elderly and have repeatedly raise concerns about the ability to be able to safely navigate the road.

1.4. Currently there is parking predominantly along the southern side of the road, which will continue to be available.

1.5. Grey view Grove has a sealed carriageway width of 9m, which can easily accommodate two traffic lanes and one lane of parking.

1.6. On most residential streets, parking self regulates, however given the proximity to the town centre and the high parking demand in the area, it is considered appropriate to utilise no stopping restrictions to better control where parking is occurring.

2. RECOMMENDATION

THAT the Rangiora-Ashley Community Board:

(a) **Receives** Report No. 251103208879.

AND

THAT the Rangiora-Ashley Community Board recommends:

THAT the Utilities and Roading Committee:

(b) **Approves** installation of the following no-stopping restriction:

- Grey View Grove on the north side of the road from the intersection with East Belt east to the access to Nos. 3 and 9. This is a length of 75 metres.

(c) **Notes** that the installation of a no-stopping restriction at this location equates to the loss of 11 on-street car parking spaces.

3. BACKGROUND

3.1. Grey View Grove is a low-volume residential cul-de-sac close to the central business district in Rangiora.

3.2. The street was originally subdivided and constructed starting in 2017. It presently provides access to 42 residential sections, with the likelihood of further future development in the area.

3.3. Grey View Grove has a sealed 9.0 m carriageway width, with a footpath on the south side of the road. The kerb and channel is a lower profile mountable kerb. The remainder of the road reserve width is generally grassed berm. The road is 300m long and has one side street, being Mount View Mews.

3.4. Staff do not measure traffic volumes or speeds on all very low volume residential cul-de-sac streets like Grey View Grove. The Council roading database has estimated the average daily traffic on Grey View Grove to be 51 vehicles per day; however, this estimate likely does not reflect traffic from all houses completed along the street.

4. ISSUES AND OPTIONS

4.1. Staff have received a number of service requests / complaints relating to parked vehicles along Grey View Grove limiting manoeuvring space for two-way traffic.

4.2. Businesses on the east side of the town centre generate substantial on-street parking demand in the area. This is generally related to staff parking. This parking demand is accommodated on East Belt and surrounding streets, which includes Grey View Grove.

4.3. In order to provide adequate moving space for vehicles to enter and exit Grey View Grove and to safely balance property access with on-street parking, it is recommended that no-stopping restrictions be implemented along the extent indicated by the yellow dashed line below in Figure 1 below (from East Belt to the access to Nos. 3 and 9 Grey View Grove.

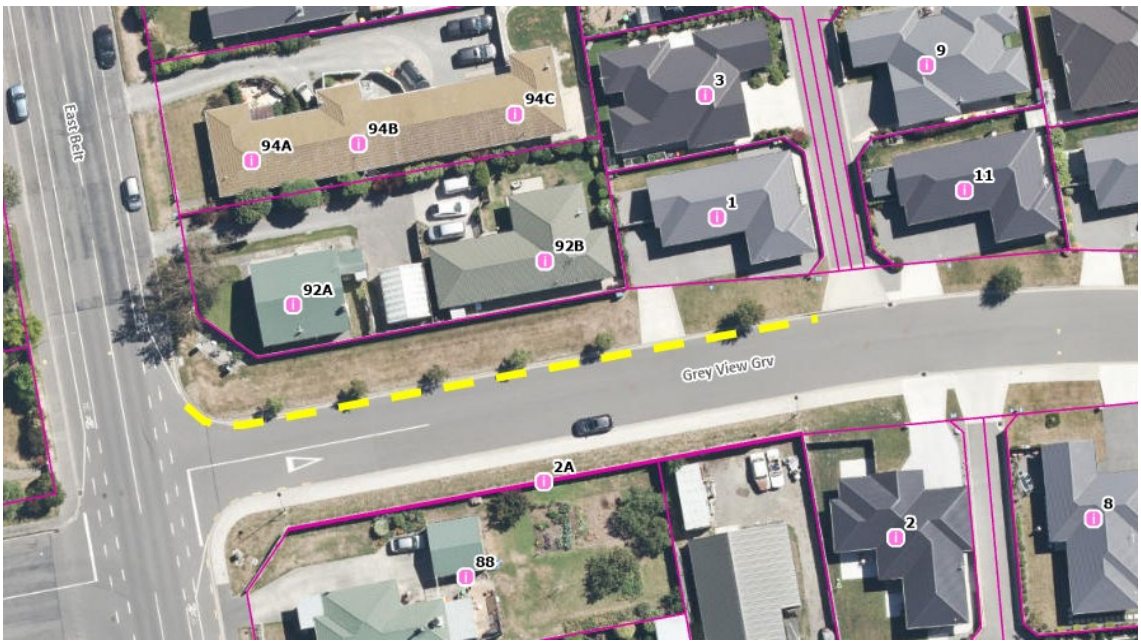


***Figure 1** - Proposed extents of no-stopping restriction, Grey View Grove*

4.4. It is noted that this restriction will result in the loss of space which could accommodate up to 11 carparks along Grey View Grove, however it is also noted, that currently parking predominantly occurs along the south side of the road, with complaints often being driven by occasional parking on the north side of the road.

4.5. This has resulted in a number of interactions between residents / local business, and as such needs to be addressed.

4.6. It is considered that the installation of no-stopping along the north side of the road will go some way towards addressing the ongoing concerns.

4.7. The Rangiora-Ashley Community Board has the following options available to them:

4.8. Option One: Endorse the installation of a no-stopping restriction from East Belt to the access of Nos. 3 and 9 (being a length of 75m)

This option would see the Rangiora-Ashley Community Board recommend that the Utilities and Roading Committee approve the installation of a no-stopping restriction at the location shown above in Figure 1.

This is the recommended option because it improves safe manoeuvring space at the top of Grey View Grove and addresses ongoing concerns related to access raised by residents.

4.9. Option Two: Decline the recommendations of this report and retain the status quo

This is not the recommended option because there are safety and access implications of not installing no-stopping restriction proposed in this report.

Implications for Community Wellbeing

There are implications on community wellbeing by the issues and options that are the subject matter of this report. These proposed improvements provide infrastructure in terms of safety improvements which provide safe access for residents within the district.

4.10. The Management Team has reviewed this report and support the recommendations.

5. COMMUNITY VIEWS

5.1. Mana whenua

Te Ngāi Tūāhuriri hapū are not likely to be affected by, or have an interest in the subject matter of this report.

5.2. Groups and Organisations

There are groups and organisations likely to be affected by, or to have an interest in the subject matter of this report.

Staff have spoken with the resident at No. 1 Grey View Grove; they were supportive of the proposal.

5.3. Wider Community

The wider community is not likely to be affected by, or to have an interest in the subject matter of this report.

The impacts of roadside management are considered to be localised and minor in nature. It is noted that no public consultation has been carried out with the wider community. The likely impact of the proposed no stopping installation is a small shift in the location where on street parking occurs.

6. OTHER IMPLICATIONS AND RISK MANAGEMENT

6.1. Financial Implications

There are financial implications of the decisions sought by this report. There are minimal costs associated with installing no-stopping lines along these streets, as all it involves is line marking.

The costs are estimated to be less than $100 and can be accommodated within the Road Maintenance budgets (Pavement Marking GL 10.270.582.2500).

This budget is included in the Annual Plan/Long Term Plan.

6.2. **Sustainability and Climate Change Impacts**

The recommendations in this report are considered to be localised and minor in nature and will not have sustainability or climate change impacts.

6.3. **Risk Management**

There are risks arising from the adoption/implementation of the recommendations in this report.

There is a risk that the proposed restrictions may not go far enough, or may result in parking to shift to other less desirable locations. This is consider to be a very small risk.

6.4. **Health and Safety**

There are minor health and safety risks arising from the adoption/implementation of the recommendations in this report.

Physical works will be undertaken through the Road Maintenance contract. The Road Maintenance contractor has a Health and Safety Plan and a SiteWise score of 100.

7. CONTEXT

7.1. **Consistency with Policy**

This matter is not a matter of significance in terms of the Council's Significance and Engagement Policy.

7.2. **Authorising Legislation**

Section 2 of the Land Transport Rule: Traffic Control Devices requires a Road Controlling Authority to "authorise and, as appropriate, install or operate traffic control devices."

7.3. **Consistency with Community Outcomes**

The Council's community outcomes are relevant to the actions arising from recommendations in this report. This report considers the following outcomes:

Social: a place where everyone can have a sense of belonging

- Our community has equitable access to the essential infrastructure and services required to support community wellbeing.

Environmental: a place that values and restores our environment

- The natural and built environment in which people live is clean, healthy and safe.

Economic: a place that is supported by a resilient and innovative economy

- Enterprises are supported and enabled to succeed.
- Infrastructure and services are sustainable, resilient, and affordable.

7.4. **Authorising Delegations**

As per Section 3 of the Waimakariri District Council's *Delegations Manual*, the Rangiora-Ashley Community Board has the delegated authority to recommend the installation of no-stopping restrictions on roads within its ward area.

The Utilities and Roading Committee has the delegated authority to approve no-stopping restrictions.

WAIMAKARIRI DISTRICT COUNCIL

REPORT FOR DECISION

FILE NO and TRIM NO:	RDG-03-09 / 260116006869
REPORT TO:	RANGIORA-ASHLEY COMMUNITY BOARD
DATE OF MEETING:	11 February 2026
AUTHOR(S):	Nithin Puthupparambil, Transportation Engineer Shane Binder, Senior Transportation Engineer
SUBJECT:	Request to Approve the Extension of No-Stopping Restrictions on Southbrook Road.
ENDORSED BY: (for Reports to Council, Committees or Boards)	General Manager / Chief Executive

1. SUMMARY

1.1. This report seeks approval to extend no-stopping restrictions at the following locations (refer to Figure 1):

- Southbrook Road, on the east side of the road, 18.5m south of the existing restriction, starting at the northern end of driveway to 66A, 66B, and 66 Southbrook Road and ending at northern end of driveway to 66A Southbrook Road (total length of no stopping is 18.5m).

- Southbrook Road, on the west side of the road, from 6m to the south of the existing restriction, starting at the southern end of 55A, and 55 Southbrook Road and ending at 13m from the northern end of driveway to 53D Southbrook Road (total length of no stopping is 6m).

1.2. Staff have received requests from the public regarding vehicles parking across the cycle lanes on this section of Southbrook Road. These vehicles are stopping within the taper area leading into the parking area, where there is insufficient space for parking.

1.3. The width is not sufficient to safely accommodate parked vehicles without encroaching into the cycle lanes, which compromises cyclist safety and creates conflict between different road users.

1.4. Staff have undertaken a review of the location and determined that extending the No Stopping restrictions to reinforce that parking should not occur in this area is necessary to ensure the cycle lanes remain unobstructed. This measure will prevent vehicles from attempting to park in this location which is not suitable for parking, and ensure that the cycle lane remains clear and safe for use.

2. RECOMMENDATION

THAT the Rangiora-Ashley Community Board:

(a) **Receives** Report No. 260116006869.

AND

THAT the Rangiora-Ashley Community Board recommends:

THAT the Utilities and Roading Committee:

(b) **Approves** installation of the following no-stopping restrictions:

- Southbrook Road, on the east side of the road, for a length of 18.5m south of the existing restriction, starting at the northern end of driveway to 66A, 66B, and 66 Southbrook Road and ending at northern end of driveway to 66A Southbrook Road.

- Southbrook Road, on the west side of the road, for a length of 6m to the south of the existing restriction, starting at the southern end of 55 A, and 55 Southbrook Road and ending at 13m from the northern end of driveway to 53D Southbrook Road.

(c) **Notes** that this extension of existing no-stopping restrictions will not result in on-street parking loss, as the areas are not designed for parking and are too narrow to safely accommodate parking.

3. BACKGROUND

3.1. Southbrook Road is a Strategic Road with an average daily traffic (ADT) of 25,889 vehicles. The route includes marked on-road cycle lanes on both sides to support safe cycling movements towards the town centre.

3.2. The section of Southbrook Road south of the South Belt intersection has a constrained carriageway width. While the road layout accommodates general traffic lanes, including additional lanes for right-turning traffic at intersections and designated cycle lanes, it does not provide sufficient width to safely support on-street parking throughout the length of the road.

3.3. When vehicles are parked in the taper (transition) area between designated parking lanes and No Stopping restrictions, they encroach into the cycle lanes, forcing cyclists to merge into the adjacent traffic lane and creating high-risk interactions between cyclists and motor vehicles. These areas are not considered to be appropriate for parking.

3.4. Site inspections confirm that some vehicles are parking in such a way that theu protrude into the cycle lanes at this location, obstructing the intended cycling space and reducing safety for cyclists. The current No Stopping restrictions end just north of the observed issue, resulting in some drivers stopping in a section of road that is not designed to safely accommodate parking.

4. ISSUES AND OPTIONS

4.1. Staff have received service requests regarding vehicles parking within the cycle lanes on Southbrook Road, south of the South Belt intersection. Vehicles stopping in this area obstruct the cycling facility, forcing cyclists into the adjacent traffic lane and creating a safety concern for all road users.

4.2. It is noted that the constrained carriageway width, combined with the lane taper (transitions) and turning lanes at nearby intersections, means that on-street parking cannot be safely accommodated at this location.

4.3. Parking in the taper (transition) area between the existing No Stopping restrictions and adjacent driveways results in encroachment into the cycle lanes, significantly reducing the operational safety and continuity of the cycling network.

4.4. To mitigate these safety concerns, it is recommended that No Stopping restrictions be extended on both sides of Southbrook Road, specifically:

- On the east side of Southbrook Road, 18.5 metres south from the end of the existing restriction, currently at the northern end of the driveway to 66A, 66B, and 66 Southbrook Road.

- On the west side of Southbrook Road, 6 metres south from the end of the existing restriction, currently at the southern end of 55A and 55 Southbrook Road.

These extensions will ensure the cycle lanes remain unobstructed and improve safety for people cycling and driving.

4.5. It is noted that these no-stopping extensions will not result in on-street parking loss, as the areas are not designed for parking and are too narrow to safely accommodate parking

Figure 1 – Proposed extends of no stopping restrictions, Southbrook Road.

4.6. The Rangiora-Ashley Community Board has the following options available to them:

4.7. Option One: Approve the extension of No Stopping restrictions on both sides of Southbrook Road.

This option would have the Rangiora-Ashley Community Board recommend that the Utilities and Roading Committee approve the installation of no-stopping restrictions as shown in Figure 1.

This is the recommended option, as it ensures that the cycle lanes remain clear, reduces conflicts between cyclists and vehicles, and improves safety for all road users.

4.8. Option Two: Approve No Stopping restrictions on one side of Southbrook Road.

This option would have the Rangiora-Ashley Community Board recommend that the Utilities and Roading Committee approve extending the No Stopping restriction on only one side of Southbrook Road.

This is not the recommended option, as extending the restriction on only one side would not fully address the safety concerns identified. Vehicles could continue to park on the opposite side of the road, leading to ongoing obstruction of the cycle lane and continued conflict between cyclists and general traffic.

4.9. Option Three: Retain the status quo.

4.10. This option would result in no changes to the current No Stopping restrictions.

This is not the recommended option, as it would allow unsafe parking to continue, resulting in ongoing safety and access issues for cyclists and other road users.

Implications for Community Wellbeing

There are implications on community wellbeing by the issues and options that are the subject matter of this report.

These proposed extensions to the no-stopping restrictions are intended to maintain safe and efficient operation of the road corridor by keeping cycle lanes clear of parked vehicles, thereby improving safety for cyclists and reducing conflicts between different road users while still providing appropriate access for nearby properties.

4.11. The Management Team has reviewed this report and support the recommendations.

5. COMMUNITY VIEWS

5.1. Mana whenua

Te Ngāi Tūāhuriri hapū are not likely to be affected by or have an interest in the subject matter of this report.

5.2. Groups and Organisations

There are groups and organisations likely to be affected by, or to have an interest in the subject matter of this report.

Seven Letters were sent to the residents adjoining the proposed No Stopping restrictions, soliciting their feedback on the restrictions.

One response from the resident of 66A opposing the proposal was received.

5.3. Wider Community

The wider community is not likely to be affected by, or to have an interest in the subject matter of this report; the impacts of roadside management are considered to be localised and minor in nature. It is noted that no public consultation has been carried out with the wider community.

6. OTHER IMPLICATIONS AND RISK MANAGEMENT

6.1. Financial Implications

There are financial implications of the decisions sought by this report.

There are minimal costs associated with installing no-stopping lines along these streets, as all it involves is line marking. The total cost is estimated to be less than $250, which can be accommodated within the Road Maintenance budgets (Pavement Marking GL 10.270.582.2500).

This budget is included in the Annual Plan/Long Term Plan.

6.2. Sustainability and Climate Change Impacts

The recommendations in this report do not have sustainability or climate change impacts.

6.3. Risk Management

There are not risks arising from the adoption/implementation of the recommendations in this report.

6.4. Health and Safety

There are health and safety risks arising from the adoption/implementation of the recommendations in this report.

The safety of all road users is important, and cyclists are amongst the most vulnerable of our road users. This area is also close to a school. While many children will choose to use the footpath, it is important that on-road facilities are as safe as possible.

Physical works will be undertaken through the Road Maintenance contract. The Road Maintenance contractor has a Health and Safety Plan and a SiteWise score of 100.

7. CONTEXT

7.1. Consistency with Policy

This matter is not a matter of significance in terms of the Council's Significance and Engagement Policy.

