Utilities and Roading Committee

Tuesday 18 February 2017

4.00pm

Waimakariri District Council Chambers
215 High Street
Rangiora

Members:
Cr Robbie Brine (Chairperson)
Deputy Mayor Kevin Felstead
Cr John Meyer
Cr Sandra Stewart
Cr Paul Williams
Mayor David Ayers (ex officio)
The Chairman and Members
WAIMAKARIRI DISTRICT COUNCIL

A Meeting of the UTILITIES AND ROADING COMMITTEE will be held in the COUNCIL CHAMBERS, 215 HIGH STREET, RANGIORA on TUESDAY 18 APRIL 2017 to commence at 4.00pm.

Adrienne Smith
Committee Advisor

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

BUSINESS

1 APOLOGIES

2 CONFLICTS OF INTEREST

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

3 CONFIRMATION OF MINUTES

3.1 Minutes of a meeting of the Utilities and Roading Committee held on Tuesday 21 February 2017

RECOMMENDATION

THAT the Utilities and Roading Committee:

(a) Confirms, as a true and correct record, the minutes of a meeting of the Utilities and Roading Committee held on Tuesday 21 February 2017.

4 MATTERS ARISING

5 PRESENTATION
6 REPORTS

6.1 2018 Infrastructure Strategy Project Plan – Veronica Spittal (Senior Policy Analyst)

RECOMMENDATION

THAT the Utilities and Roading Committee:

(a) Receives report No. 170405033536;

(b) Notes the 2018 Infrastructure Strategy is a significant document that will come to the Committee and Council as a draft in due course.

6.2 Closure of Stock Water Race R1-A in Eyrewell Forest Area – Janet Fraser (Utilities Planner)

RECOMMENDATION

THAT the Utilities and Roading Committee:

(a) Receives report No.170201009287.

(b) Approves closure of the Water Race R1-A at a point approximately 520m east of Poyntz Road, subject to confirmation at the 20 April Monthly Runanga meeting that Ngai Tahu Farming Limited has separately consulted with and agreed the proposal with Ngai Tuahuriri.

(c) Notes that at the point of closure of the race any surplus water will be discharged to ground, in accordance with a consent to be obtained from Environment Canterbury.

(d) Refers this report to the Oxford-Ohoka Community Board.

6.3 Oxford Road Stock Water Race R3N-1 Closure Proposal – Janet Fraser (Utilities Planner)

RECOMMENDATION

THAT the Utilities and Roading Committee:

(a) Receives report No. 170310023657.

(b) Approves closure of water race R3N-1, subject to receipt of an archaeological assessment that does not identify any significant adverse effects of the proposed closure.

(c) Notes, following the water race R3N-1 closure, the Council will discuss maintenance arrangements and possible filling in of sections of the race on Oxford Road with the affected properties.

(d) Notes, following ceasing the flow augmentation of the North Brook, the Council will discuss maintenance arrangements for the upper reaches of the stream between Oxford Road and West Belt with the affected properties, and report maintenance options back to a future Committee meeting for consideration.

RECOMMENDATION

THAT the Utilities and Roading Committee:

(a) Receives report 170331031643
(b) Notes that a comprehensive report on all aspect of the Customer Satisfaction Survey 2016 will be presented to the Council meeting on June 6.
(c) Refers this report to the Community Boards for their information

6.5 Proposed Chlorination Strategy and Update on Progress with Emergency Chlorination Systems – Colin Roxburgh (Water Asset Manager)

RECOMMENDATION

THAT the Utilities and Roading Committee

(a) Receives report No. 170321027265.
(b) Approves the adoption of the attached Chlorination Strategy.
(c) Notes that the Chlorination Strategy will be made publicly available on the Council website, and will be referenced in the updated Engineering Code of Practice to ensure that it is required to be adhered to for any new development areas.
(d) Notes that in order to provide an adequate level of emergency chlorination three new chlorine systems are required to be installed permanently, and two mobile chlorination systems are required.

6.6 Oxford Rural Number 1 Water Supply New Source: Recommendation for New Bore Location – Colin Roxburgh, Water Asset Manager

RECOMMENDATION

THAT the Utilities and Roading Committee

(a) Receives report No. 170330031230.
(b) Notes that staff undertook consultation with the Oxford Rural No.1 community to seek feedback on the proposal to drill a new public water supply well near the Watsons Reserve Road and McPhedrons Road intersection.
(c) Notes that 30% of those that submitted feedback supported the proposal, and 67% opposed the proposal, and that a key reason for residents opposing the proposal was due to the presence of a historic sheep dip site in the vicinity of the proposed well site.
(d) **Notes** that as a result of the information obtained during consultation, staff have received advice regarding a safe separation distance between the sheep dip site and the new well site, and subsequently have revised the recommended new bore location to a new site approximately 500m west of the original recommendation.

(e) **Approves** staff to proceed with the drilling of the new bore at the revised recommended site, on the paper section of McPhedrons Road, approximately 500m west of the Watsons Reserve Road intersection.

(f) **Notes** that the estimated cost for the drilling, development and testing of the new bore is $250,000, and that this will be funded from the New Source budget, and that there is sufficient budget available.

(g) **Notes** that staff will write to the community to inform them of the decision regarding the new bore location.

(h) **Circulates** this report to the Oxford-Ohoka Community Board for their information.

7 **REPORTS FOR INFORMATION ONLY**

7.1 **Contract 16/71 River Road Seal Extension Tender Evaluation and Contract Award Report** – Kieran Straw (PDU Project Manager) and Ken Stevenson (Roading Manager)

(Refer to copy of report no. 170223017579 to the Management Team meeting of 6 March 2017)

Report in Item 7.1 has been previously circulated to members.

7.2 **Approval to engage GeoSolve Ltd for 2017 Falling Weight Deflectometer Surveys** – Yvonne Warnaar, (Asset Planning Engineer)

(Refer to copy of report no. 170331031491 to the Management Team meeting of 3 April 2017)

7.3 **Acceptance of price from JFC for Rangiora Town Centre Works** - Daniel Thompson (Special Projects Manager) and Ken Stevenson (Roading Manager)

(Refer to copy of report no. 161012104756 to the Management Team meeting of 27 March 2017)

**RECOMMENDATION**

**THAT** Items 7.1 to 7.3 be received for information.

8 **PORTFOLIO UPDATES**

8.1 **Roading** – Councillor John Meyer

8.2 **Drainage and Stockwater** – Councillor Sandra Stewart

8.3 **Utilities (Water Supplies and Sewer)** – Cr Paul Williams
9 MATTERS TO BE CONSIDERED WITH THE PUBLIC EXCLUDED

Section 48, Local Government Official Information and Meetings Act 1987

RECOMMENDATION

THAT the public be excluded from the following parts of the proceedings of this meeting.

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:

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<th>Ground(s) under section 48(1) for the passing of this resolution</th>
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<tr>
<td>9.1</td>
<td>Report of Colin Roxburgh (Water Asset Manager)</td>
<td>Request to Award Separable Portion A of Contract 17/17 Water Supply Well Drilling and Maintenance (Oxford Rural No. 1 New Well)</td>
<td>Good reason to withhold exists under Section 7</td>
<td>Section 48(1)(a)</td>
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PUBLIC EXCLUDED REPORTS FOR INFORMATION ONLY – Items 9.2 previously circulated to members

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<td>9.2</td>
<td>Report of Colin Roxburgh (Water Asset Manager) and Mark Andrews (Civil Engineer PDU)</td>
<td>Contract 16/79 Peraki Street Headworks Supply main Replacement</td>
<td>Good reason to withhold exists under Section 7</td>
<td>Section 48(1)(a)</td>
</tr>
</tbody>
</table>

This resolution is made in reliance on section 48(1)(a) 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 which would be prejudiced by the holding of the whole or relevant part of the proceedings of the meeting in public are as follows:

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<td>9.1 -</td>
<td>Protection of privacy of natural persons</td>
<td>A2(a)</td>
</tr>
<tr>
<td>9.2</td>
<td>To carry out commercial activities without prejudice</td>
<td>A2(b)ii</td>
</tr>
</tbody>
</table>
10 QUESTIONS

11 URGENT GENERAL BUSINESS

STAFF BRIEFING

At the conclusion of the meeting there will be a staff briefing to discuss:

- Sea Foam Testing – Simon
- Drainage Maintenance Contract - Simon
- Glyphosate Trial - Greg
- Kaiapoi River Rehabilitation – Owen
- Servicing of Private Properties in Residential Red Zone - Kalley
WAIMAKARIRI DISTRICT COUNCIL

MINUTES OF A MEETING OF THE UTILITIES AND ROADING COMMITTEE HELD IN
THE COUNCIL CHAMBERS, 215 HIGH STREET, RANGIORA ON TUESDAY 21
FEBRUARY 2017 AT 4.00PM

PRESENT

Councillor R Brine (Chairperson), Mayor D Ayers, Deputy Mayor K Felstead, Councillors J Meyer, S Stewart and P Williams.

IN ATTENDANCE

Councillors W Doody, P Allen, A Blackie, D Gordon
Messrs G Cleary (Manager Utilities and Roading), K Simpson (3 Waters Manager), K Stevenson (Roading Manager), K Graham (Journey Planner/Road Safety Coordinator), and Mrs A Smith (Committee Advisor)

1 APOLOGIES

An apology from Mayor Ayers for departure at 5.15pm was received and sustained. The meeting subsequently finished before this time.

2 CONFLICTS OF INTEREST

No conflicts of interest were noted.

3 CONFIRMATION OF MINUTES

3.1 Minutes of a meeting of the Utilities and Roading Committee held on Tuesday 22 November 2016

Moved Councillor Meyer seconded Councillor Williams

THAT the Utilities and Roading Committee:

(a) Confirms, as a true and correct record, the minutes of a meeting of the Utilities and Roading Committee held on Tuesday 22 November 2016.

CARRIED

4 MATTERS ARISING

No matters arising.

5 PRESENTATION

There were no presentations.
6 REPORTS

6.1 Repairs to Mandeville Septic Tank Faults – Chris Sexton (Summer Intern Engineer) and Kalley Simpson (3 Waters Manager)

Mr Simpson presented this report, giving a final update on the repairs to the septic tanks in Mandeville. A background of the situation following the June 2014 floods was provided to the committee. Following these floods and the issues with septic tanks, it was found that many affected properties didn’t have the required PS3 (producer statement) certificate for the installation of septic tanks and it was hard to identify who had done this work. This document is required for building consent to be granted. Most of the work that was undertaken was raising the turrets, to get the required 300mm above ground level, and sealing turrets with the chamber. There are two properties that council staff have not been able to engage with the landowners on, and a note will be put on the property file indicating that there is damage to the septic tanks. The system is now a lot more resilient, if there was a future flooding event.

Councillor Stewart asked how many other septic tanks in the district would also fail in a similar flooding event. Mr Simpson noted that the Fernside scheme is another area that has a STEP system in place. There is a project in place to change this system to a pressure system, and changing from a discharge to ground to linking up to Rangiora.

Deputy Mayor Felstead asked if the two properties that have not been fixed, would these have the ability to cause damage to the system in any future event. Mr Simpson said it is considered that the works that have been undertaken will mitigate any possible future overload. There will never be a completely fail safe septic system.

Following question from Councillor Doody, Mr Simpson said a lot of the repair work was undertaken by the Council’s Building Unit. The Council has met with the two main suppliers of septic tanks in the district, and discussed the importance of making the tanks water tight, and raising the turrets to keep them high enough above the flood level. Turrets can be landscaped around.

Mayor Ayers noted that there had been questions asked at one of the public meetings, if some of the connections in the septic systems had been earthquake damaged. Mr Simpson said this had been considered, but a lot of the tanks were not water tight in the first place. Inspections that were undertaken weren’t full internal inspections but were looking at the sealing around the joints and the height of the turrets.

Moved Deputy Mayor Felstead seconded Councillor Meyer

THAT the Utilities and Roading Committee:

(a) Receives report No. 170116002941.
(b) Notes that all works on repairs to septic tanks within the Mandeville scheme has been completed as of 30 November 2016.
(c) Notes that all affected homeowners have been contacted to inform them that all works are complete or that their property does not require repairs.
(d) Notes that notices have been placed on all property files in the scheme to reflect the fact that either septic tank repairs have been carried out or that repair work is not required to be carried out.
(e) **Notes** that a total expenditure for the repair work to the septic tanks was $78,964.95 compared to the budgeted amount of $270,000.

(f) **Notes** that the amount spent on the project will result in a wastewater rates increase of $0.39 for the Eastern District Sewer Scheme.

(g) **Circulates** this report to the Oxford Ohoka Community Board for their information.

**CARRIED**

Deputy Mayor Felstead noted this is a very good outcome for the Council.

### 6.2 Road Safety Action Plan – Kathy Graham (Journey Planner/Road Safety Coordinator)

Ms Kathy Graham and Mr Ken Stevenson presented this report, and the Road Safety Action Plan. The issues of accidents in the district were discussed and Mr Cleary added that there is to be a safety assessment done on the Flaxton Road route. Ms Graham noted that the statistics included in the Road Safety Action Plan are a snap shot taken at a particular time and this is an ever changing situation.

Councillor Doody raised the question of the costs in relation to road accidents, whether these are fatal, serious accident or minor accidents. This information wasn't available at the meeting but was subsequently provided by Ms Graham, as follows:

The updated average social cost per fatality is $4,095,000. This estimate includes the updated VOSL (value of statistical life), reduced productivity; medical and other resource costs. Apart from fatalities, not all serious and minor injuries are reported to New Zealand Police. A simple way to incorporate the costs associated with non-reported cases is to scale up the average social cost estimates to include the share of costs attributable to non-reported cases. With such an adjustment, the average social cost per reported serious injury is estimated at $760,000 and $75,000 per reported minor injury.

In per-crash terms, the updated average social cost is estimated at $4,709,000 per fatal crash, $900,000 per reported serious crash and $95,000 per reported minor crash. The estimates for serious and minor crashes have been scaled up to account for non-reported cases.

Moved Councillor Meyer seconded Councillor Williams

**THAT** the Utilities and Roading Committee:

(a) **Receives** report no. 170209012254

(b) **Endorses** the 2016-2017 Road Safety Action Plan

(c) **Circulates** this report to the Council and Community Boards

**CARRIED**

Councillor Meyer said our district is well served by our Road Safety team and the Council is provided with valuable information on road statistics.

Mayor Ayers spoke on the Safe Roads Alliance, noting the new way of looking at road safety is to study a route, rather than just one particular area of road. Mayor Ayer congratulated the Road Safety committee for the work they do.
7 REPORTS FOR INFORMATION ONLY

7.1 Request for Approval to Engage Opus International Consultants for the Mandeville Water Treatment Plant Upgrade – UV and Caustic Storage – Gary Stevenson (Utilities Projects Team Leader)
(refer to copy of report no. 161201123948 to the Management Team meeting of 5 December 2016)

7.2 Contract 15/66: Northbrook Road Urbanisation Tender Evaluation and Tender Acceptance Report – Kieran Straw (PDU Project Manager) and Ken Stevenson (Roading Manager)
(refer to copy of report no. 161110116241 to the Management Team meeting of 28 November 2016)

7.3 Chapman Place Pump Station Pump Renewal – Ric Barber (Development Manager)
(refer to copy of report no. 170117003615 to the Management Team meeting of 23 January 2017)

7.4 Northbrook Booster Main Stage 1 – Engage Water Unit – Mark Andrews (Civil Engineer) and Colin Roxburgh (Water Asset Manager)
(refer to copy of report no. 170201009132 to the Management Team meeting of 7 February 2017)

7.5 Approval to engage Beca Ltd for 2017 AMM Surface Condition Rating – Yvonne Warnaar (Asset Planning Engineer)
(refer to report no. 170125006473 to the Management Team meeting of 30 January 2017)

All reports in 7.1 to 7.5 have been previously circulated to members.

Moved Deputy Mayor Felstead seconded Councillor Brine

THAT Items 7.1 and 7.5 be received for information.

CARRIED

8 PORTFOLIO UPDATES

8.1 Roading – Councillor John Meyer

The big roading project on at present is the installation of traffic lights at Southbrook, and to date this has gone smoothly. Mr Cleary added that the contractors are phasing the work in a good manner. Staff are working with one resident who is being impacted by the noise of the construction, to try to reduce the effects on them. The level of traffic disruption is going to increase soon with the work required for installation of sewer and drainage pipes through the intersection. Mr Stevenson said there will be significant media advice around these disruptions.

8.2 Drainage and Stockwater – Councillor Sandra Stewart

Councillor Stewart attended the first drainage group meeting at the Ohoka Rural Drainage Advisory Group last week. There was discussion about the contract for drain clearing. Staff are looking at splitting this work into two contracts for rural and urban drains. Councillor Stewart advised that this caused some concern with the Group members.
Mayor Ayers noted that it would be good to know who the members were of the various Drainage Advisory Groups. Mr Cleary advised that this information will be circulated and available to all members.

8.3 **Utilities (Water Supplies and Sewer) – Cr Paul Williams**

Councillor Williams has had the opportunity to look around the sites with staff and thanked them for this opportunity. Key concern is the present upgrade of water main through South Belt. Installation of the chlorine system in Darnley Square in Kaiapoi is currently happening and other water projects are in progress including Garryere, Oxford Rural No.1, and Mandeville working on the new uv treatment system.

8.4 **Solid Waste – Cr Robbie Brine**

Councillor Brine noted the upcoming visit to Kate Valley Landfill for Mayor and Councillors on February 28.

9 **MATTERS TO BE CONSIDERED WITH THE PUBLIC EXCLUDED**

Section 48, Local Government Official Information and Meetings Act 1987

Moved Councillor Brine Seconded Deputy Mayor Felstead

**THAT** the public be excluded from the following parts of the proceedings of this meeting.

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<td>9.1</td>
<td>Minutes of the Public Excluded section of the Utilities and Roading committee meeting of 22 November 2016</td>
<td>Confirmation of these minutes</td>
<td>Good reason to withhold exists under Section 7</td>
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<td>9.2</td>
<td>Report of Gary Stevenson (Utilities Projects Team Leader) and Colin Roxburgh (Water Asset Manager)</td>
<td>Contract 16/78 Oxford Rural No. 2</td>
<td>Good reason to withhold exists under Section 7</td>
<td>Section 48(1)(a)</td>
</tr>
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</table>
9.3 Report of Ric Barber (Development Manager)  Ocean Outfall Resource Consent Testing  Good reason to withhold exists under Section 7  Section 48(1)(a)

9.4 Report of Murray Kerr (Senior Design Engineer) and Ric Barber (Development Manager)  Contract of CON16/76 Rangiora WWTP Aeration Basin Construction Tender Report  Good reason to withhold exists under Section 7  Section 48(1)(a)

9.5 Report of Alicia Klos (Project Engineer) and Ric Barber (Development Manager)  Contract 16/46 Tram Road Sewer Extension Report  Good reason to withhold exists under Section 7  Section 48(1)(a)

9.6 Report of Colin Roxburgh (Water Asset Manager) and Mark Andrews (Civil Engineer PDU)  Contract 16/79 Peraki Street Headworks Supply Main Replacement – Expression of Interest  Good reason to withhold exists under Section 7  Section 48(1)(a)

9.7 Report of Oana Macarie (Subdivisions Engineer PDU) and Robert Frizzell (Utilities Officer 3 Waters)  Contract 16/52 Kaiapoi Aeration Basin De- Sludging Contract 2016 Tender Report  Good reason to withhold exists under Section 7  Section 48(1)(a)

This resolution is made in reliance on section 48(1)(a) 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 which would be prejudiced by the holding of the whole or relevant part of the proceedings of the meeting in public are as follows:

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<td>9.1 - 9.7</td>
<td>Protection of privacy of natural persons  To carry out commercial activities without prejudice</td>
<td>A2(a)  A2(b)ii</td>
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CARRIED

Resolution to Resume Open Meeting

Moved Mayor Ayes seconded Councillor Brine

THAT the open meeting resumes and the business discussed with the public excluded remains public excluded.

CARRIED
10 QUESTIONS

There were no questions.

11 URGENT GENERAL BUSINESS

There was no urgent general business.

There being no further business, the meeting closed at 4.41pm.

CONFIRMED

__________________________________________
Chairman

__________________________________________
Date

STAFF BRIEFING

At the conclusion of the meeting a staff briefing was held to discuss:

- 3 Waters District Wide Rates
- Cycleways Project
1. SUMMARY

1.1. The purpose of this report is to inform the Utilities and Roading Committee about the commencement of the planning process for the preparation of the 2018 Infrastructure Strategy.

Attachments:
   i. 30 Year Infrastructure Strategy Project Plan 2018-2048 (Trim no: 170112002296).

2. RECOMMENDATION

THAT the Utilities and Roading Committee:

(a) Receives report No. 170405033536;

(b) Notes the 2018 Infrastructure Strategy is a significant document that will come to the Committee and Council as a draft in due course.

3. ISSUES AND OPTIONS

3.1. The requirement for Council to prepare an infrastructure strategy for a period of at least 30 consecutive financial years was introduced on 8 August 2014 via section 36 of the Local Government Act 2002 Amendment Act 2014.

3.2. Section 101B (2) stated the purpose of the infrastructure strategy was to ‘(a) identify significant infrastructural issues for the local authority over the period covered by the strategy; and (b) identify the principal options for managing those issues and the implications of those options.’

   Section (6) defined infrastructure assets as including:

   ‘(a) existing or proposed assets to be used to provide service by or on behalf of the local authority in relation to the following groups of activities:

   (i) Water supply:

   (ii) Sewerage and the treatment and disposal of sewage:

   (iii) Stormwater drainage:'
(iv) Flood protection and control works:
(v) The provision of roads and footpaths; and

(b) any other assets that the local authority, in its discretion, wishes to include in the strategy.'

3.3. The Council's first infrastructure strategy, called the 2015-2045 30 Year Infrastructure Strategy, was completed in February 2015. Despite its name, this document covered a 100 year planning period. In addition to the mandatory requirements, the strategy included activities that involved the provision of either a significant number of infrastructure assets, such as the recreation, green space and community facilities activities, or a few but very significant assets, such as the solid waste activity.

3.4. The 2015-2045 30 Year Infrastructure Strategy was very well received externally, being commended by SOLGM, the Office of the Auditor General, the Local Government Funding Agency and CE Forum as an example of best practice with terms such as 'stand-out', 'forward thinking' and 'leading the way' used to describe it. Waimakariri's Infrastructure Strategy was highlighted by SOLGM at the NZ Water Conference as being probably the best strategy reviewed.

3.5. Planning for the 2018 Infrastructure Strategy commenced in January this year with the establishment of an Infrastructure Strategy Project Control Group. This group met several times to provide input to and approve a draft project plan. The plan was finalised after feedback from Management Team Strategy on 9 February 2017 and tabled at the 9 March 2017 meeting of the LTP Project Control Group.

3.6. Section 3 of the project plan identifies additional activities that may be included in the 2018 Infrastructure Strategy if there is sufficient time to prepare and/or update activity management plans for these. The activities are the Rangiora Airfield, all Council owned and leased properties used to deliver Council services, including service centres, office accommodation, pensioner and community housing, camping grounds, swimming pools, forestry, library buildings and community halls.

3.7. The Infrastructure Strategy Project Control Group (ISPCG) is currently meeting fortnightly to update on projects feeding into the 2018 Infrastructure Strategy and identify areas of concern. A detailed 2018 Infrastructure Strategy work plan is currently being prepared and work is due to commence on preparing a key issues/significant projects paper for Council to consider in June 2017.

3.8. Key documents supporting and informing the 2018 Infrastructure Strategy are the Council's activity management plans. For this reason, a concerted effort has been made to support and improve asset management planning across departments, with the adoption of an Asset Management Policy in August 2016 and the establishment of the Asset Management Steering Group in September 2016. This group has also been meeting regularly and is currently developing an asset management procedural guide for the organisation.

3.9. The Management Team/CE has reviewed this report and supports the recommendation.

4. COMMUNITY VIEWS

4.1. Community views have not been sought with regard to the preparation of the project plan. Key findings of the 30 Year Infrastructure Strategy will be included in the Consultation Document (CD) to be prepared as part of the 2018-2028 Long Term Plan.
5. **FINANCIAL IMPLICATIONS AND RISKS**

5.1. A number of risks and actions to mitigate these have been identified in the project plan. The biggest issue is the timing of completion dates for projects that provide base information for activity management plans, for example, the adoption of growth scenarios and the District Development Strategy. The activity management plans are not able to be completed until 30 September 2017 and this leaves little time for the Infrastructure Strategy to be prepared and adopted by the Council on 5 December 2017. As the time frame to prepare the 2015-2045 30 Year Infrastructure Strategy was shorter than this time around due to the date the new legislation was introduced, the risk is considered to be minor. Having the project plan prepared well in advance and the project control group meeting regularly will assist to keep the project on track.

6. **CONTEXT**

6.1. **Policy**

This matter is not a matter of significance in terms of the Council’s Significance Policy.

6.2. **Legislation**

*Local Government Act 2002*

6.3. **Community Outcomes**

There are wide ranging opportunities for people to contribute to the decision-making by local, regional and national organisations that affects our District.

Veronica Spittal

**Senior Policy Analyst**
1. PROJECT ORGANISATION

**Project Governance**
_provides a decision-making framework for the development of the LTP 2018-2028 project, including the 30 Year Infrastructure Strategy 2018-2048._

**Management Team:**
Jim Palmer, Jeff Millward, Simon Markham, Gerard Cleary, Craig Sargison, Nick Harrison, Liz Ashton and Mayor David Ayers (ex-officio)

**Project Sponsors**
_assume overall accountability for, and advocate on behalf of the project. They ensure that the project delivers the agreed outcomes._

Jeff Millward – Manager Finance & Business Support
Gerard Cleary – Manager Utilities and Roading
Simon Markham – Manager Policy & Customer Service

**Asset Management Steering Group**
_responsible for overseeing the implementation of the asset management policy, providing a corporate pool of asset management expertise, improving organisational asset management practice and encouraging inter-departmental collaboration. Key role in aligning its activities with those of the Infrastructure Strategy Project Control Group._

Geoff Meadows – Policy Manager (Chair)
Simon Collin – Infrastructure Strategy Manager
Rob Hawthorne – Property Manager
Veronica Spittal – Senior Policy Analyst
Chris Brown – Community Green Space Manager
Jill Brightwell – Asset Information Management Team Leader
Yvonne Warnaar – Asset Planning Engineer
Kitty Waghorn – Solid waste Asset Manager
Phillippa Ashbey – Libraries Manager
Matt Greenwood – Operations Co-ordinator

**Project Control Group**
_responsible for overseeing the development of the 30 Year Infrastructure Strategy 2018-2048, communicating information requirements to asset managers, reporting progress to the Asset Management Steering Group and Project Sponsors._

Geoff Meadows – Policy Manager (Chair)
Veronica Spittal – Senior Policy Analyst
Paul Christensen – Finance Manager
Simon Collin – Infrastructure Strategy Manager
Chris Brown – Community Green Space Manager
Rob Hawthorne – Property Manager
Ken Stevenson – Roading Manager, and/or Yvonne Warnaar – Asset planning Engineer
Kitty Waghorn – Solid waste Asset Manager

**Project Manager**
_responsible for leading the project from inception to execution._

Veronica Spittal – Senior Policy Analyst
2. PURPOSE

Section 101B of the Local Government Act 2002 requires local authorities to prepare an infrastructure strategy covering a period of at least 30 consecutive financial years as part of its Long Term Plan. The purpose of the 30 Year Infrastructure Strategy 2018 to 2048 is to:

- Identify significant infrastructural issues to be addressed over the 30 year period;
- Identify the principal options for managing those issues and the implications of each option;
- Provide a long-term focus for Council’s asset management planning;
- Integrate asset management and financial planning and ensure the long term physical and financial sustainability of assets and the services they support;
- Promote a co-ordinated approach to the management of different asset groups;
- Ensure risk is recognised and managed in a sustainable and consistent way;
- Determine Council priorities for the management of significant infrastructure assets.

3. SCOPE

This project involves the preparation of an Infrastructure Strategy key issues/significant projects paper and the development and eventual adoption of the 30 Year Infrastructure Strategy 2018-2048. This includes:

- Completing the key deliverables outlined in section 7 of this project plan;
- Integrating information contained within the Financial Strategy and 30 Year Infrastructure Strategy;
- Incorporating key activity management plan issues and priorities into the 30 Year Infrastructure Strategy as follows:
  - Mandatory - water supply, sewerage and the treatment and disposal of sewage, stormwater drainage, flood protection and control works (where applicable), and the provision of roads and footpaths.
  - Discretionary - solid waste and green space
  - Improvement programme – The following items will be included in the 30 Year Infrastructure Strategy where possible given the timeframes. Rangiora Airfield, all Council owned and leased properties used to deliver Council services, including service centres, office accommodation, pensioner and community housing, camping grounds, swimming pools, forestry, library buildings and community halls.

The scope of the 30 Year Infrastructure Strategy is to outline the most likely scenario for managing the above assets taking into account:

- A whole of life approach to the management of assets;
- Relevant New Zealand legislation, for example the Resource Legislation Amendment Bill (RLA), Local Government Act 2002 Amendment Bill (No 2) ; Government Policy Statement for Land Transport and other national policy statements;
- External influences such as demographic and land use changes, new technologies and systems, climate change and other environmental impacts, and economic indicators;
- Risk and the need for increased resilience to natural hazards;
Community expectations and demand;
Council strategic statements and documents. These may include but are not limited to Council/community outcomes and agreed levels of service, District Development Strategy, Waste Management and Minimisation Plan, Significance and Engagement Policy, Financial Policy, key assumptions and risk table and the Waimakariri Residential Red Zone Recovery Plan.

For each of the asset groups the Strategy will:
- Provide capital and operational expenditure forecasts, every year for the first 10 years and each subsequent period of 5 years covered by the strategy;
- Identify significant decisions the Council will have to make about its assets, when those decisions will be required, the scale of costs and the likely options to be considered;
- Provide costs and options for significant capital expenditure decisions;
- Describe assumptions on lifecycle, growth or decline in demand for services and increases or decreases in levels of service. Where there is a high level of uncertainty about these assumptions, this is identified and the potential effects described.

4. PROJECT OBJECTIVES, KEY ASSUMPTIONS AND RISKS

Objectives:

To develop and adopt a 30 Year Infrastructure Strategy for the period 2018-2048 that:
- Is grounded in an understanding of current and forecasted demographic, economic, environmental and social factors of the Waimakariri district and beyond;
- Supports the realisation of district development patterns as identified in the District Development Strategy.
- Has a detailed understanding of the present, including financials and fundamentals such as asset performance and risk;
- Has a long-term planning horizon that takes into account the useful life of Council’s assets;
- Focuses on the balance between Council/community outcomes and requirements, the community’s needs and aspirations, realistic levels of service and the community’s willingness/ability to pay;
- Addresses the funding options available and affordability;
- Receives an unmodified audit opinion;
- Tells a coherent story consistent in content, look and feel with the Long Perm Plan and Financial Strategy.

Assumptions:

- There is an understanding across the organisation and with Councillors and Community Boards that the 30 Year Infrastructure Strategy is a key part of the Long Term Plan process undertaken by Council and underpins Council core business;
- The project is priority and staff resourcing from across the organisation will be made available as and when required;
- That a design template will be provided;
That draft asset management plans will be completed for all of the assets to be included in the 30 Year Infrastructure Strategy 2018-2048 by 30 September 2017 and these will be sufficiently mature to meet agreed standards for best practice and reliably inform the Strategy;

That the other associated projects (or milestones for these projects) will be sufficiently progressed to inform the 30 Year Infrastructure Strategy key deliverables before their agreed completion dates;

That decisions are made in a timely enough fashion for progress not to be impeded on the 30 Year Infrastructure Strategy;

That the status quo will prevail for the levels of service included in asset management plans except where there is a need to respond to legislative or regulatory changes or the proposed change is minor and able to be easily accommodated within budgets over the 10 year planning framework. Separate consultation processes will be undertaken prior to the finalisation of the draft LTP where major gaps between community expectations and levels of service have been identified. A preferred option for any of these significant changes to levels of service will be included in the 30 Year Infrastructure Strategy;

That the LTP community outcomes will be subject to a minor refresh by Councillors to better align these with the Council’s vision, Ta Mātou Māuri and the vision incorporated in the Waimakariri District Development Strategy document ‘Our District, Our Future Waimakariri 2048’. Some outcomes are also redundant due to the completion of projects. It is assumed this refresh will be completed in time to inform the 2017 Activity Management Plans.

Risks:

- Inability to secure cross Council contribution e.g. the same staff are utilised for all Council projects and are in high demand.

  **Mitigation action** – Project Sponsors to ensure sufficient staff resources are allocated to this project. PCG members to arrange alternative representation for PCG meetings they are unable to attend.

- Project creep and/or issues completing the deliverables for the 30 Year Infrastructure Strategy within the required timeframes due to slips in timeframes for the projects (or milestones associated with these) that contribute significantly to the Strategy, such as the demographic projections, activity management plans and District Development Strategy.

  **Mitigation action** – ISPCG to identify the outputs required from the AMP’s and DDS to inform the IS. Staff to be made aware there is no flexibility in the deadline for the Infrastructure Strategy to be completed due to the requirements for the Consultation Document to be audited in February 2018.

- Provision of inconsistent financial and asset management information.

  **Mitigation action** – Infrastructure Strategy Manager and Finance Manager to agree on the link between the asset management and financial spreadsheets.

- Due to incompatible timeframes, some of the content of the Infrastructure Strategy will rely on draft information or will be based on status quo scenarios. For example, the potential impact of the Government Policy Statement for Land Transport will not be known until November.

  **Mitigation action** – Dependencies on other information will have to be provided as an underlying assumption in the Infrastructure Strategy and there will need to be sufficient flexibility to update information when confirmed.
Possible overlap in project scope, for example, the Long Term Plan project plan includes a possible level of service refresh. The relationship between this and the level of service reviews being carried out as part of the activity management plan review process is also unclear.

**Mitigation action** – Management Team Strategy confirmed the approach to be taken with regard to refreshing levels of service at their 9 February 2017 meeting (see assumptions above). The IS Project Control Group are agreed that any significant changes to levels of service will be identified and consulted with prior to the adoption of the AMP summaries as these will provide a foundation for the AMP’s. A process for reviewing levels of service will be incorporated into the organisation’s asset management improvement programme to improve consistency in the future.