7.2. Authorising Legislation

Section 2 of the Land Transport Rule: Traffic Control Devices requires a Road Controlling Authority to "authorise and, as appropriate, install or operate traffic control devices."

7.3. Consistency with Community Outcomes

The Council's community outcomes are relevant to the actions arising from recommendations in this report. This report considers the following outcomes:

Social: a place where everyone can have a sense of belonging

- *Our community has equitable access to the essential infrastructure and services required to support community wellbeing.*

Economic: a place that is supported by a resilient and innovative economy

- *Enterprises are supported and enabled to succeed.*
- *Infrastructure and services are sustainable, resilient, and affordable. There is a safe environment for all.*

7.4. Authorising Delegations

As per Section 3 of the Waimakariri District Council's Delegations Manual, the Rangiora-Ashley Community Board has the delegated authority to consider matters within its ward area.

The Utilities and Roading Committee has the delegated authority to approve No Stopping restrictions.

WAIMAKARIRI DISTRICT COUNCIL

REPORT FOR DECISION

FILE NO and TRIM NO:	RDG-03-09 / 260109002898
REPORT TO:	RANGIORA-ASHLEY COMMUNITY BOARD
DATE OF MEETING:	11 February 2026
AUTHOR(S):	Shane Binder, Senior Transportation Engineer Joanne McBride, Roading and Transport Manager
SUBJECT:	Request to Approve Golding Avenue No-Stopping Restrictions
ENDORSED BY: (for Reports to Council, Committees or Boards)	General Manager / Chief Executive

1. SUMMARY

1.1. This report seeks approval to establish no-stopping restrictions at the following locations:

- Eastern side of Golding Avenue, for a length of 11m north of the driveway to no. 22 Golding Avenue; and,
- Western side of Golding Avenue, from a point 10m south of the driveway to no's 19-31 Golding Avenue, for a length of 11m south.

1.2. A no-stopping restriction on Golding Avenue was previously considered and not approved by the Rangiora-Ashley Community Board in July 2025. The Community Board requested the matter be revisited in November 2025.

1.3. Staff have received service requests from area residents concerning potential conflicts with parking on the back-to-back curves in Golding Avenue.

1.4. There is strong on-street parking demand in this area with parking up to the bends, due to a number of supported-living residential facilities located in this area. This contributes to limited visibility through the curves.

1.5. It is recommended that no stopping restrictions be installed at this location to better support safe use of the roadway.

Attachments:

i. Report to Rangiora-Ashley Community Board, 9 July 2025, Request approval of No Stopping Restrictions – Golding Avenue, Cust Road, and Papawai Drive (TRIM 250227032830)

2. RECOMMENDATION

THAT the Rangiora-Ashley Community Board:

(a) **Receives** Report No. 260109002898.

AND

THAT the Rangiora-Ashley Community Board recommends:

THAT the Utilities and Roading Committee:

(b) **Approves** installation of the following no-stopping restrictions:

- Eastern side of Golding Avenue, for a length of 11m north of the driveway to no. 22 Golding Avenue.
- Western side of Golding Avenue, from a point 10m south of the driveway to no's 19-31 Golding Avenue, for a length of 11m south.

(c) **Notes** that properties adjoining the proposed no-stopping restrictions were sent consultation letters in July 2025, but no feedback was received.

3. BACKGROUND

3.1. Golding Avenue is a local urban residential street with an average daily traffic (ADT) volume of 708 vehicles and an operating (85th percentile) speed of 44.7 km/h, observed in 2025. It serves as a local connection between the Collector Roads of Kingsbury Avenue and Enverton Drive.

3.2. The street has a back-to-back "S-bend" between no. 17 and no. 33 Golding Avenue. A private right-of-way serving six rear lots enters Golding Avenue midway through the curve.

3.3. There is increased parking demand near the S-bend due to a number of supported-living residential facilities located in this area.

3.4. Stopping sight distance is a measurement of forward visibility required for a motorist to come to a stop in an unexpected event. Due to the geometry of the back-to-back curves at this location, vehicles parked in front of no. 22 and nos. 19-31 Golding Avenue impede the minimum stopping sight distance recommended in the Austroads Guide to Road Design Part 3.

3.5. A request for no-stopping restrictions at these two locations was taken to the 9th July 2025 Rangiora-Ashley Community Board (TRIM 250227032830, attached). The proposed no-stopping restrictions are shown below in Figure 1.

Figure One: No-stopping restrictions proposed in July 2025

3.6. At the meeting, a division was called on the request, which ultimately lost due to a tie vote.

4. ISSUES AND OPTIONS

4.1. At the 12th November 2025 Rangiora-Ashley Community Board meeting, a request was made for staff to revisit this issue.

4.2. The Rangiora-Ashley Community Board has the following options available to them:

4.2.1. Option One: Recommend installation of No-Stopping restrictions on Golding Avenue

This option would have the Rangiora-Ashley Community Board recommend that the Utilities and Roading Committee approve the installation of no-stopping restrictions at the locations on Golding Avenue shown above in Figure One.

This is the recommended option because it meets with Safe Stopping Distance (SSD) recommendations and enhances safety on Golding Avenue.

4.2.2. Option Two: Retain the status quo

This is not the recommended option because there are safety implications of not installing No-Stopping restrictions on Golding Avenue.

Implications for Community Wellbeing

There are implications on community wellbeing by the issues and options that are the subject matter of this report. These proposed improvements optimise existing infrastructure to provide safe access for residents within the district.

4.3. The Management Team has reviewed this report and support the recommendations.

5. COMMUNITY VIEWS

5.1. Mana whenua

Te Ngāi Tūāhuriri hapū are not likely to be affected by, or have an interest in the subject matter of this report.

5.2. Groups and Organisations

There are groups and organisations likely to be affected by, or to have an interest in the subject matter of this report. Consultation letters were sent to residents of the properties immediately adjoining the proposed no-stopping restrictions for the July 2025 report, but no feedback was received by staff.

5.3. Wider Community

The wider community is not likely to be affected by, or to have an interest in the subject matter of this report; the impacts of roadside management are considered to be localised and minor in nature. It is noted that no public consultation has been carried out with the wider community.

6. OTHER IMPLICATIONS AND RISK MANAGEMENT

6.1. Financial Implications

There are financial implications of the decisions sought by this report.

There are minimal costs associated with installing no-stopping lines along these streets, as all it involves is line marking. The total cost is estimated to be less than $250, which can be accommodated within the Road Maintenance budgets (Pavement Marking GL 10.270.582.2500).

This budget is included in the Annual Plan/Long Term Plan

6.2. Sustainability and Climate Change Impacts

The recommendations in this report are considered to be localised and minor in nature and will not have sustainability or climate change impacts.

6.3. Risk Management

There are not risks arising from the adoption/implementation of the recommendations in this report.

6.4. **Health and Safety**

There are minor health and safety risks arising from the adoption/implementation of the recommendations in this report.

Physical works will be undertaken through the Road Maintenance contract. The Road Maintenance contractor has a Health and Safety Plan and a SiteWise score of 100.

7. CONTEXT

7.1. **Consistency with Policy**

This matter is not a matter of significance in terms of the Council's Significance and Engagement Policy.

7.2. **Authorising Legislation**

Section 2 of the Land Transport Rule: Traffic Control Devices requires a Road Controlling Authority to "authorise and, as appropriate, install or operate traffic control devices."

7.3. **Consistency with Community Outcomes**

The Council's community outcomes are relevant to the actions arising from recommendations in this report. This report considers the following outcomes:

Social: a place where everyone can have a sense of belonging

- *Our community has equitable access to the essential infrastructure and services required to support community wellbeing.*

Economic: a place that is supported by a resilient and innovative economy

- *Enterprises are supported and enabled to succeed.*
- *Infrastructure and services are sustainable, resilient, and affordable. There is a safe environment for all.*

7.4. **Authorising Delegations**

As per Section 3 of the Waimakariri District Council's *Delegations Manual*, the Rangiora-Ashley Community Board has the delegated authority to recommend the installation of no-stopping restrictions on roads within its ward area.

The Utilities and Roading Committee has the delegated authority to approve No Stopping restrictions.

WAIMAKARIRI DISTRICT COUNCIL

REPORT FOR DECISION

FILE NO and TRIM NO:	RDG-28 / 250227032830
REPORT TO:	RANGIORA-ASHLEY COMMUNITY BOARD
DATE OF MEETING:	9 July 2025
AUTHOR(S):	Shane Binder, Senior Transportation Engineer Nithin Puthupparambil, Transportation Engineer
SUBJECT:	Request approval of No Stopping Restrictions – Golding Avenue, Cust Road, and Papawai Drive
ENDORSED BY: (for Reports to Council, Committees or Boards)	General Manager / Chief Executive

1. SUMMARY

1.1. This report seeks approval to establish No Stopping restrictions at the following locations:

- 11m north of the driveway to 22 Golding Avenue;
- From a point 10m south of the driveway to 19-31 Golding Avenue, for 11m south;
- 24m east of Earlys Road on the north side of Cust Road; and
- 5m north of the access to Koura Reserve on Papawai Drive.

1.2. Staff have received a number of complaints concerning the following:

1.2.1. Potential conflicts with parking on the back-to-back curves in Golding Avenue

1.2.2. Car parking in front of the historical St David's Presbyterian Church in Cust, where the painted shoulder is insufficiently wide to safely accommodate vehicles outside of the travel lane

1.2.3. Parked vehicles blocking the pedestrian access to Koura Reserve from Papawai Drive

1.3. Staff have investigated all of the above complaints and concluded that in all three situations there is a strong case for installing No Stopping lines to better support safe parking and usage of the areas concerned.

1.4. It is recommended that stopping is prohibited at these three locations.

2. RECOMMENDATION

THAT the Rangiora-Ashley Community Board:

(a) **Receives** Report No. 250227032830.

AND

THAT the Rangiora-Ashley Community Board recommends:

THAT the Utilities and Roading Committee:

(b) **Approves** installation of the following no-stopping restrictions:

i. 11m north of the driveway to 22 Golding Avenue, Rangiora.
ii. From a point 10m south of the driveway to 19-31 Golding Avenue, Rangiora, for 11m south.
iii. 24m east of Earlys Road, Cust on the north side of Cust Road.
iv. 5m north of the access to Koura Reserve on Papawai Drive, Rangiora.

3. BACKGROUND

3.1. Golding Avenue

3.1.1. Golding Avenue is a local road with an Average Daily Traffic (ADT) of 831 vehicles, serving as a connector between the Collector Roads of Kingsbury Avenue and Enverton Drive.

3.1.2. Golding Avenue offers access to the Rangiora Health Hub via Riverview Road, which intersects with River Road.

3.1.3. The mean operating speed was measured at 39.4 km/h in 2022. The street carries through a back-to-back "S-bend" between no. 17 and no. 33 Golding Avenue. A private right-of-way accessing six rear lots enters Golding Avenue midway through the curve.

3.1.4. There is high parking demand in the area due to Community Health facilities being located near the S-bend.

3.2. Cust Road

3.2.1. Cust Road is a Strategic Road (former State Highway 72) that intersects with Earlys Road at a T-junction in the middle of Cust village.

3.2.2. The Average Daily Traffic (ADT) is 3,217 on Cust Road. This intersection with a posted speed of 60 km/h and mean operating speed of 57 km/h (2024) requires careful navigation for safe turning manoeuvres.

3.2.3. A No Stopping restriction already exists on the north side of Cust Road, west of Earlys Road, where the shoulder is less than 1.5m wide.

3.3. Papawai Drive

3.3.1. Papawai Drive is a local road with an Average Daily Traffic (ADT) of 739 vehicles; the mean operating speed was measured at 36 km/h in 2019.

3.3.2. It provides one of the pedestrian accesses to Koura Reserve, a neighbourhood reserve with playground and recreational areas, which does not have any dedicated reserve parking.

3.3.3. The walkway is in a narrow link reserve between no. 18 and no. 22 Papawai Drive.

4. ISSUES AND OPTIONS

4.1. Staff have received service requests regarding the following:

4.1.1. Concerns regarding potential conflicts caused by parking on the back-to-back curves (S-bend) on Golding Avenue

4.1.2. Inquiries about car parking on the narrow shoulder in front of the former St. David's Presbyterian Church in Cust

4.1.3. Concerns regarding parked vehicles blocking the access to Koura Reserve on Papawai Drive

4.2. Golding Avenue:

4.3. Golding Avenue, classified as an urban local road with a 50 km/h speed limit, should adhere to specific stopping sight distance (SSD) recommendations as outlined in the Austroads Guide to Road Design Part 3(Technical design Guidance). Due to the back-to-back curve geometry in front of no. 22 and nos. 19-31 Golding Avenue, parking in these areas compromises the required SSD for safe driving conditions.

4.4. To enhance safety and meet SSD recommendations, it is recommended that no-stopping restrictions be implemented along the extent indicated by the yellow dashed line in Figure 1.

Figure 1. Proposed extents of no stopping restrictions, Golding Avenue

4.5. Cust Road:

4.6. In accordance with the Waimakariri District Council Engineering Code of Practice Section 8.6.3, a width of 2.5 meters is recommended for parallel parking on road carriageways. Furthermore, the Land Transport Rule: Road User Rule 2004 prohibits stopping, standing, or parking a vehicle within 6 meters of an intersection unless explicitly authorised by road signage or markings.

4.7. To maintain safe traffic operations at the Cust Road / Earlys Road intersection and comply with the above-mentioned regulations, it is recommended that no-stopping restrictions be implemented along the designated area marked by the yellow dashed line in Figure 2.

4.8. This proposed restriction will maintain an extra-long parking space on the east side of the driveway letdown, which meets parking requirements and is positioned sufficiently far from the intersection to avoid impeding traffic flow.

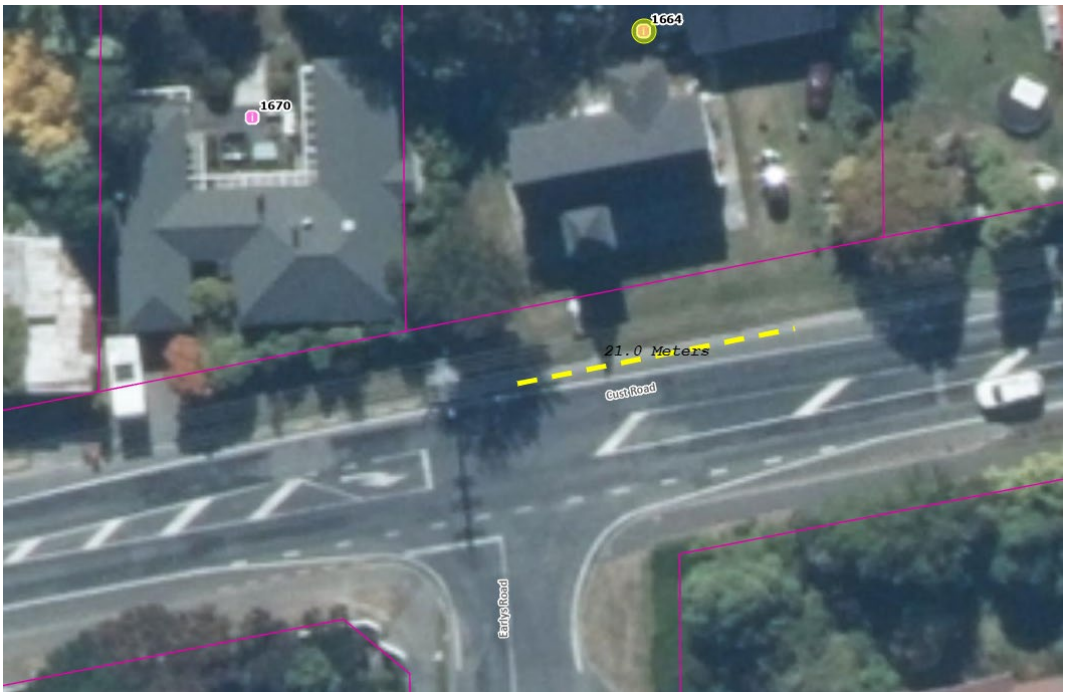


Figure 2. Proposed extents of no stopping restrictions, Cust Road

4.9. Papawai Drive:

4.10. Parked vehicles obstruct safe passage for pedestrians, strollers, and mobility scooters, particularly near the reserve's entrance. This creates hazards, forcing people into the road and hindering access to the reserve

4.11. To mitigate these safety concerns and ensure the well-being of all reserve users, it is recommended that no-parking restrictions be implemented along the section of Papawai Drive directly adjacent to the Koura Reserve access point, as marked by the yellow dashed line in Figure 3. This measure is recommended because there would be insufficient space in this section to maintain parking without obstructing pedestrian and mobility access.

Figure 3. Proposed extents of no stopping restrictions, Papawai Drive.

4.12. The Rangiora-Ashley Community Board has the following options available to them:

4.12.1. Option One: Approve the installation of no-stopping restrictions at the various locations in Rangiora and Cust.

This option would have the Rangiora-Ashley Community Board recommend that the Utilities and Roading Committee approve the installation of no-stopping restrictions at the location shown in Figure 1,2, and 3.

This is the recommended option because it ensures:

- Meet with Safe Stopping Distance (SSD) recommendations and enhanced safety on Golding Avenue
- The safety of all road users at the intersection while ensuring that parallel parking on Cust Road complies with both regional and national regulations
- Safe access to Koura Reserve all users, including pedestrians, stroller users, and those with mobility scooters, while ensuring that parking on Papawai Drive complies with both regional and national regulations and prevents obstruction of the reserve access point

4.12.2. Option Two: Approve an ad-hoc installation of no-stopping restrictions.

This option would have the Rangiora-Ashley Community Board recommend that the Utilities and Roading Committee approve the installation of no-stopping restrictions at some, but not all of the locations shown in Figures 1, 2, and 3.

This is not the recommended option because there are safety implications of not installing no-stopping restrictions at all of the sites proposed in this report.

4.12.3. Option Three: Retain the status quo.

This is not the recommended option because there are safety implications of not installing no-stopping restrictions at all of the sites proposed in this report.

Implications for Community Wellbeing

There are implications on community wellbeing by the issues and options that are the subject matter of this report.

These proposed improvements provide infrastructure in terms of safety improvements which provide safe access for residents within the district.

4.13. The Management Team has reviewed this report and support the recommendations.

5. COMMUNITY VIEWS

5.1. Mana whenua

Te Ngāi Tūāhuriri hapū are not likely to be affected by, or have an interest in the subject matter of this report.

5.2. Groups and Organisations

There are groups and organisations likely to be affected by, or to have an interest in the subject matter of this report.

Letters were sent to the residents adjoining each of the proposed No Stopping restrictions, soliciting their feedback on the restrictions.

The property owner of no. 1664 Cust Road was consulted regarding the proposed No Stopping restriction at his residence, and he generally supported the proposal.

Property owners at Nos. 16, 18, 22, and 24 Papawai Drive provided generally positive responses. No other feedback was received from residents on Papawai Drive or Golding Avenue.

5.3. Wider Community

The wider community is not likely to be affected by, or to have an interest in the subject matter of this report; the impacts of roadside management are considered to be localised and minor in nature. It is noted that no public consultation has been carried out with the wider community.

6. OTHER IMPLICATIONS AND RISK MANAGEMENT

6.1. Financial Implications

There are financial implications of the decisions sought by this report.

There are minimal costs associated with installing no-stopping lines along these streets, as all it involves is line marking. The total cost is estimated to be less than $250, which can be accommodated within the Road Maintenance budgets (Pavement Marking GL 10.270.582.2500). This budget is included in the Annual Plan/Long Term Plan.

6.2. Sustainability and Climate Change Impacts

The recommendations in this report are considered to be localised and minor in nature and will not have sustainability or climate change impacts.

6.3. Risk Management

There are not risks arising from the adoption/implementation of the recommendations in this report.

6.4. Health and Safety

There are minor health and safety risks arising from the adoption/implementation of the recommendations in this report.

Physical works will be undertaken through the Road Maintenance contract. The Road Maintenance contractor has a Health and Safety Plan and a SiteWise score of 100.

7. CONTEXT

7.1. Consistency with Policy

This matter is not a matter of significance in terms of the Council's Significance and Engagement Policy.

7.2. Authorising Legislation

Section 2 of the Land Transport Rule: Traffic Control Devices requires a Road Controlling Authority to "authorise and, as appropriate, install or operate traffic control devices."

7.3. Consistency with Community Outcomes

The Council's community outcomes are relevant to the actions arising from recommendations in this report. This report considers the following outcomes:

Social: a place where everyone can have a sense of belonging

- *Our community has equitable access to the essential infrastructure and services required to support community wellbeing.*

Economic: a place that is supported by a resilient and innovative economy

- *Enterprises are supported and enabled to succeed.*
- *Infrastructure and services are sustainable, resilient, and affordable. There is a safe environment for all.*

7.4. Authorising Delegations

As per Section 3 of the Waimakariri District Council's *Delegations Manual*, the Rangiora-Ashley Community Board has the delegated authority to recommend the installation of no-stopping restrictions on roads within its ward area.

The Utilities and Roading Committee has the delegated authority to approve No Stopping restrictions.

WAIMAKARIRI DISTRICT COUNCIL

REPORT FOR DECISION

FILE NO and TRIM NO:	RDG-03-09 / 250827158126
REPORT TO:	WOODEND–SEFTON COMMUNITY BOARD
DATE OF MEETING:	9 February 2026
AUTHOR(S):	Nithin Puthupparambil, Transportation Engineer Shane Binder, Senior Transportation Engineer
SUBJECT:	Request Approval of No Stopping Restrictions on Lacy Gate Place
ENDORSED BY: (for Reports to Council, Committees or Boards)	General Manager / Chief Executive

1. SUMMARY

1.1. This report seeks approval to establish the following no-stopping restriction:

- Lacy Gate Place, from the western end of the access to no. 12, to the eastern end of the access to no. 15 (for the length of 19.5m as per Figure 1 below.

1.2. Staff have received a service request relating to parked vehicles on Lacy Gate Place limiting manoeuvring space within the turning head and overhanging into the accessways.

1.3. Staff have undertaken a review of the street and turning head and note that parking in the turning head limits the turning space available. Due to these concerns, it is recommended that stopping is installed at the top of the cul-de-sac to provide space for manoeuvring.

1.4. Consultation letters were sent to five properties along the street. In total, four responses were received, all of them supporting the proposed no-stopping restrictions.

2. RECOMMENDATION

THAT the Woodend-Sefton Community Board:

(a) **Receives** Report No. 250827158126.

AND

THAT the Woodend-Sefton Community Board recommends:

THAT the Utilities and Roading Committee:

(b) **Approves** installation of the following no-stopping restriction:

- Lacy Gate Place, from western end of access to no. 12 to the eastern end of the access to no. 15, being a total length of 19.5m.

(c) **Notes** that consultation was undertaken with the properties adjoining the proposed no-stopping restriction, and four of the five responses received supported the proposal.

3. BACKGROUND

3.1. Staff have received a service request regarding cars being parked in the gap between accessways to no. 14 and no. 16 Lacy Gate Place.

3.2. Lacy Gate Place is a low-volume residential cul-de-sac in Woodend.

3.3. Lacy Gate Place has a sealed 3.5 – 4.0m carriageway and has a 1.5m wide footpath on both sides. The road terminates in a sealed turning head of approximately 10m radius.

3.4. 17 properties have their properties access from Lacy Gate Place.

3.5. The gap between accessways to no. 14 and 16 Lacy Gate Place is not long enough for safe parking without overhanging into the driveways.

4. ISSUES AND OPTIONS

4.1. It is noted that parking in this area will restrict turning movements for larger vehicles, such as fire appliances or the rubbish collection truck.

4.2. To mitigate these concerns and deter parking over property access, it is recommended that no parking restrictions be implemented on Lacy Gate Place at the head of the cul-de-sac, from the western end of access to no. 12 to the eastern end of the access to no. 15.

Figure 1 – Proposed extends of no stopping restrictions, Lacy Gate Place.

4.3. The Woodend-Sefton Community Board has the following options available to them:

4.3.1. Option One: Approve the installation of no-stopping restrictions at 16 Lacy Gate Place.

This option would have the Woodend-Sefton Community Board recommend that the Utilities and Roading Committee approve the installation of 19.5m of no-stopping restrictions as shown in Figure 1.

This is the recommended option because it improves safe manoeuvring space at the end of Lacy Gate Place.

4.3.2. Option Two: Approve the installation of no-stopping restrictions around the entirety of the Lacy Gate turning head.

This option would see the Woodend-Sefton Community Board recommend that the Utilities and Roading Committee approve the installation of no-stopping restrictions around the entire cul-de-sac turning head.

This is not the recommended option because the additional parking restriction would not contribute greatly to safe manoeuvring space at the head of Lacy Gate Place.

4.3.3. Option Three: Retain the status quo.

This is not the recommended option because there are safety and access implications of not installing no-stopping restriction proposed in this report.

Implications for Community Wellbeing

There are implications on community wellbeing by the issues and options that are the subject matter of this report.

4.4. The Management Team has reviewed this report and support the recommendations.

5. COMMUNITY VIEWS

5.1. Mana whenua

Te Ngāi Tūāhuriri hapū are not likely to be affected by, or have an interest in the subject matter of this report.

5.2. Groups and Organisations

There are groups and organisations likely to be affected by, or to have an interest in the subject matter of this report.

Five letters were sent to five properties adjoining the proposed No Stopping restrictions, soliciting their feedback on the restrictions.

Four responses were received and all the responses were supportive to the implementation of no-stopping restriction.

5.3. Wider Community

The wider community is not likely to be affected by, or to have an interest in the subject matter of this report; the impacts of roadside management are considered to be localised and minor in nature. It is noted that no public consultation has been carried out with the wider community.

6. OTHER IMPLICATIONS AND RISK MANAGEMENT

6.1. Financial Implications

There are financial implications of the decisions sought by this report.

There are minimal costs associated with installing no-stopping lines along these streets, as all it involves is line marking. The total cost is estimated to be less than $250, which can be accommodated within the Road Maintenance budgets (Pavement Marking GL 10.270.582.2500).

This budget is included in the Annual Plan/Long Term Plan.

6.2. Sustainability and Climate Change Impacts

The recommendations in this report do not have sustainability or climate change impacts.

6.3. Risk Management

There are not risks arising from the adoption/implementation of the recommendations in this report.

6.4. Health and Safety

There are not health and safety risks arising from the adoption/implementation of the recommendations in this report.

Physical works will be undertaken through the Road Maintenance contract. The Road Maintenance contractor has a Health and Safety Plan and a SiteWise score of 100.

7. CONTEXT

7.1. Consistency with Policy

This matter is not a matter of significance in terms of the Council's Significance and Engagement Policy.

7.2. Authorising Legislation

Section 2 of the Land Transport Rule: Traffic Control Devices requires a Road Controlling Authority to "authorise and, as appropriate, install or operate traffic control devices."

7.3. Consistency with Community Outcomes

The Council's community outcomes are relevant to the actions arising from recommendations in this report. This report considers the following outcomes:

Social: a place where everyone can have a sense of belonging

- *Our community has equitable access to the essential infrastructure and services required to support community wellbeing.*

Economic: a place that is supported by a resilient and innovative economy

- *Enterprises are supported and enabled to succeed.*
- *Infrastructure and services are sustainable, resilient, and affordable. There is a safe environment for all.*

7.4. Authorising Delegations

As per Section 3 of the Waimakariri District Council's Delegations Manual, the Woodend-Sefton Community Board has the delegated authority to consider matters within its ward area.

The Utilities and Roading Committee has the delegated authority to approve No Stopping restrictions.

WAIMAKARIRI DISTRICT COUNCIL

REPORT FOR DECISION

FILE NO and TRIM NO:	RDG-32-16-09 / 251013194306
REPORT TO:	OXFORD–OHOKA COMMUNITY BOARD
DATE OF MEETING:	4 February 2026
AUTHOR(S):	Kieran Straw – Civil Project Team Leader Joanne McBride – Roading and Transport Manager
SUBJECT:	Proposed Oxford Minor Safety Improvements
ENDORSED BY: (for Reports to Council, Committees or Boards)	General Manager / Chief Executive

1. SUMMARY

1.1. This report is seeking the Community Boards approval for the scheme designs for minor safety improvements proposed in Oxford at the following locations:

- Depot Road Bridge
- Depot Road (entry to Oxford township from the west)
- Oxford Road (entry to Oxford township from the east)
- High Street (entry to Oxford township from Ashley Gorge)

1.2. These projects have previously been approved as part of the Roading Minor Safety Improvement Programme for 2025/26, with these specific areas of concern being raised by the Board and the Waimakariri Access Group.

1.3. The proposed works include threshold treatments, signage, delineation and road marking improvements to provide clearer guidance for motorists, and reinforce speed limits within the Oxford Township, and the approaches to the Depot Road Bridge.

1.4. Reducing vehicle speeds on the approach to the Depot Road bridge is intended to help reduce the likelihood of accidents on (or near) the bridge

1.5. Reducing vehicle speeds at the speed thresholds on approach to the Oxford Town seeks to improve pedestrian safety and risk to residents posed by traffic exceeding the posted speed limit.

Attachments:

i. Depot Road Bridge – Plan of Works (Trim No. 251024203213)
ii. Oxford Speed Thresholds (Eastern Entrance) – Plan of Works (Trim No. 251111214477)
iii. Oxford Speed Thresholds (Western Entrance) – Plan of Works (Tim No. 251204231242)
iv. Oxford Speed Thresholds (Northern Entrance) – Plan of Works (Trim No. 251204231245)
v. Oxford Pedestrian Crossings – Plan of Works (Trim No. 260122010799)

2. RECOMMENDATION

THAT the Oxford Ohoka Community Board:

(a) **Receives** Report No. 251013194306.

AND

THAT the Oxford-Ohoka Community Board recommends:

THAT the Utilities and Roading Committee:

(b) **Approves** the Scheme Plans for the Depot Road Bridge, the Oxford Urban / Rural Speed Thresholds and Oxford Pedestrian Crossings.

(c) **Approves** the implementation of 240m of no passing lines (120m on each bridge approach) on Depot Road, between RP 730m and 850m (westbound), and RP 1215m and RP 995m (eastbound) (as per Trim: 251024203213).

(d) **Approves** the implementation of 200m of no passing lines on Deport Road leading to the approach of the threshold, eastbound between RP 250m and RP 50m (100km/hr / 50km/hr speed threshold) as per attachment ii

(e) **Notes** that the Depot Road bridge has a budget of $70,000 within the 2025/26 financial year.

(f) **Notes** that the Oxford urban / rural speed thresholds project has a budget of $90,000 spread across the 2025/26 and 2026/27 financial years, and that it is anticipated that all line marking, and the proposed kerbed threshold will be completed in the 2025 / 26 year, with the threshold signage being installed within the 2026 / 27 year.

3. BACKGROUND

3.1. Depot Road Bridge

The Depot Road bridge is a 150m long single lane bridge located 900m west of Oxford with a 100km/hr posted speed limit.

Since 2015 there has been ten recorded accidents on, or near, the Depot Road bridge including one fatality.

The accident history suggests that speed is a contributing factor for at least five of the recorded accidents, along with delineation during hours of darkness.

Of particular note is that the majority of the accidents occurred west-bound (exiting Oxford), and three accidents occurred upon exiting the bridge with drivers failing to navigate a gentle right hand bend west of the bridge.

Council staff are planning on requesting future funding through NZTA and the Long Term Plan to upgrade the vehicle barriers on this bridge. The planned barrier replacements are compatible with the scope of works recommended within this report and will not require re-work in conjunction with the barrier installation.

3.2. Oxford Urban / Rural Speed Thresholds

Main Street in Oxford is subject to a 50km/hr speed limit and has an ADT of 4,054 vehicles per day (measured at site 0396A, near Harewood Road intersection).

At this site, the median vehicle speed is 48.6km/hr. The town centre is slightly to the east of the traffic count site.

There have been past requests to consider reducing the posted speed limit through the town centre. Council has previously considered these requests and had elected to not make any changes at the time. Vehicle speeds through the town centre remain a concern, particularly for the elderly and those with visibility or mobility issues.

The Waimakariri Access Group has expressed concern regarding this, and the reinforcing of the speed limits at the existing speed thresholds is seen as an effective way to reinforce to motorists the need to reduce speed upon entry to Oxford township.

3.3. Both projects have been included within the Minor Safety Improvement Programme, which was presented to all Community Boards ahead of being approved by the Utilities and Roading Committee in July 2025.

4. ISSUES AND OPTIONS

4.1. Depot Road Bridge

The works included within Attachment i of this report seek to reinforce messaging to motorists approaching the bridge of the hazard, and in turn reduce the vehicle speeds on approach. The works includes additional line marking, and delineation to aid nighttime drivers navigating the bridge.

All works proposed complies with NZTA's guidance, and the Traffic Control Devices. The proposed works includes the following key features:

- Supply & Installation of new electronic advanced warning signage (radar activated when an approaching vehicle is detected).
- Widening of the edge lines on each approach to the bridge.
- Installation of edge lines across the length of the bridge (ATLM).
- Installation of RRPM, and reflectors across the length of the bridge.
- Seal widening on the bend immediately upon exit of the bridge (westbound) to allow for improved road marking and room for recovery by an errant vehicle.

4.2. Oxford Urban / Rural Speed Thresholds

The works included within Attachment ii to iv of this report seek to reinforce the existing posted speed limits through the township. The works includes additional line marking, signage and kerb works.

All works proposed complies with NZTA's guidance, and the Traffic Control Devices. The proposed works include:

Oxford Road (Eastern approach)

- Installation of kerb quadrants with landscaping at the existing 50km/hr threshold
- Replacing the existing "50" signage with new, larger signs with green backing board and "Oxford" destination signage.
- Installation of red slurry with "50" painted on the road surface

Depot Road (Western approach)

- Replacing the existing "50" signage with new, larger signs with green backing board and "Oxford" destination signage.
- Installation of red slurry with "50" painted on the road surface

High Street (Northern approach)

- Installation of new edge lines from the existing 70 / 100 threshold to the existing 70 / 50 threshold to reduce lane width to 3.0m, including diagonal shoulder markings within the urban area.
- Replacing the existing “50” signage with new, larger signs (but without green backing board and “Oxford” destination signage).
- Installation of red slurry with “50” painted on the road surface

To further reinforce the speed limit along the length of Main Street, the conspicuity of the three existing pedestrian crossings is proposed to also install red slurry, along with shark-tooth markings on the approach. The use of red slurry on approach to pedestrian crossings is approved by NZTA.

4.3. The Board have the following options:

4.3.1 Approve the recommendations of this report.

This option would see the works proposed at both the Depot Road bridge, and the existing speed thresholds to Oxford Township to be completed as per the attachments of this report.

This is the recommended option as all works complies with NZTA guidance and requirements, and contributes towards a safer roading network, minimising harm and maintenance cost.