- Inconsistent decision making resulting in multiple reworks that have the potential to impact on key deliverable dates.

**Mitigation action** – PCG to develop list of key IS issues and projects and have this signed off by the Management Team early on in the process. Asset Managers who, through the activity management plan development process, identify a significant project to be carried out within the next ten years are to fill in a *Justification for Projects over $250K (years 1-3)/$1Mill (years 4-10)* Template as soon as possible to help the ISPCG identify projects of relevance to the 30 Year Infrastructure Strategy.

5. **METHODOLOGY**

The following methodology will be used to deliver this project:

- A Project Control Group (PCG), Project Sponsors and Project Manager will be established.
- The Asset Management Steering Group will align its activities with those of the PCG.
- The PCG will finalise the project plan, prepare a detailed work plan, manage identified risks including driving the timely input and co-operation of others, achieve key milestones outlined in section 7 and monitor and report on progress to the Asset Management Steering Group, Project Sponsors and Management Team.
- The Project Sponsors will provide quality control for the project and be the spokespersons for the PCG to the Council.

6. **RELATED PROJECTS, STATUS AND TIMING:**

<table>
<thead>
<tr>
<th>Deliverable</th>
<th>Status</th>
<th>Contact</th>
<th>Completed</th>
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</thead>
<tbody>
<tr>
<td>1 Justification for Projects over $250K (years 1-3)/$1Mill (years 4-10)</td>
<td>Best practice</td>
<td>Gary Boot</td>
<td>Template completed and in use. All projects identified by August 2017</td>
</tr>
<tr>
<td>2 Council Vision/Strategic Direction/Community Outcomes Review</td>
<td>Report to MTS to seek feedback</td>
<td>Maria Edgar</td>
<td>9 February 2017 (Council workshop 14 March</td>
</tr>
<tr>
<td>3 Population projections</td>
<td>Other Project</td>
<td>Simon Markham</td>
<td>Interim figures late February, finalised figures June 2017</td>
</tr>
<tr>
<td>4 LTP, IS, FS, S&amp;E policy design templates completed</td>
<td>Best Practice</td>
<td>Maria Edgar and external graphic design services</td>
<td>April 2017</td>
</tr>
<tr>
<td>5 Waste Assessment and Waste Management Plan Review, including</td>
<td>Other Project</td>
<td>Kitty Waghorn</td>
<td>May/June/September 2017</td>
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</tbody>
</table>
### Project Plan

**Project Plan**

**TRIM No.** 170112002296

**Date:** 27/01/2017

<table>
<thead>
<tr>
<th>Deliverable</th>
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<th>Contact</th>
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</thead>
<tbody>
<tr>
<td>kerbside collection options</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 Risk and Financing Strategy</td>
<td>Best Practice</td>
<td>Jim Palmer &amp; Jeff Millward</td>
<td>June 2017</td>
</tr>
<tr>
<td>7 District Development Strategy 2048 and Implementation Plan</td>
<td>Other Project</td>
<td>Trevor Ellis &amp; Simon Markham</td>
<td>Draft key milestones to inform IS - June 2017 Council adoption - 30 September 2017</td>
</tr>
<tr>
<td>8 Asset Management Plans</td>
<td>Other Project</td>
<td>Asset Managers &amp; Asset Management Steering Group</td>
<td>30 September 2017</td>
</tr>
<tr>
<td>9 Forecasting Assumptions and Risks</td>
<td>Legislative requirement</td>
<td>Jeff Millward &amp; Simon Markham</td>
<td>30 September 2017</td>
</tr>
<tr>
<td>10 District Regeneration (Red Zone Plan)</td>
<td>Other Project</td>
<td>Craig Sargison</td>
<td>30 September 2017</td>
</tr>
<tr>
<td>11 Fees &amp; Charges – possibility to set for next three years</td>
<td>Legislative requirement</td>
<td>Maree Harris</td>
<td>Nov/Dec 2017</td>
</tr>
<tr>
<td>12 Indoor Court Facilities</td>
<td>Other Project</td>
<td>Craig Sargison</td>
<td>Beginning of December 2017</td>
</tr>
<tr>
<td>13 Financial Strategy</td>
<td>Legislative requirement</td>
<td>Jeff Millward</td>
<td>December 2017</td>
</tr>
<tr>
<td>14 DC Policy Review</td>
<td>Legislative requirement</td>
<td>Kelly La Valley</td>
<td>December 2017</td>
</tr>
</tbody>
</table>

**Note:** The outcomes of the shaded projects would normally be incorporated in the AMP's but due to timing issues will need to be incorporated at a later date.

### 7. Key Deliverables, Driver, Timing and Approvals:

<table>
<thead>
<tr>
<th>Deliverable</th>
<th>Driver</th>
<th>Approval</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Draft IS project plan sign off</td>
<td>Best Practice</td>
<td>Project Control Group</td>
<td>25 January 2017</td>
</tr>
<tr>
<td>2 IS project plan and PCG sign off</td>
<td>Best Practice</td>
<td>Management Team Strategy</td>
<td>9 February 2017</td>
</tr>
<tr>
<td>3 IS detailed work plan sign off</td>
<td>Best Practice</td>
<td>Project Control Group</td>
<td>March 2017</td>
</tr>
<tr>
<td>4 IS self assessment review completed</td>
<td>Best Practice/Audit position</td>
<td>Management Team Audit NZ</td>
<td>31 March 2017 October 2017</td>
</tr>
<tr>
<td>5 Progress reports from PCG</td>
<td>Best Practice</td>
<td>LTPPCG</td>
<td>Monthly</td>
</tr>
<tr>
<td>6 Draft IS key issues/significant projects paper completed</td>
<td>Best Practice</td>
<td>Project Control Group</td>
<td>April 2017</td>
</tr>
<tr>
<td>7 Draft IS key issues/significant projects paper sign off</td>
<td>Best Practice</td>
<td>Project sponsors</td>
<td>May 2017</td>
</tr>
<tr>
<td>8 Draft IS key issues/significant projects paper sign off</td>
<td>Best Practice</td>
<td>Management Team Strategy</td>
<td>May 2017</td>
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<tr>
<td>Deliverable</td>
<td>Driver</td>
<td>Approval</td>
<td>Due Date</td>
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<tr>
<td>----------------------------------------------------------</td>
<td>-------------------</td>
<td>-------------------------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>9  Councillor workshop to consider key issues/ significant projects</td>
<td>Best Practice</td>
<td>Council</td>
<td>30 June 2017</td>
</tr>
<tr>
<td>10 Draft IS completed in design template</td>
<td>Best Practice</td>
<td>Project Manager</td>
<td>20 September 2017</td>
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<tr>
<td>11 Draft IS sign off</td>
<td>Best Practice</td>
<td>Project Control Group</td>
<td>30 September 2017</td>
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<tr>
<td>12 Peer review, quality control and assurance</td>
<td>Best Practice</td>
<td>Project Sponsors</td>
<td>Early October 2017</td>
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<tr>
<td>13 Draft IS &amp; FS sign off</td>
<td>Best Practice</td>
<td>Management Team</td>
<td>23 October 2013</td>
</tr>
<tr>
<td>14 Councillor workshop to consider draft – IS &amp; FS</td>
<td>Best Practice</td>
<td>Council</td>
<td>7 November 2017</td>
</tr>
<tr>
<td>15 Audit approval</td>
<td>Legislative</td>
<td>Jeff Millward &amp; Audit NZ</td>
<td>Late January 2018</td>
</tr>
<tr>
<td>16 Final draft IS sign off</td>
<td>Best Practice</td>
<td>Management Team</td>
<td>20 November 2017</td>
</tr>
<tr>
<td>17 2018-2048 IS adoption</td>
<td>Legislative</td>
<td>Council</td>
<td>5 December 2017</td>
</tr>
<tr>
<td>18 Project debrief and recommendations</td>
<td>Best Practice</td>
<td>Project Control Group, Project Sponsors, Asset Management Steering Group</td>
<td>February 2018</td>
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</tbody>
</table>

**KEY STAKEHOLDERS**

**Internal:**
- All council staff
- LTP Project Control Group
- Asset Management Steering Group
- Corporate Planner
- Asset and Budget Managers
- Communications and Engagement Team
- Community Board members
- Councillors
- Management Team

**External:**
- All residents and ratepayers of Waimakariri District
- Previous submitters to our Long Term Plans and Annual Plans
- Community interest groups
- CCO’s
- NZTA
- Ecan
- Other Councils
- Audit New Zealand
- Government and investors
8. PROJECT BUDGET

<table>
<thead>
<tr>
<th>Element</th>
<th>Budget</th>
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<tr>
<td>Communications and Engagement</td>
<td>To be included in LTP budget</td>
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<tr>
<td>Document design</td>
<td>TBC</td>
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<tr>
<td>Document production</td>
<td>To be included in LTP budget</td>
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<tr>
<td>Drafting document</td>
<td>Salary included in Policy and Strategy budget</td>
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<tr>
<td>Audit</td>
<td>To be included in LTP budget</td>
</tr>
<tr>
<td>Total project budget</td>
<td>TBC</td>
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</table>

9. HEALTH AND SAFETY

Is a H&S plan required? Yes [ ] No [X]
Covered by the Working in the Field Procedures

10. REGULAR REPORTING

<table>
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<tr>
<th>Report</th>
<th>Purpose</th>
<th>Responsible</th>
<th>Recipient</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asset Management Steering Group</td>
<td>Monitor progress on AMP’s, provide expert advice to AM’s, align AMSG and ISPCG activities</td>
<td>Project Manager</td>
<td>AMSG</td>
<td>Every scheduled AMSG meeting</td>
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<tr>
<td>LTP Project Control Group</td>
<td>Monitor Progress</td>
<td>Project Manager</td>
<td>LTP PCG</td>
<td>Monthly</td>
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<tr>
<td>Management Team</td>
<td>Document sign off</td>
<td>Project Sponsors</td>
<td>MTS &amp; MT</td>
<td>9 February, 17 July, 23 October, 20 November and additional times as required</td>
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<tr>
<td>Council</td>
<td>Input to document development and document sign off</td>
<td>Project Manager/Project Sponsors</td>
<td>Council</td>
<td>Before 30 June, 7 November, 5 December</td>
</tr>
</tbody>
</table>

SIGN-OFF

Prepare By: Project Manager – Veronica Spittal

Signed: [Signature] Date: Monday 13 February 2017
WAIMAKARIRI DISTRICT COUNCIL

REPORT

FILE NO and TRIM NO: DRA-21 / 170201009287

REPORT TO: Utilities and Roading Committee

DATE OF MEETING: 18 April 2017

FROM: Janet Fraser, Utilities Planner

SUBJECT: Closure of Stock Water Race R1-A in Eyrewell Forest Area

1. SUMMARY

1.1. The purpose of this report is to seek approval from the Utilities and Roading Committee of a request from Ngai Tahu Farming Limited to close a section of the Council's stockwater race R1-A. The race R1-A is located through and east of the Eyrewell Forest area, as shown in attachment i.

1.2. The portion of the race proposed for closure is situated at a point about 520m east of Poyntz Road, extending east to a point just west of Two Chain Road. The race closure application is attached to this report as attachment ii.

1.3. The proposed closure of the water race is supported in formal and email correspondence (attachments iii and iv.) by all of the properties located downstream of Ngai Tahu Farming Limited and receiving water from the R1-A race. These properties support the proposed race closure as they no longer require the supply of stock water from the R1-A race. Each affected property has its own alternative stock water supply in place.

1.4. At the point of the proposed closure of the R1-A race, surplus water will be discharged to ground via a soakage pit. If the race closure is approved then Ngai Tahu Farming Limited has confirmed it will obtain resource consent from Environment Canterbury for this discharge.

1.5. The Council consulted Ngai Tuahuriri on the proposed race closure at the 16 February monthly forum meeting (see notes in attachment vii, section 6.4). Although there was no objection to the proposed race closure from Ngai Tuahuriri, a request was made during the 16 February meeting for Ngai Tahu Farming Limited to consult directly with Ngai Tuahuriri on the race closure proposal. Therefore the race closure recommendation in this report is subject to confirmation through this separate consultation.

1.6. The Council has also consulted Waimakariri Irrigation Limited (WIL) on the proposed closure. WIL supports the proposed closure as it will be likely to improve the efficiency of operating the upper reaches of race R1-A. As less water would be conveyed through the network the efficiency would likely improve of operating the upper reaches.

1.7. The Council consulted Heritage New Zealand on the proposed race closure. Heritage New Zealand has required the applicant to provide an archaeological assessment of the
race closure, which is attached to this report (attachment vi). The assessment shows the effects of race closure are no more than minor.

1.8. The Council discussed the proposed closure with the Water Race Advisory Committee at its 30 March meeting (see meeting notes in attachment viii). The Committee members had mixed views on the proposed closure. These include both support for the closure and concerns about the viability of the network and cost implications for the Council of continuing to close the water races. The costs and benefits of the proposed closure are discussed further in the report.

1.9 In summary, given that: a) there is no further demand for the supply of stockwater from the affected properties; b) the costs of closure are likely to be offset by operating efficiencies and reduced maintenance requirements; and c) there is general agreement for the closure demonstrated through the consultation; it is recommended that the Committee approve the closure of the race.

Attachments:

i. Water Race R1A closure location plan (TRIM 170309023120) and races with road layout plan TRIM (170317026572 (including closed races); and 170317026530 (showing live races)).

ii. Application form for water race closure from Ngai Tahu Farming Ltd (TRIM 170309023118).

iii. Signed feedback response forms on stock water race closure Spencer Bower (TRIM 170221016522) and Landcorp (TRIM 170309023172).

iv. Email responses to request for water race closure from Spencer Bower (Claxby) and Landcorp property representatives (TRIM 170309023115).

v. Correspondence on proposed water race closure with Heritage New Zealand (TRIM 170306020944 and (TRIM 170221016637).

vi. Archaeological Assessment Received on proposed R1-A race closure (TRIM 170403032160).

vii. Draft Notes of meeting with Ngai Tuahuriri regarding consultation undertaken on 16 February 2017 on the requested water race closure (TRIM 170215014375 section 6.4).


2. RECOMMENDATION

THAT the Utilities and Roading Committee:

(a) Receives report No.170201009287.

(b) Approves closure of the Water Race R1-A at a point approximately 520m east of Poyntz Road, subject to confirmation at the 20 April Monthly Runanga meeting that Ngai Tahu Farming Limited has separately consulted with and agreed the proposal with Ngai Tuahuriri.

(c) Notes that at the point of closure of the race any surplus water will be discharged to ground, in accordance with a consent to be obtained from Environment Canterbury.

(d) Refers this report to the Oxford-Ohoka Community Board.

3. ISSUES AND OPTIONS

3.1. The purpose of this report is to seek your approval of a request from Ngai Tahu Farming Limited to close a section of the Council’s stockwater race R1-A. The race R1-A is located through and east of the Eyrewell Forest area as shown in attachment i.
3.2. The portion of the race proposed for closure is situated at a point about 520m east of Poyntz Road, extending east to a point just west of Two Chain Road. The race closure application is attached to this report as attachment ii.

3.3. The proposed closure of the water race is supported in formal and email correspondence (attachment iii and iv) by all of the properties located downstream of Ngai Tahu Farming Limited and which are receiving water from the R1-A race. These properties support the proposed race closure as they no longer require the supply of stock water from the R1-A race. Each property owner has also indicated that the property has an alternative stock water supply in place.

3.4. A key reason provided for the support among these properties for the race closure is the unreliable supply of stock water provided to them via the race.

3.5. At the point of proposed closure of the R1-A race, surplus water will be discharged to ground via a soakage pit. If the race closure is approved then Ngai Tahu Farming Limited has confirmed it will obtain resource consent from Environment Canterbury for this discharge.

3.6. If the closure is approved then the Council will discuss with each affected property owner whether any sections of race should be filled in or retained for drainage purposes. The filling in of race sections may require an Archaeological Authority from Heritage New Zealand.

3.7. Consultation has been undertaken with affected parties to determine views on the proposed water race closure. The consultation undertaken, and discussion of responses is outlined in Section 4 of the report.

3.8. The Management Team has reviewed this report and supports the recommendations.

4. COMMUNITY VIEWS

4.1. Discussions with affected property owners indicates the flow through the water race R1-A downstream of the Ngai Tahu farms is not reliable and does not meet the water supply and stock water requirements of the affected farm/s. One owner also noted the property no longer has any need for the supply of water from this water race.

4.2. The consultation has confirmed that all of the affected properties downstream of the Ngai Tahu Farming property have alternative stock water supplies available to them which are more reliable than the Council supply. There is no further demand among these properties for the provision of a Council supply of stock water.

4.3. Waimakariri Irrigation Limited (WIL) has been consulted on, and supports the proposed race closure. As less water would be conveyed through the network the efficiency would improve for operating the upper reaches. WIL has not noted any operating issues with the closure of the water race.

4.4. The Council consulted the Water Race Advisory Committee about the proposal during its meeting on 30 March 2017 (see attachment viii TRIM 170331031634). The notes of meeting show that the Committee members hold differing views on whether or not the race should close. One member whose property is supplied water from the race supports its closure. Another member has concerns about the cost implications of the closure and the continuing viability of the network, if the Council continues to close the races upon request.
4.5. The report discusses the cost implications of race closure in Section 5. This section concludes that, following closure, the loss of revenue for the Council should be offset by a reduction in race maintenance costs. It may also not be considered reasonable for the Council to continue to provide a service to recipients for which there is no further demand.

4.6. Te Ngai Tuahuriri Runanga were consulted about the proposal during the Monthly Forum on Thursday 16 February 2017. No objection to the proposal was raised during this meeting. However, the Runanga representatives requested Ngai Tahu Farming Limited contact Mahaanui Kurataiao Limited directly to further discuss any implications of the water race closure with them. This is therefore a matter of direct consultation between the applicant and Ngai Tuahuriri. The Council will follow up on this separate consultation with Ngai Tuahuriri at the next monthly forum meeting on 20 April 2017.

4.7 The Council has consulted with Heritage New Zealand on the proposed race closure (see attachments v and vi. for details). Heritage New Zealand advised the Council that an archaeological assessment is required to enable both the Council and Heritage New Zealand to understand any adverse effects of the closure of the water race. The applicant (Ngai Tahu Farming Limited) has obtained this assessment in accordance with these instructions (see attachment vi.).

4.8 The assessment identified that the race network construction commenced in 1891. The main race opened in 1896, and the distributing Race R1-A was likely to have been constructed very shortly thereafter (see Archaeological Assessment page 2 for details, TRIM 170403032160).

4.9 The assessment has also been prepared on the basis that the effect of the race closure on any archaeological values of the race would be no more than minor.

4.10 The applicant has now applied for an Archaeological Authority to fill in the race from Heritage New Zealand. This application states that “as the water race is being filled in it will, in effect, remain below the ground surface. Parts of the water, on land not owned by the applicant, will remain in situ”. It also notes that “the impacts of the proposal will be mitigated by recording the water race, using archaeological methods, prior to it being decommissioned”.

4.11 The applicant would be required to meet any provisions of their Archaeological Authority, once granted, for any section of the race that is to be back-filled.

5. FINANCIAL IMPLICATIONS AND RISKS

5.1. If the race R1-A is closed then some of the affected properties will no longer need to pay a stock water race rate. The requirement for the payment of the stockwater rate is set out in the Council’s Rating Policy.

5.2. In accordance with the policy, if a section of the R1-A race is closed then the stock water races rate will no longer apply to any property that has its sole access to the stock water network via that race. The rate would continue to apply, however, if that property has continuing access to any other race within the network.

5.3. For instance, the Council’s rating policy, page 7, states “water race rates are payable by every property with access to the water race network. Access is generally defined as being on the property or along the boundary, including on the other side of a boundary fence.”
5.4. The likely financial implications of closing race R1A is a reduction to Council in rates received of approximately $10,700 from among the three properties on the race downstream of Ngai Tahu Farming Limited which each only have access to race R1A. These three properties would no longer need to pay a stock water race rate as they would have no access to any other races within the stockwater race network once R1A is closed.

5.5 The annual water race network total operating and maintenance expenditure is currently around $375,000 per annum. A reduction in stock water race rate income following closure of part of R1-A of approximately $10,700 could have a noticeable effect on this budget. At the current level of operating and maintenance funding, the rate increase for other ratepayers on the stock water race system would be approximately 3.25%.

5.6 However, any loss of funding should be offset by a corresponding reduction in race maintenance and operating requirements. There should be operating efficiencies gained as a result of supplying stock water to fewer properties and operating a reduced total length of race R1-A. The reduction in race maintenance may therefore reduce any rate increase for the remaining rate-payers on the stock water race scheme as the total operating and maintenance funding is adjusted in future budgets.

5.7 It is noted the Ngai Tahu Farming property is paying rates for the supply of stock water from a combination of races: R1-A, R2 and R3-A. If its access to race R1-A is closed, it would however continue to have access to Race R2 and R3-A. The water race rate would continue to apply as the property continues to have access to the water race network.

5.8 One of the properties supporting the race closure has requested the Council make back-payment of water race rates to cover the period during which stock water was not supplied to their property.

5.9 If the R1-A race is closed by the Council then it will need to further discuss with the affected property owners the periods when stock water was not supplied. Further information on periods of inadequate flow would need to be provided by the property owner in order for the Council to make a decision on this issue.

6. CONTEXT

6.1. Policy

This is not a matter of significance in terms of the Council’s Significance Policy.

The race closure proposal is consistent with and was consulted in accordance with the Stockwater Race Closure Policy. The Policy requires the decision making process in Part 6 of the Local Government Act 2002 to be followed when making a decision to close a water race.

In particular, section 4.2 of the policy requires an assessment of significance in terms of the Council’s Significance Policy. An assessment against the Significance Policy shows the following:

i. the level of service for the supply and delivery of stockwater will not be significantly affected if the race is closed as affected properties have indicated they do not require a supply of stockwater via the race R1-A;

ii. the section of the race considered for closure is not a strategic asset;
iii. the closure will not significantly affect the Council’s ability to supply stock water;

iv. the closure will not significantly affect costs to Council or ratepayers as operating and maintenance costs are likely to reduce consistent with the reduction in operating revenues.

For these reasons, the water race closure proposal is not considered significant and consultation with residents using the Special Consultative Procedure is not considered necessary.

Consultation with affected parties in accordance with Section 82 of the Act has been undertaken for all affected properties, with a letter and feedback response form sent to each property located along the race downstream of the Ngai Tahu Farming property.

The response shows all affected properties support the proposed closure. No property is considered to be adversely affected by the proposal for the closure of the water race.

6.2. Legislation

Water race closure procedures, including public consultation requirements, are outlined in the Local Government Act 2002. In terms of this water race closure proposal, Sections 77, 78 and 82 of the Act apply. The consultation undertaken as described in Section 4 of the report is considered to adequately meet these requirements.

The discharge of a stockwater race to ground will require consent from Environment Canterbury, granted in accordance with the Resource Management Act 1991. Ngai Tahu Farming has indicated that it will lodge a consent in the name of the Waimakariri District Council for the discharge, if the race is closed.

An existing discharge to ground consent was previously obtained by Ngai Tahu Farming Limited for closure of nearby stockwater Race R1, also in the Eyrewell Forest area (CRC145850).

This existing consent CRC145850 is “to discharge water and contaminants to land”, issued in the name of Ngai Tahu Farming Investments Limited. This consent indicates the likely conditions that could apply to the discharge to ground of the R1-A race.

These include:

- Discharge into a soakage pit, with discharge flow rate to not exceed the infiltration rate of the soakage pit, and which shall not result in any surface ponding
- Design specifications for the soakage pit provided in consent conditions
- The consent also states that the discharge shall not render groundwater unsuitable or unpalatable for consumption by humans or animals.

6.3. Community Outcomes

This proposal contributes to the following outcomes:

- There is a safe environment for all
- There is sufficient clean water to meet the needs of communities and ecosystems

Janet Fraser
Utilities Planner
STOCKWATER APPLICATION FORM

Application form to be submitted to the Council for the purpose of withdrawing water from a stockwater race or carrying out any activity requiring Council consent as set out in the Stockwater Race Bylaw 2007.

Applicant: Ngāi Tahu Farming Ltd.
Address: Level 2, 15 Snow Place, Addington

Property address for application if different from above:
Lot 5-6 DPS5821, Torlesse Rd

Phone: 0210547914
Fax: 
Email: chys.narbey@ngaitahu.iwi.nz

Please indicate what activity below you are applying for. Cross out those for which you do not wish to apply for.

1. Application to take stockwater for domestic irrigation.

2. Application to plant within 10 metres either side of a water race.

3. Application to erect a building or structures of any kind within 10 metres of a race.

4. Application to put in a pond.

5. Application to put in a culvert on a water race.

6. Application to divert a water race.

Give a brief description of the activity you are applying for:
Permanently close stockwater race at location on attached map.

Please attach more pages if required.
<table>
<thead>
<tr>
<th>TO:</th>
<th>FROM:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soper Fraser</td>
<td>CLAXBY FARM</td>
</tr>
<tr>
<td>COMPANY:</td>
<td>COMPANY: R M &amp; M J SPENCER-BOWER</td>
</tr>
<tr>
<td>WDG</td>
<td>THE HOMESTEAD, CLAXBY</td>
</tr>
<tr>
<td>ADDRESS:</td>
<td>R D 6 RANGIORA 7478</td>
</tr>
<tr>
<td>FAX No.:</td>
<td>ADDRESS: 03 3126751</td>
</tr>
<tr>
<td>DATE: 21/2/17</td>
<td>PHONE No.: FAX No.:</td>
</tr>
<tr>
<td>SHEET: 1 OF: 2</td>
<td></td>
</tr>
</tbody>
</table>

You ref: DRA-21/70217015248

170221016522
STW-10
Feedback Form on Future of Stock Water Race Eyrewell Forest Area

(Race R1-A)

Name: Richard Spencer-Bower

Signature: ___________________________ Date: 21/2/17

Property Location: 180 Browns Road, Eyrewell

Postal Mailing Address (if different from location): 681 Browns Road, Eyrewell

Telephone (Optional): 03 3126761 PO Box 300 Rongotai

Please indicate whether you would like the water race R1-A to remain open or to close, by ticking your preferred choice below:

☐ I would like the water race R1-A to be closed.

☐ I would like the water race R1-A to remain open.

Comments:

As there has been no stock water for quite a while now, we can you please back date the credit on rates for stock water charges. Thank you.

Thank you for taking the time to complete this form.

Signature: ___________________________
Our Reference: DRA-21 / 170217015248

17 February 2017

Landcorp Farming Limited
PO Box 5349
Lambton Quay
Wellington 6145

Dear Sir / Madam

West Eyreton, North Canterbury: Proposed Closure of Stock Water Race R1-A

I am writing to advise you that the Waimakariri District Council has received a request from Ngai Tahu Farming Limited to close the water race R1-A, which runs through or along your property boundary at 178 and 179 Downs Road, West Eyreton. The location of the water race R1-A is shown on the attached plan, together with nearby race R2, for context.

The Council has received an indication of consent for this closure from you or your representative via an email (copy attached).

As a part of our further investigation into this request, we now require you to formally confirm your support for the closure of the stock water race.

The closure of the water race may result in sections of the race being filled in, and would mean that your property would no longer have access to Council supplied stock water from the Race R1-A.

In particular, please confirm that:
   a) You do not require the use of the R1-A stock water race for stock drinking water purposes; and
   b) You would not need to use the race to augment any water storage pond on your property as an emergency water supply source during future water allocation restrictions.

Taking account of the above comments, if you continue to support the water race closure then can you please sign and date the attached form and return to me in the reply paid envelope. Alternatively, please indicate on the form if you would prefer the race to remain open. You could also email your response to janet.fraser@wmk.govt.nz. Can you please forward your response to me by Friday 17 March.

Please do not hesitate to call me on 03 311 8900 if you have any questions about this letter.

Yours faithfully

Janet Fraser
Utilities Planner
Feedback Form on Future of Stock Water Race Eyrewell Forest Area

(Race R1-A)

Name: Fintan Philipps

Signature: __________________________ Date: 21/02/17

Property Location: 178 Downs Rd, Eyrewell Forest

Postal Mailing Address (if different from location): ____________________________________________

Telephone (Optional): 0277046859

Please indicate whether you would like the water race R1-A to remain open or to close, by ticking your preferred choice below:

☐ I would like the water race R1-A to be closed.

☐ I would like the water race R1-A to remain open.

Comments:

__________________________
Landcorp agree to close the R1-A race, however we do not agree to paying any costs associated to this closure.

__________________________
Landcorp is accepting of other parties position that the race remains open. This is not a high priority for us.

Thank you for taking the time to complete this form.

170217015076
Hey Guys

Sorry about the late reply, Have talked with sharemilker and we are all good to stop the race now. I will contact Russ from WIL and let him know too.

Cheers Pete

East Claxby/Waimak Dairies
EYREWELL, Canterbury

m | 021 143 3949
e | info@claxby.co.nz

On 27/10/2016, at 4:22 pm, Sam Spencer-Bower <samsb@xtra.co.nz> wrote:

Hey Narbs

This is a note from us to say we don’t need the water race anymore that runs along Thongcaster road (entering our place at Downs Road)
I understand that Peter S-B down-stream from us is the last user & they don’t need the race anymore either.
Pete can you confirm please.

Cheers, Sam
Hi Rhys,

No I don’t think we do, shutting it down shouldn’t be an issue.

Cheers

From: Rhys Narbey [mailto:Rhys.Narbey@ngaitahu.iwi.nz]
Sent: Friday, 4 November 2016 1:22 p.m.
To: Fintan Phillipps <phillippsf@landcorp.co.nz>
Subject: RE: MOU NTF & LFL Offtake

Thanks Fin,

Will come back to you over next couple of weeks.

On another note; does LC require use of the stockwater race that runs through your Eyrewell Farm? Users downstream (Spencer-Bowers) have no further use for it so if LC also have no use either we will look to discontinue it.

Thanks
Rhys

From: Fintan Phillipps [mailto:phillippsf@landcorp.co.nz]
Sent: Friday, 4 November 2016 1:08 p.m.
To: Rhys Narbey
Subject: MOU NTF & LFL Offtake

Hi Rhys,

See attached MOU for the offtake at Poyntzs Rd, please have a read over it and come back to me with any questions.

Once all is agreed we can get a counter sign the document, I will forward a copy to WIL once that has been completed for their records also.

Regards

Fintan Phillipps
Senior Business Manager
South Island - Dairy
15 Allen St, Wellington
Ph 04 382 1823
Cell 027 704 6859
www.landcorp.co.nz
<< image001.jpg@01D238F8.B6C40430 >>
3 March 2017

Janet Fraser
Utilities Planner
Waimakariri District Council
Private Bag 1005
Rangiora 7440

File ref: 33005-101

Dear Janet

WAIMAKARIKI DISTRICT COUNCIL: PROPOSED CLOSURE OF STOCK WATER RACE NEAR WEST EYRETON

1. Thank you for contacting Heritage New Zealand Pouhere Taonga regarding the request from Ngai Tahu Farming Limited to close stock water race R1-A. Heritage New Zealand Pouhere Taonga is an autonomous Crown Entity with statutory responsibility under the Heritage New Zealand Pouhere Taonga Act 2014 (HNZPTA) for the identification, protection, preservation and conservation of New Zealand’s historical and cultural heritage.

2. Stock water race R1-A forms part of the Waimakariri District Stock Water Race Network. Its construction is known to have spanned both the nineteenth and twentieth century. As identified in your letter, dated 22 February 2017, the proposal to close the water race may result in sections of the water race being filling in. As such this proposal has the potential to affect archaeological sites.

3. Under section 6 of the HNZPTA, an archaeological site is defined as a place associated with pre-1900 human activity, where there may be evidence relating to the history of New Zealand.

4. Heritage New Zealand recommends that the applicant commissions an archaeological assessment by a professionally qualified archaeologist to determine the archaeological values of the site. We recommend that this assessment is undertaken prior to giving support to the proposal.

5. Without an archaeological assessment, Heritage New Zealand and the Council cannot understand what adverse effects there may be on archaeological resources and how they may be avoided or mitigated. Upon receipt of the archaeological assessment Heritage New Zealand will make further comments.

6. If you require further information about the archaeological assessment process or the requirements of the HNZPTA, please contact Frank van der Heijden on 03 363 1884.

Yours sincerely

Mike Vincent
Heritage Advisor Planning
Our Reference: DRA-21 / 170221016637

22 February 2017

Mr Mike Vincent
Heritage New Zealand
PO Box 2629
Wellington 6140

Dear Mike

Waimakariri District Council: Proposed Closure of Stock Water Race near West Eyreton

I am writing to advise you that the Waimakariri District Council has received a request from Ngai Tahu Farming Limited to close a stock water race (race R1-A) which is a part of the Waimakariri District Stock Water Race network.

The stock water race system is generally located in an area south of and between Rangiora and Oxford in North Canterbury. The race proposed for closure is located near West Eyreton. The location of the water race R1-A is shown on the attached plans.

Approval for the race closure has been received from each of the three property owners located downstream of the Ngai Tahu farming operation which receive a supply of stock water from the R1-A race. Therefore there are no private properties which are considered to be adversely affected by the closure.

The Council's Stock Water Race - Closure Policy sets out consultation requirements for closure of a stock water race. The policy recommends that, together with affected private property owners, consultation be undertaken with Heritage New Zealand as an affected party.

We note the water race network is a historic feature of the Waimakariri District. The stock water races were originally developed in the late 1890's and early 1900's. The races have continued to supply stock water to rural properties in the district from the 1890's until present.

The stock water race system has in recent years been overlaid with an irrigation system which also extracts water from the Waimakariri River. The irrigation system began operating in the summer of 1999 – 2000, using infrastructure from the stock water race network. The combined stock water race system and irrigation system service an area of approximately 40,000 hectares on the upper Waimakariri-Ashley Plain (see attached plans), and now actively irrigate an area of about 18,000 hectares.

There are no known significant historic features within the area of the race network that is proposed for closure. For instance, there are no identified historic intake structures, tunnels, large culverts or other significant landmarks on the portion of the network that is proposed to close. The proposed closure affects the lower portion of a branch of the water race network.

With the advent of improved water storage facilities and irrigation, together with development of alternative water supplies from groundwater, the stock water race network has become a relatively less reliable source of stock water for some of the serviced properties. Areas of the
network are being rationalised in accordance with the changing demand for stock water, as is indicated in the proposed closure request.