Both projects have been requested by the Community, and both endorsed by the previous Board, and approved by the Utilities and Roading Committee.

4.3.2 Decline the recommendations of this report.

This option would see the works withdrawn from the programme. This option is not recommended as both projects are aimed at improving safety, have been requested by the community, and both projects were previously endorsed by the Community Board, and approved by the Utilities and Roading Committee.

Failing to proceed with these projects results in a higher residual risk to the Community at sites where there is known speed concerns.

4.4. There are implications on community wellbeing by the issues and options that are the subject matter of this report.

The planned works is aiming to reduce vehicle speeds and increase driver awareness, thereby reducing harm caused by road accidents.

4.5. The Management Team has reviewed this report and support the recommendations.

5. COMMUNITY VIEWS

5.1. Mana whenua

Te Ngāi Tūāhuriri hapū are not likely to be affected by, or have an interest in the subject matter of this report.

5.2. Groups and Organisations

There are groups and organisations likely to be affected by, or to have an interest in the subject matter of this report.

The Waimakariri Access Group who have requested works to reduce vehicle speeds will be interested in the project as reducing vehicle speeds provides a safer environment for their members to be able to cross Main Street safely. Feedback from the Group included support for the red slurry at the speed thresholds to be included within the scope of works as a high priority.

The inclusion of the treatments at the pedestrian crossing was added following their concerns that there was no supporting treatments along the length of the Main Street between the thresholds. Feedback from the Group was against the use of red slurry at the pedestrian crossings, however this was clarified to relate to a previous trial that installed red slurry directly on the pedestrian crossings, under the white stripes. There is no proposal to carry out this treatment.

Threshold signage has been discussed with the Heavy Haulage Association, and post foundations will be specified to allow for ease of removal to accommodate over dimension loads.

5.3. **Wider Community**

The wider community is not likely to be affected by, or to have an interest in the subject matter of this report.

6. OTHER IMPLICATIONS AND RISK MANAGEMENT

6.1. **Financial Implications**

There are financial implications of the decisions sought by this report.

The Engineers Estimate for the Depot Road Bridge Signage & Delineation Improvements is $69,737, against a budget of $70,000, and is within the available budget.

The Engineers Estimate for the Oxford Speed Threshold Treatments is $85,625, against a budget of $90,000 (over two years),

These budgets are included in the Annual Plan/Long Term Plan.

6.2. **Sustainability and Climate Change Impacts**

The recommendations in this report do not have sustainability and/or climate change impacts.

6.3 **Risk Management**

There are risks arising from the adoption/implementation of the recommendations in this report.

There is a risk that the proposed improvements may not result in reduced speeds. This risk is considered to be low, given the proposed changes are an improvement and meet current best design practice.

The proposed works includes the addition of red slurry to be installed at the Oxford Road threshold. This portion of carriageway is programmed for a pavement rehabilitation and may not be suitable for a red slurry to be applied until the site has had adequate curing time. This portion of works may be deferred to the following year.

6.4 **Health and Safety**

There are not health and safety risks arising from the adoption/implementation of the recommendations in this report.

Works proposed is reducing the potential for harm associated with inattentive and speeding drivers on the road network.

7. CONTEXT

7.1. Consistency with Policy

This matter is not a matter of significance in terms of the Council's Significance and Engagement Policy.

7.2. Authorising Legislation

Section 2 of the Land Transport Rule: Traffic Control Devices requires a Road Controlling Authority to "authorise and, as appropriate, install or operate traffic control devices."

7.3. Consistency with Community Outcomes

The Council's community outcomes are relevant to the actions arising from recommendations in this report.

Social

A place where everyone can have a sense of belonging…

- Public spaces are diverse, respond to changing demographics and meet local needs for leisure and recreation.
- Council commits to promoting health and wellbeing and minimizing the risk of social harm to its communities.
- Our community groups are sustainable and able to get the support they need to succeed.
- Our community has equitable access to the essential infrastructure and services required to support community wellbeing.

Economic

…and is supported by a resilient and innovative economy.

- Infrastructure and services are sustainable, resilient, and affordable.
- Our district readily adapts to innovation and emerging technologies that support its transition to a circular economy.

7.4. Authorising Delegations

The Oxford-Ohoka Community Board has the delegated authority to maintain an overview of services provided by the Council such as road works, water supply, sewerage, stormwater drainage, parks, recreational facilities, community activities, and traffic management projects within the community.

The Utilities and Roading Committee has responsibility for Roading and Transportation (including road safety, multimodal transportation and traffic control).

REV	REVISION DETAILS	DRN	CHK	APP	DATE
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DRAWING CHKD	KS	20/10/2025	SCALE (A3)	1:500
DESIGNED	SS	17/10/2025	DATUM ORIGIN	
DESIGNED CHKD	KS	20/10/2025	HORIZONTAL	NZTM GD2000
APPROVED	---	--/--/2025	VERTICAL	NZVD 2016

WAIMAKARIRI DISTRICT COUNCIL

PROJECT

MINOR IMPROVEMENT WORKS
2025 - 2026
ROADSIDE HAZARD IMPROVEMENTS

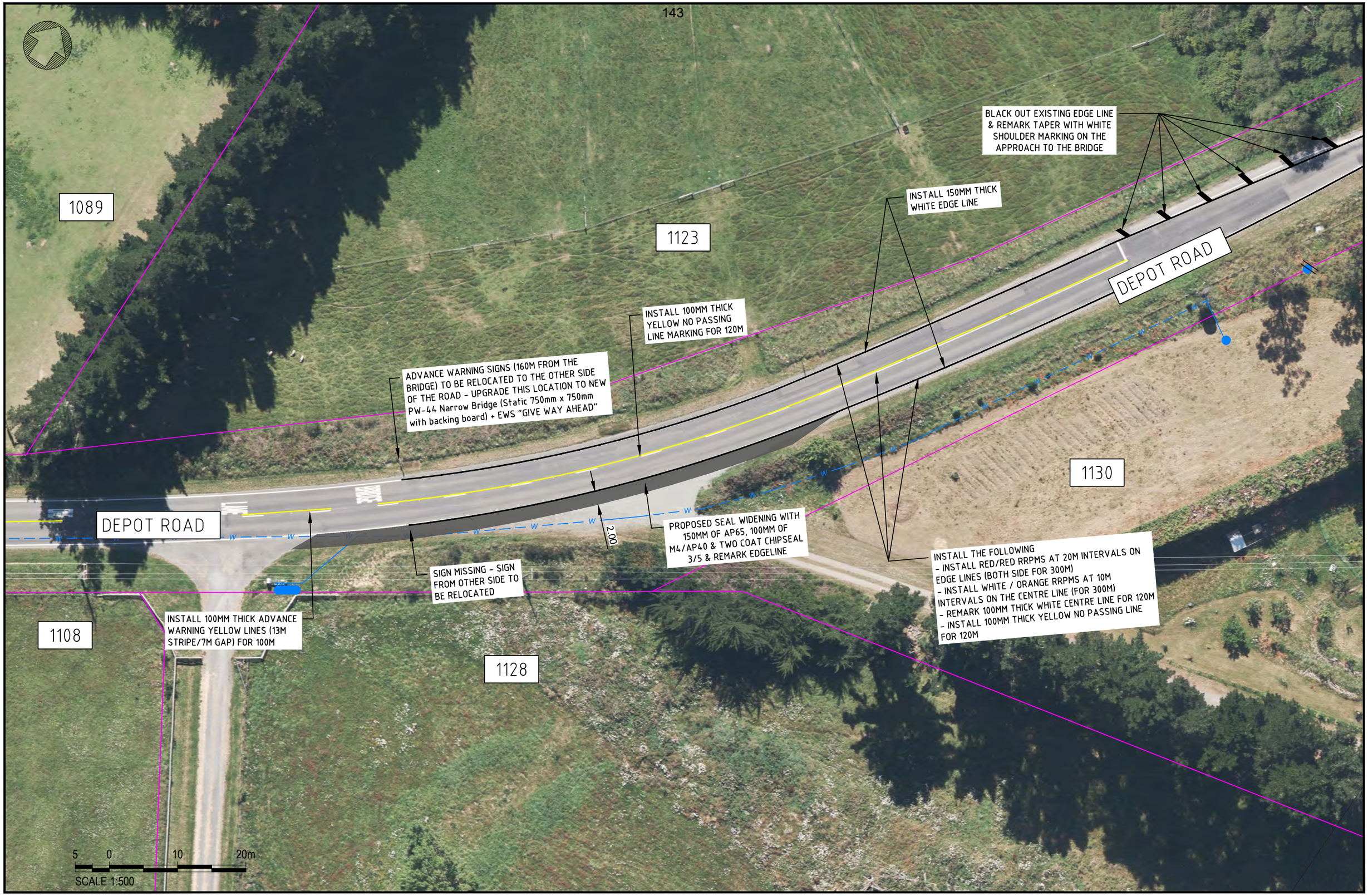
SHEET TITLE

DEPOT ROAD BRIDGE
SIGNAGES & LINE MARKING
IMPROVEMENTS

FOR TENDER
NOT FOR CONSTRUCTION

DRAWING	
	4666
SHEET	REVISION
1	A

PLOT DATE: 28/11/2025 FILE: S:\PDU\PDU JOBS\PD001600-1699\PD001696 ROADING MINOR IMPROVEMENTS 2020-2021\2025-2026 MINOR IMPROVEMENTS\DEPOT BRIDGE\DEPOT ROAD - ROAD SIDE HAZARD IMPROVEMENTS (28.11.2025).DWG



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WAIMAKARIRI DISTRICT COUNCIL

PROJECT

MINOR IMPROVEMENT WORKS
2025 - 2026
ROADSIDE HAZARD IMPROVEMENTS

SHEET TITLE

DEPOT ROAD BRIDGE
SIGNAGES & LINE MARKING
IMPROVEMENTS

FOR TENDER
NOT FOR CONSTRUCTION

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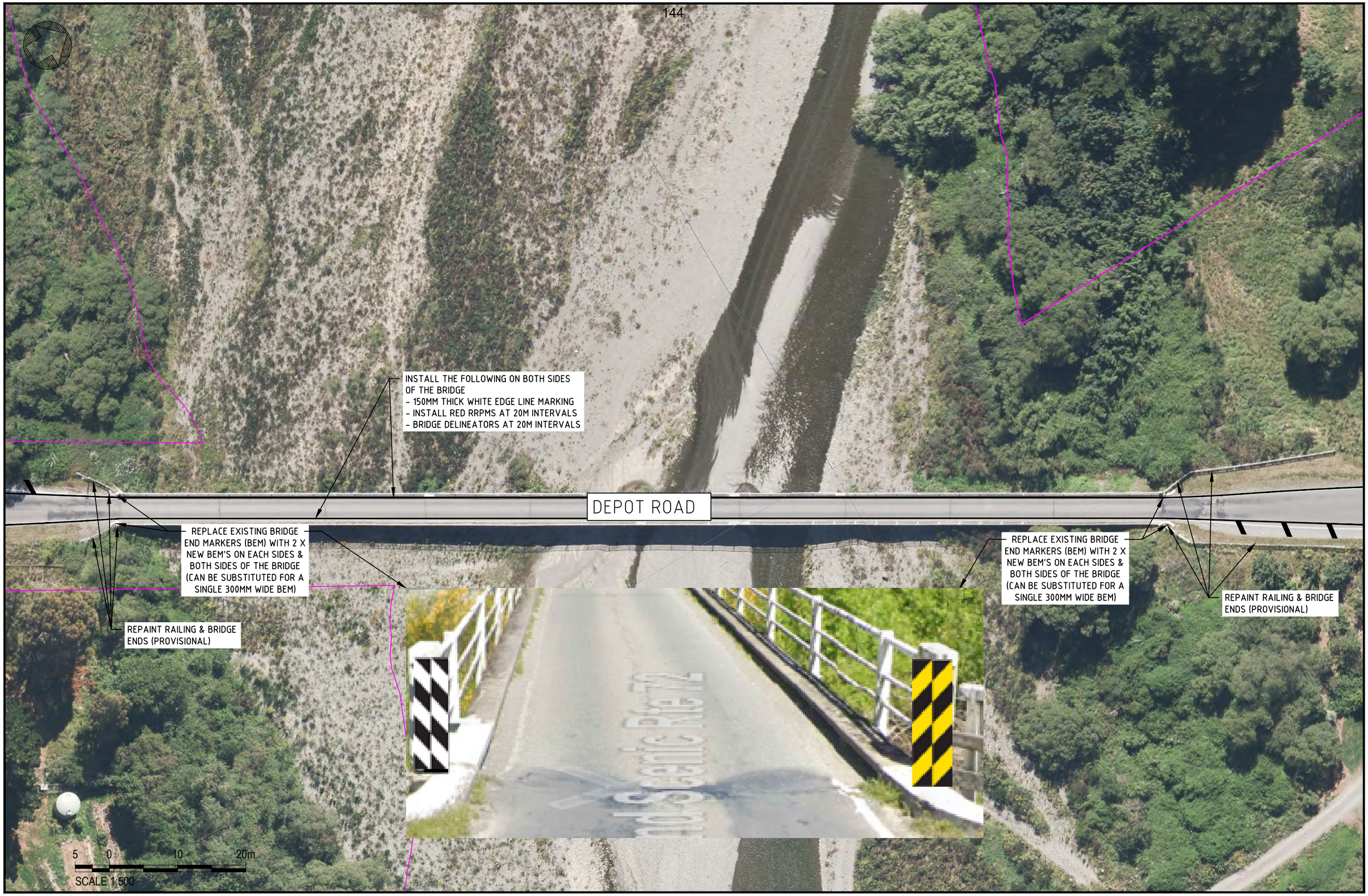
SHEET 2 | REVISION A

PLOT DATE: 28/11/2025 FILE: S:\PDU\PDU JOBS\PD001600-1699\PD001696 ROADING MINOR IMPROVEMENTS 2020-2021\2025-2026 MINOR IMPROVEMENTS\DEPOT BRIDGE\DEPOT ROAD - ROAD SIDE HAZARD IMPROVEMENTS (28.11.2025).DWG



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WAIMAKARIRI DISTRICT COUNCIL

PROJECT

MINOR IMPROVEMENT WORKS
2025 - 2026
ROADSIDE HAZARD IMPROVEMENTS

SHEET TITLE

DEPOT ROAD BRIDGE
SIGNAGES & LINE MARKING
IMPROVEMENTS

FOR TENDER
NOT FOR CONSTRUCTION

DRAWING 4666

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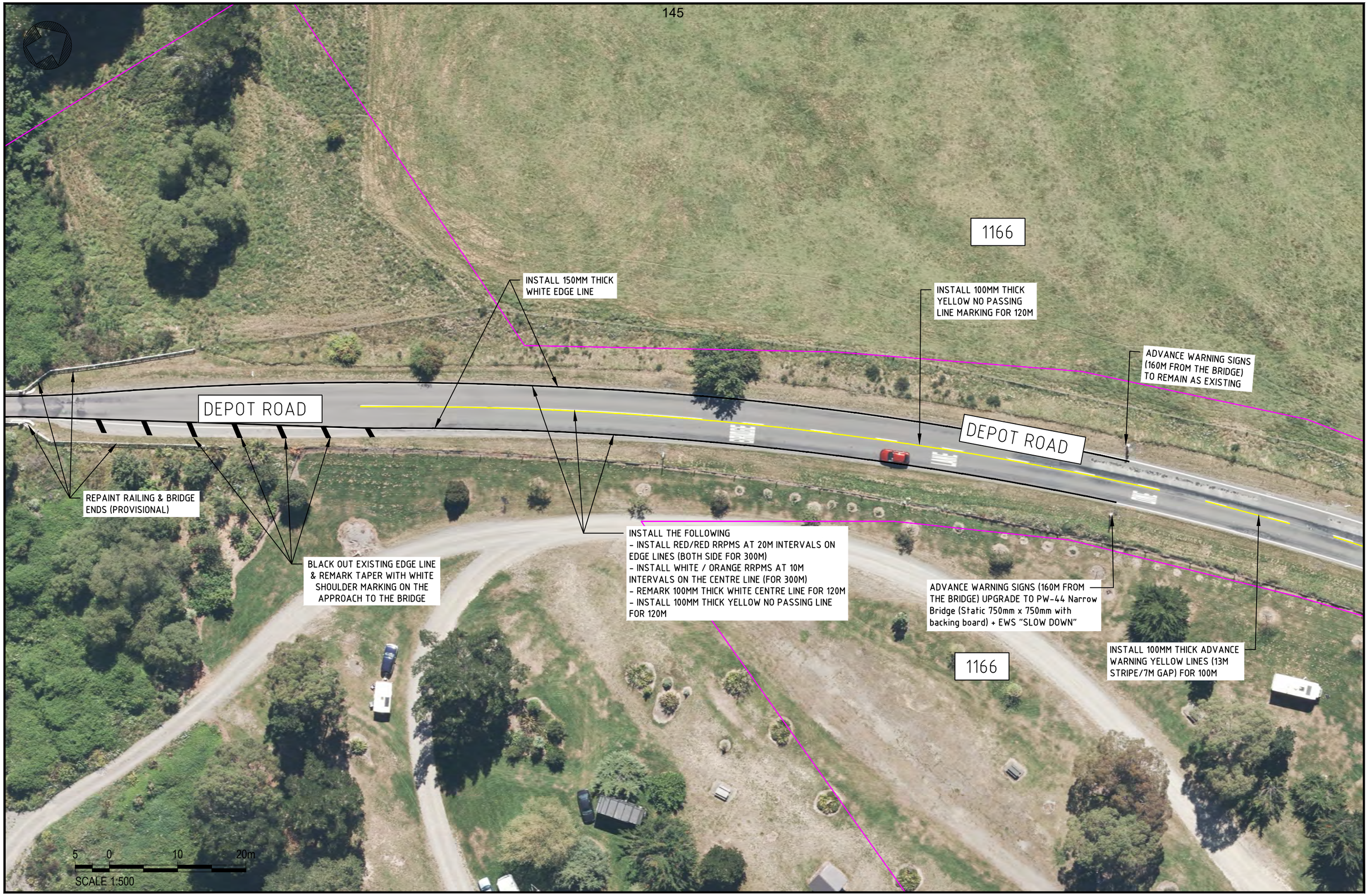