The closure of the water race may result in sections of the race being filled in. This would reduce the historic spatial extent and footprint of the water race network. The proposed closure supports the change of land-use surrounding the race from widespread forestry to dairy farming.

We understand there are management and operating benefits to the applicant and downstream properties of ceasing the supply of stock water and filling in the water race.

Can you please advise if you have any concerns with the water race closure on or before **Friday 17 March**, so that the Council can continue to process the race closure application.

Please do not hesitate to call me on 03 311 8900 if you have any questions about this letter.

Yours faithfully

Janet Fraser  
Utilities Planner
Finding aids to the location of the site
Eyrewell Forest, Canterbury. Runs along the south side of Barrett Road (now closed) between Wrights Road and Normans Road where it diverts to the north and continues eastward as far as Russell Road.

Brief description

Recorded features
Water race

Other sites associated with this site
The land through which the water race runs was originally taken up as part of the Eyrewell pastoral run which included Runs 83, 93 and later 84 located between the Waimakariri and Eyre Rivers. The Run was taken up in 1853 by Marmaduke Dixon. The first homestead, known as 'The Hermitage', was located at the south end of the run near the Waimakariri River. Having not obtained a reliable source of water the homestead was moved to the north side of the run, near the Eyre River. The new homestead became a popular watering stop for travellers and came to be known as 'Eyrewell'. In 1889 the Eyrewell property was given to the Midland Railway Company and Dixon decided to purchase the freehold title to nearly 33,000 acres (Acland 1975, Ashburton Guardian 31/12/1891).

In 1891 Marmaduke Dixon began experimenting with irrigation in order to improve the marginal manuka scrub that covered much of his land. Dixon, along with his son, also named Marmaduke, surveyed and dug a main water race, 25 foot wide and 2-3 feet deep, from the Waimakariri River, and a series of distributing water races 250 chains (5 km) in total length. This work took about 3 months to complete (Press 29/12/1891:4).

After witnessing the success of Dixon’s irrigation scheme the Waimakariri-Ashley Water Supply Board was established in order to irrigate the Waimakariri and Ashley counties and supply water to Rangiura. After much argument about the location of the headworks the main race was surveyed in 1895, with the headworks located at Brown’s Rock, approximately 3 km downstream of the Waimakariri River. The main water race was opened with much fanfare in November 1896 (Star 16/11/1896: 3). Although the distributing races, of which the no. 5 water race (aka Powell’s race) was one, had yet to be constructed when the main race was opened, it is almost certain that they were constructed shortly after this (LINZ 1911, DP 3020, 3119). This water race is now identified by the Waimakariri District Council as R1-A.

Ngai Tahu Farming, the owners of part of the land through which the water race runs, are planning to discontinue the race and back-fill it.

A site visit was undertaken by K. Webb on 22 March 2017 to inspect the water race. The extent of the race that is proposed to be filled in was inspected, average measurements were taken at intervals along its length and it was photographed. The race measured between 1500 and 1700 mm wide and varied in depth between 300 and 500 mm. At the time of the site visit there was water running through it. The parts of the water race outside of the section proposed for closure were not inspected. Photos from the site visit are attached.

**Condition of the site**

Updated 22/03/2017 (Field visit), submitted by kirsawebb, visited 22/03/2017 by Webb, Kirsa

Much of the water race is still in use and has remained largely unmodified since it was constructed. It has, however, been truncated at each end where it has been obliterated by the construction of dairy farm pasture.

**Statement of condition**

**Current land use:**

**Threats:**
<table>
<thead>
<tr>
<th>SITE RECORD INVENTORY</th>
<th>NZAA SITE NUMBER: M35/1821</th>
</tr>
</thead>
</table>

Supporting documentation held in ArchSite
Figure 1. The western extent of the part of the water race to be decommissioned, looking east from Torlesse Road. The now closed Barrett Road is to the left. The average width at this point is 1500 mm and depth is about 300-400 mm.
Figure 2. The point where the water race diverges to the northeast away from Barrett Road. The water race crosses Barrett Road, which is a 20th century road, in a concrete culvert.
Figure 3. The eastern extent of the part of the water race that is to be decommissioned, looking west from Horrell Road. Part of the race has been excavated out here because of flooding. The maximum width of the unmodified race at this point is 1700 mm but the depth could not be measured because of weed growth.
Mr Marmaduke Dixon, of Eyrewell Station, near Forest Hill, has some time contemplated the promotion of an irrigation system for the placing of water from the main branch of the Waimakariri on the manuka country, of which there are some thousands of acres almost profitable in the West Eyrewell district. This gentleman having recently concluded the terms for purchase of 35,000 acres from the Midland Bank Company, without the price of £15 per acre, decided upon putting his plans into force. At the upper part of the Waimakariri Board of Conservators, and these have the effect of shutting the force of the current towards a high bank on Mr Dixon's land. It is on this that he has formed the intake, and commenced the initial parts of a general system of irrigation.

Yesterday persons were invited to inspect the new venture made by a private individual to carry out an extensive plan for irrigating a barren region. Our representative, accompanied by an old friend in journalistic circles, was met by the owner of Eyrewell with a pair of horse buggy, and driven across to the point where Mr Dixon has for some miles from the Eyrewell homestead. A short time was spent in inspecting the plans and levels, and the highest point was the number over a number of weather charts, which are daily kept by Mr Dixon for his own observation, along with which he has placed the meteorological records of other colonies and England, forming a most instructive and available reference. On the way thither the idea of country passed over us, and soon seemed to be worth more than a shilling or two annum for pasturage, but Mr Dixon confidently anticipates that he will make the proverbial two bushels of corn to grow, and obtain at least 10s per acre for rentals. There was some evidence of the apparent fertility of this otherwise sterile locality in a plantation of 250 acres of fine blue gum trees, which were planted by seed sown in the plough, some years ago, and the owner has received two acres of waste land for each one planted, under the Forest Areas Encouragement Planting Act. Everywhere there was, however, nothing on the plain but dried up grass and manuka sticks devoid of every green leaf. There were a number of windmills and evidences of places tended for water, which has cost about £300 or £400, all of which might have been saved, and a permanent supply of water obtained for about half the money. With all the expense, the wells gave but a doubtful and uncertain return on the outlay.

After a very pleasant drive, the head works of the irrigation system were reached. They have been executed by Mr M. Dixon, junior. There were present a number of gentlemen anxious to witness the practicability of the undertaking, among whom were noticed Hon. J. T. Peacock, Messrs R. Moore, M.H.R., T. J. Joynt, W. Chapman, C. Toppling, A. Cumpman, F. Wright, J. H. Sharp, and a number of others. Those present first inspected the intake, which was simply a channel cut into the river with a bulldozer or scow boat that draws the water to the main race. The race is 34 chains in length, cut to a width of 6ft at top and 11ft at the bottom, which drains out a supply of water 3ft in depth. In this race the stream flows at the rate of about three miles per hour on a fall of 1in to 4 chains. The work has been well laid out under the engineering skill of Mr Dixon and his son, and there seems no reason to expect that the rate of flow will cause any erosion of the shingle banks or produce a stream which will flood the lower land. In fact, the levels are such that the supply can be regulated at the intake as well as at the outfall. At the end of the race referred to a sluice allows of the surplus being returned to the river if required, whilst the whole supply may be fully poured out on the land. Mr Dixon plans to collect most of the water into ponds, where it will remain until consumed by the sun before it is spread into irrigation channels. The lower level races and secondary extend to a total length of 5 miles, the main channels, made by banking and ploughing, the whole of the work being done either by the plough or scow. The cost was under the ground to be about £150 for the whole work. The fall in the smaller or branch races is about 1 in 4 in four chains, and no sewer has yet taken place.

Within a few days since the water has been turned on a large area has been saturated with water, including a late crop of oats, which has been wonderfully improved. It is proposed to spread sprays and cause a growth among the manuka, which will be largely aided by the quantity of silt brought from the river whenever it is in flood. From its pasturage state the land, which is of a rich chestnut colour when moistened, will ultimately be broken up and set out in convenient farms, which should an average yield of wheat to the extent of 30 bushels per acre and root crops of very luxuriant growth. A full inspection of the farms of the country, and every person present was able to fully congratulate Mr Dixon upon his enterprise. It would not be surprising in a year or two to witness an entire change in the appearance of this manuka country. Some of the neighbours expressed fears that the overflow might cause them damage, but as the supply is easily regulated the outfall water need not fill a tea cup; moreover, many of the owners of adjoining farms will ere long be found making overtures to Mr Dixon, who holds tie key of the situation, for some of the water which he is in a position to supply from the practically inexhaustible big cold river. The underground drainage has been already improved, some of the dug wells on the property being raised about 9ft.

A lunch was provided by Mrs and the Misses Dixon for all who were present at the inspection of the Eyrewell irrigating system, and their hospitality was much appreciated.

Figure 4 Article from the Press describing Dixon's original water race network. Note the water race recorded as M35/1821 was not part of this original water race network. Image: Press 25/12/1891: 5.
Form B
Application for a General Archaeological Authority
for a site where the effect will be no more than minor

This form is for a general authority where the effect on the archaeological site will be no more than minor. For example, a proposed driveway will clip the side of an archaeological site, affecting only a very small portion of the site. The archaeological site must be a recorded site (i.e., the site must be known to be present not just suspected, and it must have been recorded in the national inventory of archaeological sites (see accompanying Guide B for further instructions).

Stage 1: Pre-Application
It is recommended that you undertake pre-application discussions with Heritage New Zealand Pouhere Taonga during the planning stages of your project, prior to submitting this form (see accompanying Guide B for contact details). This will ensure that the process will run as smoothly as possible. It is also recommended that during consultation with Tangata Whenua or Moriori (Chatham Islands), cultural protocols are established and agreed upon to ensure all parties are aware of what is expected on site while the proposed works are taking place.

Stage 2: Completing the Form
Accompanying this form is Guide B which contains information to assist in its completion. A checklist can also be found at the back of this form to ensure all required information has been provided.

Stage 3: Submitting the Form
This form plus any accompanying pages and reports may be received in electronic or hard copy format. Electronic applications must be legible, and maps and plans provided in colour at a minimum of 400dpi. Emailed electronic applications must be no larger than 10MB. Hard copy applications can be posted to the relevant Heritage New Zealand Pouhere Taonga office (see accompanying Guide A for details).

Stage 4: What Happens Next?
You will be informed in writing within five working days from receipt at the relevant Heritage New Zealand Pouhere Taonga office as to whether your application has been accepted.

Please direct any enquiries to the relevant Heritage New Zealand Pouhere Taonga office, who are here to help (see the accompanying Guide B for contact details).

There is no fee associated with Heritage New Zealand Pouhere Taonga processing your authority application.

Please note that once an authority is issued, it is subject to a 15 working day appeal period (plus three working days to allow receipt by all parties if sent by post), during which time the authority cannot be exercised.

If you are the owner of the land to which this authority relates, you are required to advise any successor in title that this authority applies in relation to the land. This will ensure that any new owner is made aware of their responsibility in regard to the Act.

This application is a legal document and is subject to the Official Information Act 1992.
SECTION A: APPLICATION SUMMARY

A.1. Contact Details
A.1.1 Contact Details of Applicant

Name: Rhys Narbey
Address: Ngai Tahu Farming
Level 2, 15 Shad Pl.
Addington, Christchurch

Email: rhys.narbey@ngaitahu.co.nz

Daytime phone: 
Mobile: 021 054 7914
Postcode:

Mailing Address:
(If different from above)

Mailing Address
Postcode: 

☐ Tick if you would also like the authority decision to be posted to you.

A.1.2 Contact Details of Contact Person (If not the applicant)

Name: 
Address: 

Daytime phone: 
Mobile: 
Postcode:

Email: 

Mailing Address:
(If different from above)

Mailing Address
Postcode: 

A.2. Location Details
A.2.1 The address/location to which the application relates is:

260 Poynitzs Road, Eyrewell Forest-Cust

A.2.2 Legal description (e.g. Lot and DP numbers) and CT number if available (provide location plan):

Lot 5 DP 55821

A.2.3 The Local Authority within whose boundaries this application falls (e.g. Dunedin City Council):

Waimakariri District Council

A.2.4 Have any authorities been granted for the proposed areas of works in the past? ☐ Yes ☐ No

If yes, please list relevant authority numbers (contact the relevant Heritage New Zealand Pouhere Taonga office if assistance is required (See the accompanying Guide B for contact details): 

A.2.5 Does the land lie within a:

Statutory acknowledgement area? ☐ Yes ☐ No

customary marine title? ☐ Yes ☐ No

A.2.6 Indicate if any of the following apply to the land under application:

☐ NZ Heritage List entry (previously the NZ Historic Places Trust Register)  (If yes, provide details below)

☐ Covenant or Orders  (If yes, provide details below)

☐ District plan schedule  (If yes, provide details below)

☐ Reserve status  (If yes, provide details below)

☐ Other  (If yes, provide details below)

A.3. Details of archaeological sites to be affected. The relevant New Zealand Archaeological site record forms must be provided with this form.

<table>
<thead>
<tr>
<th>NZAA Archaeological Site Number</th>
<th>Site Name (if known)</th>
<th>Site Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>M35/1821</td>
<td></td>
<td>Agricultural/pastoral</td>
</tr>
</tbody>
</table>

A.4. Description of Proposed Activity

A.4.1 Provide a full description of proposed activity, including a statement on what you are trying to achieve for your project. Plans, drawings, engineering specifications and/or photographs must accompany the application. Note that plans must show the proposed activity in relation to the archaeological site that is to be affected.

The applicant proposes to decommission part of a 19th century water race by filling it in. See attached plans for the part of the water race to be decommissioned.
A.4.2 Provide an explanation as to why you think the proposed activity will have an effect on an archaeological site that is no more than minor.

As the water race is being filled in it will, in effect, remain below the ground surface. Parts of the water, on land not owned by the applicant, will remain in situ.

A.5. Heritage New Zealand Pouhere Taonga encourages avoidance and site protection in the first instance. State what alternatives have been explored and, in cases where avoidance is not deemed possible, provide an explanation as to why this is the case and how the known impacts will be offset.

The impacts of the proposal will be mitigated by recording the water race, using archaeological methods, prior to it being decommissioned.
SECTION B: CONSULTATION

B.1. Has consultation been undertaken with the following parties?

- Tangata Whenua or Moriori (Chatham Islands) ☐ Yes ☐ No
- Landowner ☐ Yes ☐ No
- Any other person likely to be affected ☐ Yes ☐ No ☐ N/A

If you have selected no to any of these, provide an explanation as to why this is the case:

The area through which the water race runs has no known Maori occupation history.

B.2. Consultation with Tangata Whenua or Moriori (Chatham Islands). This is mandatory of sites of interest to Maori or Moriori (Chatham Islands).

Contact Details:

- Iwi/Hapu:
- Contact name:
- Address: Daytime phone:
- Email:
- Mobile:
- Postcode:

Provide details of the consultation undertaken, including the views and the tenor of these views. This may take the form of a Cultural Values Impact Assessment provided by Tangata Whenua or Moriori (Chatham Islands).

You must also provide an assessment of the Tangata Whenua or Moriori (Chatham Islands) values of the archaeological site and the effect of the proposed activity on those values.

This information can be provided below, or attached as separate documents to the application form when submitted.
B.3. Consultation with Landowner (if not the applicant)

Contact Details:

Contact name: 
Address: 
Daytime phone: 
Mobile: 
Postcode: 
Email: 

Provide details on the consultation undertaken, including the views and the tenor of these views. Also indicate the extent to which the protection of the archaeological site prevents or restricts the reasonable future use of the site.

This information can be below, or attached as separate documents to the application form when submitted.

---

B.4. Consultation with any other person likely to be affected

Contact Details:

Group/Organisation (where appropriate): 
Contact name: 
Address: 
Daytime phone: 
Mobile: 
Postcode: 
Email: 

Provide details of the consultation undertaken, including the views and the tenor of these views.

This information can be below, or attached as separate documents to the application form when submitted.
SECTION C: LANDOWNER CONSENT

Obtaining consent of all landowners is a legal requirement. It is preferred that consent is obtained as part of this application however it can be provided after the authority is issued. Please note however that consent must still be obtained prior to any works being carried out.

I (please print name) [Rhys Narbey] hereby acknowledge:

1) That I have read and understood the description of proposed activity included in this application and I acknowledge and accept any implications the activity may have on me and my land

2) That I have been consulted regarding the proposed activity and give my consent to the activity being carried out

3) That I have read and understood the information on legal responsibilities concerning archaeological material provided in the accompanying Guide B.

Signature of landowner: ___________________________ Date: 24/3/17

SECTION D: APPLICANT’S DECLARATION

I (please print name) [Rhys Narbey] hereby acknowledge:

1) That all the information provided with this application is true and correct to the best of my knowledge

2) That I have read and understood the description of proposed activity included in this application and I will inform Heritage New Zealand Pouhere Taonga about any changes to the proposed activity while the application is being considered

3) That I accept the responsibilities complicit with being an authority holder, including being liable for the compliance of all authority conditions and any monetary cost this will entail, including cost for analysis of archaeological material recovered and the dissemination of the data in report form.

4) I confirm to the best of my ability that the cost of the archaeological programme association with these proposed works will not exceed $100,000. Please note that the approval of Heritage New Zealand Pouhere Taonga's Board will need to be sought if the programme is to exceed this figure.

If the archaeological programme is likely to exceed $100,000 please check this box: [ ]

Signature of applicant: ___________________________ Date: 24/3/17

(or authorised agent)
CHECKLIST

Your application can not be considered until each section is completed, the attachments provided, and the application is signed and dated.

Have you:

☑ Completed each section?
☑ Attached a location plan? (Section A.2.2)
☑ Attached details of statutory acknowledgement area or customary marine title, if relevant? (Section A.2.5)
☑ Attached a copy of the relevant New Zealand Archaeological Association site record form? (Section A.3)
☑ Attached plans, drawings, engineering specifications and/or photographs of the proposed activity (if not already included in the archaeological assessment report)? (Section A.4.1)
☑ Ensured that at least one of these plans show the proposed activity in relation to the archaeological site that is to be affected? (Section A.4.1)
☑ Provided names and contact details of Tangata Whenua or Moriori (Chatham Islands), details of consultation undertaken and an assessment of Maori (or Moriori) values? (Section B.2)
☑ Provided names and contact details of landowner, and details of consultation undertaken? (Section B.3)
☑ Provided names and contact details of any other person likely to be affected, and details of consultation undertaken? (Section B.4)
☑ Ensured that signatures have been provided for Sections C and D?
Form E
Application for Approval or Change of Archaeologist

This form is to be used for the approval or change of an archaeologist to undertake work associated with an archaeological authority.

Section 45 of the Heritage New Zealand Pouhere Taonga Act 2014, states that an applicant must apply to Heritage New Zealand Pouhere Taonga for approval of any person nominated to undertake the activity under an authority. This person must not be approved unless Heritage New Zealand Pouhere Taonga is satisfied that the person:

1) has sufficient skill and competency, is fully capable of ensuring that the proposed activity is carried out to the satisfaction of Heritage New Zealand Pouhere Taonga; and has appropriate access to institutional and professional support and resources; and

2) in the case of a site of interest to Maori:
   a. has the requisite competencies for recognising and respecting Maori values; and
   b. has access to appropriate cultural support.

Heritage New Zealand Pouhere Taonga Guideline Series No. 5 Guideline for Section 45 Approval (2014) describes the requirements that the specified archaeologist must meet in order to be approved by Heritage New Zealand Pouhere Taonga to undertake an activity under an authority (see www.Heritage.org.nz).

Approval is decided on a case by case basis.

Please note that when section 45 approval is granted separate to the archaeological authority decision, a 15 working day appeal period applies (plus three working days to allow receipt by all parties if sent by post), during which time the authority cannot be exercised. This includes instances when the archaeologist is changed part-way through a project.

A list of available archaeological consultants can be found at www.nzarchaeology.org. Inclusion on this list does not imply that the consultant meets the criteria to be an approved archaeologist under section 45 of the Act for a particular application. Some types of work (e.g. buildings archaeology) may require specialist skills — ensure your consultant has the right skills.

This application is a legal document and is therefore subject to the Official Information Act 1982. All information once received by Heritage New Zealand Pouhere Taonga is public information and may be subject to a request.
Form E
Application for Approval or Change of Archaeologist

SECTION A: ARCHAEOLOGIST'S DETAILS

Name: Katharine Watson
Address: P.O. Box 388
         Christchurch
Email: katharine.watson@underoverarch.co.nz

Daytime phone:
Mobile: 0276563985
Postcode: 8140

Mailing Address: [if different from above]
Mailing Address Postcode:

☐ Tick if you would also like the decision to be posted to you.

SECTION B: ARCHAEOLOGIST'S DECLARATION

I (please print name) Katharine Watson hereby acknowledge:

1) That I understand that I am legally responsible for current archaeological practice in respect of the Archaeological Authority for which this approval is granted.

2) That I meet the criteria required to be an approved archaeologist under section 45 of the Heritage New Zealand Pouhere Taonga Act 2014. This includes providing evidence of my sufficient skill and competency in relation to Maori values, access to appropriate cultural support and access to appropriate institutional and professional support and resources.

Signature of Archaeologist: Katharine Watson
Digitally signed by Katharine Watson
Date: 2016.05.23 14:43:11 +12'00'
Date: 23-Mar-2017

SECTION C: APPLICANT'S DECLARATION

I (please print name) Ngai Tahu Family hereby acknowledge:

1) That all the information provided with this application is true and correct to the best of my knowledge.

2) That I have ensured all information relevant to the proposed work has been made available to the specified archaeologist.

Signature of Applicant: [Signature]
Date: 24/3/17
# Joint Meeting Te Ngāi Tūāhuriri Rūnanga and Waimakariri District Council Representatives

**Notes of a Meeting Held in the Rakahuri Committee Rooms, Waimakariri District Council, Rangiora on Thursday 16 February 2017 at 10.06AM**

**Purpose**
- To ensure that issues of interest to both parties are raised and discussed in a timely manner.
- To provide a decision-making forum for issues to be progressed and reported on.
- To ensure the development of an effective partnership between the Rūnanga and the Council.
- To promote better long-term community outcomes.

**Present**
- Clare Williams and Tania Wati (Te Ngāi Tūāhuriri Rūnanga)
- Amy Beran (Mahaanui Kurataiao Ltd)
- Simon Markham and Louise Courtney (Waimakariri District Council)

**In Attendance**
- Matt McIlraith (Communications and Engagement Manager), Veronica Spittal, Dan Huisman, Ruben Garcia, Mark O'Connell, Grant Reburn, Kāleym Simpson (3 Waters Manager).

**Chair**
- Simon Markham

**Apologies**
- David Ayers, Hoana Burgman, and Jim Palmer

<table>
<thead>
<tr>
<th>Item</th>
<th>Notes/Action Points</th>
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<tbody>
<tr>
<td><strong>The meeting opened with a karakia from Tania.</strong></td>
<td></td>
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<tr>
<td><strong>Confirmation of 20 August 2016 meeting minutes.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>1. Actions from 16 June 2016 meeting</strong></td>
<td></td>
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<tr>
<td><strong>1.1. Townsend Road stormwater</strong></td>
<td>A formal response will be issued from MKT.</td>
</tr>
<tr>
<td><strong>1.2. Preeces Road</strong></td>
<td>There was a query whether the stumps have been removed or not with concern regarding further ground disturbance as the area is of high cultural significance to the Te Ngai Tūāhuriri. Will need to follow up and report back to MKT. <strong>18 August 2016</strong> Simon advised that there was an action item for him to provide Amy information regarding the stumps on Preeces Road. <strong>16 February 2017</strong> Simon advised the Roading Manger followed up the matter and found the trees were on private land and not a road reserve.</td>
</tr>
<tr>
<td><strong>1.3. MKT Projects update</strong></td>
<td>Simon queried the notification of resource consents to MKT. Amy stated that a spreadsheet is received noting the consent number and few details. Simon will follow up on more detailed information being provided to MKT. <strong>18 August 2016</strong> Simon advised that he and Tania had had a catch-up around notification of resource consents. Currently a brief spreadsheet was provided to MKT that contained few details. An action item out of the discussion was for Amy to identify a set of triggers. In future if something was</td>
</tr>
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</table>
6.3. **Kaiapoi River Rehabilitation Working Party**  
Draft consultation documents and maps were tabled with community consultation soon to be carried out.

Kalley advised the working party’s current Rūnanga representative has had to resign due health reasons. Staff are seeking recommendations from the Rūnanga for someone to fill the vacancy. **Tania advised that as Amy is already on the working party as the MKT representative, then she could also act as the Rūnanga representative.**

The proposal is to develop sediment traps from the Mafeking Bridge to the Mandeville Bridge, and staff need to get public reaction to these proposals.

The current plant trials are proving successful. Staff require a CIA.

**Janet enquired whether the Rūnanga would be able to assist with a Māori title for use in the consultation material. Amy will follow this up.**

S Markham queried the timing. Janet replied consultation would occur in April 2017. She added that the working party had already approved the consultation material but sought comment from the Rūnanga representatives and whether the Rūnanga and MKT wanted their logos on consultation material. This is to be followed up with Amy.

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<tbody>
<tr>
<td><strong>6.4.</strong> Proposed Water Race Closures</td>
<td>Janet</td>
</tr>
</tbody>
</table>

See attached.

Regarding the Oxford Road South Water Race: it was clarified that the water race would no longer discharge into the Northbrook.

Regarding the Eyrewell Forest Water Race R1-A: Tania noted it came from Ngai Tahu, querying why did come through MKT first. Kalley advised that staff followed Council policy and treated Ngai Tahu as they would any other person/group in the same circumstance. Tania had no issue with the Council’s process, but MKT would have appreciated some communication on the matter as part of their ongoing relationship with Ngai Tahu.

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<tbody>
<tr>
<td><strong>7.</strong> Wastewater</td>
<td></td>
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<tr>
<td><strong>7.1.</strong> Central Rangiora Trunk Sewer Upgrade Update</td>
<td></td>
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</tbody>
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See attached.

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<tr>
<td><strong>7.2.</strong> Rangiora WWTP Upgrade Update</td>
<td></td>
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</table>

See attached.

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<tbody>
<tr>
<td><strong>7.3.</strong> Woodend WWTP Upgrade Update</td>
<td></td>
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</tbody>
</table>

See attached.

It was noted that the desludging would be carried out in the 2017/2018 financial year.

Tania asked what happened to any dead Pukeko found, as local weavers would utilise the feathers. Kalley advised there was currently no system in place for dealing with dead Pukeko.

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<tbody>
<tr>
<td><strong>8.</strong> Water</td>
<td>Kalley</td>
</tr>
<tr>
<td><strong>8.1.</strong> Drinking Water Compliance Update</td>
<td></td>
</tr>
</tbody>
</table>

See attached.

Noted Fluoridation Bill. Simon stated that matter was moved from Local Government to District Health Boards but commented that no requirement for public consultation. **WDC submission is that it should be a Central Government decision.**
WAIMAKARIRI WATER RACE ADVISORY GROUP
MINUTES OF THE MEETING HELD ON THURSDAY 30 MARCH 2017, 7:30PM
IN THE WAIMAKARIRI DISTRICT COUNCIL'S OXFORD TOWN HALL

PRESENT: Joe Boulton, Brian Judson, Greg Bennett (WDC), Jamie Hamilton (WIL), Owen Davies (WDC), Clr. Sandra Stewart, Margaret Spencer-Bower, Keith Vallance, Denise Clark (Minute Secretary)

1. APOLOGIES

An apology was received from Les Inch, Tim Stokes, Greg Bennett. Change in committee members this term sees the resignation of Joe Boulton and our new Councillor on board is Sandra Stewart.

MOVED: Keith Vallance / Joe Boulton

That the apologies be received. Carried

2. CONFIRMATION OF MINUTES

That the Waimakariri Water Race Advisory Group

- Confirms as a true and correct record the minutes of the meeting held of the Waimakariri Water Race Advisory Group on Thursday 21 July 2016 with the exception of the following amendment.

Amendment:
- A correction was made to the previous minutes as follows:
  - It was noted that the date was incorrect on the previous minutes and read 22 July 2017 instead of 21 July 2016.

MOVED: Brian Judson / Joe Boulton

Carried

3. VOTE FOR A NEW CHAIRPERSON

A nomination has been put forward for Tim Stokes however as he is absent from this meeting Owen will contact Tim and ask for his acceptance. Owen will confirm with members at next meeting.

4. MATTERS ARISING

- An anomaly of $21,000 in the financial statement was noted, Greg said utilities pay rates which is set on the valuation of assets in Road Corridors. Council collects the rates. Irrigation rates were exempt until last year which hasn’t been budgeted for the last financial year. A lump sum transfer was done in June. Irrigation NZ have gone to the Valuation General to protest this.
  - Greg will check with Finance to see if the rates will come back into this Water Race account rather than the General account as Greg was told previously.
  - Owen has not caught up with finance but noted that the new figure has risen to $28,995.

5. WAIMAKARIRI IRRIGATION LTD REPORT

- WIL Report was presented by Jamie Hamilton:
  - It has been a favourable season with rivers being full due to the amount of rainfall.
  - Last month we were on water restrictions however there has not been a lot of demand for water at the moment with the amount of rain we are now experiencing.
6. **FINANCIAL REPORT**

A Financial Report to February 2017 was tabled:
- Margaret asked what are the external recoveries? Owen will find out for next meeting.
- To date the budget is looking good we have spent 70% of the budget so far this financial year.

7. **GENERAL BUSINESS**

- Proposal to close two races.
- **1. Race R3N-1 Oxford Road race closure at the top of the North Brook.**
  - Most people are in favour of closing this race.
  - There is not a constant flow down here and it is not spring water.
  - Margaret queried if some people want to keep it open, then do we need to keep it open? Owen said as there are more people who want to close it, then we would recommend closing the Race.
  - WDC is asking this group to provide feedback to go to Council.
  - Margaret would support closing the race as the race now runs through mainly residential properties.
  - Is it wise to fill the drain in? Owen said we would write to everyone affected and tell them if they want to fill the drain in when closed, then they must talk to Council first.

- **2. Proposed Closure of Stock Water Race R1-A**
  - Margaret has a vested interest in this particular closure as the race runs through her property.
  - All users of this Water Race have given consent to close the race.
  - Margaret said she hasn’t had any water come through Ngai Tahu property for at least 6 months.
  - Joe said we need to be very careful we don’t end up with a system that isn’t viable if we start closing races when people request it.
  - Keith said if it’s not being used, it may as well be closed.
  - Joe wants to wait for the other two absentee members to be present before a conclusion is reached. Owen has sought to contact absentee committee members as requested during the meeting. No further objection was raised from Tim Stokes.
  - Silverstream has been identified as an area with pollutants in the catchment. WIL is working with Ecan at the moment to look at ways to flush this out. The closure of this race could mean the water could potentially be used to flush out the Silverstream.
  - The ratepayers who will lose the use of the race will stop paying a stockwater rate. Owen said the closure of the race would not affect anyone else’s rates.
  - Margaret said she would like to have the races remain in place even when/if closed to help in the event of a flood in the future.
o Keith Vallance mentioned Lily Road has had some people drive through the water race and have caused a huge mess.

8. **MEETING DATES**

   o Next Meeting Thursday 20\textsuperscript{th} July at the Oxford Town Hall. The final meeting for this year is proposed for 2\textsuperscript{nd} November.
   o Please keep Thursday 18\textsuperscript{th} May free for the Annual Drainage Groups get together in the Rangiora Council Chambers.

*There being no further Business, the meeting was declared closed at 9.00 pm*
1. SUMMARY

1.1. This report recommends the Utilities and Roading Committee approves the closure of the Council stock water race R3N-1 on the south side of Oxford Road, Rangiora. The segment of the race that is proposed to be closed is shown on the plan in Attachment iii. The Utilities and Roading Committee previously closed the other stock water race on the north side of Oxford Road (R3Q) at its 15 December 2015 meeting (see TRIM 151125156380).

1.2. This report summarises the results of consultation on the race closure proposal. The consultation provides a basis for the Council to make a decision on the future of the water race. It will also enable the Council to respond to a request from several stock water ratepayers to close this section of the water race.

1.3. This race R3N-1 can provide a flow augmentation to the North Brook. The North Brook is a spring fed stream originating at a point just south of Oxford Road near Aspen Street. The North Brook then flows through the centre of urban Rangiora and across farmland until it joins the Ruataniwha (Cam) River.

1.4. The Council consulted the race closure proposal with two groups of properties. These are: 1) properties adjoining the water race that are paying the stock water race rate; and 2) properties that may have their amenity affected by the race closure. This latter group is comprised both of properties adjacent to the upper North Brook where the head of the stream is augmented by the water race, and by properties on Oxford Road with road frontage landscaping that may be affected by the closure of the race.

1.5. Of the 32 properties consulted in total, 8 are located along Oxford Road and are paying the stock water rate. The implications of race closure on the rates revenue received from these properties is discussed in Section 5 of this report. A further 24 properties were consulted as they are located adjacent to the North Brook where it flows between Oxford Road and West Belt, or at the intersection of Acacia Ave and Oxford Road where the race flows through a landscaped section of the road reserve, as referred to above.

1.6. The 32 property owners were each asked whether or not they would want the Oxford Road race R3N-1 to close. Of 19 responses received, there were 11 property owners that supported the closure, and 8 owners that wanted the race to remain open. The consultation therefore shows a small majority of respondents, including some stock water ratepayers and other affected properties support closing the race.
1.7 Of the 8 properties paying the stock water race rate, 5 responded to this consultation. Of these, 3 wanted the race to close and 2 wanted it to remain open.

1.8 Reasons given by those that want the race to close include:

- Irregular flows causing stagnant water and mosquito breeding
- Excessive weed growth and weed maintenance issues
- A practical response to ongoing urban development
- Closing the race to remove its flood conveyance capacity, protecting urban Rangiora from future flooding (see discussion in Section 3)
- It is understood that the race has not been used to supply stockwater to stock for a number of years.

1.9 Conversely, reasons provided to keep the race open include:

- Supporting ecological base flows, retaining in-stream ecology and habitat
- Amenity and recreational values of the race
- Property values are greater for those with a flowing stream on the property
- Properties built around the stream as a feature, including time and expense
- Concern about adverse effects of closure including loss of biodiversity, increase in weeds, greater frequency of stagnant pools, mosquito breeding and odour
- Use of water race as backup water supply in event of disaster (e.g. draught)
- Easements on property are for a stream rather than a stormwater drain

1.10 The Council also consulted the race closure request with Ngai Tuahuriri (see TRIM 151118153872), the Water Race Advisory Committee (see TRIM 17033103163) and with Waimakariri Irrigation Limited through a number of ongoing discussions. It did not receive any objections to closing the race from any of these organisations. A discussion of the feedback from these organisations is included in Section 4 of this report.

1.11 The Council has commissioned an Archaeological Assessment of the section of race proposed for closure as requested by Heritage New Zealand. This report recommends the closure of the race, provided the assessment does not identify any significant adverse effects of its closure.

1.12 The report also discusses future maintenance options for the race and the upper North Brook, if the race augmentation of the stream is to cease. Sections of the race R3N-1 may be back-filled following closure, if they are not required to serve a drainage function for the adjacent properties. If the Committee decides to close the race then staff will also investigate further the options to maintain the dry upper channel of the North Brook. It will report these back to the Committee at a future date for consideration.

Attachments:

i. Summary of Comments: Properties that Support Keeping the Race Open (see appendices to report).

ii. Summary of Comments: Properties that Support Race Closure (see appendices to report).

iii. Plan of Race R3N-1 proposed for closure south side of Oxford Road (TRIM 161125121811).

iv. Consultation responses received by Council from affected properties (TRIM 170316026041).

v. Consultation meeting with Ngai Tuahuriri as recorded in notes of meeting 19 November 2015 (see item 4.4) (TRIM 151118153872).

2 RECOMMENDATION

THAT the Utilities and Roading Committee:

(a) Receives report No. 170310023657.

(b) Approves closure of water race R3N-1, subject to receipt of an archaeological assessment that does not identify any significant adverse effects of the proposed closure.

(c) Notes, following the water race R3N-1 closure, the Council will discuss maintenance arrangements and possible filling in of sections of the race on Oxford Road with the affected properties.

(d) Notes, following ceasing the flow augmentation of the North Brook, the Council will discuss maintenance arrangements for the upper reaches of the stream between Oxford Road and West Belt with the affected properties, and report maintenance options back to a future Committee meeting for consideration.

3 ISSUES AND OPTIONS

3.1 Summary

3.2 The purpose of this report is to outline the results of consultation on a request from several stock water race ratepayers to close the stock water race on the south side of Oxford Road, Rangiora.

3.3 The race R3N-1 along the south side of Oxford Road between Lehmans Road and the head of the North Brook traverses 4 rural properties and 9 urban properties. Of these 13 properties, 8 are paying the stock water race rate and so were consulted on the proposed race closure. The race water flows through a pipe through some of the other urban Oxford Road properties. At the intersection of Oxford Road and Acacia Ave it flows through a landscaped section of road reserve adjacent to the urban properties. Neither of these latter groups of properties are using the water for stock water and are therefore not paying the water race rate.

3.4 The Council consulted the race closure request with 32 properties in total. These include: 1) the 8 properties adjoining the water race that are paying the stock water rate; and 2) 24 other properties, of which 22 are adjacent to the North Brook between Oxford Road and West Belt, and 2 on the landscaped corner of the Acacia Ave and Oxford Road intersection.

3.5 As the water race can augment flows in the upper North Brook, the properties between Oxford Road and West Belt are considered to be affected by the race closure proposal. As the North Brook flows south and east through Rangiora it is increasingly augmented by spring flows. This means the effects of the proposed closure on properties downstream of West Belt reduce as the stream travels east through the town.

3.6 The Council asked each of these 32 property owners whether they would want the Oxford Road race R3N-1 to close. Of 19 responses received, there were 11 property owners that supported the closure, and 8 owners that wanted the race to remain open.

3.7 There are a number of technical, safety, health and economic reasons for the Council to consider closing the water race. These include:

- To reflect an ongoing change in the area towards urbanisation, and consequent reduction in stockwater use;
• To facilitate future residential development in this area;
• To improve safety on residential properties and in new subdivisions by removing areas of flowing or standing water.
• Addressing concerns about the increasingly irregular flows in the race which may be a consequence of seasonal weather variation, irrigation intake restrictions, upstream race maintenance issues and/or climate change.

3.8 Reasons given by those that want the race to close include:
• Irregular flows causing stagnant water and mosquito breeding
• Excessive weed growth and weed maintenance issues
• A practical response to ongoing urban development
• Closing the race to remove its flood conveyance capacity, protecting urban Rangiora from future flooding (see Section 3.23 for discussion)
• It is understood that the race has not been used to supply stockwater to stock along this reach of the race for a number of years (other than on a Council owned property as discussed in 3.14)

3.9 Conversely, reasons provided to keep the race open include:
• Supporting ecological base flows, retaining in-stream ecology and habitat
• Amenity and recreational values of the race
• Property values are greater for those with a flowing stream on the property
• Properties built around the stream as a feature, including time and expense
• Concern about adverse effects of closure including loss of biodiversity, increase in weeds, greater frequency of stagnant pools, mosquito breeding and odour
• Use of water race as backup water supply in event of disaster (e.g. draught)
• Easements on property are for a stream rather than a stormwater drain

3.10 Properties Paying the Stock Water Race Rate

3.11 Of the 8 properties paying the stock water race rate, 5 responded to this consultation. Of these, 3 wanted the race to close and 2 wanted it to remain open. A summary of the comments from these properties is included in Appendices 1 and 2.

3.12 There are currently 8 properties along Oxford Road which are still required to pay the stock water race rate. Of these properties, 4 are rural and 4 are large urban properties.

3.13 Of the four rural properties that could feasibly use the water race to supply water to stock, two support the race closure and one supports keeping the race open. One submitter has commented that over the last 40 years the water race has not been used for stock water supply purposes on any of these properties, other than for the Council owned property at 89 Oxford Road.

3.14 The fourth rural property that is paying the stock water race rate is located at 89 Oxford Road and is owned by the Waimakariri District Council. This property is leased for sheep grazing. If this race is closed then the Council will ensure the requirements of the leaseholder are met in terms of provision of a future supply of stock water.

3.15 Properties Adjacent to the Upper North Brook, or at the Acacia Ave/ Oxford Road Intersection

3.16 There were 24 properties consulted as they are located adjacent to the race R3N-1 at Acacia Ave (2 properties), or located adjacent to the North Brook between Oxford Road and West Belt (22 properties). The North Brook flows through some of these properties.
3.17 Of these 24 properties, 14 responded to the consultation. Of these, 8 supported the race closure and 6 wanted to keep the race open. The comments from these properties are summarised in Appendices 1 and 2.

3.18 The two urban properties on the corner of Acacia Ave and Oxford Road are located adjacent to a landscaped section of the open water race. The property owners in their submissions both note concerns with the maintenance of the riparian plants adjacent to the water race. If the race is closed, the Council will work with these owners to provide more suitable planting and landscaping if/when the race is filled in. If the race remains open, the Council will review the existing planting plan for this intersection with the contractor, to see if more suitable riparian plants can be introduced to this portion of the race.

3.19 One property owner near the top of the North Brook has requested that they be permitted to re-align the fence adjacent to the stream (at no cost to Council). This is to allow better care of the stream margins, utilisation of the land and to adjust the fence line so that it better follows the natural stream bank alignment. Regardless of whether or not the race is closed staff will investigate the options for re-aligning this fencing. Once a preferred option is agreed, staff will report this back to the Utilities and Roading Committee of Council for consideration.

3.20 Race Maintenance

3.21 If the race R3N-1 is closed, the dry channel of the upper North Brook would need to be maintained as a stormwater channel. One submitter suggests this could be redeveloped as a “swale” and landscaped in a way similar to the swale in the Oaks. The stream bed crosses private property at some locations along this reach. The Council will need to discuss suitable maintenance provisions with each private property owner to ensure the stormwater drainage function of the stream bed is retained. Any modifications to the channel would need to be approved by the Drainage Asset Manager. The capacity of this section of the North Brook must not be reduced.

3.22 If the race is closed then the Council will work with each property owner along Oxford Road to determine if any parts of the race can be back-filled. Some areas of the race may need to remain open as they may perform a drainage function for the properties.

3.23 Flood Management Implications

3.24 Several submitters have raised the question of whether the closure of the water race would mitigate flood risk for urban Rangiora by removing the flood conveyance capacity of the water race. Closure of the race may have some positive flood mitigation effects, though these would likely be marginal. Flood mitigation is not the primary reason for closing the water race.

3.25 Diversion of Race if Closed

3.26 The veterinary clinic at 181 Lehmans Road (west side of Lehmans Road) supports keeping the race open. If the Committee decides to close the race along Oxford Road east of Lehmans Road, the race could be diverted around the veterinary clinic. This would effectively terminate the stock water race at the clinic, so that it is not conveyed beneath Lehmans Road to flow any further east along Oxford Road.

3.27 The veterinary clinic owners have suggested that the race is diverted through their property around the building and along their boundary down the western side of
Lehmans Road. The race would then be diverted through the culvert beneath Oxford Road and the water would then flow into the existing drain that discharges into the South Brook south of Johns Road (see Attachment iii).

3.28 The Management Team has reviewed this report and supports the recommendations.

4 COMMUNITY VIEWS

4.1 Consultation with the 32 property owners directly affected by this proposal has been discussed in the previous section of this report.

4.2 Ngai Tuahuriri have also been made aware of the proposed race closure as part of its monthly meetings with the Council, including within a meeting on 19 November 2015 (item 4.4) (TRIM 151118153872) and more recently at the 16 February 2017 meeting. During these meetings the benefits and potential issues associated with the proposed closure were discussed.

4.3 The concern about reducing the flows in the upper portion of the North Brook was weighed against the benefit of removing the rural contaminants. The result of ceasing the discharge may be improved health outcomes associated with mahinga kai collected downstream from removal of rural source contaminants. Conversely, lower flows will potentially increase water temperatures and impact the health of some mahinga kai species. There is also a concern with the “mixing” of waters from different catchments or waterway systems which would be addressed by removing the augmentation. On balance, the Runanga do not have any concerns with the proposed closure of the water race.

4.4 The Council has also consulted Waimakariri Irrigation Limited (WIL) on the proposed closure of the water race. WIL has indicated it does not have any concerns, as the race closure would be likely to provide operating efficiencies for the balance of the network.

4.5 The Council consulted the Oxford Water Race Advisory Committee about the proposed race closure. The Committee members did not have any objections to the closure of this race.

4.6 The Council has commissioned an Archaeological Assessment of the section of race proposed for closure as requested by Heritage New Zealand. This report recommends the closure of the race, provided this assessment, once received, does not identify any significant adverse effects of the closure. If the race is closed the Council may need to apply for an Archaeological Authority from Heritage New Zealand to fill in parts of the race. It would need to comply with any requirements of that Authority when undertaking any back-filling work.

4.7 If the Utilities and Roading Committee decide to close the water race, staff will write to each of the affected properties and advise of future maintenance responsibilities of the water race. The Council will discuss with each owner whether they can fill in the race or leave the race unfilled for the purposes of land drainage.

4.8 Property owners adjacent to the North Brook will not be able to fill in the stream as it provides their property and downstream properties with a stormwater drainage function. Maintenance options for the stream bed will need to be investigated in consultation with these properties. Maintenance recommendations will be reported back to a future meeting of the Utilities and Roading Committee for consideration.
5 FINANCIAL IMPLICATIONS AND RISKS

5.1 If the race R3N-1 is closed then the properties adjoining the race will no longer need to pay a stock water race rate.

5.2 The annual water race network total operating and maintenance expenditure is currently around $375,000 per annum. The current stock water race rates paid by properties along the south side of Oxford Road is approximately $770 per annum.

5.3 A reduction in the stock water race rates income to Council following closure of part of R3N-1 of approximately $770 per annum (at $2016/17 values) would have a minimal effect on this overall budget. The race on the south side of Oxford Road has maintenance requirements that currently exceed the income received from the ratepayers on this section.

5.4 If the race R3N-1 is closed then the properties currently paying the rate will no longer be rated for stockwater from 1 July 2017.

6 CONTEXT

6.1 Policy

This is not a matter of significance in terms of the Council’s Significance Policy. The proposal is consistent with the Stockwater Race Closure Policy. The Policy requires the decision making process in Part 6 of the Local Government Act 2002 to be followed when making a decision to close a water race.

In particular, section 4.2 of the policy requires an assessment of significance in terms of the Council’s Significance Policy. An assessment against the Significance Policy shows the following:

i. the level of service for the supply and delivery of stockwater will not be significantly affected if the race is closed as it is apparent that the race is no longer required for the supply of stock water to properties;

ii. the race considered for closure is not a strategic asset;

iii. the closure will not significantly affect the Council’s ability to supply stock water;

iv. the closure will not significantly affect costs to Council or ratepayers as the reduction in revenue will be offset by a reduction in maintenance and improved operating efficiencies.

For these reasons, the water race closure proposal is not considered significant and therefore consultation with residents using the Special Consultative Procedure is not required.

Consultation with affected parties in accordance with Section 82 of the Act has been undertaken for properties paying the water race rate adjacent to R3N-1, and for property owners adjoining the North Brook between Oxford Road and West Belt, and those on the landscaped section of the race on the corner of Oxford Road and Acacia Ave.

Feedback on the future of the water race among the affected property owners is divided. There are a small majority of respondents in favour of race closure. The Committee will need to consider all views and feedback in support of either closing the race or leaving it open when making its decision on this issue.
6.2 Legislation

Water race closure procedures, including public consultation requirements, are outlined in the *Local Government Act 2002*. In terms of this water race closure proposal, Sections 77, 78 and 82 of the Act apply. The consultation undertaken as described in Section 4 of the report is considered to adequately meet these requirements.

6.3 Community Outcomes

This proposal contributes to the following outcomes:

- There is a safe environment for all
- There is sufficient clean water to meet the needs of communities and ecosystems

Janet Fraser
Utilities Planner
### Attachment i

#### Summary of Comments: Properties that Support Keeping the Race Open

<table>
<thead>
<tr>
<th>Property Address</th>
<th>R3N-1 Stock Water Race Ratepayers</th>
</tr>
</thead>
<tbody>
<tr>
<td>41 Oxford Road</td>
<td></td>
</tr>
</tbody>
</table>
| 75 Oxford Road   | Value the back-up water supply in emergencies  
|                  | Value the water race for its biodiversity  
|                  | Urbanisation is causing loss of biodiversity (e.g. eels, small fish)  
|                  | Retain baseflow for North Brook stream  
|                  | A benefit of WIL irrigation scheme is to augment flows in lowland streams and springs  
|                  | Improve public access paths to and around the North Brook  
|                  | Better flow regulation to prevent the recent irregular flows  
|                  | Queries role of the water race in recent flood events  
|                  | Performance of existing soak holes in Oxford Road area in relation to the water race function  
|                  | Encourage developers to enhance rather than remove open waterways  |

<table>
<thead>
<tr>
<th>Property Address</th>
<th>Properties Adjacent to Upper North Brook</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 Milesbrook Close</td>
<td>“I would be very upset if this proposal goes ahead as I have spent a considerable amount of time, energy and finance on developing and maintaining this feature on my property”.</td>
</tr>
</tbody>
</table>
| 7 Milesbrook Close | Retain in-stream ecology and habitat  
|                  | Urbanisation is causing loss of biodiversity  
|                  | Stream is significant feature for property  
|                  | Increase in weed infestations if closed  
|                  | Stagnant pools if closed  
|                  | Retain property values if kept open  
|                  | Issues with maintaining stormwater drain on private property  
|                  | Function of existing easements for flowing stream rather than dry stormwater drain  |
| 13 Milesbrook Close | Stream is significant feature for property  
|                  | “Everyone comments on how lovely it is to have a little stream”  
|                  | Contribution to wellbeing of residents  
|                  | Retain property values  
|                  | Issues with maintaining stormwater drain on private property  
|                  | Increase in weeds & smell if closed  |
| 15 Milesbrook Close | “One of the reasons we purchased this property was because it has a stream”.  
|                  | “We feel the creek with only minimal water running through it would create an odour”. |
| 19 Milesbrook Close | “There is little enough water flow most times”.  
|                  | “Reduction (by closing water race) would have a negative impact on flora as well as fauna and birds, insects etc”. |
| 21 Milesbrook Close | Stream is significant feature for property  
|                  | An asset if kept running and clean  
|                  | Increase in weed infestations if closed  
|                  | Would become woody and muddy if closed  
|                  | Fill with rubbish if closed  
|                  | Stagnant pools and mosquitos if closed  
|                  | Retain property values  |
### Summary of Comments: Properties that Support Race Closure

<table>
<thead>
<tr>
<th>Property Address</th>
<th>R3N-1 Stock Water Race Ratepayers</th>
</tr>
</thead>
<tbody>
<tr>
<td>43 Oxford Road</td>
<td></td>
</tr>
</tbody>
</table>
| 63 Oxford Road                        | “We have owned our property since 1973 and have never used the creek as we have water troughs in every paddock”.  
“ We also owned the property on corner of Lehmans Road and Oxford Road which we sold to the Waimak Council. This is the only property that uses the creek to supply water to sheep”.  
“No other property on Oxford Road has ever used the creek”.  
“We have been asked this question before and although it was voted to be closed it never happened”. |
| 83 Oxford Road                        |                                                                                                  |

<table>
<thead>
<tr>
<th>Property Address</th>
<th>Properties not paying the R3N-1 Water Race Rate; and Properties Adjacent to the Upper North Brook</th>
</tr>
</thead>
</table>
| 96 Acacia Ave                         | “We appreciate that this will cause upset to the plantings, but we would welcome the removal of the unsightly reeds and would be happy to blend our plantings to result in a more landscaped area”.  
“We are not adverse to the maintenance of a more botanically enhanced front aspect from our property”. |
| 97 Acacia Ave                         | Request for Council to landscape race after it is closed and backfilled Do not replant the native flax grasses along fence line – they are not maintained and are overgrown and untidy.  
“I need clear space along the fence line for maintenance and painting”. |
| 27 B Oxford Road                      | Planting to attract the birds please.                                                             |
| 27D Oxford Road                       | “This seems both a logical and practical move in response to urban housing development and expansion in the area”.  
“The biggest positive regarding closure is significant flood mitigation. Only a few years ago, heavy rain in the area caused flooding to houses in Aspen St, with the water race being a large contributing factor”.  
If the water flow ceases then pools of stagnant water, breeding of mosquitos and excessive weed growth would all need to be addressed through ongoing stream bed/drain maintenance.  
Permission to re-align the fence adjacent to the stream (at no cost to Council) so as to allow for “sensible utilisation and improved care of the area”. This would align the fence with the natural contour of the stream bank.  
If closed, develop into a landscaped swale similar to that in the Oaks. Develop and strengthen the stream bed to allow for safer cyclist and pedestrian access into Aspen Street Reserve from Oxford Road. |
| 14 Aspen Street                       |                                                                                                  |
| 16 Aspen Street                       |                                                                                                  |
| 5 Milesbrook Close                    | Doesn’t affect us either way.                                                                     |
| 11 Milesbrook Close                   | Rural water draining into urban causing flood risk.  
“I would love to have the water to flow down the stream all year but after last year’s flood I don’t trust Council to maintain the Council parts of the water way”.  
If they don’t control flood gate we could all be in trouble. |
## Consultation Index: Oxford Road Water Race Closure Consultation

<table>
<thead>
<tr>
<th>TRIM</th>
<th>Property Address</th>
<th>Support Closing Race?</th>
<th>Stock Water Race Rate Payer</th>
</tr>
</thead>
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<tr>
<td>170210012353</td>
<td>75 Oxford Road</td>
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<td>Yes</td>
</tr>
<tr>
<td>170214013358</td>
<td>3 Milesbrook Close</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>161125121866</td>
<td>7 Milsebrook Close</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>170221016595</td>
<td>13 Milesbrook Close</td>
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<td>No</td>
</tr>
<tr>
<td>170209011791</td>
<td>15 Milesbrook Close</td>
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<tr>
<td>170201008878</td>
<td>19 Milesbrook Close</td>
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<td>No</td>
</tr>
<tr>
<td>170215013904</td>
<td>21 Milesbrook Close</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>170227018511</td>
<td>43 Oxford Road</td>
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<td>170203010229</td>
<td>63 Oxford Road</td>
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</tr>
<tr>
<td>170201008905</td>
<td>83 Oxford Road</td>
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<td>Yes</td>
</tr>
<tr>
<td>170127007554</td>
<td>96 Acacia Ave</td>
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<td>No</td>
</tr>
<tr>
<td>170216014436</td>
<td>97 Acacia Ave</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>170215013910</td>
<td>27B Oxford Road</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>170222016782</td>
<td>27D Oxford Road</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>170208011627</td>
<td>14 Aspen Street</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>170220015701</td>
<td>16 Aspen Street</td>
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<td>No</td>
</tr>
<tr>
<td>170214013354</td>
<td>5 Milesbrook Close</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>170209011790</td>
<td>11 Milesbrook Close</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>
Feedback Form on Future of Water Race

South Side of Oxford Road (R3N-1)

Name: Edward James Stancombe
Signature: Edward James Stancombe
Date: [Signature]
Property Location: 41 Oxford Rd.

Postal Mailing Address (if different from location):
Telephone (Optional):

Please indicate whether you would like the water race R3N-1 to remain open or to close, by ticking your preferred choice below:

☐ I would like the water race R3N-1 to be closed.
☑ I would like the water race R3N-1 to remain open.

Comments:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Thank you for taking the time to complete this form.

161125121762
Feedback Form on Future of Water Race

South Side of Oxford Road (R3N-1)

Name: Gill Taylor
Signature: C M Taylor
Date: 3-2-17
Property Location: 75 Oxford Road, Rangiora
Postal Mailing Address (if different from location):
Telephone (Optional): 021 409 129

Please indicate whether you would like the water race R3N-1 to remain open or to close, by ticking your preferred choice below:

☑️ I would like the water race R3N-1 to remain open.
☒ I would like the water race R3N-1 to be closed.

Comments:

Please see attached.
We are happy to meet with you again to discuss.

Thank you for taking the time to complete this form.

161125121762
Feedback on Future of Water Race, South side of Oxford Road

From PK and CN Taylor, 75 Oxford Road

Overall position – At present our position is opposed to race closure. We consider that the Council does not have enough information available to make a decision to close the water race. We ask the Council to address a number of issues and questions that we raise.

Stock water

We are not making use of the water race for stockwater any more, but value the back-up that the race provides in case there is no well-water pumping available for a period – such as a disaster.

We note the Council have the water race flowing through their property on the corner of Lehmans and Oxford road, land that is apparently leased for grazing, where we observe stock drinking from the race?

How will closure of the race affect the council’s own grazing land?

Base flow and biodiversity values

We value the water race for its biodiversity values. We are concerned that the race and stream are already losing biodiversity (eels, small fish and possibly mudfish) as urbanisation has encroached on it and sections of the race are piped. The base flow the race provides for the Northbrook stream should not be underestimated.

When you say the stream sometimes dries up – this has to be seen in the context that the race has flowed steadily for many years – we bought our property in 1983. We are very concerned that the flow has become erratic in recent years, sometimes drying up, and question why this is happening.

When we look at where the water race flows into Northbrook stream above Aspen Park it appears that most of the stream flow is coming from the race at that point.

We understand one of the community benefits of the Ashley-Waimakariri Irrigation Project is that lowland springs and streams will have enhanced flows. The Council should make it a priority to keep the race flowing steadily and maintain the Northbrook stream in good condition with appropriate native planting and good public access paths where possible. Urban waterways are a crucial part of the urban environment. Rangiora needs to protect and enhance them, not agree to cover them over and pipe them at the convenience of a few.

How important is the race for the baseflow in the stream compared to “springs” in the area? What biodiversity values could be lost as a result of closing the race?

We also ask:

Has the water race across properties north of Oxford Road been closed permanently as a result of the developments at Westpark and Ryman Village, as we don’t recall consultation about that? If it is closed permanently, does this cause a further reduction in flows to the Northbrook Stream?
Water race control

People appear to use stones and bits of wood to try and control the flow of the race at present, at times blocking the flow altogether.

*Is it possible to build a functional mechanism, where the race crosses Lehmans Road, to regulate the flow?*

Flooding in extreme events

We are very concerned about the part the stock races play in big flood events when water volumes increase suddenly in the road reserve, as happened in June 2014 when water flowed down both sides of Oxford Road. We understand the road was reconfigured to permit usual drainage to the northern side, not to the south as the water race feeds into the Northbrook stream and could pollute it. We observe that some water flows into the southern side race in very heavy rain as the soak holes don’t cope then. In these rare events the water race appears to have an important drainage role. (We note that we had to have the soak holes on our property remade after the earthquakes.)

*Does the Council plan to check the soak holes on the roadside constructed when the road was raised about 14 years ago? What role do they expect the race to play in flood events?*

Development approach and priorities

While the area out to Lehmans Road is now in the urban limit for Greater Christchurch our property remains rural. Planning decisions by the Council support a developer-led approach to urban growth that has left us rural while you now say that “the majority of properties the race traverses no longer require the use of the race for the supply of stock water”. Properties around us have become small holdings, subdivisions and in some cases intensive housing. The race appears to be a nuisance for some developers who now want it closed in preference to maintaining, piping and/or fencing it.

*How can the Council ensure that developers are encouraged to include enhancement of waterways in their plans not hide them away and grab the land?*

Thank you for considering the issues and questions we have raised. We look forward to hearing further from you.
Feedback Form on Future of Water Race

South Side of Oxford Road (R3N-1)

Name: DPAVE WALKER
Signature: ______________________________________________________________________ Date: 9.02.17
Property Location: 3 MILESBROOK CLOSE RANGIORA
Postal Mailing Address (if different from location): __________________________________________
Telephone (Optional): 3136339

Please indicate whether you would like the water race R3N-1 to remain open or to close, by ticking your preferred choice below:

☐ I would like the water race R3N-1 to be closed.
☑ I would like the water race R3N-1 to remain open.

Comments:

I would be very upset if this proposal goes ahead as I have spent a considerable amount of time, energy and finance on developing and maintaining this feature on our property.

Thank you for taking the time to complete this form.

161125121762
Feedback Form on Future of Water Race

South Side of Oxford Road (R3N-1)

Name: Diage & Janie Woods
Signature: [Signature] Date: 24-2-17
Property Location: 7 Mile St. C1

Postal Mailing Address (if different from location): ..................................................
Telephone (Optional): 03 313 7269 (H) (02) 481 764 (W)

Please indicate whether you would like the water race R3N-1 to remain open or to close, by ticking your preferred choice below:

☐ I would like the water race R3N-1 to be closed.
☑ I would like the water race R3N-1 to remain open.

Comments:

Please refer to supplementary info

Thank you for taking the time to complete this form.

161125121762
Supplementary Feedback information,

Diane & Jamie Woods (7 Milesbrook Close) re proposed closure of Water Race (South side of Oxford Rd).

24 February 2017. DRA-21/161125121866
Background

Approx stream location - 7 Milesbrook Close.

The North Brook stream runs W to E entirely within the northern part of our property.

Since buying the section in 1996, we have built our dwelling and developed the property around the stream to enhance it as a unique feature. This development has over the years involved countless hours of construction, landscaping and maintenance within and around the stream bed to achieve a special garden area to enjoy and experience with our children and now grandchildren. They have spent lots of time “playing hide and go seek, finding cockabullsies and hunting for Easter eggs” (their words).

Over the years we have witnessed a significant decline in the overall ecological health of the stream with now only rare occurrence of macro-fauna visitors. Earlier on and until the early 2000’s, we would see the odd eel, heron, kingfishers and rare trout coming and going. This degradation in streamlife coincided with the increase in frequency and scale of extreme peak-flow levels during wet events, resulting from the urban development further upstream.

While the base flow plus any minor flow contributions from natural small springs (if any?) does fluctuate during dry periods, as a “permanent” flow it is does contribute to the ecological health of the stream by providing a refuge for its inhabitants.

Please document the following points in respect to the above proposal:

1) As long term owners and occupiers of 7 Milesbrook Cl, we strongly oppose the closing off of the water-race flow into the head of the Northbrook Stream. Our reasons are as follows;
   a) The removal of this base flow is likely to cause the total flow to dry up completely during summer and dry periods, which is likely to result in
      i) Degradation of the remaining micro-fauna
      ii) Increase in weed/pest infestation
      iii) Increase in frequency of stagnant pools
b) Its function will completely change from that of a controlled modified water-course with to that of a stormwater drain utility in favour of the Council. This raises several concerns,
   i) The original design parameters as well as associated easements, were for a stream, and not as a stormwater drain.
   ii) There are capacity and maintenance issues associated with a stormwater drain across private land that would need to be resolved.
   c) The overall effect will result in the change or loss of the most significant feature unique to the property. Associated with this is the reduction in the capital value of the property for having what is in effect a stormwater drain occupying the front third of the property.

2) Before committing to a decision for this proposal, we strongly urge the Council demonstrate what the resulting effect will be within our property relating to the concerns raised above, and to also investigate alternative options to retain the stream base flow as an ecological refuge for their overall stream network, (being enhanced downstream).

Thank you for considering this submission

Diane and Jamie Woods.
Feedback Form on Future of Water Race

South Side of Oxford Road (R3N-1)

Name: J. M. OVERTOOM
Signature: D. Date: 13 Feb 2017
Property Location: 13 MILES BROOK CLOSE
Postal Mailing Address (if different from location):
Telephone (Optional): 022 639 7579 313 5740

Please indicate whether you would like the water race R3N-1 to remain open or to close, by ticking your preferred choice below:

☐ I would like the water race R3N-1 to be closed.
☒ I would like the water race R3N-1 to remain open.

It would be a real shame to lose the stream. In our case the water runs in front of the house and contributes to the well-being of the people. Everyone comments on how lovely it is to have a little stream. It therefore adds value to the house as it does with all the properties that have it running in front or through them.

Recently, as in the last few months, water has been flowing steadily, which is highly appreciated. However, when it goes dry it is particularly unsightly and occasionally smelly. If the race is to be closed, we would like to see the stream piped in, filled up and grassed in. Will the council do that for us?

Regards
Han and Mary Overtoom

Thank you for taking the time to complete this form.
Feedback Form on Future of Water Race

South Side of Oxford Road (R3N-1)

Name: Stephanie Horne and Suzanne Milne
Signature: ____________________________ Date: 02/02/2017
Property Location: 15 Milesbrook Close Raglan 7400
Postal Mailing Address (if different from location): ..........................................................
Telephone (Optional): (07) 3138960 ..............................................................

Please indicate whether you would like the water race R3N-1 to remain open or to close, by ticking your preferred choice below:

☐ I would like the water race R3N-1 to be closed.
☑ I would like the water race R3N-1 to remain open.

Comments:

* One of the reasons we purchased this property was because it has a stream.
* We feel the creek will only minimal water running through it would create an odour.

Thank you for taking the time to complete this form.

161125121762
Feedback Form on Future of Water Race

South Side of Oxford Road (R3N-1)

Name: R A Butcher
Signature: [Signature]
Date: 26/01/2017
Property Location: Lot 17 DP 77748
Postal Mailing Address (if different from location): 19 Mile Ends Road, Close, Rangiora
Telephone (Optional): (03) 310 8495

Please indicate whether you would like the water race R3N-1 to remain open or to close, by ticking your preferred choice below:

☐ I would like the water race R3N-1 to be closed.
☑ I would like the water race R3N-1 to remain open.

Comments:

There is little enough water flow most times. Any reduction (by closing water race) would have a negative impact on flora as well as fauna and birds, insects etc.

Thank you for taking the time to complete this form.
Feedback Form on Future of Water Race

South Side of Oxford Road (R3N-1)

Name: Richard and Noblene Evans

Signature: [Signature]

Date: 10/2/17

Property Location: 21 Milebrook Close, Pangbourne

Postal Mailing Address (if different from location):

Telephone (Optional): 310.2823

Please indicate whether you would like the water race R3N-1 to remain open or to close, by ticking your preferred choice below:

☐ I would like the water race R3N-1 to be closed.

☑️ I would like the water race R3N-1 to remain open.

Comments:

The water race is a feature of our property and is an asset only if kept running and clean. It would be a disaster to allow the ditch to become weedy and muddy, which would then block with rubbish if flushed by heavy rain. This would attract mosquitoes.

The value of our property would drop if the stream is stopped.

Thank you for taking the time to complete this form.

161125121762
Feedback Form on Future of Water Race

South Side of Oxford Road (R3N-1)

Name: Susan Y. Adams

Signature: Susan Y. Adams
date: 27-02-2017

Property Location: 43 Oxford Road

Postal Mailing Address (if different from location):

Telephone (Optional):

Please indicate whether you would like the water race R3N-1 to remain open or to close, by ticking your preferred choice below:

☐ I would like the water race R3N-1 to be closed.

☐ I would like the water race R3N-1 to remain open.

Comments:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Thank you for taking the time to complete this form.

161125121762
Feedback Form on Future of Water Race

South Side of Oxford Road (R3N-1)

Name: Hilda Corbett

Signature: [Signature]

Date: 2 Feb 2017

Property Location: 63 Oxford Rd, Ōnegara

Postal Mailing Address (if different from location):

Telephone (Optional): 435 6187

Please indicate whether you would like the water race R3N-1 to remain open or to close, by ticking your preferred choice below:

☐ I would like the water race R3N-1 to be closed.

☐ I would like the water race R3N-1 to remain open.

Comments:

We have owned our property since 1973 (44 years) and have never used the creek as a source of water in our paddocks.

We also owned the property on corner of Lehmans Rd. Oxford Rd, which we sold to the Waimakriri Council. This is the only property that uses the creek to supply water to sheep. No other property on Oxford Rd. has ever used the creek.

Thank you for taking the time to complete this form.

We have been asked this question before, although it 16112512762 was voted to be closed it never happened.

[Signature]
Feedback Form on Future of Water Race

South Side of Oxford Road (R3N-1)

Name: A.C. SANDERS
Signature: A. Sanders
Date: 30-1-2017
Property Location: 83 Oxford Rd, Rangiiora

Postal Mailing Address (if different from location): ............................................................
Telephone (Optional): 3133610

Please indicate whether you would like the water race R3N-1 to remain open or to close, by ticking your preferred choice below:

☑ I would like the water race R3N-1 to be closed.
☐ I would like the water race R3N-1 to remain open.