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WAIMAKARIRI DISTRICT COUNCIL

PROJECT

MINOR IMPROVEMENT WORKS
2025 - 2026
ROADSIDE HAZARD IMPROVEMENTS

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DEPOT ROAD BRIDGE
SIGNAGES & LINE MARKING
IMPROVEMENTS

FOR TENDER
NOT FOR CONSTRUCTION

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APPROVED	---	--/--/2025	VERTICAL	NZVD 2016

WAIMAKARIRI DISTRICT COUNCIL

PROJECT

MINOR IMPROVEMENT WORKS
2025 - 2026
ROADSIDE HAZARD IMPROVEMENTS

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DEPOT ROAD BRIDGE
SIGNAGES & LINE MARKING
IMPROVEMENTS

FOR TENDER
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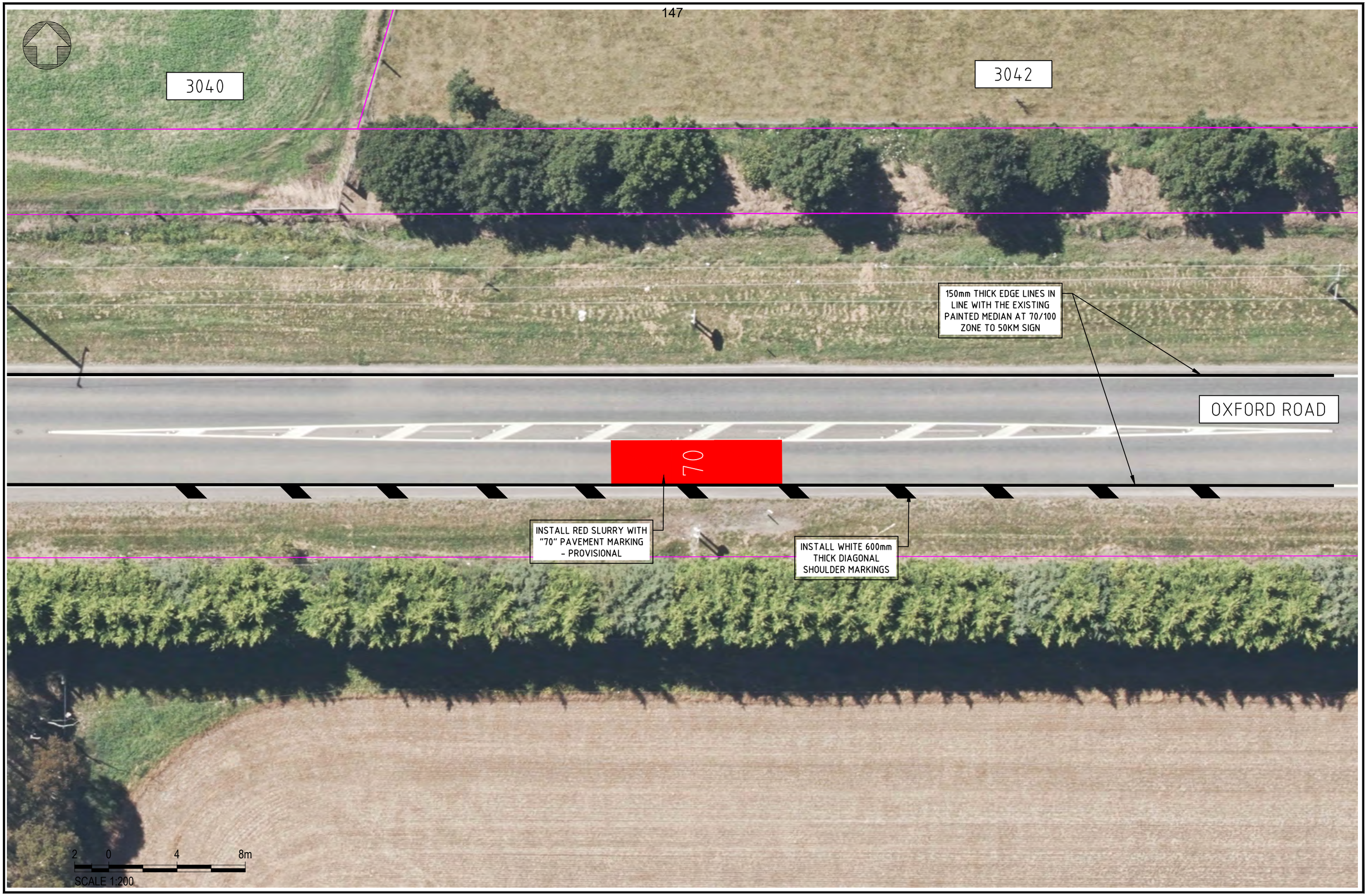

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APPROVED	SB	--/--/2025	VERTICAL	NZVD 2016

WAIMAKARIRI DISTRICT COUNCIL

PROJECT

MINOR IMPROVEMENTS 2025 - 2026

OXFORD SPEED TREATMENTS

SHEET TITLE

EAST SIDE - 70/100 km/hr ZONE

FOR APPROVAL
NOT FOR CONSTRUCTION

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4676	
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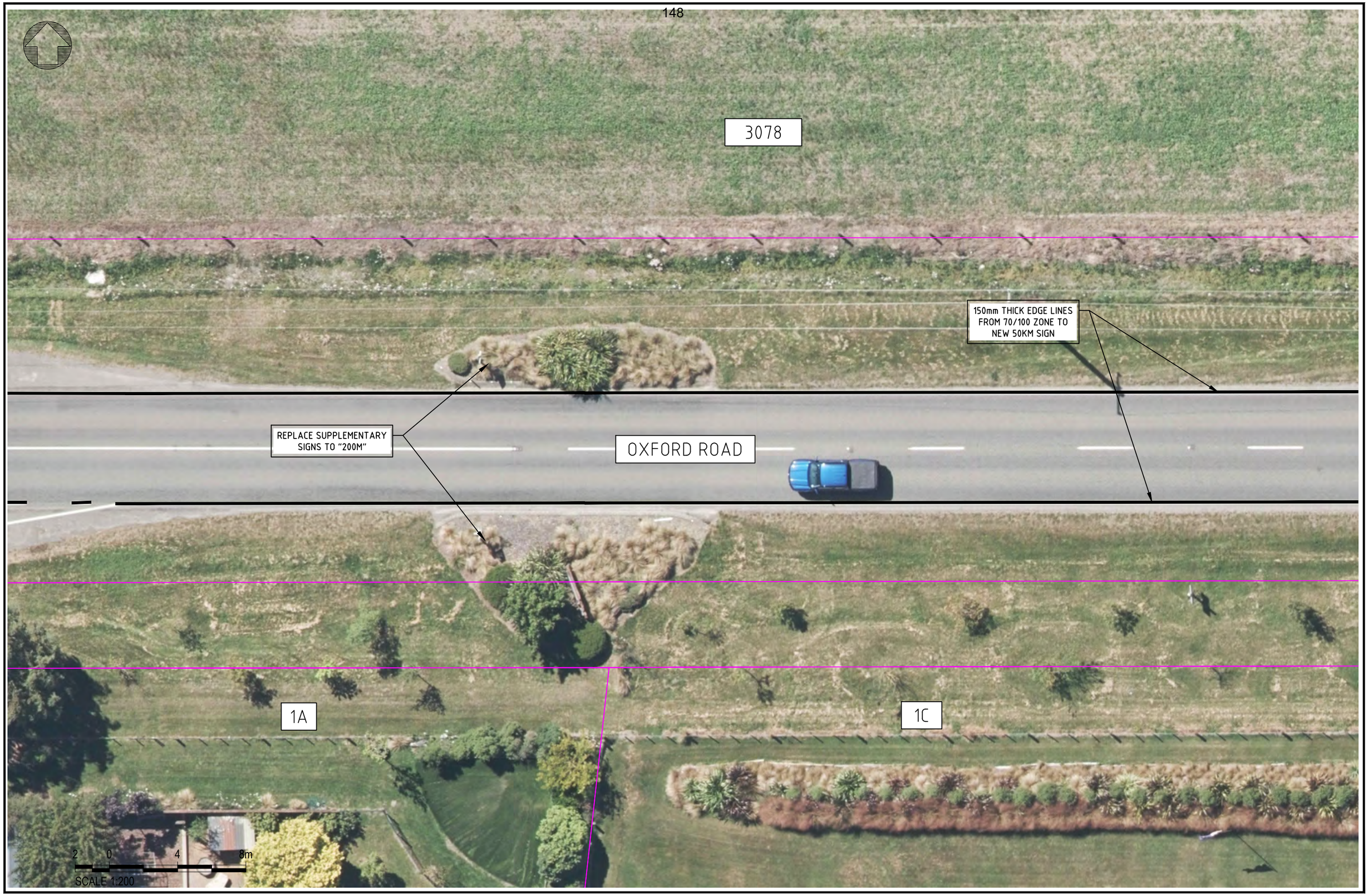
PLOT DATE: 01/12/2025 FILE: S:\PDU\PDU JOBS\PD001600-1699\PD001696 ROADING MINOR IMPROVEMENTS 2020-2021\2025-2026 MINOR IMPROVEMENTS\OXFORD SPEED TREATMENTS\OXFORD SPEED MANAGEMENT (EAST).DWG



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APPROVED	SB	--/--/2025	VERTICAL	NZVD 2016

WAIMAKARIRI DISTRICT COUNCIL

PROJECT

MINOR IMPROVEMENTS 2025 - 2026

OXFORD SPEED TREATMENTS

SHEET TITLE

EAST SIDE - 50km/hr ADVANCE WARNING

FOR APPROVAL
NOT FOR CONSTRUCTION

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4676	
SHEET	REVISION
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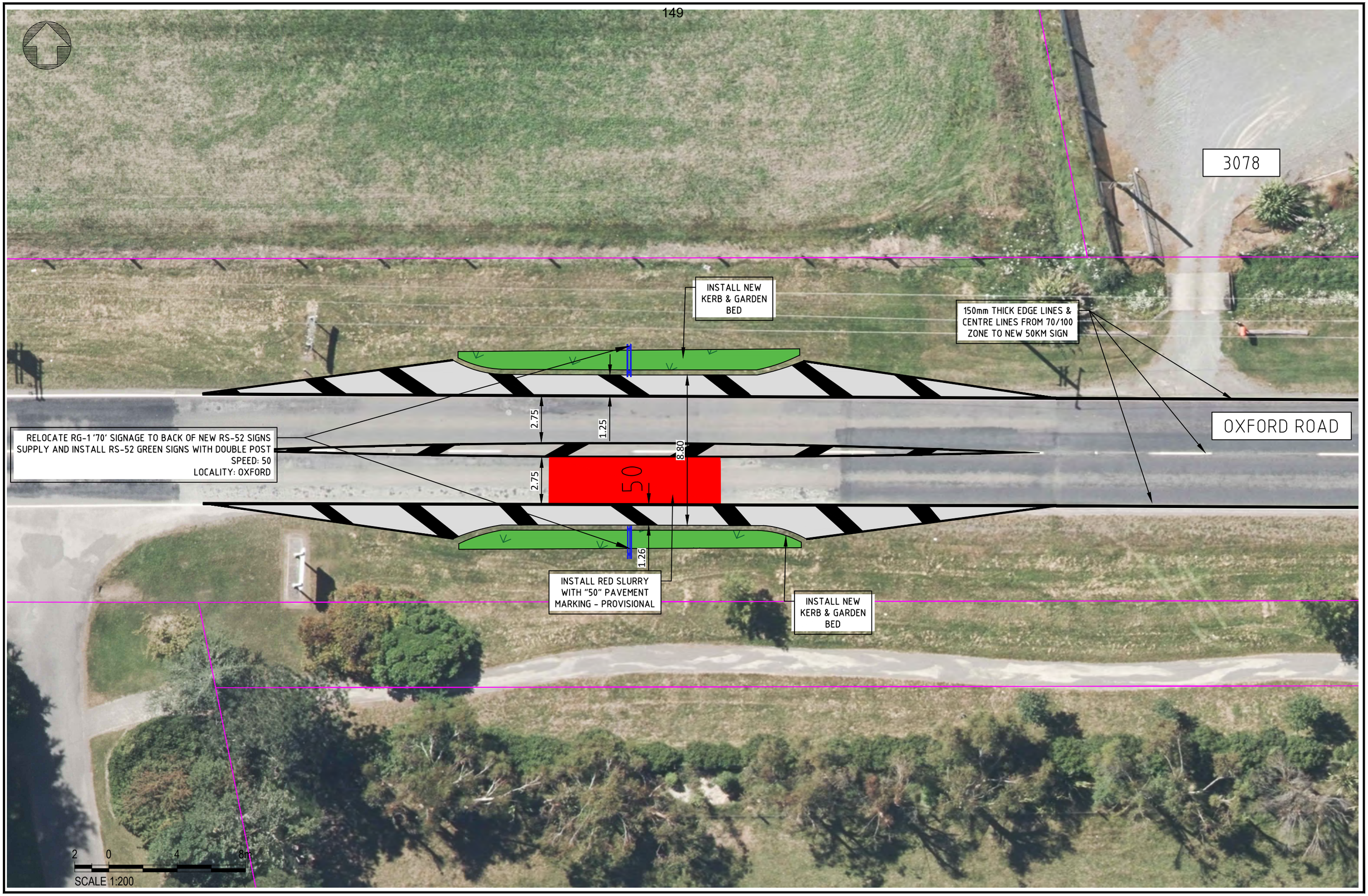
PLOT DATE: 01/12/2025 FILE: S:\PDU\PDU JOBS\PD001600-1699\PD001696 ROADING MINOR IMPROVEMENTS 2020-2021\2025-2026 MINOR IMPROVEMENTS\OXFORD SPEED TREATMENTS\OXFORD SPEED MANAGEMENT (EAST).DWG



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APPROVED	SB	--/--/2025	VERTICAL	NZVD 2016

WAIMAKARIRI DISTRICT COUNCIL

PROJECT

MINOR IMPROVEMENTS 2025 - 2026

OXFORD SPEED TREATMENTS

SHEET TITLE

EAST SIDE - 50km/hr SIGN

FOR APPROVAL
NOT FOR CONSTRUCTION

DRAWING 4676

SHEET	REVISION
3	A

PLOT DATE: 01/12/2025 FILE: S:\PDU\PDU JOBS\PD001600-1699\PD001696 ROADING MINOR IMPROVEMENTS 2020-2021\2025-2026 MINOR IMPROVEMENTS\OXFORD SPEED TREATMENTS\OXFORD SPEED MANAGEMENT (EAST).DWG

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APPROVED	SB	--/--/2025	VERTICAL	NZVD 2016