Comments:

_________________________________________________________________________
_________________________________________________________________________
_________________________________________________________________________
_________________________________________________________________________
_________________________________________________________________________

Thank you for taking the time to complete this form.

161125121762
Feedback Form on Future of Water Race

South Side of Oxford Road (R3N-1)

Name: **JERRY & YVONNE POEKESEN**

Signature: [Signature]

Property Location: **96, Regalia Avenue**

Postal Mailing Address (if different from location): [Address]

Telephone (Optional): **3133101**

Please indicate whether you would like the water race R3N-1 to remain open or to close, by ticking your preferred choice below:

☑️ I would like the water race R3N-1 to be closed.

☐ I would like the water race R3N-1 to remain open.

Comments:

**Thank you for this opportunity. We appreciate that this will cause upset to the tenants, but we would welcome the removal of the unsightly reefs and would be happy to liaise with our tenants to present in a more landscaped area. We are not adverse to the maintenance of a more botanically enhanced front aspect from our property.**

Thank you for taking the time to complete this form.
Feedback Form on Future of Water Race

South Side of Oxford Road (R3N-1)

Name: Robert Patterson
Signature: Patterson
Date: 14 Feb 2017

Property Location: 97 Acacia Avenue
Postal Mailing Address (if different from location):
Telephone (Optional): 027 889 444

Please indicate whether you would like the water race R3N-1 to remain open or to close, by ticking your preferred choice below:

☑️ I would like the water race R3N-1 to be closed.
☐ I would like the water race R3N-1 to remain open.

Comments:

I would prefer to see the water race closed. I imagine the area will be landscaped after the race has been closed in and back filled. I ask that you do not replant the native flax grasses against along our fence line. Council does not maintain them and they become overgrown and untidy. I also need clear space along the fence line for maintenance and painting.

Thank you for taking the time to complete this form.

Thank you and regards,
Robert Patterson

161125121762
Feedback Form on Future of Water Race

South Side of Oxford Road (R3N-1)

Name: Christine Sorenson Patterson
Signature: [Signature]
Date: 15-2-17
Property Location: 27.8 Oxford Rd
Postal Mailing Address (if different from location):
Telephone (Optional): 03 3133 3009

Please indicate whether you would like the water race R3N-1 to remain open or to close, by ticking your preferred choice below:

☐ I would like the water race R3N-1 to be closed.

☐ I would like the water race R3N-1 to remain open.

Comments:

Planting to attract the birds please.


Thank you for taking the time to complete this form.

161125121762
Feedback Form on Future of Water Race

South Side of Oxford Road (R3N-1)

Name: James and Tara Lubber
Signature: James Lubber
Date: 20-2-2017
Property Location: 27 a Oxford Rd
Postal Mailing Address (if different from location): NA
Telephone (Optional): 02 737 0030 021 988847 James call

Please indicate whether you would like the water race R3N-1 to remain open or to close, by ticking your preferred choice below:

☑ I would like the water race R3N-1 to be closed. As long as the concerns mentioned in the attached letter are addressed.
☐ I would like the water race R3N-1 to remain open.

Comments:

See attached letter

Thank you for taking the time to complete this form.

16125121762
20-02-2017

Thank you Janet (and everyone else involved in the process) for the information received regarding a proposal to close a water race near our property.

The closure seems both a logical and practical move in response to urban housing development and expansion in the area.

The biggest positive regarding closure is significant flood mitigation. Only a few years ago heavy rain in the area caused flooding to houses in Aspen St, with the water race being a large contributing factor.

There are also concerns around its closure and these would have to be addressed accordingly of course for us to be in favour of its closure.

As already mentioned in your letter, the water flow would cease in summer (it actually did stop completely last summer for sometime) resulting in pooling of stagnant water, producing an irritating explosion of mosquitoes in the area.

Another problem is excessive weed growth when the water flow stops. The weeds in the base of the stream spread like wild fire in our area, including nuisance and noxious weeds like convolvulus etc.

Improvement also needs to be made regarding the aesthetic and practical nature of the fence line adjacent to the stream bordering our property, in particular where the fence line juts back abruptly. Permission to re-align this section of fence (at no expense to the council) would allow for sensible utilisation and improved care of the area concerned. The flow of the entire fence line would be in keeping with the natural contour of the stream bank where it begins to fall away naturally towards the stream bed as it does for the other properties adjacent to it.

If water flow ceases for longer periods than just summer, it would be good to see the upper reaches of North Brook stream at Oxford Rd developed further. Perhaps a swale type area similar to the one in The Oaks with the stream banks developed and strengthened. This would allow for much safer cyclist and pedestrian access into Aspen Street Reserve from Oxford road.

Thank you for the opportunity to place feedback on the proposal for the water race closure.

Kind Regards

James and Tara Lubbers
Feedback Form on Future of Water Race

South Side of Oxford Road (R3N-1)

Name: Gillian M. Fernandez

Signature: __________________________ Date: 8-02-17

Property Location: 14 Aspen Street

Postal Mailing Address (if different from location): __________________________

Telephone (Optional): 03 - 3108598

Please indicate whether you would like the water race R3N-1 to remain open or to close, by ticking your preferred choice below:

☑ I would like the water race R3N-1 to be closed.

☐ I would like the water race R3N-1 to remain open.

Comments:

_______________________________________________________________________

_______________________________________________________________________

_______________________________________________________________________

_______________________________________________________________________

_______________________________________________________________________

Thank you for taking the time to complete this form.

161125121762
Feedback Form on Future of Water Race

South Side of Oxford Road (R3N-1)

Name: DEBORAH GIBSON
Signature: [Signature]
Date: 1/2/17
Property Location: 1A Aspen Street

Postal Mailing Address (if different from location):
Telephone (Optional): 312-9083

Please indicate whether you would like the water race R3N-1 to remain open or to close, by ticking your preferred choice below:

☐ I would like the water race R3N-1 to be closed.
☐ I would like the water race R3N-1 to remain open.

Comments:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Thank you for taking the time to complete this form.

161125121762
Feedback Form on Future of Water Race

South Side of Oxford Road (R3N-1)

Name: Charles Edward Tipping
Signature: CT
Date: 02/02/2016
Property Location: 5 MILLEBROOK CLOSE
Postal Mailing Address (if different from location): 
Telephone (Optional): 

Please indicate whether you would like the water race R3N-1 to remain open or to close, by ticking your preferred choice below:

☑️ I would like the water race R3N-1 to be closed.
☐ I would like the water race R3N-1 to remain open.

Comments:

Doesn't effect us either way

Thank you for taking the time to complete this form.

161125121762
Feedback Form on Future of Water Race

South Side of Oxford Road (R3N-1)

Name: Chris[signature]

Signature: [signature] Date: 5.1.2014

Property Location: 11 Milebank Close

Postal Mailing Address (if different from location): as above.

Telephone (Optional): 021 822 3669

Please indicate whether you would like the water race R3N-1 to remain open or to close, by ticking your preferred choice below:

☐ I would like the water race R3N-1 to be closed.

☐ I would like the water race R3N-1 to remain open.

Comments:

I would love to have the water to flow down the stream all year but after last year's flood I don't trust council to maintain the council parts of water way if they don't construct flood gate we could all be in trouble.

If you need please contact me. Have spoken to Council about Rural water draining into the Urban. Two years ago.

161125121762
**NOTES OF A MEETING HELD IN THE**
WAIMAKARI DISTRICT COUNCIL, COMMITTEE ROOMS, RANGIORA
ON THURSDAY 19 NOVEMBER 2015 AT 10.10AM

| **Purpose** | To ensure that issues of interest to both parties are raised and discussed in a timely manner. To provide a decision-making forum for issues to be progressed and reported on. To ensure the development of an effective partnership between the Rūnanga and the Council. To promote better long-term community outcomes. |
| **Present** | Clare Williams, Joan Burgman (Te Ngāi Tūāhuriri Rūnanga) Philippa Lynch (Mahaanui Kurataiao Ltd) Jim Palmer, Simon Markham, Louise Courtney (Waimakariri District Council) |
| **In Attendance** | Kalley Simpson (3 Waters Manager, WDC), Trevor Ellis (Development Planning Manager, WDC), Ken Stevenson (Roading Manager, WDC), Christine Toner (Consultation Manager). |
| **Chair** | Simon Markham |
| **Apologies** | Mayor David Ayers |

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<thead>
<tr>
<th>Item</th>
<th>Notes/Action Points</th>
<th>Resp.</th>
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<tbody>
<tr>
<td>1.</td>
<td>The meeting opened with a karakia from Joan Burgman.</td>
<td></td>
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<tr>
<td>1.1.</td>
<td>Actions from the previous meeting on 24 September 2015 and confirmation of meeting minutes.</td>
<td></td>
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<tr>
<td>1.1.</td>
<td>Silverstream Reserve proposed eel protection area  - Organise meeting time for MKT and DoC.  - Dan needs to follow up with Bryan</td>
<td>Claire/Bryan &amp; Dan Dan</td>
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<tr>
<td>1.2.</td>
<td>Mahaanui Kurataiao Ltd Projects Update - Tukutuku Panels  - Tui needs to email Simon. Clare said that they will be delivered, restored and returned. Clare stated that funding needs to be confirmed. Tui’s understanding was that she was only assessing the panels and that once funding had been confirmed then work would commence.  - Tui has been informed that panels need to be returned.  - Joan advised there is only one that needs some work on.</td>
<td>Tui Tui</td>
</tr>
<tr>
<td>1.3.</td>
<td>Wastewater Bylaw Review  - Kalley advised that hearings were held in March and the panel is reconvening this afternoon for deliberations. This communications plan is still to progress.</td>
<td>Janet Fraser</td>
</tr>
<tr>
<td>1.4.</td>
<td>Flood works update  Simon to follow up that process includes subdivisions noted through MKT and process is working correctly of keeping MKT informed.  Simon would follow up, including the Harris development.</td>
<td>Simon M Simon M</td>
</tr>
<tr>
<td>1.5.</td>
<td>Planning  Simon to write formally to the Runanga and record copy of all documents and where to find information.</td>
<td>Simon M</td>
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<td>4.2.</td>
<td>Ward Park</td>
<td></td>
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<td>Physical works started with plans to be completed by Christmas 2015. Commented on regular updates to MKT.</td>
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<tr>
<td>• Arrange for updates to be forward to MKT on a regular basis.</td>
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<td>• Approval for planting by MKT. Kalley to contact MKT to action.</td>
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<tr>
<td>Kalley</td>
<td>Kalley</td>
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<tr>
<th>4.3.</th>
<th>Flood Works</th>
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<tr>
<td>See attachment i.</td>
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<tr>
<th>4.4.</th>
<th>Oxford Road water race</th>
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<tbody>
<tr>
<td>Report going to Utilities and Roading Committee to seek approval to close R3Q, north of Oxford Road, and R3N1, south of Oxford Road, (see page 4 attachment l) in December.</td>
<td></td>
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<tr>
<td>Kalley commented that R3Q is dry as residents do not use it but R3N1 is still flowing. The key issue is that the water race flows into the North Brook. The positive is that it provides base flow into the North Brook but the negative is that it brings agriculture run off into the brook. Staff have identified that an open water race is no longer appropriate in an urban environment.</td>
<td></td>
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<td>It was confirmed that there was no need to go through MKT for closing these water races.</td>
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<th>5.</th>
<th>Wastewater</th>
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<tr>
<th>5.1.</th>
<th>Rangiora WWTP Inlet Works</th>
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<td>Noted that it does not extend to the silent file area and a number of consents are required.</td>
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<tr>
<th>5.2.</th>
<th>Wastewater Discharge Consents</th>
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<tr>
<td>Clarification was sought regarding discharge to air and discharge to land. Kalley reference a consent in Oxford, where the discharge to air was in relation to odour not being offensive. Another consent in Oxford, in relation to discharge to land, where effluent was treated then pumped to Eyre River where it was used irrigate to farmland. Clare questioned whether the consents should be brought to the attention of the Canterbury Water Zone Committee. Kalley stated that Council is treated the same as any other Resource Consent applicant. Clare queried whether Council had a nutrient budget for the discharge to land consent. Kalley responded that effluent discharge has less nutrient loading than agriculture discharge, adding that stricter conditions, specific to effluent discharge, were required of the Council's consent adding that staff were happy to provide their resource consent conditions if requested.</td>
<td></td>
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<tr>
<td>Kalley noted that Council had 17 resource consents, with 205 compliance conditions. He outlined the five conditions of non-compliance and the action staff were undertaking in relation to the non-compliance. Philippa, in relation to the Eastern Districts Ocean Outfall, queried whether samples taken from the plant. Kalley stated that samples are taken out of the plant and at the outfall for comparison. Investigations are being carried out to determine why high levels being found at outfall.</td>
<td></td>
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<tr>
<td>Kalley commented that the Fernside WWTP was small and problematic but staff were investigating a cost effective solution.</td>
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<tr>
<td>Commented on new requirements under the Local Government Act regarding reporting on abatements etc.</td>
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PRESENT: Joe Boulton, Brian Judson, Greg Bennett (WDC), Jamie Hamilton (WIL), Owen Davies (WDC), Clr. Sandra Stewart, Margaret Spencer-Bower, Keith Vallance, Denise Clark (Minute Secretary)

1. APOLOGIES

An apology was received from Les Inch, Tim Stokes, Greg Bennett. Change in committee members this term sees the resignation of Joe Boulton and our new Councillor on board is Sandra Stewart.

MOVED: Keith Vallance / Joe Boulton

That the apologies be received. Carried

2. CONFIRMATION OF MINUTES

That the Waimakariri Water Race Advisory Group

- Confirms as a true and correct record the minutes of the meeting held of the Waimakariri Water Race Advisory Group on Thursday 21 July 2016 with the exception of the following amendment.

Amendment:
- A correction was made to the previous minutes as follows:
  - It was noted that the date was incorrect on the previous minutes and read 22 July 2017 instead of 21 July 2016.

MOVED: Brian Judson / Joe Boulton

Carried

3. VOTE FOR A NEW CHAIRPERSON

A nomination has been put forward for Tim Stokes however as he is absent from this meeting Owen will contact Tim and ask for his acceptance. Owen will confirm with members at next meeting.

4. MATTERS ARISING

- An anomaly of $21,000 in the financial statement was noted, Greg said utilities pay rates which is set on the valuation of assets in Road Corridors. Council collects the rates. Irrigation rates were exempt until last year which hasn’t been budgeted for the last financial year. A lump sum transfer was done in June. Irrigation NZ have gone to the Valuation General to protest this.
  - Greg will check with Finance to see if the rates will come back into this Water Race account rather than the General account as Greg was told previously.
  - Owen has not caught up with finance but noted that the new figure has risen to $28,995.

5. WAIMAKARIRI IRRIGATION LTD REPORT

- WIL Report was presented by Jamie Hamilton:
  - It has been a favourable season with rivers being full due to the amount of rainfall.
  - Last month we were on water restrictions however there has not been a lot of demand for water at the moment with the amount of rain we are now experiencing.

Trim: STW-04 / 170331031634
Winter works programme – identified some areas to start this winter.

WIL have developed environmental management as part of their business now. Looking at farm practices, soil types, better ways to manage applications.

Paul Reece is the Environmental Manager at WIL.

West Eyrton area work has been completed.

Intake structure – ladder works completed. A winch was put in to help with opening the very heavy lid, however it was stolen. New cameras have been installed.

There was a break in attempt at the yard last week but they were unsuccessful.

Owen said it might be worth having a site visit to the intake if anyone was interested in looking at the structure. Let Owen know if you are interested.

Due to new health and safety regulations, MWH engineers have been looking at the rock structures at the intake. Over time alternative track access may be required.

Ongoing maintenance issues through Cost races.

Margaret enquired about flooding on Two Chain Road. Jamie said the landowner doesn’t always maintain the race at this particular point and the drain is sloped uphill in this particular area so causes flooding. This issue has now been resolved.

6. **FINANCIAL REPORT**

A Financial Report to February 2017 was tabled:

- Margaret asked what are the external recoveries? Owen will find out for next meeting.
- To date the budget is looking good we have spent 70% of the budget so far this financial year.

7. **GENERAL BUSINESS**

- Proposal to close two races.

  1. **Race R3N-1 Oxford Road race closure at the top of the North Brook.**
     - Most people are in favour of closing this race.
     - There is not a constant flow down here and it is not spring water.
     - Margaret queried if some people want to keep it open, then do we need to keep it open? Owen said as there are more people who want to close it, then we would recommend closing the Race.
     - WDC is asking this group to provide feedback to go to Council.
     - Margaret would support closing the race as the race now runs through mainly residential properties.
     - Is it wise to fill the drain in? Owen said we would write to everyone affected and tell them if they want to fill the drain in when closed, then they must talk to Council first.

- **2. Proposed Closure of Stock Water Race R1-A**

  - Margaret has a vested interest in this particular closure as the race runs through her property.
  - All users of this Water Race have given consent to close the race.
  - Margaret said she hasn’t had any water come through Ngai Tahu property for at least 6 months.
  - Joe said we need to be very careful we don’t end up with a system that isn’t viable if we start closing races when people request it.
  - Keith said if it’s not being used, it may as well be closed.
  - Joe wants to wait for the other two absentee members to be present before a conclusion is reached. Owen has sought to contact absentee committee members as requested during the meeting. No further objection was raised from Tim Stokes.
  - Silverstream has been identified as an area with pollutants in the catchment. WIL is working with Ecan at the moment to look at ways to flush this out. The closure of this race could mean the water could potentially be used to flush out the Silverstream.
  - The ratepayers who will lose the use of the race will stop paying a stockwater rate. Owen said the closure of the race would not affect anyone else’s rates.
  - Margaret said she would like to have the races remain in place even when/if closed to help in the event of a flood in the future.
Keith Vallance mentioned Lily Road has had some people drive through the water race and have caused a huge mess.

8. **MEETING DATES**

- Next Meeting Thursday 20th July at the Oxford Town Hall. The final meeting for this year is proposed for 2nd November.
- Please keep Thursday 18th May free for the Annual Drainage Groups get together in the Rangiora Council Chambers.

*There being no further Business, the meeting was declared closed at 9.00 pm*
1. **SUMMARY**

The purpose of this report is to provide the Utilities and Roading Committee with results of the 2016 Customer Satisfaction Survey with respect to utilities and roading aspects of the survey. The survey was conducted in November/December 2016. The survey deals largely with the community’s use of, and satisfaction, with the services provided by the Council. The Council’s Policy and Strategy Team, separate to those parts of the organisation delivering services, have managed the survey.

This is the sixth in a series of three yearly surveys conducted by the Council, with the previous surveys having been undertaken in 2001, 2004, 2007, 2010 and 2013. Each of these surveys has used substantially the same questionnaire, which allows the tracing of trends in the community’s satisfaction Council services. 600 households are approached to complete the survey drawn as random sample.

This survey continuity, attention to sample design, tested nature of the questionnaire and the consistently high response rate (81%) mean there is a very high level of confidence in the results as being representative of the whole population. While results are also analysed by ward and for other subsamples in the full report, statistical sampling errors increase with smaller numbers and so results are more indicative rather than representative of opinion at this level.

**Attachments:**


2. RECOMMENDATION

THAT the Committee:

(a) Receives report 170331031643

(b) Notes that a comprehensive report on all aspect of the Customer Satisfaction Survey 2016 will be presented to the Council meeting on June 6.

(c) Refers this report to the Community Boards for their information

3. ISSUES AND OPTIONS

3.1 The 2016 Customer Satisfaction Survey conducted in November / December 2016 and involved the circulation of questionnaires to 600 households in the District, with the number of questionnaires allocated to each ward based on the number of people recorded at the 2013 Census. The survey contains 60 questions on all aspects of Council services. The questions focus on the use of and satisfaction with these services.

3.2 The households that participate were randomly selected from the District’s valuation roll, using the Excel random number programme. Members of five community groups that assist the Council with delivery and collection of the surveys. These community groups included the Woodend Volunteer Fire Brigade, the Rangiora Croquet Club, Waikuku Boxing Club, Oxford Area School and the North Canterbury Soroptimists. The groups were paid $7.00 per questionnaire returned plus travel costs associated with the distribution of questionnaires. This means that the money associated with the cost of the circulation of questionnaires stays in the community.

3.3 Of the 600 questionnaires circulated 486 were returned, which gives a response rate of 81 percent and a sampling error of +/- 4.4%. This response rate is exceptionally high when compared with the response rates that are presently being achieved by many other organisations sample surveys especially those utilising phone surveying and adopting market research approaches. The fact that the Council was able to achieve this response rate is attributable to the generous cooperation of the people approached to complete a questionnaire, and the work of the members of the community groups that undertook the job of circulating the questionnaires.

3.4 The Council has been using this method of circulating the questionnaires for each of its 5 most recent Customer Satisfaction Surveys, and for the 1992 survey, and on each occasion, the response rate has exceeded 80.0 percent. These very high response rates mean that greater reliance can be placed on the results of the surveys than would otherwise be the case. A high response rate means that any “non-response” bias in the results is minimised.

3.5 The household is the unit of analysis for the survey, and respondents are advised that the Council welcomes the involvement of all members of the household in answering the questionnaire. The household was chosen as the unit of analysis in order to maximise the amount of information that could be gathered through each questionnaire.

3.6 Results from this and previous Customer Satisfaction Surveys are important inputs to reviewing both levels of service and performance in delivery of services. They also inform the review and development of Activity Management Plans.

3.7 Council managers and team leaders have had an initial opportunity to consider the survey results and more detailed tabulations for each activity area are being compiled. Also of value, are the large number of verbatim comments on returned survey forms, which have been electronically captured and sorted. Departments over the coming weeks will be considering the results with a view to where possible improvements can be made within existing resources and the desirability of new initiatives to continue to improve customer satisfaction.
3.8 Attached at Appendix 1 is the findings report for Utilities – Drainage, Refuse and Recycling, Water and Sewerage. Appendix 2 contains the findings report for Roads, Footpaths, Parking and Cycling Provision.

3.9 The key findings of the Customer Satisfaction Survey 2016 with respect to Utilities (when ‘no opinion/no response’ results are excluded from consideration) are:

- **Drainage Services** – 77.5% of households were satisfied with drainage services near their home, including urban areas; 22.5% were dissatisfied.
- **Kerbside Recycling Collection Services** – 94.6% of households who received these services were satisfied with kerbside recycling services; 5.3% were dissatisfied.
- **Kerbside Refuse Collection Services** – 74.2% of households who received these services were satisfied with kerbside refuse collection; 25.7% were dissatisfied.
  - 34.6% of household’s home compost kitchen waste weekly (of total incl. no opinion/no response).
  - 98.3% of households were satisfied with the location of District transfer stations; 1.7% were dissatisfied.
  - 32.7% of households have refuse collected by a contractor every 1 to 3 weeks (of total incl. no opinion/no response).
- **Council Operated Water Supplies** – 92.3% of households who receive Council water supply were satisfied; 7.6% were dissatisfied.
- **Council Operated Sewerage Schemes** – 96.7% of respondents who connected to Council operated Sewerage system were satisfied with it; 3.3% were dissatisfied.

3.10 The key findings of the Customer Satisfaction Survey 2016 with respect to roading, footpaths, parking and cycling provision (also when ‘no opinion/no response’ results are excluded from consideration) are:

- **Town Roads** – 87.9% of households were satisfied with Town roads; 12.1% were dissatisfied.
- **Small Settlement Roads** – 83.3% of households were satisfied with small settlement roads; 16.7% were dissatisfied.
- **Sealed Rural Roads** – 85.9% of households were satisfied with sealed rural roads; 14.1% were dissatisfied.
- **Unsealed Rural Roads** – 80.2% of households were satisfied with unsealed rural roads; 19.7% were dissatisfied.
- **Town footpaths** – 86.5% of households were satisfied with town footpaths; 13.5% were dissatisfied.
- **Small Settlement Footpaths** – 82.2% of households were satisfied with small settlement footpaths; 17.8% were dissatisfied.
- **Rangiora Off-Street Parking** – 59.1% of households were satisfied with Rangiora off-street parking; 40.9% were dissatisfied. Note: this was the highest level of satisfaction recorded since 2001.
• **Rangiora Town Traffic Flow System** – 67.2% of households were satisfied with Rangiora Town Traffic Flow System; 32.7% were dissatisfied. Note: this was the highest level of satisfaction recorded since 2001.

• **Kaiapoi Off-Street Parking** – 80.8% of households were satisfied with Kaiapoi off-street parking; 19.2% were dissatisfied. Note: this was the highest level of satisfaction recorded since 2001.

• **Kaiapoi Town Traffic Flow System** – 79.8% of households were satisfied with Kaiapoi town traffic flow; 20.2% were dissatisfied. Note: this was the highest level of satisfaction recorded since 2001.

• **Satisfaction with the Provision for Cycling** – 54.6% of households were satisfied with provision for cycling; 45.4% were dissatisfied.

3.11 A comprehensive report on all aspects of the Customer Satisfaction Survey will be presented at the Council meeting on June 6.

4. **COMMUNITY VIEWS**

4.1. **Maori**

The views of Maori were not obtained during the development of the questionnaire, but some people with Maori ancestry are likely to have been included in the survey sample.

4.2. **External**

The Council’s Customer Satisfaction Survey is one of the Council’s main opportunities to ascertain the views of members of the community with respects to a wide range of its services and other activities.

4.3. **Internal**

Business Units provided feedback on possible questions and the Management Team reviewed the draft 2016 questionnaire.

5. **FINANCIAL IMPLICATIONS AND RISKS**

5.1. The cost of the 2016 Customer Satisfaction Survey has been covered from existing budgets. Actions undertaken in response to the findings of this survey will either be covered by existing budgets or included as specific items in future Council budget proposals.

5.2. The results of the 2016 survey have a sampling error of +/- 4.4 percent at 95 percent confidence. This means that the whole community’s views are likely to be within 4.4 percent of those recorded in the survey, but there is once chance in 20 that the actual views of the community are outside of that range.

6. **CONTEXT**

6.1. **Policy**

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

6.2. **Legislation**

*Local Government Act 2002*

6.3. **Community Outcomes**

There is a safe environment for all

Transport is accessible, convenient, reliable, affordable and sustainable
Businesses in the District are diverse, adaptable, and growing
Core utility services are provided in a timely, sustainable and affordable manner
The community’s cultures, arts and heritage are conserved and celebrated
Public spaces and facilities are plentiful, accessible and high quality
People have a wide range of opportunities for learning and being informed
There are wide ranging opportunities for people to contribute to the decision-making by public organisations that affect our District.
Customer Satisfaction Survey 2016

Findings – Utilities – Drainage, Recycling and Refuse Services, Sewerage Systems, and Water Supplies

April 2017

Prepared by Policy and Strategy Unit
## CONTENTS

Key Findings ................................................................................................................. 3

1. INTRODUCTION ................................................................................................................. 4
   1.1 Objectives .................................................................................................................. 4
   1.2 The Survey .................................................................................................................. 4

2 UTILITIES .............................................................................................................................. 6
   2.1 The questions .............................................................................................................. 6
   2.2 Drainage ...................................................................................................................... 6
       2.2.1 satisfaction with drainage 2016 ............................................................................ 6
       2.2.2 trends in satisfaction with drainage 2001 – 2016 ............................................. 7
       2.2.3 comments about drainage systems 2016 .......................................................... 8
   2.3 Kerbside Recycling and Refuse collection services ..................................................... 8
       2.3.1 satisfaction with kerbside Recycling collection services 2016 ....................... 8
       2.3.2 satisfaction with kerbside Refuse collection services 2016 ............................. 10
       2.3.3 trends in satisfaction with kerbside collection services 2001 – 2016 .............. 12
       2.3.4 comments about the kerbside collections services 2016 ................................. 13
       2.3.5 Recycling and refuse methods .......................................................................... 14
       2.3.6 Refuse transfer stations ...................................................................................... 14
       2.3.7 trends in satisfaction with refuse transfer stations 2001-2016 ......................... 16
       2.3.8 comments about the refuse transfer stations 2016 ............................................ 16
   2.4 Council operated water supplies ............................................................................... 17
       2.4.1 satisfaction with Council operated water supplies 2016 ................................. 17
       2.4.2 trends in satisfaction with Council operated water supplies 2001-2016 ......... 19
       2.4.3 comments about Council operated water supplies 2016 ................................. 19
   2.5 Council operated sewerage schemes .......................................................................... 20
       2.5.1 satisfaction with Council-operated sewerage schemes .................................... 20
       2.5.2 trends in satisfaction with Council-operated sewerage schemes ..................... 22
       2.5.3 comments about Council-operated sewerage schemes ..................................... 22

Attachment i – wdc cUSTOMER sATISFACTION sURVEY 2016 .................................................. 23
Attachment ii – Comments on Utilities .................................................................................. 24
KEY FINDINGS

The key findings of the Customer Satisfaction Survey 2016 with respect to Utilities (when ‘no opinion/no response’ results are excluded from consideration) are:

- **Drainage Services** – 77.5% of households were satisfied with drainage services near their home, including urban areas; 22.5% were dissatisfied.
- **Kerbside Recycling Collection Services** – 94.6% of households who received these services were satisfied with kerbside recycling services; 5.3% were dissatisfied.
- **Kerbside Refuse Collection Services** – 74.2% of households who received these services were satisfied with kerbside refuse collection; 25.7% were dissatisfied.
  - 34.6% of household’s home compost kitchen waste weekly (of total incl. no opinion/no response).
  - 98.3% of households were satisfied with the location of District transfer stations; 1.7% were dissatisfied.
  - 32.7% of households have refuse collected by a contractor every 1 to 3 weeks (of total incl. no opinion/no response)
- **Council Operated Water Supplies** – 92.3% of households who receive Council water supply were satisfied; 7.6% were dissatisfied.
- **Council Operated Sewerage Schemes** – 96.7% of respondents who connected to Council operated Sewerage system were satisfied with it; 3.3% were dissatisfied.
INTRODUCTION

1. OBJECTIVES

The Waimakariri District Council’s 2013 Customer Satisfaction Survey was conducted in November / December 2016. It is the sixth in a series of three yearly customer satisfaction surveys to be conducted by the Council.

The main objective of the Waimakariri District Council’s Customer Satisfaction Survey is to obtain a high-level overview of the attitudes of Waimakariri District residents towards the services and facilities provided by the Council. Repeating the survey on a regular basis enables the Council to develop an understanding of the community’s views over the long-term.

The survey does not attempt to explore topics in-depth as the Council conducts more targeted research on topical issues as required.

This report presents the results of this survey and compares these with the results of the 2001, 2004, 2007, 2010 and 2013 surveys where possible.

Information about the key characteristics of the respondent households is also collected in the survey. This data helps with the assessment of the reliability of the survey results. If the key characteristics of the people included in the sample resemble those of the population from which the sample is drawn, greater confidence can be attached to the results than would otherwise be the case.

1.2 THE SURVEY

The Customer Satisfaction Surveys are surveys of residents. The samples do not include non-resident ratepayers, or commercial enterprises based in the District’s Business Zones. It is accepted, however, that there are many home based businesses in the District as well as farms, and that households associated with these were included in the sample. The questions were directed to these households as residents rather than as business owners.

The Council accepts that both non-resident ratepayers and commercial enterprises based in the District’s Business Zones are also customers, but recognises that there are more appropriate ways of communicating with these parties than via a general survey.

The questionnaires are only identified by their area codes and responses could not be traced to any individual or household. The raw data is not available to anyone other than Council staff and is stored securely outside of the document management system. The final report will be published and available through the Council’s document management system or website. Methods such as rounding or consolidation of data into wider categories mean that no household or individual will be able to be identified through the information published in the report.

In 2016, as in 2001, 2004, 2007, 2010 and 2013, the questionnaire was designed to find out the views of the members of respondent households. Respondents were therefore informed that more than one person in the household could be involved with answering the questions. Where there was a question that asked respondents to select only one response from a set of responses, respondents were asked to choose the response that most accurately reflected the opinion of the household.
Where space was provided for written comments, respondents were encouraged to include the different experiences of members of the household where relevant.

The first of these surveys was conducted in April 2001, the second in April 2004, the third in April 2007, the fourth in March/April 2010 and the Fifth in March/April 2013. Many of the same questions were used in each survey although a number of changes were made to some of the questions in 2016 in response to feedback from the pre-testing of the questionnaire. Feedback was that it had been very long and time consuming to complete. The 2013 survey contained 75 questions and was 15 pages long. The 2016 survey (refer Attachment i) contains 61 questions and is 13 pages long. The reduction was achieved through consultation with relevant Council staff. The amendments also reflect the reduction from four wards to three as a result of the 2015 Representation Review.

The response rate of 486 returned and completed surveys for the 2016 survey is comparable to previous surveys with 490 returned in 2013, 516 in 2010, 514 in 2007, 519 in 2004 and 510 in 2001.
2 UTILITIES

2.1 THE QUESTIONS

The Waimakariri District Council provides a range of utility services including drainage, refuse transfer stations, kerbside recycling and refuse collection services, sewerage systems, and water supplies. Some residents, however, do not receive all of these services.

Respondents were asked for their views about the services. The levels of satisfaction reported in this section are, therefore, only for those respondents who indicated that they received the service.

2.2 DRAINAGE

2.2.1 SATISFACTION WITH DRAINAGE 2016

Table 1.1 and Figure 1.1 sets out respondents’ levels of satisfaction with the performance of the land drainage systems where they live, including urban storm water systems, by ward. This is a general question relating to satisfaction with drainage, not one directed at urban areas and rural drainage areas only.

<table>
<thead>
<tr>
<th></th>
<th>Very satisfied</th>
<th>Satisfied</th>
<th>Dissatisfied</th>
<th>Very dissatisfied</th>
<th>No opinion/No response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rangiora / Ashley</td>
<td>26</td>
<td>12.3</td>
<td>117</td>
<td>55.2</td>
<td>18</td>
</tr>
<tr>
<td>Kaiapoi / Woodend</td>
<td>16</td>
<td>10.5</td>
<td>83</td>
<td>54.6</td>
<td>23</td>
</tr>
<tr>
<td>Oxford / Ohoka</td>
<td>6</td>
<td>4.9</td>
<td>52</td>
<td>42.6</td>
<td>12</td>
</tr>
<tr>
<td>District</td>
<td>48</td>
<td>9.9</td>
<td>252</td>
<td>51.9</td>
<td>53</td>
</tr>
</tbody>
</table>

Note: No opinion includes the cases where respondents did not answer the question.
The 2016 satisfaction with the District’s drainage services in the vicinity of their home (including urban storm water systems) was 61.7%. 17.9% of respondent Households were dissatisfied. This finding is similar to the 2013 results where 62.9% of respondents satisfied with the drainage and 15.9% dissatisfied.

The highest levels of satisfaction with the drainage systems was recorded in the Rangiora / Ashley Ward with 67.5% satisfied, followed by Kaiapoi / Woodend with 65.1% satisfied. The lowest satisfaction level was recorded for Oxford / Ohoka with 47.5% satisfied. However, this result will be influenced by the 32.8% of Oxford / Ohoka respondents who indicated ‘no opinion’ or did not answer the question.

The highest levels of dissatisfaction with the drainage systems were recorded from the Kaiapoi / Woodend Ward with 21.1% dissatisfied, followed by the Oxford/Eyre Ward with 19.7% dissatisfied. Dissatisfaction levels with drainage services for Rangiora / Ashley were 14.6%.

### 2.2.2 TRENDS IN SATISFACTION WITH DRAINAGE 2001 – 2016

The drainage question in the 2001 Customer Satisfaction Survey sought information about levels of satisfaction from respondents who were living in either a rural or urban drainage rating area. The levels of satisfaction recorded by this survey are therefore not directly comparable with those recorded in 2001, but are comparable with the 2004, 2007, 2010 and 2013 surveys.

Figure 1.2 below demonstrates the trends in opinions of district drainage services from 2004 to 2016. As can be seen the 2016 satisfaction level (61.7%) is similar to 2013 (62.9%). The dissatisfaction level has increased slightly from 15.9% dissatisfied in 2013 to 17.9% in 2016. However, it is not as high as 2004 when dissatisfaction levels were 27.7%.
2.2.3 COMMENTS ABOUT DRAINAGE SYSTEMS 2016

Comments about drainage were received from a number of respondents. Respondents from Kaiapoi / Woodend comments that flooding is only an issue in heavy rain and when drainage channels are kept maintained and clear, there are no issues. A number of Pegasus residents comments that drainage works well at Pegasus.

Rangiora / Ashely respondents also commented that problems with drainage around Coronation Street, Matawai Park and Lilly brook Stream in heavy rain. Some respondent’s commented that activities on neighbouring properties resulted in increased flood water on their properties and that this should be better managed by the Council. However, specific details were not provided.

In Oxford / Ohoka ward, respondents report a lack of maintenance of the drains, leading to flooding of roads and property. In particular, Harewood Road, High Street and Bay Road were mentioned as having flooding issues in heavy rain.

2.3 KERBSIDE RECYCLING AND REFUSE COLLECTION SERVICES

2.3.1 SATISFACTION WITH KERBSIDE RECYCLING COLLECTION SERVICES 2016

Table 1.2 and Figure 1.3 shows the levels of satisfaction with the District’s kerbside recycling collection service. 362 households indicated that they were receiving these services.
Table 1.2 - Satisfaction with District’s Kerbside Recycling Collection Services 2016

<table>
<thead>
<tr>
<th></th>
<th>Very satisfied</th>
<th>Satisfied</th>
<th>Dissatisfied</th>
<th>Very Dissatisfied</th>
<th>No Opinion/No Response</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>Rangiora / Ashley</td>
<td>95</td>
<td>44.8</td>
<td>68</td>
<td>32.1</td>
<td>4</td>
</tr>
<tr>
<td>Kaiapoi / Woodend</td>
<td>59</td>
<td>38.8</td>
<td>57</td>
<td>37.5</td>
<td>5</td>
</tr>
<tr>
<td>Oxford / Ohoka</td>
<td>26</td>
<td>21.3</td>
<td>21</td>
<td>17.2</td>
<td>2</td>
</tr>
<tr>
<td>District</td>
<td>180</td>
<td>37.0</td>
<td>146</td>
<td>30.0</td>
<td>11</td>
</tr>
</tbody>
</table>

Note: No opinion includes the cases where respondents did not answer the question

Figure 1.3 - Satisfaction Levels with Kerbside Recycling Collection 2016
The above table and graph shows 67% of respondents who received kerbside recycling service were satisfied with it. It must be acknowledged that there was an error in the survey that directed respondents to skip the kerbside collection satisfaction questions. Of those that did indicate that they received kerbside recycling collection, 12.2% (73 respondents) gave no response to the satisfaction questions. Therefore, the results for these questions may be inaccurate by up to 12.2%.

There was minimal dissatisfaction with either these services from the respondents who were receiving them.

### 2.3.2 SATISFACTION WITH KERBSIDE REFUSE COLLECTION SERVICES 2016

Table 1.3 and Figure 1.4 sets out respondents’ levels of satisfaction with the District’s kerbside refuse collection service. 362 households indicated that they were receiving these services.

<table>
<thead>
<tr>
<th></th>
<th>Very Satisfied</th>
<th>Satisfied</th>
<th>Dissatisfied</th>
<th>Very Dissatisfied</th>
<th>No Opinion/No Response</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>Rangiora / Ashley</td>
<td>57</td>
<td>26.9</td>
<td>52</td>
<td>24.5</td>
<td>17</td>
</tr>
<tr>
<td>Kaiapoi / Woodend</td>
<td>35</td>
<td>23.0</td>
<td>46</td>
<td>30.3</td>
<td>18</td>
</tr>
<tr>
<td>Oxford / Ohoka</td>
<td>12</td>
<td>9.8</td>
<td>13</td>
<td>10.7</td>
<td>4</td>
</tr>
<tr>
<td>District</td>
<td>104</td>
<td>21.4</td>
<td>111</td>
<td>22.8</td>
<td>39</td>
</tr>
</tbody>
</table>

**Note:** No opinion includes the cases where respondents did not answer the question

The above table and below graph shows 44% of respondents who received kerbside refuse collection service were satisfied with it. Again, it must be acknowledged that there was an error in the survey that directed respondents to skip the kerbside collection satisfaction questions. Of those that did indicate that they received kerbside refuse collection, 12.2% gave no response to the satisfaction questions. Therefore, the results for these questions may be inaccurate by up to 12.2%.

Of the respondents who were receiving refuse collection 15.2% were dissatisfied with the service they were receiving.
Figure 1.5 below shows respondents opinions for both kerbside recycling and refuse collection. As can be seen, satisfaction levels with recycling collection are much higher than with refuse collection.
2.3.3 TRENDS IN SATISFACTION WITH KERBSIDE COLLECTION SERVICES 2001 – 2016

Figure 1.4 below demonstrates the satisfaction trends with kerbside collection services from 2001 to 2016. As can be seen the 2016 satisfaction levels for both recycling and refuse collection have declined. As acknowledged above, 12.2% of respondents provided no response to this question which may have skewed the result. However, even if all 12.2% responded that they were satisfied, there would still be a decline in satisfaction levels.

Due to the anomaly of a high level on no opinion / no response for this question as discussed above, two additional lines have been included in Figure 1.6. The purple ‘satisfaction’ line includes 2016 no opinion / no response data, and the green dashed ‘satisfaction*’ line excludes that data. As can be seen, the green dashed line more closely follows the historical trend. Either line shows a decline in satisfaction from 2013 to 2016.

![Figure 1.6 - Trends in Satisfaction with Kerbside Collection Services 2001-2016](image)
2.3.4 COMMENTS ABOUT THE KERBSIDE COLLECTIONS SERVICES 2016

Comments from respondents canvassed a wide range of issues associated with the District’s kerbside collection services.

- Concern about system involving charging for rubbish bags
- Would like a green waste collection
- Preference for wheelie bins rather than bags
- 3 bin service, as in Christchurch
- The small bins provided to smaller dwellings are too small for families
- More information regarding recycling
- Collection in rural residential areas
- Weekly recycling collection rather than fortnightly

A number of respondents indicated that they had their household rubbish and green waste collected by a private operator and would rather a 3 Bin council managed system was in place.

The above issues are the same as those identified by respondents in the 2013 survey, with the exception of collection in rural residential areas being a new issue.

Photo 1 – WDC recycling bin and rubbish bag
2.3.5 RECYCLING AND REFUSE METHODS

Figure 1.5 below demonstrates the frequency of different methods that households use to dispose of household waste. Delivering recyclables and refuse to transfer stations were the most common methods, followed by home composting and then contractor collection.

*Figure 1.5 - Frequency of Methods use to Dispose of Household Waste 2016*

<table>
<thead>
<tr>
<th>Method</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home Compost Kitchen Waste</td>
<td>34.6</td>
</tr>
<tr>
<td>Home Compost Garden Waste</td>
<td>23.7</td>
</tr>
<tr>
<td>Deliver Recyclables to Transfer Station</td>
<td>12.1</td>
</tr>
<tr>
<td>Deliver Refuse to Transfer Station</td>
<td>7.4</td>
</tr>
<tr>
<td>Refuse Collection by Contractor</td>
<td>2.7</td>
</tr>
<tr>
<td>Green Waste Collection by Contractor</td>
<td>1.2</td>
</tr>
</tbody>
</table>

2.3.6 REFUSE TRANSFER STATIONS

Figure 1.8 below demonstrates Household levels of satisfaction with the ease of use of the District’s two refuse transfer stations, Southbrook Resource Recovery Park and the Oxford Transfer Station. Satisfaction levels are high:

- 76.3% satisfied with location
- 73% satisfied with ease of use for refuse
- 71.2% satisfied with staff service
67.3% satisfied with opening hours
59.8% satisfied with ease of use for recycling

Dissatisfaction levels were low; ranging between 8.2% dissatisfied with opening hours to 1.2% dissatisfied with location. Wards generally had similar dissatisfaction levels; however, Oxford / Ohoka had the highest dissatisfaction with the opening hours.

**Figure 1.8 - Satisfaction Levels of Households with Aspects of District Transfer Stations 2016**
2.3.7 TRENDS IN SATISFACTION WITH REFUSE TRANSFER STATIONS 2001-2016

Figure 1.9 below shows that satisfaction rates have decreased in 2016 across all the aspects being measured for the District’s transfer stations. Questions about satisfaction with location, operating hours and the standard of service at the District’s refuse transfer stations were not asked in prior to 2010.

![Figure 1.9 - Trends in Satisfaction Levels of Households with Aspects of District Transfer Stations 2001-2016](image)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>74.9</td>
<td>82.1</td>
<td>76.3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ease of use for Refuse</td>
<td>53.6</td>
<td>71.4</td>
<td>69.3</td>
<td>66.3</td>
<td>76.4</td>
<td>73.0</td>
</tr>
<tr>
<td>Ease of use for Recycling</td>
<td>64.1</td>
<td>68.7</td>
<td>69</td>
<td>65.9</td>
<td>74.1</td>
<td>59.8</td>
</tr>
<tr>
<td>Opening Hours</td>
<td>64.9</td>
<td>69.8</td>
<td>67.3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Service Provided by Staff</td>
<td>68.4</td>
<td>73.1</td>
<td>71.2</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2.3.8 COMMENTS ABOUT THE REFUSE TRANSFER STATIONS 2016

Comments about the transfer stations were received from 374 respondents. The main concerns were:

- Charges too high which lead to illegal rubbish dumping
- Need for longer hours, especially at weekends
• Improved design of the pit area at Rangiora for easier access
• Transfer Station for Kaiapoi
• Oxford Transfer Station to be open on extra days with longer hours and EFTPOS

These concerns are the same as concerns raised by households in 2013.

While the question asked if Households had any concerns, 21 respondents commented that the transfer station staff are very helpful and friendly and provide excellent service.

### 2.4 COUNCIL OPERATED WATER SUPPLIES

#### 2.4.1 SATISFACTION WITH COUNCIL OPERATED WATER SUPPLIES 2016

Table 1.4 and Figure 1.10 below sets out respondents’ levels of satisfaction with the Council operated water supply, including the Ashley Rural Water Supply that is operated by the Hurunui District Council. 342 households indicated that they were receiving these services.

<table>
<thead>
<tr>
<th></th>
<th>Very Satisfied</th>
<th>Satisfied</th>
<th>Dissatisfied</th>
<th>Very Dissatisfied</th>
<th>No Opinion/No Response</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( n )</td>
<td>%</td>
<td>( n )</td>
<td>%</td>
<td>( n )</td>
</tr>
<tr>
<td>Rangiora / Ashley</td>
<td>85</td>
<td>40.1</td>
<td>87</td>
<td>41.0</td>
<td>1</td>
</tr>
<tr>
<td>Kaiapoi / Woodend</td>
<td>42</td>
<td>27.6</td>
<td>58</td>
<td>38.2</td>
<td>10</td>
</tr>
<tr>
<td>Oxford / Ohoka</td>
<td>17</td>
<td>13.9</td>
<td>28</td>
<td>23.0</td>
<td>5</td>
</tr>
<tr>
<td>District</td>
<td>144</td>
<td>29.6</td>
<td>173</td>
<td>35.6</td>
<td>16</td>
</tr>
</tbody>
</table>

**Note:** No opinion includes the cases where respondents did not answer the question

The above Table 1.4 and below Figure 1.10 shows 65.2% of respondents who receive Council operated water supply were satisfied with it and 5.3% were dissatisfied. It must be acknowledged that there was an error in the survey that directed respondents to skip the water supply satisfaction questions. Of those that did indicate that they were connected to Council operated water supply, 22.7% (101 respondents) gave no response to the satisfaction questions. Therefore, the results for these questions may be inaccurate by up to 22.3%.
Figure 1.11 below demonstrates satisfaction levels of those who answered the question, excluding no opinion / no response. From this figure it can be concluded that of those respondents who do have an opinion on Council operated water supplies - 92.4% are satisfied and 7.6% are dissatisfied with this service.

<table>
<thead>
<tr>
<th></th>
<th>Rangiora / Ashley</th>
<th>Kaiapoi / Woodend</th>
<th>Oxford / Ohoka</th>
<th>District</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very satisfied</td>
<td>48.6</td>
<td>37.2</td>
<td>30.9</td>
<td>42.0</td>
</tr>
<tr>
<td>Satisfied</td>
<td>49.7</td>
<td>51.3</td>
<td>50.9</td>
<td>50.4</td>
</tr>
<tr>
<td>Dissatisfied</td>
<td>0.6</td>
<td>8.8</td>
<td>9.1</td>
<td>4.7</td>
</tr>
<tr>
<td>Very dissatisfied</td>
<td>1.1</td>
<td>2.7</td>
<td>9.1</td>
<td>2.9</td>
</tr>
</tbody>
</table>
2.4.2 TRENDS IN SATISFACTION WITH COUNCIL OPERATED WATER SUPPLIES 2001-2016

Figure 1.12 below demonstrates the trends in satisfaction levels of respondents with properties connected to Council-operated water supply from 2001 to 2016. Due to the anomaly of a high level on no opinion / no response for this question as discussed above, two lines have been included. The purple ‘satisfaction’ line includes the 2016 no opinion / no response data, and the green dashed ‘satisfaction*’ line excludes that data. As can be seen, the green dashed line more closely follows the historical trend. Both lines show a decline in satisfaction from 2013 to 2016.

![Figure 1.12 - Trends in Satisfaction Levels (%) with Council Operated Water Supply 2001-2016](image)

<table>
<thead>
<tr>
<th>Year</th>
<th>Satisfaction</th>
<th>Satisfaction*</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>81.3</td>
<td>81.3</td>
</tr>
<tr>
<td>2004</td>
<td>79.5</td>
<td>79.5</td>
</tr>
<tr>
<td>2007</td>
<td>87.7</td>
<td>87.7</td>
</tr>
<tr>
<td>2010</td>
<td>86.4</td>
<td>86.4</td>
</tr>
<tr>
<td>2013</td>
<td>97.8</td>
<td>97.8</td>
</tr>
<tr>
<td>2016</td>
<td>65.2</td>
<td>92.4</td>
</tr>
</tbody>
</table>

2.4.3 COMMENTS ABOUT COUNCIL OPERATED WATER SUPPLIES 2016

Comments were received from 66 respondents about aspects of a Council operated water supply that concerned them.

- Respondents from Kaiapoi / Woodend and Oxford / Ohoka are concerned about the taste of their water and the amount of chlorine being used to purify it.
- Oxford /Ohoka respondents are more concerned about the quantity of water and the low pressure. They also comment about the taste of the water with the very noticeable chlorine flavour.
- Respondents from Rangiora are generally very happy with their water supply, with the exception of Kippenberger Estate. They commented that the drinking water has been very murky on and off for months. It is possible that this is a result of surrounding land development.
The 2016 comments are similar to 2013 comments.

### 2.5 COUNCIL OPERATED SEWERAGE SCHEMES

#### 2.5.1 SATISFACTION WITH COUNCIL-OPERATED SEWERAGE SCHEMES

Table 1.5 and Figure 1.13 demonstrate the levels of satisfaction for the 322 respondents who indicated they are on a Council-operated sewerage scheme.

<table>
<thead>
<tr>
<th></th>
<th>Very Satisfied</th>
<th>Satisfied</th>
<th>Dissatisfied</th>
<th>Very Dissatisfied</th>
<th>No Opinion/No Response</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>Rangiora / Ashley</td>
<td>77</td>
<td>36.3</td>
<td>79</td>
<td>37.3</td>
<td>2</td>
</tr>
<tr>
<td>Kaiapoi / Woodend</td>
<td>51</td>
<td>33.6</td>
<td>58</td>
<td>38.2</td>
<td>3</td>
</tr>
<tr>
<td>Oxford / Ohoka</td>
<td>13</td>
<td>10.7</td>
<td>22</td>
<td>18</td>
<td>2</td>
</tr>
<tr>
<td>District</td>
<td>141</td>
<td>29.0</td>
<td>159</td>
<td>32.7</td>
<td>7</td>
</tr>
</tbody>
</table>

**Note:** No opinion includes the cases where respondents did not answer the question

The above Table 1.5 and below Figure 1.13 show 61.7% of respondents who receive Council operated sewerage system were satisfied with it and 2.1% were dissatisfied. It must be acknowledged that there was an error in the survey that directed respondents to skip the sewerage satisfaction questions. Although, interestingly for this question, while 322 respondents indicated that they were connected to a Council operated sewerage system; 355 respondents provided a view on satisfaction. Therefore, 38 respondents who do not receive this service provided a view on it. As shown in Figure 1.10 above, a very high proportion of respondents that provided a no opinion / no response, particularly in Oxford / Ohoka (68.9%).
Figure 1.14 below demonstrates satisfaction levels of those who answered the question, excluding no opinion / no response. From this figure it can be concluded that of those respondents who do have an opinion on Council operated sewerage systems; 96.8% are satisfied and 3.2% are dissatisfied with this service.
2.5.2 TRENDS IN SATISFACTION WITH COUNCIL-OPERATED SEWERAGE SCHEMES

Figure 1.15 below demonstrates the trends in satisfaction levels of respondents with properties connected to Council-operated sewage schemes from 2001 to 2016. Due to the anomaly of a high level on no opinion / no response for this question as discussed above, two lines have been included. The purple ‘satisfaction’ line includes 2016 no opinion / no response data, and the green dashed ‘satisfaction*’ line excludes that data. As can be seen, the green dashed line more closely follows the historical trend.

![Trends in Satisfaction Levels (%) with Council Operated Sewerage Supplies 2001-2016](image)

<table>
<thead>
<tr>
<th>Year</th>
<th>Satisfaction</th>
<th>Satisfaction*</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>85.9</td>
<td>85.9</td>
</tr>
<tr>
<td>2004</td>
<td>84.9</td>
<td>84.9</td>
</tr>
<tr>
<td>2007</td>
<td>91.4</td>
<td>91.4</td>
</tr>
<tr>
<td>2010</td>
<td>89.8</td>
<td>89.8</td>
</tr>
<tr>
<td>2013</td>
<td>95.5</td>
<td>95.5</td>
</tr>
<tr>
<td>2016</td>
<td>61.7</td>
<td>96.8</td>
</tr>
</tbody>
</table>

2.5.3 COMMENTS ABOUT COUNCIL-OPERATED SEWERAGE SCHEMES

A small number of respondents commented on aspects of the sewerage system servicing their property that concerned them.

- Two respondents were concerned about the number of new subdivisions being built and whether the sewage system had the capacity to cope with this.
- In Rangiora / Ashley, three respondents commented that sometimes sewerage comes onto their property and can be an issue in heavy rain, but otherwise felt they received a very good service.
- A number of respondents appeared confused about what is a council operated sewerage system, as they commented that their septic tank should be cleaned out more regularly.
## Drainage Comments

<table>
<thead>
<tr>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014 flooding - issues still not resolved</td>
</tr>
<tr>
<td>A few years ago during severe flooding we had sewage around the house we were renting in Charles Street. The Council acted promptly on our phone call.</td>
</tr>
<tr>
<td>A whole lot better than when had the flooding. Keep the maintenance up.</td>
</tr>
<tr>
<td>Autumn time we could use more sweeping of the gutters.</td>
</tr>
<tr>
<td>Big surface flooding across District.</td>
</tr>
<tr>
<td>Blocked drain in heavy rain.</td>
</tr>
<tr>
<td>Catchpits on roadside should be cleaned out more regularly.</td>
</tr>
<tr>
<td>Changes were made to the drainage system and now made worse flooding issues for our property. We have contacted the council, they came and looked but there has been no follow up. Very disappointing.</td>
</tr>
<tr>
<td>Common flooding on our street - blocked drains</td>
</tr>
<tr>
<td>Concerned about flooding around Island Road. Need to upgrade stormwater drains.</td>
</tr>
<tr>
<td>Coronation Street floods in average rainfall. floods along the small and stupid drain you put 16 years ago. Should have left the trench.</td>
</tr>
<tr>
<td>Ditches not cleaned out, look what happened 2.5 years ago with flooding around Mandeville and top end of Ohoka.</td>
</tr>
<tr>
<td>Don't have a district drainage system. It is an Oasis system.</td>
</tr>
<tr>
<td>Don't have a drainage system</td>
</tr>
<tr>
<td>Drain covering in the stormwater dips are too large - kids running along can fall badly on these and they're not that visible with all the plant growth around them.</td>
</tr>
<tr>
<td>Drains and guttering should be kept clean. And sewerage.</td>
</tr>
<tr>
<td>Drains are never cleaned out unless after flooding.</td>
</tr>
<tr>
<td>Drains need excavating more frequently and maintained by spraying.</td>
</tr>
<tr>
<td>Drains on Williams Street seem to overflow regularly in heavy rain near the golf course.</td>
</tr>
<tr>
<td>During the serious flooding in 2014 our drainage was excellent. We were more fortunate than others.</td>
</tr>
<tr>
<td>Ensuring drains are kept clear and weed free.</td>
</tr>
<tr>
<td>Except east side of Lineside Road.</td>
</tr>
<tr>
<td>Flooding in the back of my new rebuild</td>
</tr>
<tr>
<td>Flooding Harewood Road when rain heavy</td>
</tr>
<tr>
<td>Flooding in High Street and Bay Road, Main Road corner</td>
</tr>
<tr>
<td>Flooding in the Eyre Ohoka Kaiapoi of great concern</td>
</tr>
<tr>
<td>Flooding occurs in our street when there is lots of heavy rain.</td>
</tr>
<tr>
<td>Flooding of roads etc. No drain work done for years.</td>
</tr>
<tr>
<td>Flooding on property - contacted Council, left messages ... no response. Railway drain ditches that should be re-opened to prevent land property flooding.</td>
</tr>
<tr>
<td>Flooding on the corner of Lees and Barkers Road. Also, dangerous pot holes.</td>
</tr>
<tr>
<td>Flooding on the paper road at back of our place in Country Lane.</td>
</tr>
<tr>
<td>Flooding onto and sometimes across the road and on household properties when there is a heavy rainfall. Drainage is not good enough.</td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>Floods in big rain - every time.</td>
</tr>
<tr>
<td>Good services.</td>
</tr>
<tr>
<td>Good systems at Pegasus - swales etc</td>
</tr>
<tr>
<td>Has just been fixed but the drainage out the front of our house was bad for years and years. Could have been done a lot sooner.</td>
</tr>
<tr>
<td>Haven't had any problems.</td>
</tr>
<tr>
<td>Haven't sighted any flooding and minimum surface flooding over past 4 years.</td>
</tr>
<tr>
<td>Heavy downpour and excess water on roads, doesn't seem to be much.</td>
</tr>
<tr>
<td>High Street always floods. Outside our house on Ashley Gorge Road drains never cleaned.</td>
</tr>
<tr>
<td>Homes in a new subdivision next door have been built on higher ground so I now get their runoff and as a back section with no road drainage a constant wet section.</td>
</tr>
<tr>
<td>I am okay but others have big problems. Old concrete entrances to homes, there is no clearance of rubbish/leaves etc.</td>
</tr>
<tr>
<td>I believe we are ok, not sure about overall drainage system. We have had work done. It appears to be fine.</td>
</tr>
<tr>
<td>I have open drains that apparently I must maintain for others around me.</td>
</tr>
<tr>
<td>I live on the main road and my property is not well drained and floods most winters.</td>
</tr>
<tr>
<td>I manage a swale at the end of my property and Council involvement with difficult neighbours that abuse this stormwater drain has been informative but no actions came from our discussions. It is a difficult feature of a property to look after correctly and I think that limiting this type of stormwater system on private property in the future would be good.</td>
</tr>
<tr>
<td>Improved a lot over the past few years.</td>
</tr>
<tr>
<td>It is crap and has been for years. No foresight of impact zones around new development areas. Fine to have good drainage there but the line further down is not considered well enough or improved to cope with extra capacity.</td>
</tr>
<tr>
<td>Knee-jerk, after the event response to major flooding two years ago rather than regular cycle of maintenance. It is now somewhat improved.</td>
</tr>
<tr>
<td>Lehmans Road a couple of years ago was a mess.</td>
</tr>
<tr>
<td>Lilybrook drainage needs to be fixed.</td>
</tr>
<tr>
<td>Live rural location. We don't have drainage belonging to Council.</td>
</tr>
<tr>
<td>Long term concern continues to be pump systems to drain away water from this area, and whether/what is being done about it - or how long will this take to be in place - Ohoka/rural runoff diverted/another pump?</td>
</tr>
<tr>
<td>Made a complaint, saw representatives of Council and nothing was done nor reported back.</td>
</tr>
<tr>
<td>Make sure that developments can cope with the present system before approving further developments and include any increase in Council costs with any consents.</td>
</tr>
<tr>
<td>Matawai Park drains often flood during heavy rain.</td>
</tr>
<tr>
<td>Mostly satisfied, except during heavy rain.</td>
</tr>
<tr>
<td>Natural runoff is a problem here. Piping to stormwater outlet is fine.</td>
</tr>
<tr>
<td>Nitrate pollution by dairy unsustainable.</td>
</tr>
<tr>
<td>No drainage provided to our lifestyle block.</td>
</tr>
<tr>
<td>Not enough inspection of drains and stormwater</td>
</tr>
</tbody>
</table>
Nothing on our road. Swales serve purpose.

Only concern I know of is the proposed dam

Opposite side of the road still floods in heavy rain.

Our street continues to flood in the rain. Drain capacity seem to be reached very quickly.

Our street drains are only cleaned out when they flood, if at all.

Our subdivision copes well during heavy rain - no concerns.

Oxford is terrible for flooding when we get a lot of rain.

Rain and floods.

re Q26 - flooding but have done work

Rural discharge into drains is hampered by lack of maintenance.

Satisfied how Silverstream's drainage publicity levels were handled.

Sefton drain on my boundary. Council reluctant to engage in constructive dialogue.

Somewhat concerned about the final condition and appearance at the recently formed 'swale' in Ward Place.

Stormwater gutters to be cleaned promptly after storm.

Stormwater outlet on Glenvale walkway along motorway needs to be cleaned as water from some stormwater blocks up.

Takes bugger all rain to flood streets. It seems as though Council are putting 'band aids' instead of fixing the problem.

The creeks and waterway need to be cleaned from dry grass and opened up to stop flooding.

The Ohoka drainage appears to be a problem in that it caused major flooding for some residents about two years ago. I understand this is being rectified.

The remedial work carried out in our area for flooding, in my opinion, was not completed to a satisfactory standard.

The runoff from Silverstream development was always going to be an issue. I'm stunned that Council hadn't thought of this prior to it going ahead. No confidence in Council's ability to protect areas before any further development of subdivisions.

The Silverstream subdivision has caused widespread surface flooding in adjacent existing subdivisions. Very poor planning on the Council's part. Developer should had to contribute to overall stormwater system.

The street I live on has never had any issues in the four years I have lived here. I was disappointed the Council released info on Kaiapoi in regard to impact of flooding not long ago. My property was said to be prone, yet I have never had any issues whatsoever. There is never any surface water.

There are too many septic tanks in our area - which will eventually be a health hazard in our area.

There is no Council drainage where I live, and if there is, it is invisible.

There is no drainage on our property. Any rain, average or heavy, we have flooding that does not drain for days.

There is no drainage.

Two years ago I sent emails with locations of permanently blocked street drains. Still nothing done. One drain has 'foth' that bubbles onto the street when it rains.

Very happy
Very satisfied in our household for where we live. Some other parts of Kaiapoi could certainly do with some work around the drainage system caused by the earthquakes.

Waited more than 10 years for the Council to realise they/their contractors had blocked our stormwater to the road. Still waiting on them to sort the damage this has done to our drive.

We are concerned about the project to update stormwater systems along Railway Road. That roadside will be tidied up with new seal and berm to make it look nice and tidy after.

We are dissatisfied with the cost of drainage maintenance. We have increased rates in this area for something we were already paying for which wasn't being done. A flood and suddenly the fee goes up and you start a maintenance programme.

We are not on the Council system.

We don’t fully know.

We don’t have any proper drainage but by golly we still pay for something we don't have. Sump holes are NOT drainage. Have complained to council but still no drainage.

We have small flooding in our street outside our drive over winter and the kerb has broken up and would like this fixed as it is dangerous for the kids in our street - please.

We have spent thousands of dollars and hundreds of hours rectifying drainage issues at our place.

We live in a private lane and have had flooding in the past - hopefully this has been fixed by the Council.

We live on a farm and tend to deal with drainage. Its flood prone so drainage is a bit difficult, it is not too far above sea level. Bugger.

We should all be required to capture and store all rainwater - certainly every new house as standard fitout.

We won’t know until there is another big rainstorm.

What will prevent another June 2015 flood through the town?

When it rains heavy drains cannot cope and the drain on the corner of Waikuku Beach Road causes the land to flood even more as the drain drains into the stream. There has to be another solution. It causes much damage to private property and this is unfair.

When it rains it always floods outside my house. The drainage in the gutter is terrible.

When it rains lots of drains overfull, need to clean out sumps more often.

Where I live we don’t have any.

With the flooding that occurred last year in the Fernside area, this could of been avoided by regular upkeep of drains, too little, too late.

Would like to see water alongside of rail line kept clean, looks full of rubbish at High Street.

You need to put in better stormwater drains.
Refuse and Recycling Comments

(re Q30 - We use Southbrook Depot.) Q31 - I believe the collection service is available where we live but we would pay extra for it so don't use it and make our own arrangement.

A plastic wheelie bin is needed for rubbish collection.

All good.

An excellent service.

As a ratepayer we should be entitled to a green waste bin, a general waste bin, like Christchurch City Council residents are.

Bags should be bins.

Be lovely to have a green waste bin, like in Christchurch city. Also a bin for rubbish instead of bags which cats and dogs can get into.

Bins instead of bags for rubbish would be GREAT. Organic collection like Christchurch would also be amazing.

Black bags should be abolished.

Cannot use the refuse collection because of damage to bags left at the kerbside by dogs, cats, etc.

Clear guidelines of what is accepted. Maybe an in home sheet to keep.

Concerned we don't have rubbish/recycling service. Really want them to be though.

Cost of plastic bags plus we also pay on rates.

Cost of rubbish bags too high.

Do not raise the cost of collection services at all. Not required.

For the rates we pay I think we should have bins for our rubbish.

For the rates we pay we should have a red bin rather than having to pay for Council rubbish bags - they get ripped by animals and look untidy.

General rubbish taken by wheeled bin. Compostible rubbish collected by wheeled bin. Get rid of the plastic bag for refuse and replace with wheelie bins.

Get with the rest of Christchurch and supply bins, red, yellow and green.

Great reliable service.

Great that we have both. However, we do have to drop off at end of cul-de-sac (which for me is a nuisance as I have 3 discs gone in my back).

Green waste bin

Green waste bins would be helpful.

Green waste like Christchurch has would be a great addition.

Greenwaste bins for Pegasus would be awesome.

Happy with service.

Hate having to purchase black bags for $3.09. Could the Council consider green and red bins like the yellow ones.

Have recycling only. Private bin company for refuse collection.
Have to pay for own rubbish collection as we cannot put out bags as dogs get into them - yet still have to pay household refuse rate. Costs me $37/month for private company to collect bin.

How about issuing households with rubbish bags. Which was stopped to pay for first bins about 15 odd years ago. Must have paid for them many times over. Bags are overpriced - wonder why rubbish is dumped on roadside.

I have use of the recycle bin, however have to pay for general rubbish. I think we should get free rubbish collection like in town.

I live on my own and fill my recycling bin every fortnight. I think families would find the size of the bins inadequate for their needs.

I pay for a bin as the WDC doesn't have them. I recycle in the Council bin and pay for a refuse bin.

I realise it is not possible but would be nice if all refuse was collected in the morning and not left out till late afternoon.

I rent a wheelie bin as I refuse to buy those tiny weak Council rubbish bags. We should have the bins like Christchurch.

I think that you charge too much for refuse bags. I use a private company.

I would have liked to see the 3 bin option like they have in Christchurch or at least a green waste option.

I would like bins to be considered again instead of plastic bags. Getting a black bag to the end of the drive by 7am in winter is a real struggle. Bins can go out the night before.

I would like it at my address.

I would like refuse collection service. Wheelie Bin.

I would like to see a rubbish weekly and green waste collected as we only have recycling and is more costly with bags and bin hire.

I would prefer rubbish wheelie bins to the black Council bags which I often see open/overflowing on the side of the road on collection day.

It is very annoying when a property is purchased and only a small bin is in the property. This is not always convenient for the household. There should be a service/provision whereby a larger recycling bin can be swapped at no charge to the new household.