WAIMAKARIRI DISTRICT COUNCIL

PROJECT

MINOR IMPROVEMENTS 2025 - 2026

OXFORD SPEED TREATMENTS

SHEET TITLE

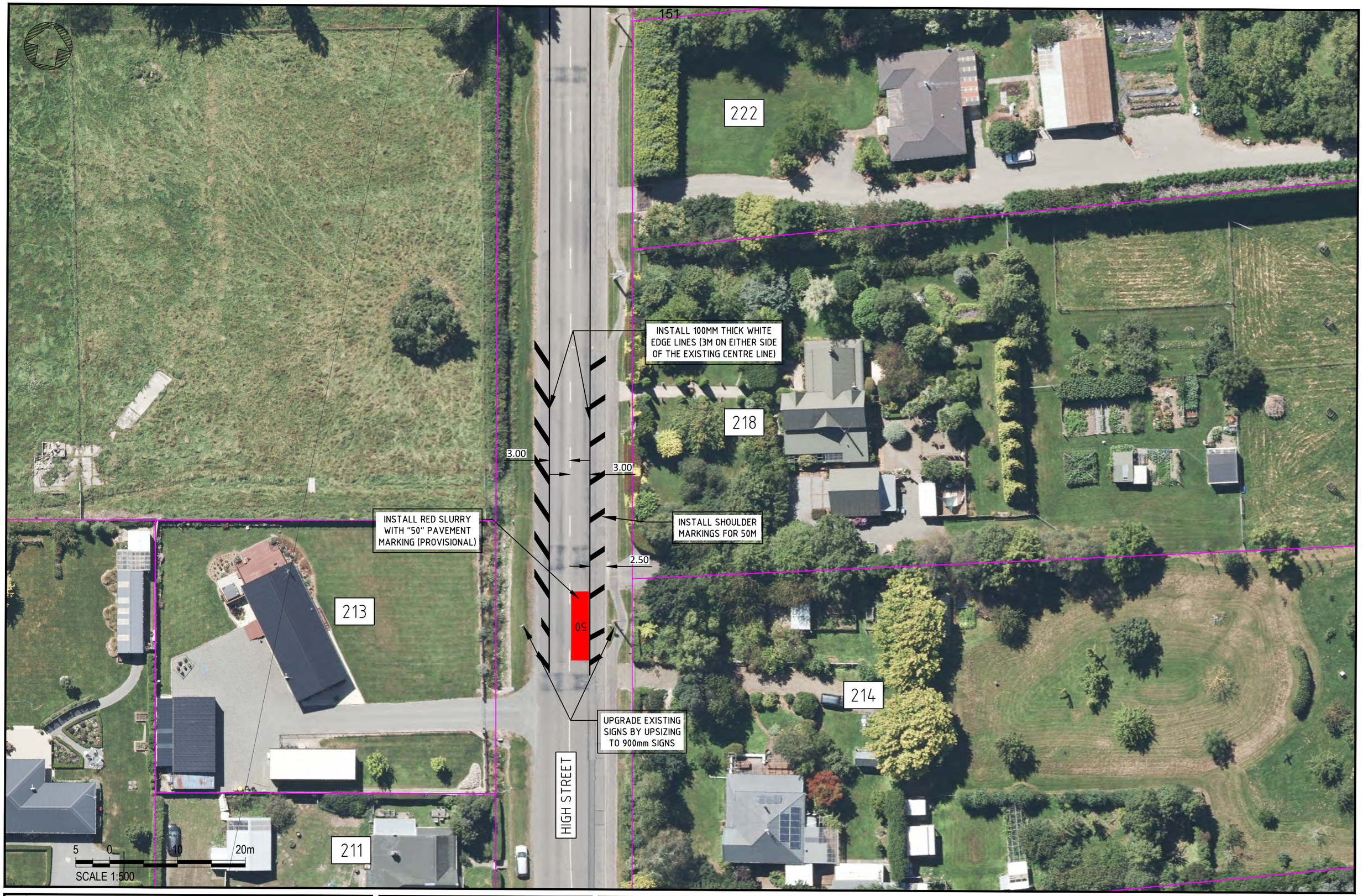
EAST SIDE - EXISTING MARKINGS

FOR APPROVAL
NOT FOR CONSTRUCTION

DRAWING 4676

SHEET 4 | REVISION A

PLOT DATE: 01/12/2025 FILE: S:\PDU\PDU JOBS\PD001600-1699\PD001696 ROADING MINOR IMPROVEMENTS 2020-2021\2025-2026 MINOR IMPROVEMENTS\OXFORD SPEED TREATMENTS\OXFORD SPEED MANAGEMENT (EAST).DWG



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WAIMAKARIRI DISTRICT COUNCIL

PROJECT
MINOR IMPROVEMENTS 2025 - 2026

OXFORD SPEED TREATMENTS

SHEET TITLE
NORTH SIDE IMPROVEMENTS

HIGH ST/QUEEN ST INTERSECTION

FOR APPROVAL
NOT FOR CONSTRUCTION

DRAWING 4680

SHEET 1 | REVISION A

PLOT DATE: 23/01/2026 FILE: S:\PDU\PDU JOBS\PD001600-1699\PD001696 ROADING MINOR IMPROVEMENTS 2020-2021\2025-2026 MINOR IMPROVEMENTS\OXFORD SPEED TREATMENTS\OXFORD SPEED MANAGEMENT (NORTH) - OPTION B.DWG

REV	REVISION DETAILS	DRN	CHK	APP	DATE
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WAIMAKARIRI DISTRICT COUNCIL

PROJECT
MINOR IMPROVEMENTS 2025 - 2026

OXFORD SPEED TREATMENTS

SHEET TITLE
NORTH SIDE IMPROVEMENTS

HIGH STREET

FOR APPROVAL
NOT FOR CONSTRUCTION

DRAWING 4680

SHEET 2 | REVISION A

PLOT DATE: 23/01/2026 FILE: S:\PDU\PDU JOBS\PD001600-1699\PD001696 ROADING MINOR IMPROVEMENTS 2020-2021\2025-2026 MINOR IMPROVEMENTS\OXFORD SPEED TREATMENTS\OXFORD SPEED MANAGEMENT (NORTH) - OPTION B.DWG

REV	REVISION DETAILS	DRN	CHK	APP	DATE
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WAIMAKARIRI DISTRICT COUNCIL

PROJECT
MINOR IMPROVEMENTS 2025 - 2026

OXFORD SPEED TREATMENTS

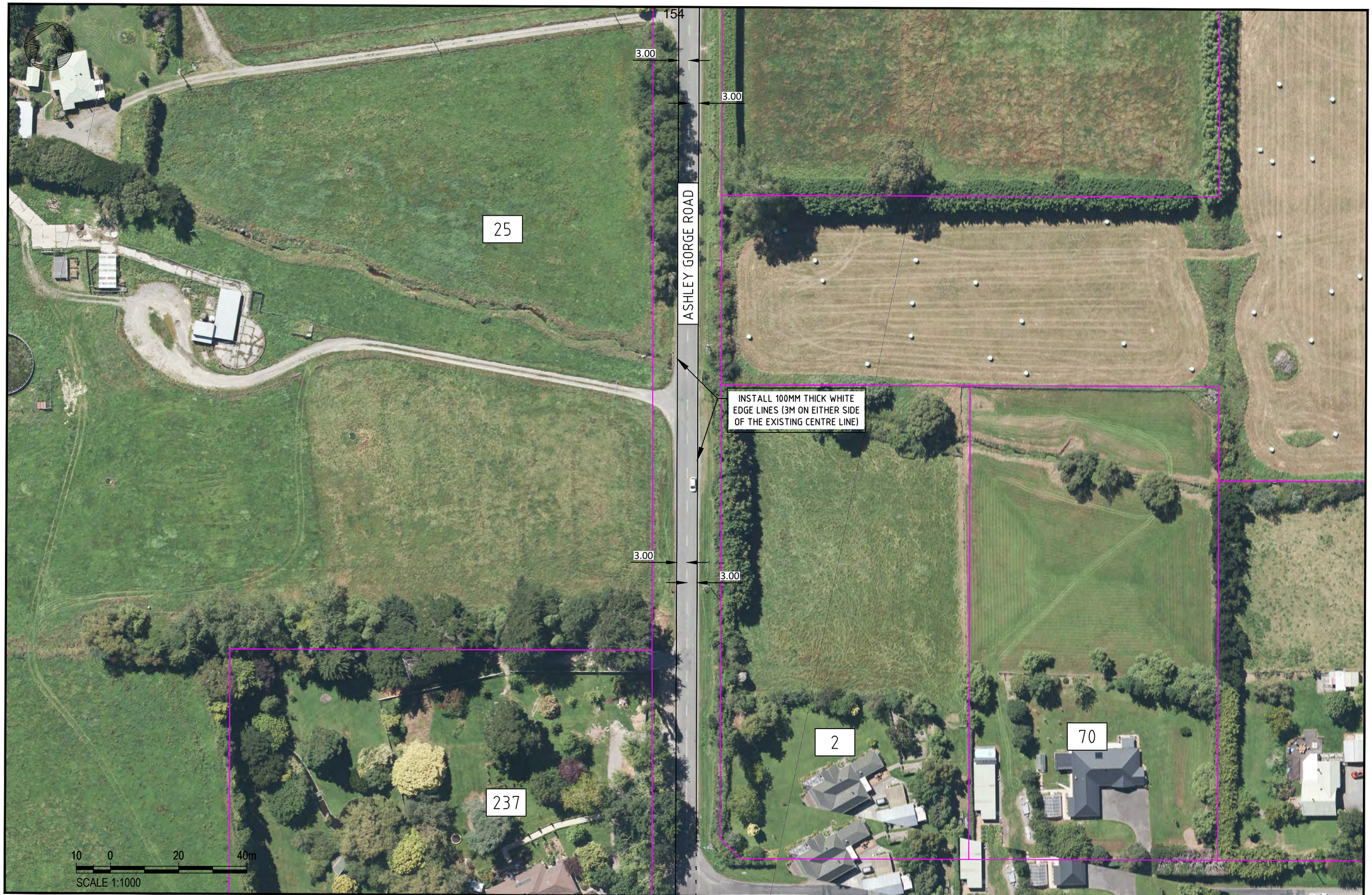
SHEET TITLE
NORTH SIDE IMPROVEMENTS

HIGH ST/VICTORIA ST INTERSECTION

FOR APPROVAL
NOT FOR CONSTRUCTION

DRAWING	4680
SHEET 3	REVISION A

PLOT DATE: 23/01/2026 FILE: S:\PDU\PDU JOBS\PD001600-1699\PD001696 ROADING MINOR IMPROVEMENTS 2020-2021\2025-2026 MINOR IMPROVEMENTS\OXFORD SPEED TREATMENTS\OXFORD SPEED MANAGEMENT (NORTH) - OPTION B.DWG



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WAIMAKARIRI DISTRICT COUNCIL

PROJECT
MINOR IMPROVEMENTS 2025 - 2026

OXFORD SPEED TREATMENTS

SHEET TITLE
NORTH SIDE IMPROVEMENTS
ASHLEY GORGE ROAD / VICTORIA ST INTERSECTION

FOR APPROVAL
NOT FOR CONSTRUCTION

DRAWING 4680

SHEET 4 | REVISION A

PLOT DATE: 23/01/2026 FILE: S:\PDU\PDU JOBS\PD001600-1699\PD001696 ROADING MINOR IMPROVEMENTS 2020-2021\2025-2026 MINOR IMPROVEMENTS\OXFORD SPEED TREATMENTS\OXFORD SPEED MANAGEMENT (NORTH) - OPTION B.DWG

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WAIMAKARIRI DISTRICT COUNCIL

PROJECT
MINOR IMPROVEMENTS 2025 - 2026

OXFORD SPEED TREATMENTS

SHEET TITLE
NORTH SIDE IMPROVEMENTS

ASHLEY GORGE ROAD

FOR APPROVAL
NOT FOR CONSTRUCTION

DRAWING 4680

SHEET 5 | REVISION A

PLOT DATE: 23/01/2026 FILE: S:\PDU\PDU JOBS\PD001600-1699\PD001696 ROADING MINOR IMPROVEMENTS 2020-2021\2025-2026 MINOR IMPROVEMENTS\OXFORD SPEED TREATMENTS\OXFORD SPEED MANAGEMENT (NORTH) - OPTION B.DWG

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WAIMAKARIRI DISTRICT COUNCIL

PROJECT

MINOR IMPROVEMENTS 2025 - 2026

OXFORD SPEED TREATMENTS

SHEET TITLE

NORTH SIDE IMPROVEMENTS
ASHLEY GORGE RD / SOMERSET DR INTERSECTION

FOR APPROVAL
NOT FOR CONSTRUCTION

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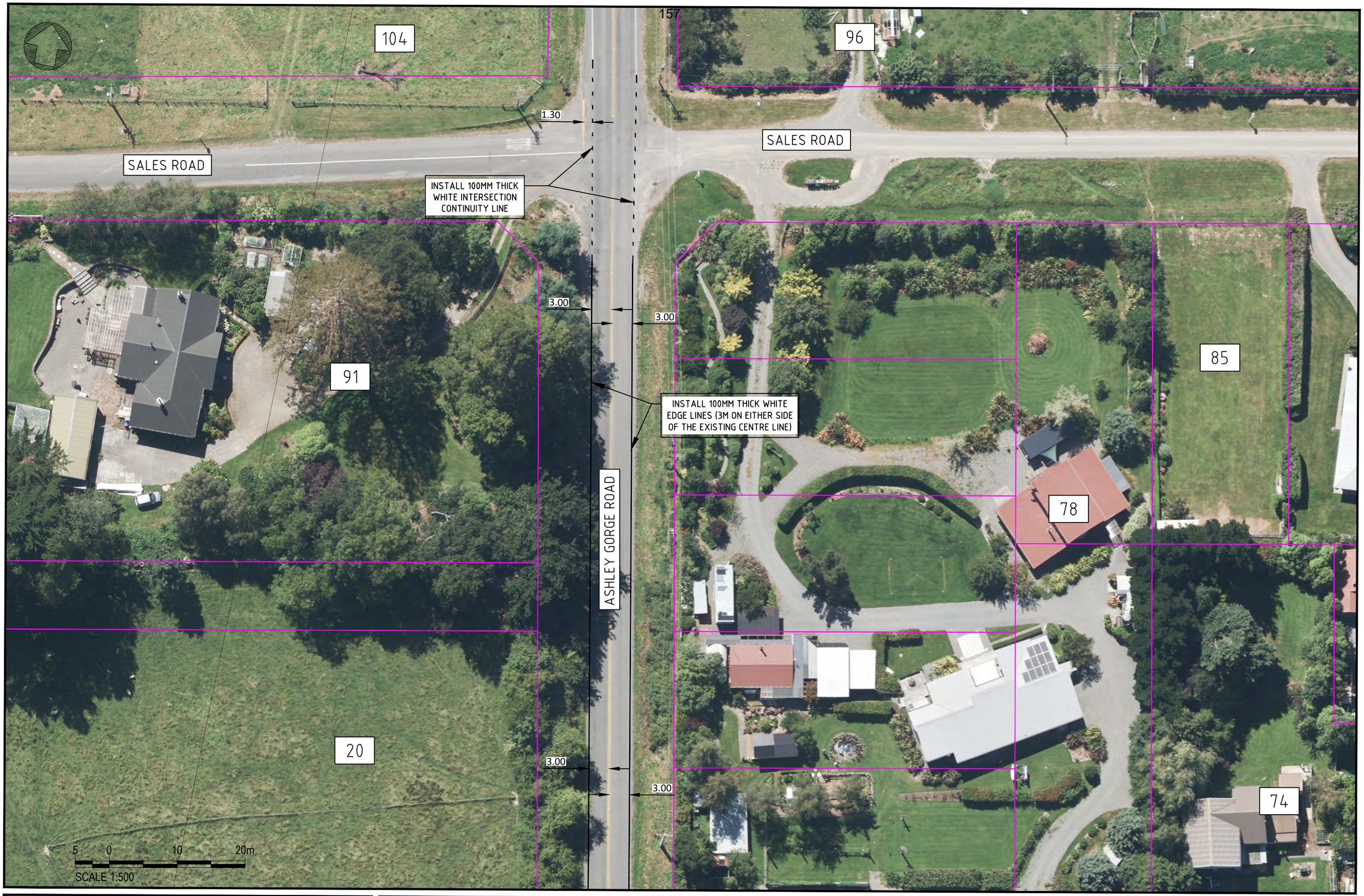
SHEET 6	A

PLOT DATE: 23/01/2026 FILE: S:\PDU\PDU JOBS\PD001600-1699\PD001696 ROADING MINOR IMPROVEMENTS 2020-2021\2025-2026 MINOR IMPROVEMENTS\OXFORD SPEED TREATMENTS\OXFORD SPEED MANAGEMENT (NORTH) - OPTION B.DWG



REV	REVISION DETAILS	DRN	CHK	APP	DATE
A	SCHEME DESIGN	SS	KS	---	28/11/2025

SURVEYED	NA	NA	PROJECT No	PD001696
DRAWN	SS	25/11/2025	CON No	CON20----
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DESIGNED	SS	25/11/2025	DATUM ORIGIN	
DESIGNED CHKD	KS	28/11/2025	HORIZONTAL	NZTM GD2000
APPROVED	SB	--/--/2025	VERTICAL	NZVD 2016