It would be good to have green waste and rubbish wheelie bins like the recycling ones.

It's about time we had the 3 bin system. I pay extra for garden waste bin, and refuse waste.

Keep up the good work.

Kerbside refuse collection doesn't exist

Kerbside refuse collection not available in our area.

Lack of planning, information, drop off points, for things not going into household rubbish, recycling - paint, medical waste, etc.

Lack of wheelie bins for refuse collection.

Larger bins as our family fills these up very quickly with recyclable items.

Love to have refuse collection.
<table>
<thead>
<tr>
<th>Suggestion</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Move the refuse collection from bags to bins.</td>
<td></td>
</tr>
<tr>
<td>Need a recycle day so that bigger items can be picked up / only good things etc, furniture etc.</td>
<td></td>
</tr>
<tr>
<td>Need bins to kerb refuse.</td>
<td></td>
</tr>
<tr>
<td>Need red bins or green bins.</td>
<td></td>
</tr>
<tr>
<td>Need to introduce rubbish collection and garden waste, like in town.</td>
<td></td>
</tr>
<tr>
<td>Need weekly refuse collection to start.</td>
<td></td>
</tr>
<tr>
<td>Need weekly.</td>
<td></td>
</tr>
<tr>
<td>No wishes. Great for us. But no more bins - one is excellent. Drop other ideas.</td>
<td></td>
</tr>
<tr>
<td>Not applicable but I would like to see kerbside collection done by pole dancers.</td>
<td></td>
</tr>
<tr>
<td>Not happy using plastic bags for rubbish disposal. Would far prefer a bin for garden waste and a bin for actual rubbish.</td>
<td></td>
</tr>
<tr>
<td>Not happy with black rubbish bags, would prefer a red lid bin. Also why not a green waste bin too.</td>
<td></td>
</tr>
<tr>
<td>Only use recycling and most of the time it is only once a month, so don't know why when a single person has to pay for a full service on rates, should be user pays.</td>
<td></td>
</tr>
<tr>
<td>Our rates should cover a red bin and green bin, same as Christchurch.</td>
<td></td>
</tr>
<tr>
<td>Please bring rubbish wheelie bin in as bags are useless and break - dog prone.</td>
<td></td>
</tr>
<tr>
<td>Please do NOT change to wheelie bins for refuse collection. The extra cost is not justified for all, when only a few use this volume of refuse. A drive around on rubbish day shows 1 or 2 bags per household only, we should not all have to pay extra so that a few can avoid the charges of a private rubbish contractor, who want a wheelie bin.</td>
<td></td>
</tr>
<tr>
<td>Please please please reconsider the 3 bin system. If the financial impact on elderly people was genuinely the reason for back tracking on this (which we doubt) is there a way for them to have subsidised collection rates?</td>
<td></td>
</tr>
<tr>
<td>Possibly a gre? waste recycle bin availability.</td>
<td></td>
</tr>
<tr>
<td>Preferred the 3 bin collection re Q29 - employ a private contractor</td>
<td></td>
</tr>
<tr>
<td>Really need rubbish and green waste bins.</td>
<td></td>
</tr>
<tr>
<td>Refuse collection to rural subdivision communities - to those that currently have a recycling service.</td>
<td></td>
</tr>
<tr>
<td>Rubbish and green bin collection necessary - overdue.</td>
<td></td>
</tr>
<tr>
<td>Rubbish and green kerbside bins would be good like CCC have.</td>
<td></td>
</tr>
<tr>
<td>Rubbish and recycling items are deposited regularly at Flaxton Road station when we are visiting Rangiora (San Dona Grove area)</td>
<td></td>
</tr>
<tr>
<td>Rubbish bags are archaic ! Should follow Christchurch 3 bin model.</td>
<td></td>
</tr>
<tr>
<td>Rubbish bags are stupidly expensive. Fortnightly recycle collection is not often enough.</td>
<td></td>
</tr>
<tr>
<td>Rubbish bins provided, red, yellow, green, like Christchurch city. Painful having to buy plastic rubbish bags. Animals rip into rubbish bags. More plastic bags isnt environmentally friendly.</td>
<td></td>
</tr>
<tr>
<td>Rubbish collection substandard. Plastic bags damaged = not used. Should have been upgraded to dual bins. Lost opportunity.</td>
<td></td>
</tr>
</tbody>
</table>
Rubbish Trucks - driving on to kerbside/paths causing cracks and damaging concrete. Would like this to be looked into. And other heavy vehicles too lazy to do a 3 point turn and drive on the footpaths - in cul de sacs or lanes.

Service not available.

Should have rubbish collection (red bin). Shouldn't have to pay extra, as in bins, for this privately.

Shouldn't have to pay a third party contractor to dispose of household rubbish and green waste. Please get bins.

Stop increasing the cost of WDC rubbish bags. It has increased around 300% over the past 8 years.

Strongly dislike the use of bags. They are messy, attract animals (can't put them out at night), dangerous as sharps can poke through, nuisance when you run out. A bin system like Christchurch would be more user friendly.

Suggest having a bin for garden waste (green waste).

The bag system sucks - we pay for a private rubbish collection.

The consultation process for the 3 bin system similar to Christchurch gave me hope that we may get something like that. I was very disappointed that this wasn't implemented.

The recycling collection is not comprehensive enough. There is no green waste available or the option to use it.

The recycling depot is great

The rubbish bags are too expensive and too small for a family. Rubbish bags on the street get ripped open.

There is no refuse collection. I would love refuse collection too please at Millfield.

There seems to be little info on introduction of additional bins (green/rubbish).

They come to collect really late. A few days ago truck came like before 5pm . Is it normal time?

Three bin system should be in place as per the public vote. Very disappointed the Council didn't go ahead.

Three bins please.

Try to recycle most things but by after 1.5 weeks bin is overflowing. Green bins like Christchurch get would be good.

Wanting to get the rubbish bins similar to the recycling bins.

We clean all recyclables and our concern is it is mixed with others dirty recycling. Also we do not want a 3 bin system whereby we have to pay for peoples rubbish that cant be bothered to do the recycling to reduce their waste.

We don't receive refuse collection, only recycling.

We have recycling only. Would like kerbside refuse collection service.

We have to use private rubbish collection which we pay for.

We live on Earlys Road not far from the Main Road but have no rubbish or recycling collection so have to make a weekly trip to the refuse centre. It would be nice to have it collected.

We need a green bin collection, even if it is only once a month.
We need green waste recycling. The main problem is grass clippings in summer. We compost but can't cope with grass clippings. The Oxford transfer Station can't deal with them either, have to go to Rangiora. We see many people dump them in the riverbed or pile them on their sections causing fly problems. We don't have a big enough section area to spread them thinly on the garden.

We need kerbside collection - so can't comment.

We need red top bins please, bags get ripped open by dogs/cats, etc, and encourage rodents. Please - red top bins.

We need rubbish bins like they do in town and green waste bins. We pay higher rates and get less of a service.

We only have recycling bin which is picked up once a fortnight. We don't have a rubbish collection at all which we should have - no excuse. If they can do recycling bin they can do rubbish bin.

We previously used 3 bins in Christchurch and would prefer to use that system.

We would benefit from doing away with rubbish bags for general waste and adopt new general waste and green waste bin similar to the CCC. There are far more advantages in using bins rather than having to bag up your rubbish and making trips to the refuse station to dump grass clippings and weeds, which is frustrating.

We would like a green collection added.

We would like green waste collection.

We would like the option of a green waste service such as is available in Timaru. We used to live in South Canterbury and appreciated the 3 bin system used there. The green waste was used to make compost. We make our own compost now but don't have enough room for all our green waste. We have to pay a contractor since Council doesn't provide this service.

We would like to see green waste bins.

We would like to see red and green bins used out these ways.

We would love the 3 bin system we had in South canterbury. It worked great. Rubbish, compost and recycling, we miss it.

We would much prefer a bin for refuse than having to purchase rubbish bags.

We would prefer to have a three bin system the same as Christchurch. At present we pay for a wheelie bin for our rubbish rather than using the Council's rubbish bags. Would also like a bin for greenwaste.

What about our waste and green waste bins. I spend far too much money on rubbish bags and that why I pay lots of money for rates. Come on !!

Wheelie bin for rubbish, rather than the black bags.

Wheelie bins for greens/garden waste and wheelie bins for refuse.

Wheelie bins in centre of footpaths. Overful bins on windy days. Always picking other peoples rubbish from our front lawn.

Wheelie rubbish bins please, like town has.

Why do we not have plastic bins the same as recycling. Get rid of the bags.
Why do we not have the same system as Christchurch and Kaiapoi?

Why not 3 bin system so I can send off green waste. HATE plastic rubbish bags, they smell. Let’s have wheelie bins, pretty please.

Would be better if recycling was weekly.

Would be good to have one in West Eyreton.

Would be great if the hours were clearly stated. Our bin usually gets picked up in the afternoon. Last week he came around and missed everyone’s bin at 8.30am. No-one likes putting bin out too early because of winds.

Would be nice if wheelie bins were provided for rubbish, but only if the increase in rates was less than what I already pay for the service.

Would have liked to have at least a 2 bin system.

Would like a green organics collection and red rubbish collection.

Would like a rubbish bin as opposed to bags please.

Would like red and green bins.

Would like refuse in bins not bags and include green waste. Comparative rates in Christchurch include this service.

Would like the three wheelie bins like the CCC. Recycle, rubbish general, greens.

Would like to be able to put out garden rubbish

Would like to have green bins available for green waste.

Would like to see Council wheelie bins for refuse and green waste, as rubbish bags rip and are dangerous to the collection guys, and a problem with animals. Those that want them should be able to get them in rates.

Would like to see even greater emphasis on recycling and creating localised business ideas through Enterprise NC and others.

Would like to see green waste collection.

Would like to see green waste collection. This would stop dumping garden waste on country roads and river bank.

Would like to see provision for collection of 'green waste'. Also annual collection of larger items as not everyone can get to the rubbish centre.

Would like to see rubbish bags replaced with bins and green waste collection/med size bins.

Would like to see the 3 bin system

Would love it if we were offered the 3 bin system. Would be happy to pay more as I have to pay for an extra bin.

Would love to see a compost bin introduced into collection services soon and the use of bins rather than bags for rubbish.

Would love to see an introduction of the red and green bins. Black bags are a pain and outdated .. move into the 21st century please WDC.

Would love to see another bin for grass, weeds etc - green waste.

Would prefer a bin service like Christchurch City Council rather than rubbish bags.

Would prefer a green waste collection bin.

Would prefer a wheelie bin for refuse collection.

Would prefer bins to bags.
Would really like to see rubbish wheelie bins introduced. Also a weekly recycling collection would be nice.

Would like there to be organic/green waste collection. Can’t leave rubbish out over night or animals get into it?

You should get some rubbish bags included in your rates, and maybe one or two free loads, boot or trailer, to the transfer station with your rates each year.

<table>
<thead>
<tr>
<th>Transfer Station comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>All good.</td>
</tr>
<tr>
<td>Bins need to be more accessible and cover a larger area.</td>
</tr>
<tr>
<td>Both are a credit to who employs the staff. They are all helpful and fair.</td>
</tr>
<tr>
<td>Can we create more localised business from the wastes? Can there be greater separation of green waste for composting?</td>
</tr>
<tr>
<td>Cant back up to pit edge</td>
</tr>
<tr>
<td>Closest one to Kaiapoi is Rangiora. Limited access to weekends only.</td>
</tr>
<tr>
<td>Cost of dumping rubbish leads to more being illegally dumped.</td>
</tr>
<tr>
<td>Cost.</td>
</tr>
<tr>
<td>Could be longer hours. Charges for green waste very high.</td>
</tr>
<tr>
<td>Could do with one closer. West Eyreton or Cust.</td>
</tr>
<tr>
<td>Don't really use.</td>
</tr>
<tr>
<td>Dont go to any transfer stations, too dear for a start, so can understand why there is so much rubbish around rivers etc.</td>
</tr>
<tr>
<td>Earlier opening hours on weekends.</td>
</tr>
<tr>
<td>Excellent. But lacking pole dancers.</td>
</tr>
<tr>
<td>Far too expensive</td>
</tr>
<tr>
<td>Fine.</td>
</tr>
<tr>
<td>Friendly helpful staff.</td>
</tr>
<tr>
<td>Friendly, smiling, helpful. Good transfer station.</td>
</tr>
<tr>
<td>Generally speaking staff at Southbrook are helpful. I have experienced on two occasions an unhappy/rude attendant. He/she were informed of my feelings at the time. It made no difference.</td>
</tr>
<tr>
<td>Generally use Northwood Transfer Station (CCC)</td>
</tr>
<tr>
<td>Getting and of green waste. Too expensive to get rid of.</td>
</tr>
<tr>
<td>Getting large items to station.</td>
</tr>
<tr>
<td>Good job.</td>
</tr>
<tr>
<td>Great staff.</td>
</tr>
<tr>
<td>Green waste</td>
</tr>
<tr>
<td>Green waste and refuse are expensive to bring to the transfer station.</td>
</tr>
<tr>
<td>Having Oxford transfer station only available on a Friday afternoon and a Sunday afternoon is a slight inconvenience for those that work - a Sunday afternoon is the only time so it cuts into a Sunday afternoon.</td>
</tr>
</tbody>
</table>
Having to pay to bring in green waste.

Having to separate all recyclables is a pain.

I do think the prices are too high and this is why people are still dumping down the rivers.

I don’t use it because of cost. I work in town and if need to I take it in there as much cheaper.

I don’t own a car so can’t avail myself of this service.

I find staff very helpful, and the information they provide is very informative.

I think there should be some "free days" for garbage/refuse disposal, ie boot loads - a lot of rubbish is left around the place, etc.

It is hard to dump rubbish as you cannot back the trailer right up. Service provided by staff varies, also they are too picky about some household drop offs diverting too much to waste instead of recycling.

It is much better now they are open full days on Sunday.

It is quite expensive to drop rubbish off.

It’s expensive to dump rubbish.

It’s too expensive for people.

Lesley Ottey has been involved in some classes in our local school. Her enthusiasm is invaluable to students, parents and the community.

Long way to go from Kaiapoi to Southbrook.

Longer hours please.

Longer hours would help me, but not the staff. Also closing time is time to stop vehicles in, not 10 mins earlier.

Longer opening hours in the weekend would be great.

Longer opening hours on Sundays would be most helpful.

Most people dump in the riverbed because refuse is too expensive. Very disappointed in waste in riverbed. Has been going on for years.

Never used.

Nice to have it there if needed.

Good service

They do a great job.

No charge for green waste.

No concerns. I find refuse stations very good.

No weigh bridge at Oxford, no eftpos and poor hours.

Not consistent in their pricing at times (Oxford)

Not enough room when disposing of refuse. Staff not welcoming at entrance or in recycling area.

Okay

Open hours at Oxford are minimal and sometimes staff can be rude.

Open on Sunday would be good.
<table>
<thead>
<tr>
<th>Opening hours need to be earlier during the weekend.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxford needs to be open more on weekends and needs to be able to deal with grass clippings as green waste (at moment has to go into pit). Minimum charge for grass clippings needs to be reduced to discourage illegal dumping or stockpiling on peoples properties.</td>
</tr>
<tr>
<td>Oxford times are quite limited.</td>
</tr>
<tr>
<td>Please can we have a refuse station in Kaiapoi - we need one.</td>
</tr>
<tr>
<td>Price is too high.</td>
</tr>
<tr>
<td>Recycled plastics receptacle opening is too small and annoying. Some very unfriendly staff at Southbrook in recycling store.</td>
</tr>
<tr>
<td>Recycling skips should be emptied more often</td>
</tr>
<tr>
<td>Refuse station in Rangiara is too dear and staff are not friendly. Weekends should be open longer and Sundays.</td>
</tr>
<tr>
<td>Safety barrier causes more concerns with items bouncing back and hitting me. Staff members yelling at you when you throw items over the barrier so they don’t bounce back and they want a neat pile close to the pit edge. Maybe if the barrier wasn’t there I could. Open at tradesman hours.</td>
</tr>
<tr>
<td>Should have general rubbish bins as well as recycling.</td>
</tr>
<tr>
<td>Signage around recycling area could be better.</td>
</tr>
<tr>
<td>Some bins, particularly plastic difficult to access.</td>
</tr>
<tr>
<td>Some staff very rude.</td>
</tr>
<tr>
<td>Southbrook is a great location, easy access and lots of space.</td>
</tr>
<tr>
<td>Southbrook is excellent.</td>
</tr>
<tr>
<td>Staff are outstanding - always very friendly.</td>
</tr>
<tr>
<td>Staff are very helpful and friendly.</td>
</tr>
<tr>
<td>Staff good</td>
</tr>
<tr>
<td>Staff there hate their job, always complaining and getting angry.</td>
</tr>
<tr>
<td>The cost associated with dumping green waste. I think this should be free as money is made from the product. Tokens could be issued to people that leave sustainable goods at the shop as these also generate income. It may encourage people to recycle.</td>
</tr>
<tr>
<td>The cost is ridiculous</td>
</tr>
<tr>
<td>The cost of green waste is too high.</td>
</tr>
<tr>
<td>The hours it says they are open on website aren't always what they do on weekends.</td>
</tr>
<tr>
<td>The Oxford Refuse Station is only open two times a week, one during the weekday during working hours. Not the most convenient.</td>
</tr>
<tr>
<td>The rates charged for refuse are very high when compared to Christchurch. Its cheaper to trailer a large load to town.</td>
</tr>
<tr>
<td>They are far too expensive. It is costly to dump garden refuse. No wonder people dump at the river. I am not one of them.</td>
</tr>
</tbody>
</table>
They provide helpful service. Could be a little cheaper.
Too expensive for green waste
Used now and then and satisfied with them.
Very good service.
Very good. Staff.
Very helpful and great for recycling.
We don’t get a collection. Too expensive to dump rubbish.
We don’t have to use.
We don’t use the Rangiora Refuse Station as it’s just as quick to go to Styx Mill Road. Would use a local tip if there was one located in Kaiapoi.
We generally use Styx Mill refuse transfer station.
Weekend hours not great when opening at 12pm. Earlier would be better.
Well done staff.
Would be great if opening hours were earlier.
Would like to have more opening hours at Oxford transfer station
Would like to see recycling drop bins in Cust/Mandeville etc - small towns.

**Water Supply Comments**

All good
All good.
Always have to run tap before using water.
Bring water to Ohoka - Mill Road.
Combining of Woodend, Pegasus supply.
Concerns water quality
Could do with individual tobies when there are two houses on the one line.
Council was very inflexible when we wanted to shift their line on our land which caused us to go to great expense.
Do not ever want fluoride in our drinking water as it is not proven to have any health benefits at all.
Excessive costs for half unit of supply. Water quality has deteriorated in recent months.
Fernside well, shallow, non-compliant.
Filtered water better.
Fluctuating pressure is of concern, sometimes can’t even keep up with stock or sprinklers can’t oscillate. We can sit and watch water pressure go up and down with soak hose. At 5.30 onwards pressure drops considerably. This has happened since new subdivision up from us. We were told it would be better and cheaper (our rates - water are huge) when this happened.
Hardness of water a problem
Have just moved to Woodend so not sure about the above questions.
High level of lime (Ph level 8) and high level of chloride. We can often smell the chlorine when we run our cold taps. We used to be able to drink the water from our cold tap. YUK!

How clean is it?

How much nitrogen is in all water supplies? Will blue baby syndrome be a given outcome of dairy industry?

I assume Yes is the answer to Q35.

I do have to descale the kettle from time to time. Not major though.

I hope the water safety is checked frequently and I am considering a water filter.

I wish there wasn't as much hard water. Can it be made less harsh on the household.

Is it safe water? Is it checked for safety?

Major stuff up when connecting Woodend water to Tuahiwi. - reverse flow in Hewitts Road water pipes - massive dirt in house water supply: made out for fool by operator.

Incorrect pipes and operator. Lack of records/knowledge by staff?

Make sure the system can cope with all the development taking place. Developers need to pay for upgrades to cope with demand they create.

My house water pressure is very low.

Needs more pressure

No concerns at all - lovely drinking water.

Not always pleasant to drink.

Not sure where from.

Occasionally Pegasus water is undrinkable. Doesn't usually last more than a day.

Of late, very yucky brown water coming out of taps.

Only that water temporarily had a strong chlorine taste without notice or warning.

Please never treat the water. Lot of hype - pure water is the only water. Lived in Auckland and the water was undrinkable.

Quality of water for Woodend. No deduction was made on our rates after the new pump was installed at least 10 years ago.

Should be metered - user pays

Smells and tastes of chlorine at times

Sometimes our water is green and well over treated, you can smell it on your skin after a shower and taste in water.

Sometimes the chlorine in the water make it undrinkable.

Tastes terrible and has a funny colour. Also has a bad chlorine smell. have had skin problems since moving to the Waimak district due to the water.

The water in Kaiapoi seems to have a higher level of lime which builds up on glass and in shower outlets.

The water supply workers are very helpful.

There are no incentives to conserve water. To increase this, meter the water coming in and waste/sewer going out and charge accordingly. This will increase conservation of water.

There is still an odd taste with Pegasus water.

To stay as it is chlorinated. If the merge with other areas gors ahead, leave it chlorinated to keep out bugs.

Very chlorinated taste in Pegasus.

Very dissatisfied at present but trust the new connection coming to Ohoka will be the Rolls Royce job.
<table>
<thead>
<tr>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very dissatisfied with the ghastly brown residue tainting in sinks etc. smells.</td>
</tr>
<tr>
<td>Very happy with water supply in Rangiora.</td>
</tr>
<tr>
<td>Very murky water in Kippenberger estate on and off for months now.</td>
</tr>
<tr>
<td>Very poor water pressure (Ohoka)</td>
</tr>
<tr>
<td>Very satisfactory.</td>
</tr>
<tr>
<td>Water appears to have high mineral content. Affects clothes wearing and tap wear.</td>
</tr>
<tr>
<td>Water pressure can be an issue during dry periods.</td>
</tr>
<tr>
<td>Water quality is good.</td>
</tr>
<tr>
<td>We appreciate the Cust water supply. No treatment required it is great water.</td>
</tr>
<tr>
<td>We love the chlorine free water. Its kind to skin with eczema and tastes excellent.</td>
</tr>
</tbody>
</table>

### Sewerage Systems Comments

<table>
<thead>
<tr>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>All good</td>
</tr>
<tr>
<td>All good.</td>
</tr>
<tr>
<td>Bring sewerage system to Ohoka - Mill Road.</td>
</tr>
<tr>
<td>Do not know the system. As long as the toilet works well we have no problems.</td>
</tr>
<tr>
<td>Have had trouble with sewerage but has always been dealt with by staff. Thanks.</td>
</tr>
<tr>
<td>Have just moved to Woodend so not sure about the above questions.</td>
</tr>
<tr>
<td>I would like our septic tank to be pumped out by pole dancers occasionally.</td>
</tr>
<tr>
<td>Increase pressure required to pump into upgraded system? Pumps blowing up.</td>
</tr>
<tr>
<td>Live in the country</td>
</tr>
<tr>
<td>Make sure the system can cope with all the development taking place. Developers pay for upgrades.</td>
</tr>
<tr>
<td>Not future proofed. Pipe sizes too small for future demand. More expense in the future to cover for future development expansion.</td>
</tr>
<tr>
<td>Okay</td>
</tr>
<tr>
<td>Our next door neighbours are frequently calling in to ask if we are having problems with sewage etc. They have had months of problems with raw sewage on their property. Only last week we had another visit from them. The amount of flies and mosquitoes has seriously increased.</td>
</tr>
<tr>
<td>Sewer system has to be flushed by water truck on a regular basis. Conclusion is that sewer is not operating efficiently.</td>
</tr>
<tr>
<td>Sewerage drain needs to be checked and cleaned more often.</td>
</tr>
<tr>
<td>Sometimes sewer comes up at our back door which is an issue.</td>
</tr>
<tr>
<td>Tank should have regular maintenance.</td>
</tr>
<tr>
<td>The cost of this sewerage system is reprehensible (Fernside)</td>
</tr>
<tr>
<td>We do have sewerage problems in heavy rain.</td>
</tr>
<tr>
<td>When it blocked, the council organised immediate repairs</td>
</tr>
</tbody>
</table>
Customer Satisfaction Survey 2016

Findings – Roads, Footpaths, Parking and Cycling Provision

April 2017

Prepared by Policy and Strategy Unit
Key Findings.............................................................................................................................................. 4
1. INTRODUCTION................................................................................................................................ 5
   1.1 Objectives........................................................................................................................................ 5
   1.2 The Survey....................................................................................................................................... 5
2. ROADS, FOOTPATHS, PARKING AND CYCLING................................................................................. 6
   2.1 The Questions ................................................................................................................................. 6
   2.2 Town Roads .................................................................................................................................... 6
      2.2.1 satisfaction with town roads 2016 ............................................................................................ 6
      2.2.2 trends in satisfaction with town roads 2001 – 2016 ............................................................... 8
   2.3 Small settlement roads ................................................................................................................... 8
      2.3.1 satisfaction with small settlement roads 2016 ................................................................. 8
      2.3.2 Trend of satisfaction with small settlement roads 2010 – 2016 ...................................... 10
   2.4 Sealed rural roads ......................................................................................................................... 10
      2.4.1 satisfaction with sealed rural roads 2016 ................................................................. 10
      2.4.2 trends in satisfaction with sealed rural roads 2001 – 2010 ............................................ 12
   2.5 Unsealed rural roads ..................................................................................................................... 13
      2.5.1 satisfaction with unsealed rural roads 2016 ................................................................. 13
      2.5.2 Trends in Satisfaction with Unsealed Rural Roads 2001 – 2016 .................................... 14
   2.6 Town footpaths ............................................................................................................................. 15
      2.6.1 Satisfaction with Town Footpaths 2016............................................................................. 15
      2.6.2 trends in satisfaction with town footpaths 2001 – 2016 .................................................... 16
   2.7 Small Settlement Footpaths ......................................................................................................... 17
      2.7.1 satisfaction with Small Settlement Footpaths 2016....................................................... 17
   2.8 Rangiora off-street parking ......................................................................................................... 19
      2.8.1 satisfaction with Rangiora off-street parking 2016....................................................... 19
      2.8.2 trends in satisfaction with Rangiora off-street parking 2001 – 2016 ............................ 20
   2.9 Rangiora Town Traffic Flow System .......................................................................................... 21
      2.9.1 Satisfaction with Rangiora Town Traffic Flow System 2016........................................... 21
2.9.3 Satisfaction with Rangiora Off-Street Parking and Traffic Flows 2001 -2016 ............ 24
2.10 Kaiapoi Off-Street Parking ................................................................................. 25
2.10.1 Satisfaction with Kaiapoi Off-Street Parking 2016 .............................................. 25
2.10.2 Trends in satisfaction with Kaiapoi off-street parking 2001 – 2016 .................... 26
2.11 Kaiapoi Town Traffic Flow System ..................................................................... 27
2.11.1 Satisfaction with Kaiapoi Town Traffic Flow System 2016 ............................... 27
2.11.3 Trends in Satisfaction with Kaiapoi Town Off-Street Parking and Traffic Flow System 2001 – 2016 ................................................................. 28
2.12 Provision for Cycling ....................................................................................... 30
2.12.1 Satisfaction with the Provision for Cycling ......................................................... 30
2.12.2 Trends in Satisfaction with the Provision for Cycling 2007 – 2016 ..................... 31
2.13 Changes requested to roading network .................................................................. 32
2.13.1 Changes requested 2016 .................................................................................... 32
2.13.2 Trends in changes requested 2004 – 2016 ........................................................... 33
Attachment i – WDC Customer Satisfaction Survey 2016 .............................................. 34
Attachment ii - Comments on any aspect of the roading network ................................. 35
KEY FINDINGS

The key findings of the Customer Satisfaction Survey 2016 with respect to roading, footpaths, parking and cycling provision (also when ‘no opinion/no response’ results are excluded from consideration) are:

- **Town Roads** – 87.9% of households were satisfied with Town roads; 12.1% were dissatisfied.
- **Small Settlement Roads** – 83.3% of households were satisfied with small settlement roads; 16.7% were dissatisfied.
- **Sealed Rural Roads** – 85.9% of households were satisfied with sealed rural roads; 14.1% were dissatisfied.
- **Unsealed Rural Roads** – 80.2% of households were satisfied with unsealed rural roads; 19.7% were dissatisfied.
- **Town footpaths** – 86.5% of households were satisfied with town footpaths; 13.5% were dissatisfied.
- **Small Settlement Footpaths** – 82.2% of households were satisfied with small settlement footpaths; 17.8% were dissatisfied.
- **Rangiora Off-Street Parking** – 59.1% of households were satisfied with Rangiora off-street parking; 40.9% were dissatisfied. Note: this was the highest level of satisfaction recorded since 2001.
- **Rangiora Town Traffic Flow System** – 67.2% of households were satisfied with Rangiora Town Traffic Flow System; 32.7% were dissatisfied. Note: this was the highest level of satisfaction recorded since 2001.
- **Kaiapoi Off-Street Parking** – 80.8% of households were satisfied with Kaiapoi off-street parking; 19.2% were dissatisfied. Note: this was the highest level of satisfaction recorded since 2001.
- **Kaiapoi Town Traffic Flow System** – 79.8% of households were satisfied with Kaiapoi town traffic flow; 20.2% were dissatisfied. Note: this was the highest level of satisfaction recorded since 2001.
- **Satisfaction with the Provision for Cycling** – 54.6% of households were satisfied with provision for cycling; 45.4% were dissatisfied.
1. INTRODUCTION

1.1 OBJECTIVES

The Waimakariri District Council’s 2013 Customer Satisfaction Survey was conducted in November / December 2016. It is the sixth in a series of three yearly customer satisfaction surveys to be conducted by the Council.

The main objective of the Waimakariri District Council’s Customer Satisfaction Survey is to obtain a high-level overview of the attitudes of Waimakariri District residents towards the services and facilities provided by the Council. Repeating the survey on a regular basis enables the Council to develop an understanding of the community’s views over the long-term.

The survey does not attempt to explore topics in-depth as the Council conducts more targeted research on topical issues as required.

This report presents the results of this survey and compares these with the results of the 2001, 2004, 2007, 2010 and 2013 surveys where possible.

Information about the key characteristics of the respondent households is also collected in the survey. This data helps with the assessment of the reliability of the survey results. If the key characteristics of the people included in the sample resemble those of the population from which the sample is drawn, greater confidence can be attached to the results than would otherwise be the case.

1.2 THE SURVEY

The Customer Satisfaction Surveys are surveys of residents. The samples do not include non-resident ratepayers, or commercial enterprises based in the District’s Business Zones. It is accepted, however, that there are many home based businesses in the District as well as farms, and that households associated with these were included in the sample. The questions were directed to these households as residents rather than as business owners.

The Council accepts that both non-resident ratepayers and commercial enterprises based in the District’s Business Zones are also customers, but recognises that there are more appropriate ways of communicating with these parties than via a general survey.

The questionnaires are only identified by their area codes and responses could not be traced to any individual or household. The raw data is not available to anyone other than Council staff and is stored securely outside of the document management system. The final report will be published and available through the Council’s document management system or website. Methods such as rounding or consolidation of data into wider categories mean that no household or individual will be able to be identified through the information published in the report.

In 2016, as in 2001, 2004, 2007, 2010 and 2013, the questionnaire was designed to find out the views of the members of respondent households. Respondents were therefore informed that more than one person in the household could be involved with answering the questions. Where there was a
question that asked respondents to select only one response from a set of responses, respondents were asked to choose the response that most accurately reflected the opinion of the household. Where space was provided for written comments, respondents were encouraged to include the different experiences of members of the household where relevant.

The first of these surveys was conducted in April 2001, the second in April 2004, the third in April 2007, the fourth in March/April 2010 and the Fifth in March/April 2013. Many of the same questions were used in each survey although a number of changes were made to some of the questions in 2016 in response to feedback from the pre-testing of the questionnaire. Feedback was that it had been very long and time consuming to complete. The 2013 survey contained 75 questions and was 15 pages long. The 2016 survey (refer Attachment i) contains 61 questions and is 13 pages long. The reduction was achieved through consultation with relevant Council staff. The amendments also reflect the reduction from four wards to three as a result of the 2015 Representation Review.

The response rate of 486 returned and completed surveys for the 2016 survey is comparable to previous surveys with 490 returned in 2013, 516 in 2010, 514 in 2007, 519 in 2004 and 510 in 2001.

2. ROADS, FOOTPATHS, PARKING AND CYCLING

2.1 THE QUESTIONS

Respondents were given an opportunity to indicate to the Council what they thought about the standard of the District’s roads, footpaths, provision for cycling and aspects of the town centres of Kaiapoi and Rangiora. They were given the choice of four alternatives, “very satisfied”, “satisfied”, “dissatisfied”, and “very dissatisfied”, or the option to indicate “no opinion”. Members of respondent households were also invited to suggest changes they would like to see made to any aspect of the roading network in the Waimakariri District.

2.2 TOWN ROADS

2.2.1 SATISFACTION WITH TOWN ROADS 2016

Table 1.1 and Figure 1.1 below set out the levels of satisfaction with the standard of town roads in general for respondent households by ward.

The overall satisfaction with town roads is high, with 83.6% of respondents indicating that they are satisfied with these roads, and 11.6% dissatisfied.

All wards have a high level of satisfaction with town roads generally.

- Rangiora / Ashley – 86.4%
- Kaiapoi / Woodend – 84.2%
- Oxford / Ohoka – 81.1%
Table 1.1 - Satisfaction with Town Roads 2016

<table>
<thead>
<tr>
<th></th>
<th>Very satisfied</th>
<th>Satisfied</th>
<th>Dissatisfied</th>
<th>Very dissatisfied</th>
<th>No opinion/No response</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>Rangiora / Ashley</td>
<td>23</td>
<td>11.8</td>
<td>156</td>
<td>73.6</td>
<td>17</td>
</tr>
<tr>
<td>Kaiapoi / Woodend</td>
<td>21</td>
<td>13.8</td>
<td>107</td>
<td>70.4</td>
<td>17</td>
</tr>
<tr>
<td>Oxford / Ohoka</td>
<td>6</td>
<td>4.9</td>
<td>93</td>
<td>76.2</td>
<td>10</td>
</tr>
<tr>
<td>District</td>
<td>50</td>
<td>10.3</td>
<td>356</td>
<td>73.3</td>
<td>44</td>
</tr>
</tbody>
</table>

Note: No opinion includes the cases where respondents did not answer the question

Figure 1.1 - Satisfaction (%) with Town Roads 2016
2.2.2 TRENDS IN SATISFACTION WITH TOWN ROADS 2001 – 2016

- The percentage satisfied with the standard of town roads in the 2013 survey at 70.2%, which was 17.6% lower than 2010 at 87.8% (2007 - 82.3%, 2004 - 88.7% and 2001 - 83.6%).
- The overall satisfaction rate has increased by a 13.4% in satisfaction from 2013 (70.2%) to 2016 (83.6%).