WAIMAKARIRI DISTRICT COUNCIL

PROJECT

MINOR IMPROVEMENTS 2025 - 2026

OXFORD SPEED TREATMENTS

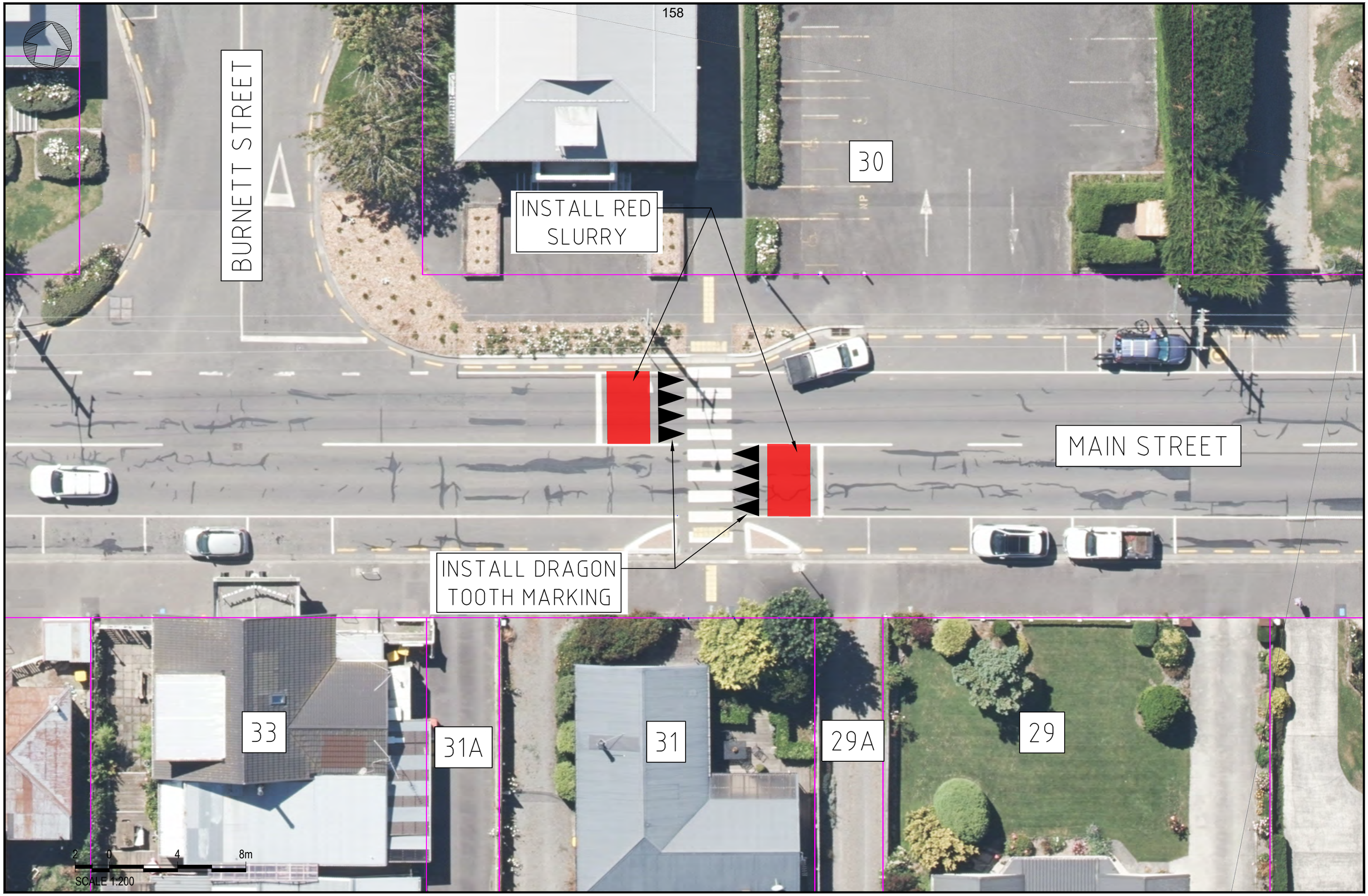
SHEET TITLE

NORTH SIDE IMPROVEMENTS
ASHLEY GORGE ROAD / SALES ROAD INTERSECTION

FOR APPROVAL
NOT FOR CONSTRUCTION

DRAWING	REVISION
4680	A
SHEET 7	

PLOT DATE: 23/01/2026 FILE: S:\PDU\PDU JOBS\PD001600-1699\PD001696 ROADING MINOR IMPROVEMENTS 2020-2021\2025-2026 MINOR IMPROVEMENTS\OXFORD SPEED TREATMENTS\OXFORD SPEED MANAGEMENT (NORTH) - OPTION B.DWG



REV	REVISION DETAILS	DRN	CHK	APP	DATE
A	SCHEME DESIGN	SS	KS	---	13/11/2025

SURVEYED	NA	NA	PROJECT No	PD001696
DRAWN	SS	08/11/2025	CON No	CON20----
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DESIGNED	SS	08/11/2025	DATUM ORIGIN	
DESIGNED CHKD	KS	13/11/2025	HORIZONTAL	NZTM GD2000
APPROVED	SB	--/--/2025	VERTICAL	NZVD 2016

WAIMAKARIRI DISTRICT COUNCIL

PROJECT

MINOR IMPROVEMENTS 2025 - 2026

OXFORD SPEED TREATMENTS

SHEET TITLE

MAIN ST - BURNETT ST INTERSECTION

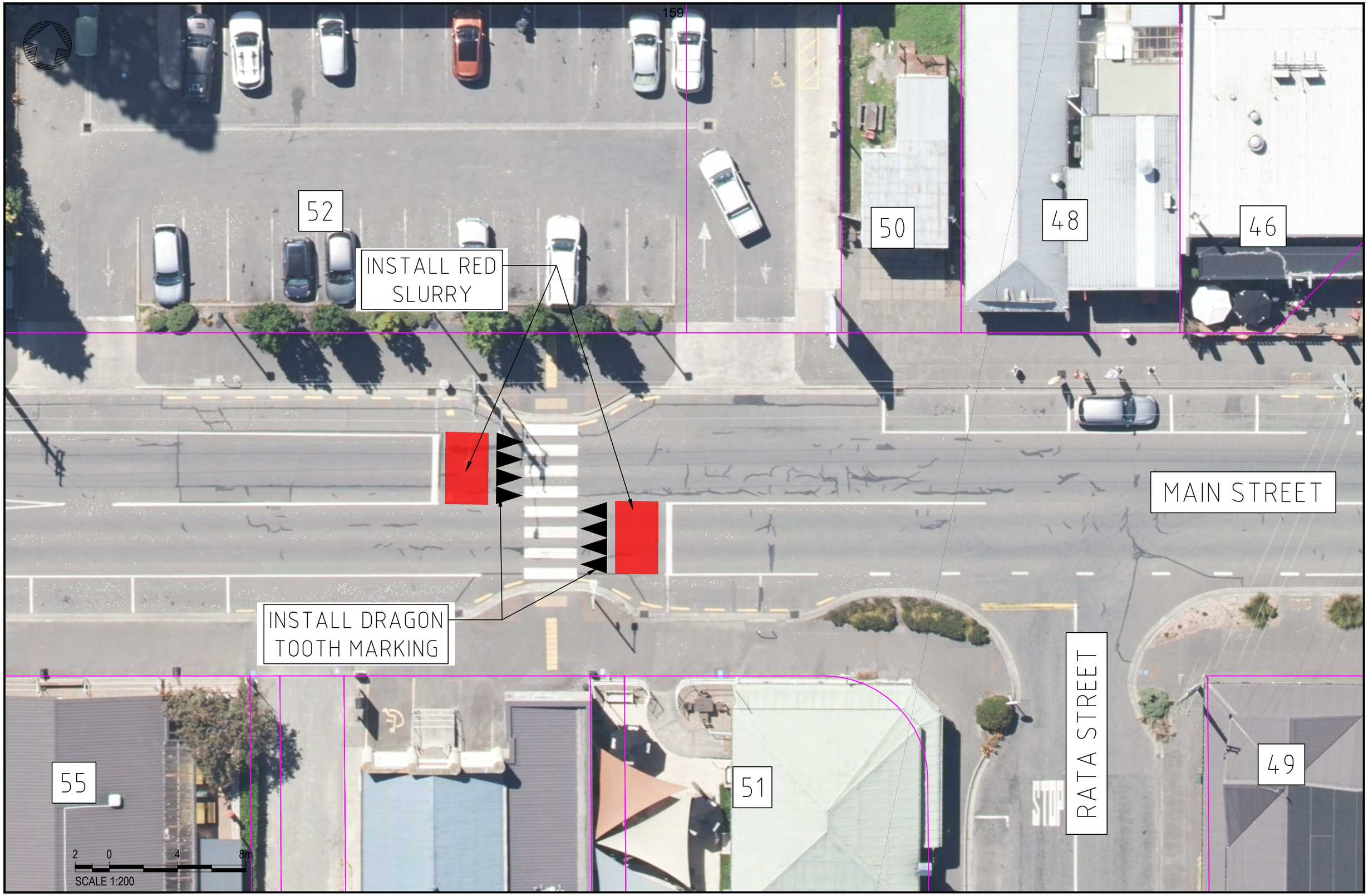
FOR APPROVAL
NOT FOR CONSTRUCTION

DRAWING 4703

SHEET 1

REVISION A

PLOT DATE: 21/01/2026 FILE: S:\PDU\PDU JOBS\PD001600-1699\PD001696 ROADING MINOR IMPROVEMENTS 2020-2021\2025-2026 MINOR IMPROVEMENTS\OXFORD SPEED TREATMENTS\OXFORD SPEED MANAGEMENT (MAIN ST) - OPTION B.DWG



REV	REVISION DETAILS	DRN	CHK	APP	DATE
A	SCHEME DESIGN	SS	KS	---	13/11/2025

SURVEYED	NA	NA	PROJECT No	PD001696
DRAWN	SS	08/11/2025	CON No	CON20----
DRAWING CHKD	KS	13/11/2025	SCALE (A3)	1:200
DESIGNED	SS	08/11/2025	DATUM ORIGIN	
DESIGNED CHKD	KS	13/11/2025	HORIZONTAL	NZTM GD2000
APPROVED	SB	--/--/2025	VERTICAL	NZVD 2016

WAIMAKARIRI DISTRICT COUNCIL

PROJECT

MINOR IMPROVEMENTS 2025 - 2026

OXFORD SPEED TREATMENTS

SHEET TITLE

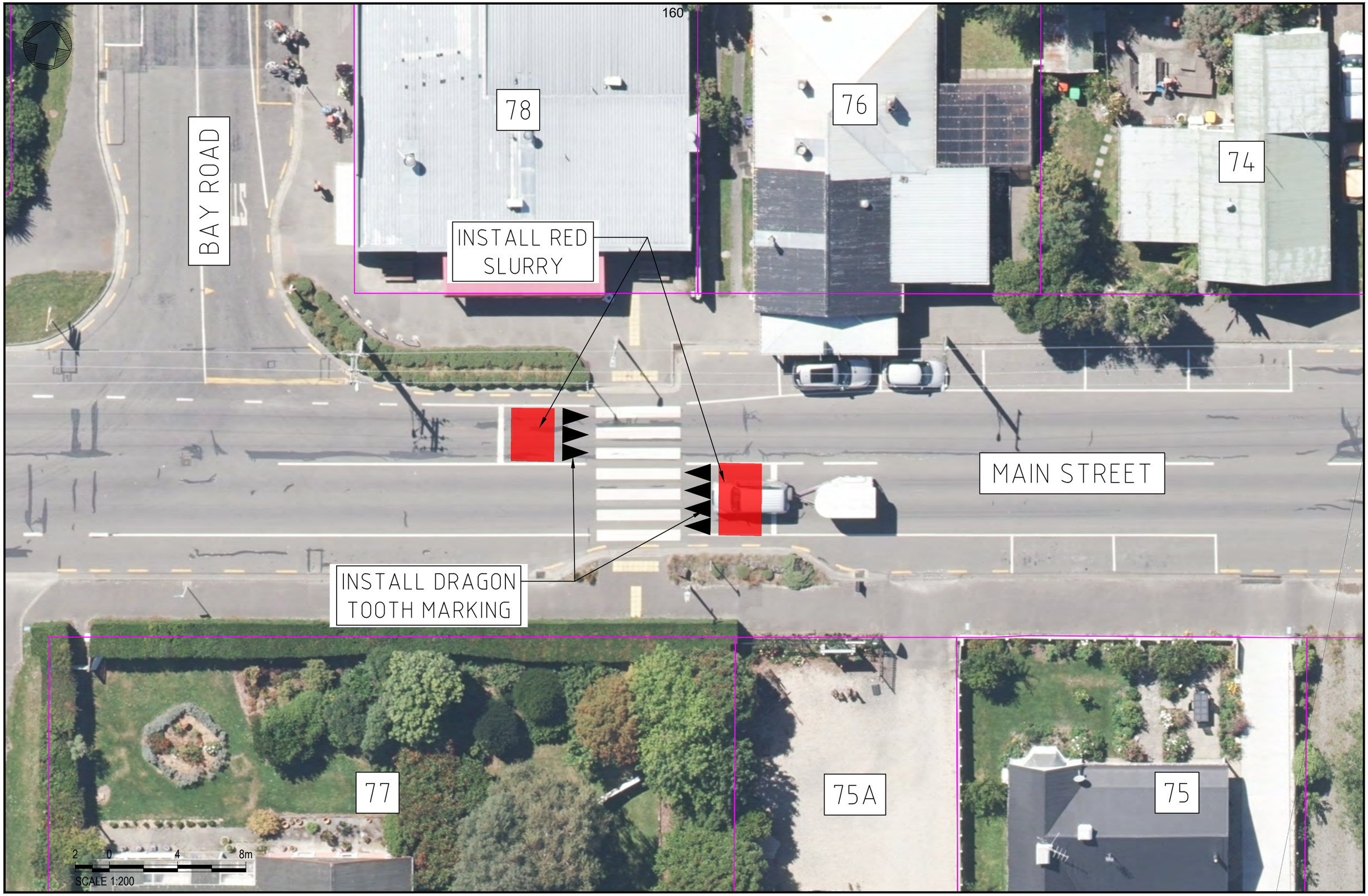
MAIN ST - RATA ST INTERSECTION

FOR APPROVAL
NOT FOR CONSTRUCTION

DRAWING 4703

SHEET 2 | REVISION A

PLOT DATE: 21/01/2026 FILE: S:\PDU\PDU JOBS\PD001600-1699\PD001696 ROADING MINOR IMPROVEMENTS 2020-2021\2025-2026 MINOR IMPROVEMENTS\OXFORD SPEED TREATMENTS\OXFORD SPEED MANAGEMENT (MAIN ST) - OPTION B.DWG



REV	REVISION DETAILS	DRN	CHK	APP	DATE
A	SCHEME DESIGN	SS	KS	---	13/11/2025

SURVEYED	NA	NA	PROJECT No	PD001696
DRAWN	SS	08/11/2025	CON No	CON20----
DRAWING CHKD	KS	13/11/2025	SCALE (A3)	1:200
DESIGNED	SS	08/11/2025	DATUM ORIGIN	
DESIGNED CHKD	KS	13/11/2025	HORIZONTAL	NZTM GD2000
APPROVED	SB	--/--/2025	VERTICAL	NZVD 2016

WAIMAKARIRI DISTRICT COUNCIL

PROJECT

MINOR IMPROVEMENTS 2025 - 2026

OXFORD SPEED TREATMENTS

SHEET TITLE

MAIN ST - BAY RD INTERSECTION

FOR APPROVAL
NOT FOR CONSTRUCTION

DRAWING 4703

SHEET 3

REVISION A

PLOT DATE: 21/01/2026 FILE: S:\PDU\PDU JOBS\PD001600-1699\PD001696 ROADING MINOR IMPROVEMENTS 2020-2021\2025-2026 MINOR IMPROVEMENTS\OXFORD SPEED TREATMENTS\OXFORD SPEED MANAGEMENT (MAIN ST) - OPTION B.DWG

WAIMAKARIRI DISTRICT COUNCIL

REPORT FOR DECISION

FILE NO and TRIM NO:	RDG-03-09 / 250618111005
REPORT TO:	OXFORD-OHOKA COMMUNITY BOARD
DATE OF MEETING:	4 March 2026
AUTHOR(S):	Shane Binder, Senior Transportation Engineer Joanne McBride, Roading and Transport Manager
SUBJECT:	Request for Approval to Install One-Lane Road Priority Controls on Perhams Road at the First Eyre Stream Ford
ENDORSED BY: (for Reports to Council, Committees or Boards)	General Manager / Chief Executive

1. SUMMARY

1.1. This report seeks approval to assign one-lane priority road control to Perhams Road over the first Eyre Stream ford, such that eastbound traffic would have give-way control and westbound traffic would remain uncontrolled.

1.2. Perhams Road is a rural unsealed Local Road in the View Hill area. The latest traffic count was undertaken in January 2023 and measured an average of 51 vehicles per day and an operating (85th percentile) speed of 56.5 km/h, with 28.5% being heavy vehicles.

1.3. There are two quarry activities currently operating from this area which use Perhams Road.

1.4. Westbound forward visibility to the ford is limited by the horizontal curve approaching from the east along Lime Works Road and compounded by the vertical dip into the riverbed.

1.5. Council installed a concrete apron at the ford in 2009. This was constructed with 4.8 m width on the concrete roadway and steel bollards on each side delineating the drop off and narrowing the effective width. This width is sufficiently narrow that the NZTA *Traffic Control Devices Manual Part 5* defines it as a one-lane section and recommends establishing priority control.

1.6. Due to the location of the ford on the bend, high percentage of heavy vehicles and anticipated traffic growth, it is considered appropriate to clearly sign the traffic priority.

2. RECOMMENDATION

THAT the Oxford-Ohoka Community Board:

(a) **Receives** Report No. 250618111005.

(b) **Approves** the following one-lane priority road control pursuant to section 2 of the Land Transport Rule: Traffic Control Devices 2004, with effect from the date of installation of appropriate signage:

Item	Road to be Controlled	Direction to remain Uncontrolled	Direction to be Controlled
1	Perhams Road at Eyre Stream ford	Westbound	Eastbound

(c) **Circulates** this report to the Utilities and Roading Committee for information.

3. BACKGROUND

3.1. Perhams Road is a rural unsealed Local Road in the View Hill area. It has three fords along its length; this report addresses the first (southern-most) ford as shown in Figure 1.

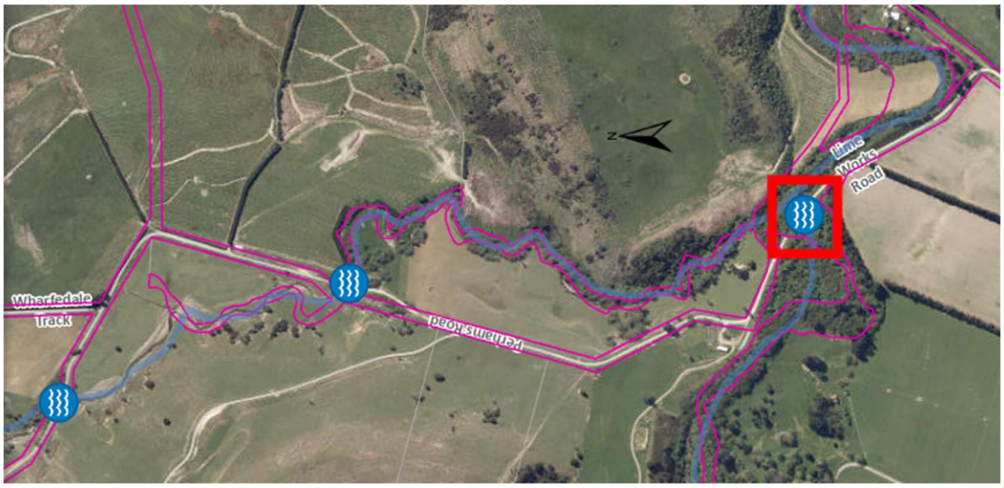


Figure 1: Area Vicinity

3.2. Traffic counts were last undertaken on Perhams Road 600m north of the ford in January 2023; an average of 51 vehicles per day were measured with an operating (85th percentile) speed of 56.5 km/h.

3.3. The Department of Conservation's Wharfedale Track starts at a carpark further north on Perhams Road. As such, while the average daily traffic is low, it is likely made up of an above-average percentage of out-of-town motorists unfamiliar with the road.

3.4. Council installed a concrete apron at the ford in 2009. This was constructed with 4.8m width on the concrete roadway and steel bollards on each side delineating the drop off and narrowing the effective width. The ford is shown below in Figure 2.

Figure 2: Existing Ford

3.5. The NZTA *Traffic Control Devices Manual Part 5* defines one-lane roads as having a trafficable width of 5.0 m or less. In these locations, give-way control for one approach is recommended to "alert drivers to a potentially dangerous head on type situation and place the responsibility onto the drivers to be prepared to stop and give way."

3.6. The *Manual* recommends priority be established with consideration of a number of factors including:

- the approach visibility, particularly when road users are unable to obtain a satisfactory view of oncoming traffic, either within or on the opposing (far) approach to the single lane section; and
- avoiding the creation of a situation of 'blind priority' whereby road users with inadequate visibility for safe stopping prior to the single lane section might otherwise be encouraged to 'press on' and be unable to avoid a collision with an oncoming vehicle; and
- approach gradients and winter icing of the roadway and any other factors that may affect the ability of road users to stop safely.

4. ISSUES AND OPTIONS

4.1. Westbound forward visibility to the ford is limited by the horizontal curve approaching from the east along Lime Works Road and compounded by the vertical dip into the riverbed. Westbound visibility to the ford is shown below in Figure 3 and Figure 4.

Figure 3: Westbound visibility to ford at 40 m

Figure 4: Westbound visibility to ford at 85 m

4.2. Proposed land use changes along Perhams Road may impact the existing traffic noted above. Existing and potentially increased quarrying on land accessed via Perhams Road has the potential to increase heavy vehicle traffic over the ford.

4.3. The Oxford-Ohoka Community Board has the following options available to them:

4.4. Option One: Approve the installation of one-lane priority controls on Perhams Road at the Eyre Stream ford.

This option involves the Oxford-Ohoka Community Board approving the installation of one-lane road priority controls, consisting of signs, on Perhams Road at the Eyre Stream ford, such that eastbound traffic would have give way control and westbound traffic would remain uncontrolled.

This is the recommended option because it allows for the ford to operate with safer separation of conflicting traffic through the narrow roadway.

4.5. Option Two: Retain the status quo.

This option would see the Eyre Stream ford uncontrolled as at present.

This is not the recommended option because failure to implement one-lane priority controls does not address visibility concerns, which could still pose safety risks, especially given this road provides access to Department of Conservation walking tracks and unfamiliar road users will be accessing the area, alongside the high percentage of heavy vehicle use.

Implications for Community Wellbeing

There are implications on community wellbeing by the issues and options that are the subject matter of this report. Setting appropriate one-lane roadway controls helps reduce the risk of harm for a crash.

4.6. The Management Team has reviewed this report and support the recommendations.

5. COMMUNITY VIEWS

5.1. Mana whenua

Te Ngāi Tūāhuriri hapū are not likely to be affected by, or have an interest in the subject matter of this report.

5.2. Groups and Organisations

There are not groups and organisations likely to be affected by, or to have an interest in the subject matter of this report.

5.3. Wider Community

The proposed actions outlined in this report are expected to have minimal impact on the wider community, and significant public interest is unlikely, as the changes being implemented are minor in nature. Consequently, public consultation with adjacent residents or the broader community has not been undertaken.

6. OTHER IMPLICATIONS AND RISK MANAGEMENT

6.1. Financial Implications

There are financial implications of the decisions sought by this report. There are minimal costs associated with installing intersection control, chiefly new signs and limit line pavement marking.

The costs are estimated to be $1,000 and can be accommodated within the Road Maintenance budgets (Signs Renewal PJ 100183.000.5134).

This budget is included in the Annual Plan/Long Term Plan.

6.2. Sustainability and Climate Change Impacts

The recommendations in this report are considered to be localised and minor in nature and will not have sustainability or climate change impacts.

6.3. Risk Management

There are not risks arising from the adoption/implementation of the recommendations in this report.

6.4. Health and Safety

There are minor health and safety risks arising from the adoption/implementation of the recommendations in this report. Physical works will be undertaken through the Road Maintenance contract. The Road Maintenance contractor has a Health and Safety Plan and a SiteWise score of 100.

7. CONTEXT

7.1. Consistency with Policy

This matter is not a matter of significance in terms of the Council's Significance and Engagement Policy.

7.2. Authorising Legislation

Section 2 of the Land Transport Rule: Traffic Control Devices requires a Road Controlling Authority to "authorise and, as appropriate, install or operate traffic control devices."

7.3. **Consistency with Community Outcomes**

The Council's community outcomes are relevant to the actions arising from recommendations in this report.

Social: a place where everyone can have a sense of belonging

- Council commits to promoting health and wellbeing and minimising the risk of social harm to its communities.

Environmental: a place that values and restores our environment

- The natural and built environment in which people live is clean, healthy and safe.
- Our communities are able to access and enjoy natural areas and public spaces.

7.4. **Authorising Delegations**

As per Part 3 of the WDC *Delegations Manual*, the Community Board has the delegated authority to approve traffic control and constraint measures on streets.

WAIMAKARIRI DISTRICT COUNCIL

REPORT FOR DECISION

FILE NO and TRIM NO:	RDG-03-09 / 251201228465
REPORT TO:	OXFORD-OHOKA COMMUNITY BOARD
DATE OF MEETING:	4 March 2026
AUTHOR(S):	Nithin Puthupparambil, Transportation Engineer Shane Binder, Senior Transportation Engineer
SUBJECT:	Request to Approve Intersection Controls on Woodfields Road and Catherwoods Road.
ENDORSED BY: (for Reports to Council, Committees or Boards)	General Manager / Chief Executive

1. SUMMARY

1.1. This report seeks approval from the Oxford-Ohoka Community Board to change the following intersection controls:

1.1.1. Install stop control on Woodfields Road at Chapmans Boundary Road

1.1.2. Remove give way control on Davis Road at Catherwoods Road and replace with a new stop control on Catherwoods Road at Davis Road. Note this would change the priority from Davis Road to Catherwoods Road.

1.2. A review of Woodfields Road and Chapmans Boundary Road intersection was undertaken following a service request which indicated that vehicles were failing to give way when entering Chapmans Boundary Road from Woodfields Road, resulting in near misses.

1.3. A lack of visibility was identified for vehicles on Woodfields Road, to oncoming traffic traveling along Chapmans Boundary Road. This lack of visibility is primarily caused by vegetation within private property.

1.4. A review of the Catherwoods Road and Davis Road was also undertaken following a service request which indicated that, the existing Give Way control is not appropriately aligned with the traffic environment at the intersection.

1.5. A lack of visibility was also identified at this intersection, to oncoming traffic traveling along Catherwoods Road. This lack of visibility is primarily caused by vegetation within private property.

1.6. Staff reviewed the visibility at the Powells Road / Barracks Road / Weld Street intersection following concerns raised by elected members. Visibility for drivers on the Powells Road approach was found to meet the requirements of the NZTA Traffic Control Devices Manual, with adequate sightlines to approaching traffic on both Weld Street and Barracks Road. Therefore no changes in intersection control are recommended at this intersection.

2. RECOMMENDATION

THAT the Oxford-Ohoka Community Board:

(a) **Receives** Report No. 251201228465.

(b) **Approves** the following intersection control changes pursuant to section 2 of the Land Transport Rule: Traffic Control Devices 2004, with effect from the date of installation of appropriate signage:

Item	Road to be Controlled	Road to Remain Uncontrolled	Type of Control to be Imposed	Type of Control to be Revoked
1	Woodfields Road	Chapmans Boundary Road	Stop	-
2	Catherwoods Road	Davis Road	Stop	See Note 1
Note 1: Davis Road presently has Give Way control, while Catherwoods Road is uncontrolled.				

(c) **Notes** that staff evaluated visibility at the intersection of Powells Road at Barracks Road / Weld Street, and consider that the available visibility was appropriate for the existing intersection priority (Powells Road has Give Way control).

(d) **Circulates** this report to the Utilities and Roading Committee for information.

3. BACKGROUND

3.1. Woodfields Road is a low-volume rural Local Road with an Average Daily Traffic (ADT) of 42 vehicles and an operating (85th percentile) speed of 77 km/h. It forms an uncontrolled crossroads with Chapmans Boundary Road, another rural Local Road with an ADT of 69 vehicles and an operating (85th percentile) speed of 78 km/h.

3.2. Catherwoods Road is a rural Local Road with an Average Daily Traffic (ADT) of 56 vehicles and an operating (85th percentile) speed of 80 km/h. It intersects Davis Road, a rural Local Road carrying a higher ADT of 281 vehicles and an (85th percentile) speed of 86 km/h.

4. ISSUES AND OPTIONS

4.1. Per the NZTA *Traffic Control Devices Manual Part 4*, give-way control is recommended as the default intersection control under normal operating circumstances.

4.2. Section 4.1.2 of the Manual, recommends that a stop control should be implemented at intersections “where at a point 9 m from the limit line on a controlled approach to the intersection a lack of visibility means that, at an approach speed of more than 10 km/h, a driver could not see a vehicle on an uncontrolled approach at a distance (in metres) of 1.2 times the numeric value of the speed (in km/h) exceeded by 15% of vehicles approaching on the main road.”

4.3. The Waka Kotahi *Guidelines for the implementation of traffic control at crossroads* (RTS 1), recommends that the use of different controls (e.g., stop control, give-way control) on opposite approaches of a crossroads should be avoided to minimise driver confusion. It is therefore considered best practice to have the same traffic control on both side streets unless other safety considerations take higher priority.

Woodfields Road / Chapmans Boundary Road

4.4. A service request was lodged regarding visibility at the intersection of Woodfields Road and Chapmans Boundary Road. Staff have compiled available traffic data and site visit observations and assessed intersection visibility.

4.5. Staff observations of traffic movements at this intersection indicate restricted visibility for drivers on Woodfields Road to the traffic on Chapmans Boundary Road when approaching the intersection (refer Figure 1)., The available intersection sight distance does not meet the requirements for a Give Way control within a 100 km/h speed environment in the Traffic Control Devices (TCD) Manual guidance. Accordingly, installation of a Stop control on Woodfields Road is considered appropriate to ensure safe operation of the intersection.

Figure 1: Woodfields Road / Chapmans Boundary Road intersection with restricted visibility(photo taken from Woodfields Road looking south towards Chapmans Boundary Road (east approach))

4.6. To improve safety at this location, Stop controls are proposed to be installed on both approaches of Woodfields Road to Chapmans Boundary Road.

Catherwoods Road / Davis Road Intersection

4.7. A service request was lodged regarding visibility at the intersection of Catherwoods Road and Davis Road. Staff have compiled available traffic data and site visit observations and assessed intersection visibility.

4.8. The intersection currently has Give Way controls on both the Davis Road approaches. Staff observed traffic volumes for morning and afternoon peak periods:

Traffic from		No. Of Vehicles	
Davis Road	South approach	20 (40%)	32
	North approach	12 (24%)	
Catherwood Road	West approach	10 (20%)	18
	East approach	8 (16%)	

4.10. Based on these traffic volumes it is recommended to switch the intersection controls on to Catherwoods Road and make Davis Road the priority.

4.11. Staff observations have also identified restricted visibility for drivers on Catherwoods Road to the traffic on Davis Road when approaching the intersection (refer Figure 2).

4.12. The available intersection sight distance does not meet the requirements for a Give Way control within a 100 km/h speed environment in the Traffic Control Devices (TCD) Manual guidance. Accordingly, installation of a Stop control on Catherwoods Road is considered appropriate to ensure safe operation of the intersection.

Figure 2: Catherwoods Road / Davis Road intersection with restricted visibility (photo taken from Catherwoods Road looking west towards Davis Road (south approach))

4.13. To improve safety at this location, Stop controls are proposed to be installed on both approaches of Catherwoods Road to Davis Road.

Powells Road / Barracks Road / Weld Street Intersection

4.14. Concerns were raised by elected members regarding visibility at the intersection of Powells Road at Barracks Road / Weld Street. Staff have compiled available traffic data and site visit observations and assessed intersection visibility.

Figure 2: Powells Road / Barracks Road / Weld Street intersection with adequate visibility (photo taken from Powells Road Road looking west towards Weld Street (north approach))

4.15. The intersection currently has Give Way controls on Powells Road approach. Staff observations have identified adequate visibility for drivers on Powells Road to the traffic on Weld Street and Barracks Road when approaching the intersection, which meets the requirements set out in the NZTA *Traffic Control Devices Manual Part 4*. Therefore no changes to the intersection controls at this intersection are recommended.

4.16. The Oxford-Ohoka Community Board has the following options available to them:

4.17. Option One: Approve changes of intersection controls at the following locations

4.17.1. Install stop control on Woodfields Road at Chapmans Boundary Road

4.17.2. Remove give way control on Davis Road at Catherwoods Road and replace with a new stop control on Catherwoods Road at Davis Road; note this would change the priority from Davis Road to Catherwoods Road

This option involves Oxford-Ohoka Community Board approving the installation of Stop controls, consisting of signs and road markings, on all the above locations.

This is the recommended option because it allows:

- Improved safety by ensuring vehicles come to a complete stop where sight distance does not meet Give Way thresholds.
- Reduced risk of collisions through clearer priority and improved driver compliance, better aligning with higher volume travel patterns.

4.18. Option Two: Approve a partial installation of Stop controls

This option involves the Oxford-Ohoka Community Board approving the change of intersection controls at only one of the locations.

This is not the recommended option as it does not address identified visibility or travel pattern concerns, which could still pose safety risks and perpetuate driver confusion.

4.19. Option Three: Decline approval of any new intersection controls (retain status quo)

This option would see the current intersection controls retained.

This is not the recommended option as it does not address safety concerns at the two intersections.

Implications for Community Wellbeing

There are implications on community wellbeing by the issues and options that are the subject matter of this report. Setting appropriate intersection controls helps reduce the risk of harm from a crash.

4.20. The Management Team has reviewed this report and support the recommendations.

5. COMMUNITY VIEWS

5.1. Mana whenua

Te Ngāi Tūāhuriri hapū are not likely to be affected by, or have an interest in the subject matter of this report.

5.2. Groups and Organisations

There are not groups and organisations likely to be affected by, or to have an interest in the subject matter of this report.

5.3. Wider Community

The proposed actions outlined in this report are expected to have minimal impact on the wider community, and significant public interest is unlikely, as the changes being implemented are minor in nature. Consequently, public consultation with adjacent residents or the broader community has not been undertaken.

6. OTHER IMPLICATIONS AND RISK MANAGEMENT

6.1. Financial Implications

There are financial implications of the decisions sought by this report. There are limited costs associated with installing intersection control, chiefly new signs and limit line pavement marking.

The costs are estimated to be $3,700 and can be accommodated within the Road Maintenance budgets (Signs Renewal GL 100183.000.5134 & Pavement Marking GL 10.270.582.2500).

This budget is included in the Annual Plan/Long Term Plan.

6.2. Sustainability and Climate Change Impacts

The recommendations in this report do not have sustainability and/or climate change impacts as the effects of intersection control are quite localised.

6.3. Risk Management

There adoption/implementation of the recommendations in this report will help reduce the risk at the intersections where the changes are proposed..

6.4. Health and Safety

There are health and safety risks arising from the adoption/implementation of the recommendations in this report. These are considered minor.

Physical works will be undertaken through the Road Maintenance contract. The Road Maintenance contractor has a Health and Safety Plan and a SiteWise score of 100.

7. CONTEXT

7.1. Consistency with Policy

This matter is not a matter of significance in terms of the Council's Significance and Engagement Policy.

7.2. Authorising Legislation

Section 2 of the Land Transport Rule: Traffic Control Devices requires a Road Controlling Authority to "authorise and, as appropriate, install or operate traffic control devices."

7.3. Consistency with Community Outcomes

The Council's community outcomes are relevant to the actions arising from the recommendations in this report. In particular, the following community outcomes are of relevance to the issue under discussion:

Social: a place where everyone can have a sense of belonging

- Our community has equitable access to the essential infrastructure and services required to support community wellbeing.

Environmental: a place that values and restores our environment

- The natural and built environment in which people live is clean, healthy and safe.
- Our communities are able to access and enjoy natural areas and public spaces.

Economic: a place that is supported by a resilient and innovative economy

- Enterprises are supported and enabled to succeed.
- Infrastructure and services are sustainable, resilient, and affordable.

7.4. Authorising Delegations

Part 3 of the WDC *Delegations Manual*, gives the Community Board has the delegated authority to approve control signs on streets (e.g., Stop, Give Way, etc.).