2.3 SMALL SETTLEMENT ROADS

2.3.1 SATISFACTION WITH SMALL SETTLEMENT ROADS 2016

Table 1.2 and Figure 1.2 set out the level of satisfaction with small settlement roads by ward.

The overall level of satisfaction with small settlement roads was 70.6% of and 12.8% dissatisfied. A further 16.6% of respondents indicated “no opinion” or did not choose to answer this question.

All wards have a reasonable level of satisfaction with town roads generally.

- Rangiora / Ashley – 70.3%
- Kaiapoi / Woodend – 69.1%
- Oxford / Ohoka – 73%

<table>
<thead>
<tr>
<th>Table 1.2 - Satisfaction with Small Settlement Roads 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Rangiora / Ashley</td>
</tr>
<tr>
<td>Kaiapoi / Woodend</td>
</tr>
<tr>
<td>Oxford / Ohoka</td>
</tr>
<tr>
<td>District</td>
</tr>
</tbody>
</table>

Note: No opinion includes the cases where respondents did not answer the question.
Figure 1.2 - Satisfaction (%) with Small Settlement Roads 2016

- Rangiora / Ashley
- Kaiapoi / Woodend
- Oxford / Ohoka
- District

Satisfaction Level

Very satisfied
Satisfied
Dissatisfied
Very dissatisfied
No opinion/No response

Percentage

Very satisfied
Satisfied
Dissatisfied
Very dissatisfied
No opinion/No response
2.3.2 TRENDS OF SATISFACTION WITH SMALL SETTLEMENT ROADS 2010 - 2016

2010 was the first year this question was asked and there was no comparable data from earlier surveys. Figure 1.3 below show the following:

- The percentage of respondents satisfied with the standard of small settlement roads has increased from 65.7% in 2013 to 70.6% in 2016. However, this is still lower than the 74.2% of respondents who were satisfied in 2010.
- Overall dissatisfaction levels of 12.8% total are similar to the 13.1% dissatisfied in 2013, compared with 11.3% dissatisfied in 2010.

![Figure 1.3 - Satisfaction and Dissatisfaction (%) with Small Settlement Roads 2010-2016](image)

<table>
<thead>
<tr>
<th>Year</th>
<th>Satisfaction</th>
<th>Dissatisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>74.2</td>
<td>11.3</td>
</tr>
<tr>
<td>2013</td>
<td>65.7</td>
<td>13.1</td>
</tr>
<tr>
<td>2016</td>
<td>70.6</td>
<td>12.8</td>
</tr>
</tbody>
</table>

2.4 SEALED RURAL ROADS

2.4.1 SATISFACTION WITH SEALED RURAL ROADS 2016

Table 1.3 and Figure 1.4 set out the levels of satisfaction with the standard of sealed rural roads for respondent households by ward. The overall level of satisfaction with sealed rural roads was 77.2%, and 12.7% were dissatisfied. A further 10.1% of respondents indicated “no opinion” or did not choose to answer this question.

Respondents from the Rangiora / Ashley Ward recorded the highest level of satisfaction with sealed rural roads at 79.2% (168 households) followed by the Kaiapoi / Woodend Ward at 77.6% (118 households), Oxford / Ohoka Ward at 73% (89 households).

The Oxford / Ohoka Ward recorded the highest level of dissatisfaction with the standard of sealed rural roads with 19.7% of respondents (24 households) dissatisfied or very dissatisfied. Kaiapoi / Woodend and Rangiora / Ashley had lower levels of dissatisfaction with 10.5% (16 respondents) and 10.4% (22 respondents) respectively.
The overall percentage satisfied with sealed rural roads of 77.2% is slightly lower than for town roads with 83.6% of respondent’s satisfied, but still higher than 70.6% satisfaction with small settlement roads.

### Table 1.3 - Satisfaction with Sealed Rural Roads 2016

<table>
<thead>
<tr>
<th></th>
<th>Very satisfied</th>
<th>Satisfied</th>
<th>Dissatisfied</th>
<th>Very Dissatisfied</th>
<th>No Opinion/No Response</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>Rangiora / Ashley</td>
<td>9</td>
<td>4.2</td>
<td>159</td>
<td>75.0</td>
<td>19</td>
</tr>
<tr>
<td>Kaiapoi / Woodend</td>
<td>10</td>
<td>6.6</td>
<td>108</td>
<td>71.1</td>
<td>16</td>
</tr>
<tr>
<td>Oxford / Ohoka</td>
<td>10</td>
<td>8.2</td>
<td>79</td>
<td>64.8</td>
<td>19</td>
</tr>
<tr>
<td>District</td>
<td>29</td>
<td>6.0</td>
<td>346</td>
<td>71.2</td>
<td>54</td>
</tr>
</tbody>
</table>

*Note: No opinion includes the cases where respondents did not answer the question*
2.4.2 TRENDS IN SATISFACTION WITH SEALED RURAL ROADS 2001 – 2010

As can be seen in Figure 1.5, the percentage satisfied with the standard of sealed rural roads in the 2016 survey at 77.2% is slightly lower than previous surveys.

Figure 1.5 - Satisfaction (%) with Sealed Roads 2001-2016

<table>
<thead>
<tr>
<th>Year</th>
<th>Satisfaction (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>74.1</td>
</tr>
<tr>
<td>2004</td>
<td>79</td>
</tr>
<tr>
<td>2007</td>
<td>74.7</td>
</tr>
<tr>
<td>2010</td>
<td>81.8</td>
</tr>
<tr>
<td>2013</td>
<td>80.2</td>
</tr>
<tr>
<td>2016</td>
<td>77.2</td>
</tr>
</tbody>
</table>
2.5 UNSEALED RURAL ROADS

2.5.1 SATISFACTION WITH UNSEALED RURAL ROADS 2016

Table 1.4 and Figure 1.6 set out the levels of satisfaction with the standard of unsealed rural roads (other than the need for sealing) for respondent households by Ward.

The overall level of satisfaction with unsealed rural roads was 60% and 16% were dissatisfied. A further 24% of respondents indicated “no opinion” or did not choose to answer this question.

All wards have a medium level of satisfaction with unsealed rural roads generally.

- Rangiora / Ashley – 61%
- Kaiapoi / Woodend – 59%
- Oxford / Ohoka – 61%

The percentage of satisfied households in Rangiora / Ashley and Kaiapoi / Woodend wards was influenced by the percentage of respondents who indicated “no opinion” or did not choose to answer this question.

The highest levels of dissatisfaction with unsealed rural roads were also recorded in the Oxford/ Ohoka Ward at 26%. Rangiora / Ashley and Kaiapoi / Woodend were 12% and 13% respectfully.

The overall percentage satisfied with unsealed rural roads (60%) was considerably lower than for sealed rural roads (77.2%).

<table>
<thead>
<tr>
<th>Ward</th>
<th>Very satisfied</th>
<th>Satisfied</th>
<th>Dissatisfied</th>
<th>Very Dissatisfied</th>
<th>No Opinion/No Response</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>Rangiora / Ashley</td>
<td>4</td>
<td>2</td>
<td>126</td>
<td>59</td>
<td>21</td>
</tr>
<tr>
<td>Kaiapoi / Woodend</td>
<td>5</td>
<td>3</td>
<td>85</td>
<td>56</td>
<td>17</td>
</tr>
<tr>
<td>Oxford / Ohoka</td>
<td>4</td>
<td>3</td>
<td>70</td>
<td>57</td>
<td>26</td>
</tr>
<tr>
<td>District</td>
<td>13</td>
<td>3</td>
<td>281</td>
<td>58</td>
<td>64</td>
</tr>
</tbody>
</table>

Note: No opinion includes the cases where respondents did not answer the question.
2.5.2 TRENDS IN SATISFACTION WITH UNSEALED RURAL ROADS 2001 – 2016

Figure 1.7 demonstrates that the percentage satisfied with the standard of unsealed rural roads in 2016 (60%) is slightly higher than previous surveys.
2.6 TOWN FOOTPATHS

2.6.1 SATISFACTION WITH TOWN FOOTPATHS 2016

Table 1.5 sets out the levels of satisfaction with the standard of town footpaths in general for respondent households by ward.

<table>
<thead>
<tr>
<th></th>
<th>Very satisfied</th>
<th>Satisfied</th>
<th>Dissatisfied</th>
<th>Very Dissatisfied</th>
<th>No Opinion/No Response</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>Rangiora / Ashley</td>
<td>21</td>
<td>9.9</td>
<td>145</td>
<td>68.4</td>
<td>31</td>
</tr>
<tr>
<td>Kaiapoi / Woodend</td>
<td>26</td>
<td>17.1</td>
<td>101</td>
<td>66.4</td>
<td>13</td>
</tr>
<tr>
<td>Oxford / Ohoka</td>
<td>12</td>
<td>9.8</td>
<td>89</td>
<td>73.0</td>
<td>9</td>
</tr>
<tr>
<td>District</td>
<td>59</td>
<td>12.1</td>
<td>335</td>
<td>68.9</td>
<td>53</td>
</tr>
</tbody>
</table>

Note:  No opinion includes the cases where respondents did not answer the question

The overall level of household satisfaction with town footpaths was 81.1% and 12.8% were dissatisfied. A further 6.2% of respondents indicated “no opinion” or did not choose to answer this question.

All wards have a high level of satisfaction with town footpaths generally.

- Rangiora / Ashley – 78.2%
- Kaiapoi / Woodend – 83.6%
- Oxford / Ohoka – 82.8%

The overall percentage satisfied with town footpaths (81.8%) was slightly lower than for town roads (83.6%); however, both are still demonstrate a high level of satisfaction.

The Rangiora / Ashley Ward recorded the highest level of dissatisfaction with the standard of town footpaths with 17.5% of respondents (37 households) dissatisfied or very dissatisfied.
2.6.2 TRENDS IN SATISFACTION WITH TOWN FOOTPATHS 2001 – 2016

As seen in Figure 1.8, the percentage satisfied with the standard of town footpath across the District in the 2016 survey at 81.1% is significantly higher than in 2013 (65.5%), and almost as high as the highest recorded satisfaction level of 82.9% in 2010.

![Figure 1.8 - Satisfaction (%) with Town Footpaths 2001-2016](image)

<table>
<thead>
<tr>
<th>Year</th>
<th>Satisfaction (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>63.1</td>
</tr>
<tr>
<td>2004</td>
<td>74.8</td>
</tr>
<tr>
<td>2007</td>
<td>75.4</td>
</tr>
<tr>
<td>2010</td>
<td>82.9</td>
</tr>
<tr>
<td>2013</td>
<td>65.3</td>
</tr>
<tr>
<td>2016</td>
<td>81.1</td>
</tr>
</tbody>
</table>
2.7 SMALL SETTLEMENT FOOTPATHS

2.7.1 SATISFACTION WITH SMALL SETTLEMENT FOOTPATHS 2016

Table 1.6 and Figure 1.9 set out the levels of satisfaction with the standard of small settlement footpaths in general for respondent households by ward.

The overall level of satisfaction with small settlement footpaths was 59.3% and 12.8% dissatisfied. A further 28% of respondents indicated “no opinion” or did not choose to answer this question.

All wards have a medium level of satisfaction with small settlement footpaths generally.

- Rangiora / Ashley – 55.2%
- Kaiapoi / Woodend – 61.8%
- Oxford / Ohoka – 63.1%

The overall percentage satisfied with small settlement footpaths (59.3%) was significantly lower than for town footpaths (81.1%).

The Kaiapoi / Woodend Ward recorded the highest level of dissatisfaction with the standard of small settlement footpaths with 16.4% of respondents (25 households) dissatisfied or very dissatisfied.

<table>
<thead>
<tr>
<th>Ward</th>
<th>Very satisfied</th>
<th>Satisfied</th>
<th>Dissatisfied</th>
<th>Very Dissatisfied</th>
<th>No Opinion/No Response</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>Rangiora / Ashley</td>
<td>6</td>
<td>2.8</td>
<td>111</td>
<td>52.4</td>
<td>18</td>
</tr>
<tr>
<td>Kaiapoi / Woodend</td>
<td>15</td>
<td>9.9</td>
<td>79</td>
<td>52</td>
<td>23</td>
</tr>
<tr>
<td>Oxford / Ohoka</td>
<td>5</td>
<td>4.1</td>
<td>72</td>
<td>59</td>
<td>16</td>
</tr>
<tr>
<td>District</td>
<td>26</td>
<td>5.3</td>
<td>262</td>
<td>53.9</td>
<td>57</td>
</tr>
</tbody>
</table>

Note: No opinion includes the cases where respondents did not answer the question.
Figure 1.9 - Satisfaction (%) with Small Settlement Footpaths 2016

Percentage Satisfaction Levels

Very satisfied | Satisfied | Dissatisfied | Very dissatisfied | No opinion/No response

Rangiora Ashley | Kaiapoi Woodend | Oxford Ohoka | District
2.8 RANGIORA OFF-STREET PARKING

2.8.1 SATISFACTION WITH RANGIORA OFF-STREET PARKING 2016

Table 1.7 and Figure 1.10 set out the levels of satisfaction with the standard of off-street parking in Rangiora for respondent households by ward.

The overall level of satisfaction with Rangiora off-street parking was 53.9% and 37.2% were dissatisfied. A further 8.8% of respondents indicated “no opinion” or did not choose to answer this question.

All wards have a low level of satisfaction with Rangiora off-street parking.

- Rangiora / Ashley – 55.2%
- Kaiapoi / Woodend – 56.6%
- Oxford / Ohoka – 48.4%

The Rangiora / Ashley Ward recorded the highest level of dissatisfaction with the standard of off-street parking in Rangiora, with 42% of respondents (117 households) dissatisfied or very dissatisfied. However, all wards have a high level of dissatisfaction with Rangiora off-street parking.

- Rangiora / Ashley – 42%
- Kaiapoi / Woodend – 28.3%
- Oxford / Ohoka – 40.2%

Table 1.7 - Satisfaction with Rangiora Off-Street Parking 2016

<table>
<thead>
<tr>
<th>Ward</th>
<th>Very satisfied</th>
<th>Satisfied</th>
<th>Dissatisfied</th>
<th>Very Dissatisfied</th>
<th>No Opinion/No Response</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>Rangiora / Ashley</td>
<td>14</td>
<td>6.6</td>
<td>103</td>
<td>48.6</td>
<td>64</td>
</tr>
<tr>
<td>Kaiapoi / Woodend</td>
<td>10</td>
<td>6.6</td>
<td>76</td>
<td>50</td>
<td>31</td>
</tr>
<tr>
<td>Oxford / Ohoka</td>
<td>7</td>
<td>5.7</td>
<td>52</td>
<td>42.6</td>
<td>37</td>
</tr>
<tr>
<td>District</td>
<td>31</td>
<td>6.4</td>
<td>231</td>
<td>47.5</td>
<td>132</td>
</tr>
</tbody>
</table>

Note: No opinion includes the cases where respondents did not answer the question
2.8.2 TRENDS IN SATISFACTION WITH RANGIORA OFF-STREET PARKING 2001 – 2016

The percentage satisfied with the standard of Rangiora of-street parking in the 2016 survey at 53.9% is higher than previous surveys; refer Figure 1.11 below.
2.9 RANGIORA TOWN TRAFFIC FLOW SYSTEM

2.9.1 SATISFACTION WITH RANGIORA TOWN TRAFFIC FLOW SYSTEM 2016

Table 1.8 and Figure 1.12 sets out the levels of satisfaction with the standard of traffic flow systems in Rangiora for respondent households by ward.

The overall level of satisfaction with Rangiora traffic flow system was 60.5% and 29.4% were dissatisfied. A further 10.1% of respondents indicated “no opinion” or did not choose to answer this question.

The following are the levels of satisfaction by ward with the Rangiora traffic flow system.

- Rangiora / Ashley – 59.9%
- Kaiapoi / Woodend – 63.2%
- Oxford / Ohoka – 58.2%

The Rangiora / Ashley Ward recorded the highest level of dissatisfaction with the Rangiora traffic flow system with 32.5% of respondents (69 households) dissatisfied or very dissatisfied. However, all wards have a reasonably high level of dissatisfaction with Rangiora off-street parking.

- Rangiora / Ashley – 32.5%
- Kaiapoi / Woodend – 23.7%
- Oxford / Ohoka – 31.1%

<table>
<thead>
<tr>
<th>Table 1.8 - Satisfaction with Rangiora Town Traffic Flow System 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Very satisfied</strong></td>
</tr>
<tr>
<td><strong>n</strong></td>
</tr>
<tr>
<td>Rangiora / Ashley</td>
</tr>
<tr>
<td>Kaiapoi / Woodend</td>
</tr>
<tr>
<td>Oxford / Ohoka</td>
</tr>
<tr>
<td>District</td>
</tr>
</tbody>
</table>

*Note: No opinion includes the cases where respondents did not answer the question*
2.9.2 TRENDS IN SATISFACTION WITH RANGIORA TOWN TRAFFIC FLOW SYSTEM 2001 – 2016

As seen in Figure 1.13 below, the percentage satisfied with the standard of Rangiora town traffic flow system in the 2016 (60.5%) is higher than previous surveys. The change in respondents’ dissatisfaction levels is significant, with 29.4% of respondents being dissatisfied with the Rangiora town traffic flow system in 2016, compared with 66.3% 53.9% in 2010, 41.8% in 2007 and 68.2% in 2004. This is shown in Figure 1.13 below.

Between 2004 and 2007, significant changes took place in Rangiora to influence town traffic flow. High Street from Percival Street to Ashley Street was made one way, travelling east. A roundabout was constructed at the Blackett/Ashley Street intersection and the Red Lion corner had new traffic controls added to facilitate the movement of traffic travelling north/south.

Then post the 2010 and 2011 Canterbury earthquakes considerable demolition and limited access, and subsequently rebuilding in High Street significantly impacted traffic flow. High Street was also returned to two way traffic and traffic lights were installed at the Ashley / Ivory / High Streets intersection (‘Red Lion Corner’) in 2015/2016, as well as a number of small roundabouts being installed on Blackett Street and Queen Street. The graph above indicates that these changes have positively influence traffic flow.
### Figure 1.13 - Satisfaction and Dissatisfaction with Rangiora Traffic Flow System 2001-2016

<table>
<thead>
<tr>
<th>Year</th>
<th>Satisfaction (%)</th>
<th>Dissatisfaction (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>20.9</td>
<td>68.2</td>
</tr>
<tr>
<td>2004</td>
<td>22.7</td>
<td>41.8</td>
</tr>
<tr>
<td>2007</td>
<td>47.7</td>
<td>53.9</td>
</tr>
<tr>
<td>2010</td>
<td>36.8</td>
<td>66.3</td>
</tr>
<tr>
<td>2013</td>
<td>23.3</td>
<td>60.5</td>
</tr>
<tr>
<td>2016</td>
<td>60.5</td>
<td>29.4</td>
</tr>
</tbody>
</table>
2.9.3 SATISFACTION WITH RANGIORA OFF-STREET PARKING AND TRAFFIC FLOWS 2001 -2016

Figure 1.14 below shows the overall trend in percentage satisfaction for Rangiora off-street parking and traffic flow from 2001 to 2016. The trend shows a sharp increase in satisfaction levels for both aspects and the highest satisfaction levels recorded since 2001 in 2016.

**Figure 1.14 - Satisfaction (%) with Rangiora Off Street Parking and Traffic Flows 2001-2016**

<table>
<thead>
<tr>
<th>Year</th>
<th>Rangiora Off Street Parking Satisfaction (%)</th>
<th>Rangiora Town Traffic Flow System Satisfaction (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>53.4</td>
<td>20.9</td>
</tr>
<tr>
<td>2004</td>
<td>48.5</td>
<td>22.7</td>
</tr>
<tr>
<td>2007</td>
<td>38.2</td>
<td>47.7</td>
</tr>
<tr>
<td>2010</td>
<td>41.8</td>
<td>36.8</td>
</tr>
<tr>
<td>2013</td>
<td>33</td>
<td>23.3</td>
</tr>
<tr>
<td>2016</td>
<td>53.9</td>
<td>60.5</td>
</tr>
</tbody>
</table>
2.10 KAIAPOI OFF-STREET PARKING

2.10.1 SATISFACTION WITH KAIAPOI OFF-STREET PARKING 2016

Table 1.9 and Figure 1.15 set out the levels of satisfaction with the standard of off-street parking in Kaiapoi for respondent households by ward.

The pattern of responses concerning the level of satisfaction with the standard of off-street parking in Kaiapoi is influenced by the 38.9% of respondents who indicated “no opinion” or did not choose to answer this question.

The overall percentage satisfied with the standard of off-street parking in Kaiapoi was low, with 49.6% of respondents satisfied. 11.5% were dissatisfied, with the remaining respondents indicating “no opinion” or choosing not to answer the question.

The Kaiapoi Ward recorded the highest level of satisfaction with the standard of off-street parking in Kaiapoi, with 70.4% (107 households) satisfied or very satisfied. The Kaiapoi Ward also recorded the highest level of dissatisfaction with 17.1% (26 households) dissatisfied or very dissatisfied. 12.5% of households from this ward had no opinion or chose not to answer this question, compared with much higher percentages for the other Wards.

<table>
<thead>
<tr>
<th>Ward</th>
<th>Very satisfied</th>
<th>Satisfied</th>
<th>Dissatisfied</th>
<th>Very Dissatisfied</th>
<th>No Opinion/No Response</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>Rangiora / Ashley</td>
<td>4</td>
<td>1.9</td>
<td>66</td>
<td>31.1</td>
<td>10</td>
</tr>
<tr>
<td>Kaiapoi / Woodend</td>
<td>18</td>
<td>11.8</td>
<td>89</td>
<td>58.6</td>
<td>23</td>
</tr>
<tr>
<td>Oxford / Ohoka</td>
<td>4</td>
<td>3.3</td>
<td>60</td>
<td>49.2</td>
<td>13</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>26</strong></td>
<td><strong>5.3</strong></td>
<td><strong>215</strong></td>
<td><strong>44.2</strong></td>
<td><strong>46</strong></td>
</tr>
</tbody>
</table>

*Note: No opinion includes the cases where respondents did not answer the question*
2.10.2 TRENDS IN SATISFACTION WITH KAIAPOI OFF-STREET PARKING 2001 – 2016

The percentage satisfied with the standard of Kaiapoi off-street parking in the 2016 survey at 60.5% is higher than previous surveys. This is seen in Figure 1.14 below.
2.11 KAIAPOI TOWN TRAFFIC FLOW SYSTEM

2.11.1 SATISFACTION WITH KAIAPOI TOWN TRAFFIC FLOW SYSTEM 2016

Table 1.10 and Figure 1.17 set out the levels of satisfaction with the Kaiapoi town traffic flow system for respondent households by ward.

The pattern of responses concerning the level of satisfaction with the standard of off-street parking in Kaiapoi is influenced by the 36.6% of respondents who indicated “no opinion” or did not choose to answer this question.

The overall percentage satisfied with the standard of traffic flow in Kaiapoi was 50.6% and 12.8% were dissatisfied. 36.6% of respondents indicating “no opinion” or choosing not to answer the question.

The Kaiapoi Ward recorded the highest level of dissatisfaction with the Kaiapoi town traffic flow system with 21.1% dissatisfied or very dissatisfied (15.1% having no opinion or choosing not to answer this question).

<table>
<thead>
<tr>
<th>Ward</th>
<th>Very Satisfied</th>
<th>Satisfied</th>
<th>Dissatisfied</th>
<th>Very Dissatisfied</th>
<th>No Opinion/No Response</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>Rangiora / Ashley</td>
<td>4</td>
<td>1.9</td>
<td>72</td>
<td>34.0</td>
<td>16</td>
</tr>
<tr>
<td>Kaiapoi / Woodend</td>
<td>9</td>
<td>5.9</td>
<td>88</td>
<td>57.9</td>
<td>29</td>
</tr>
<tr>
<td>Oxford / Ohoka</td>
<td>3</td>
<td>2.5</td>
<td>70</td>
<td>57.4</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>16</td>
<td>3.3</td>
<td>230</td>
<td>47.3</td>
<td>51</td>
</tr>
</tbody>
</table>

Note: No opinion includes the cases where respondents did not answer the question.
2.11.3 TRENDS IN SATISFACTION WITH KAIAPOI TOWN OFF-STREET PARKING AND TRAFFIC FLOW SYSTEM 2001 – 2016

The percentage satisfied with the standard of Kaiapoi town traffic flow system in the 2016 survey at 50.6% is higher than previous surveys. This is seen in Figure 1.18 below.
The above graph shows that in Kaiapoi the level of satisfaction with off-street parking and traffic flows has been increased since the first survey was conducted in 2001. The results of the 2013 survey showed a decrease in satisfaction with both off-street parking and a decrease in satisfaction with traffic flows. This change can most likely be attributed to the on-going impact of the Canterbury earthquakes on Kaiapoi’s roading network. However, Satisfaction levels have increased in 2016 and are the highest that they have been since the survey has been conducted.
2.12 PROVISION FOR CYCLING

2.12.1 SATISFACTION WITH THE PROVISION FOR CYCLING

Table 1.11 and Figure 1.19 sets out the levels of satisfaction with the provision for cycling for respondent households by ward.

The pattern of responses concerning the level of satisfaction with the provision for cycling is influenced by the 37% of respondents who indicated “no opinion” or did not answer this question.

The overall percentage satisfied with the provision for cycling was low, with 34.4% of respondents satisfied, 28.6% dissatisfied and 37% indicating “no opinion” or choosing not to answer the question. Respondents from the Oxford / Ohoka Ward indicated the highest level of dissatisfaction at 31.1%, followed by the Rangiora / Ashley Ward (28.8%) and then Kaiapoi/ Woodend (26.3%). As seen in Table 1.11, there were high percentages of respondents from these two wards who had no opinion or did not answer this question.

<table>
<thead>
<tr>
<th>Table 1.11 - Satisfaction with Provision for Cycling</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Rangiora / Ashley</td>
</tr>
<tr>
<td>Kaiapoi / Woodend</td>
</tr>
<tr>
<td>Oxford / Ohoka</td>
</tr>
<tr>
<td>District</td>
</tr>
</tbody>
</table>

Note: No opinion includes the cases where respondents did not answer the question.
2.12.2 TRENDS IN SATISFACTION WITH THE PROVISION FOR CYCLING 2007 – 2016

This is the fourth survey in which a question concerning cycling has been included in the questionnaire. As seen in Figure 1.20 below, the percentage satisfied with the standard of cycling provision in the 2016 survey at 34.4% is higher than 2007 and 2013, but lower than 2010.
2.13 CHANGES REQUESTED TO ROADING NETWORK

2.13.1 CHANGES REQUESTED 2016

Comments from respondents concerning the roading network reported a wide range of issues, including; the need for long-term planning and major changes to the roading network, traffic flow issues in urban areas and between Christchurch City and Waimakariri District, the state of urban footpaths, issues associated with rural roading, demand for improved cycling facilities and concerns raised in relation to the quality of repairs made to roads District wide.

Comments concerning long-term planning and major changes to the roading network included the need for:

- Solution to Southbrook Road congestion
- Solution for commuters travelling to Christchurch City

Comments concerning the traffic flows systems in Rangiora and Kaiapoi included the need for:

- General improvement of traffic flow into and through Rangiora, including Southbrook and access to Town Centre
- Concerns over Rangiora High Street functionality (two-way traffic with parallel parking)
- Congestion through Kaiapoi during peak hours

Comments concerning footpaths included the need for:

- Better maintenance of footpaths in relation to uneven surfaces, alignment, pot holes, tree roots and earthquake cracking
- More footpaths and upgrading of existing older footpaths
- Higher standard of repair after installation of Fibre

Comments concerning town centre parking included the need for:

- More general parking in both Rangiora and Kaiapoi
- All-day parking in Rangiora Town Centre available to employees of local businesses

Comments concerning rural roads included the need for:

- Better maintenance and repairs of both sealed and unsealed rural roads with particular attention to potholes, patches and centre lines.
- Concern over the width of sealed rural roads
- Gravel roads to be sealed

Comments concerning cycling included:

- Demand for more cycleways
- Concerns about cyclist safety

Comments concerning road surface and repair standards included:

- Need for higher standard of repairs to roads District wide
• Pot holes and uneven surfaces
• Maintenance of unsealed roads

Comments concerning specific repairs or requests included:

• Specific maintenance suggestions, majority being in Rangiora or Kaiapoi

Other calls for change included hazards identified.

A complete list of all comments received on the roading network are included within Attachment ii.

### 2.13.2 TRENDS IN CHANGES REQUESTED 2004 – 2016

- Comments about roading from respondents in 2016 were similar to those in the previous surveys, with the emphasis on intersections, parking and the traffic flow systems in Kaiapoi and Rangiora. The need to repair roads and footpaths to a better standard, with particular mention of patch repair to footpaths after fibre installation.
ATTACHMENT ii - COMMENTS ON ANY ASPECT OF THE ROADING NETWORK

1. Better quality repairs to pot holes, eg Mt Thomas Road and Fernside Road near Limeside Road - pot holes quickly become dangerous.
2. Lack of landscaping on roads in developing commercial areas, eg Flaxton Road industrial areas - more tree planting needed. Make Waimakariri and Rangiora more attractive places to visit and live in. Fernside would benefit from shrub and tree plantings around the road intersections.

<table>
<thead>
<tr>
<th>A car parking building in central Rangiora please.</th>
</tr>
</thead>
<tbody>
<tr>
<td>A change to Southbrook Road as the traffic is horrible on a daily basis.</td>
</tr>
<tr>
<td>A complete bypass needs to be looked at to reduce congestion, and road deterioration.</td>
</tr>
<tr>
<td>A cycle lane on the Ashley SH1 bridge</td>
</tr>
<tr>
<td>A Rangiora bypass route is needed. The Limeside road/Southbrook Road/Percival Street</td>
</tr>
<tr>
<td>congestion is not acceptable.</td>
</tr>
<tr>
<td>A roundabout at the south end of Woodend before enters the 100kmh zone south bound.</td>
</tr>
<tr>
<td>A second main entry road into Rangiora to ease traffic congestion, maybe linking into</td>
</tr>
<tr>
<td>western/north end of Rangiora. Railway Road is badly potholed down the Limeside Road</td>
</tr>
<tr>
<td>end, so many trucks use it.</td>
</tr>
<tr>
<td>Add cycle lanes; repair pot holes and have it so the repair lasts for years, not months.</td>
</tr>
<tr>
<td>Adequate all day parking is needed for Rangiora employees. The shingle car park on</td>
</tr>
<tr>
<td>Durham Street should be all day parking and not two hour parking. There is too much two</td>
</tr>
<tr>
<td>hour parking and not enough all day parking for workers.</td>
</tr>
<tr>
<td>All day parking south of town. Utilise grass to asphalt to close to town. A park south</td>
</tr>
<tr>
<td>of Library, say opposite fire station.</td>
</tr>
<tr>
<td>All new work needs to be completed to a higher standard, eg no failure, smoother and</td>
</tr>
<tr>
<td>more even finish, eg Oxford Road sewer extension seal failure and smoothness. Rural</td>
</tr>
<tr>
<td>roads - uneven surfaces are common eg Plasketts Road, Easterbrook Road, Lehmans Road.</td>
</tr>
<tr>
<td>All the old deep concrete gutters upgraded to the new not so deep ones. Leaves etc get</td>
</tr>
<tr>
<td>trapped under the concrete arches and pose a great trip hazard.</td>
</tr>
<tr>
<td>Amount of traffic build up in Southbrook.</td>
</tr>
<tr>
<td>An easier way for people to walk/bike over the old Waimak bridge.</td>
</tr>
<tr>
<td>An improvement in the standard of maintenance. Pot holes and areas of sealed road that</td>
</tr>
<tr>
<td>are breaking up seem to be repeatedly patched in only a temporary way. Sometimes up to</td>
</tr>
<tr>
<td>three visits in two years and still not fixed, eg George Street, about 23 - 25.</td>
</tr>
<tr>
<td>Another motorway built to go to Rolleston.</td>
</tr>
<tr>
<td>Better cycle lanes</td>
</tr>
<tr>
<td>Better flow on main road out of Rangiora. Lights being installed may help.</td>
</tr>
<tr>
<td>Better traffic flow at peak times. More provision for cyclists.</td>
</tr>
<tr>
<td>Bottleneck roundabout in Southbrook holds up the traffic flow.</td>
</tr>
<tr>
<td>Boys Road is very bumpy and not nice to drive along. Could also do with more warnings</td>
</tr>
<tr>
<td>that intersection is approaching.</td>
</tr>
<tr>
<td>Burnett Street is in urgent need of repair</td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>Burnett Street, Oxford needs redoing.</td>
</tr>
<tr>
<td>Businesses should be restricted on the number of stands/displays taking up space on the footpaths. Speed cameras to slow down the cars that are speeding in residential areas.</td>
</tr>
<tr>
<td>Bypass road is needed to clear the traffic that's loading the Southbrook area.</td>
</tr>
<tr>
<td>Bypass to motorway from Ashley Bridge</td>
</tr>
<tr>
<td>Bypassing heavy traffic out of town.</td>
</tr>
<tr>
<td>Changes to the Southbrook roundabout to ease traffic congestion - would lights be better? Speed bumps, chicane or a one way/dead end for William Street in Southbrook as people speed down it as a shortcut when main roads are congested. A ring road to avoid Southbrook congestion.</td>
</tr>
<tr>
<td>Congestion in Rangiora and Kaiapoi at peak times.</td>
</tr>
<tr>
<td>Consistent maintenance</td>
</tr>
<tr>
<td>Country sealed roads - seal too narrow.</td>
</tr>
<tr>
<td>Cycle access across Waimak</td>
</tr>
<tr>
<td>Cycleways between Woodend and other areas.</td>
</tr>
<tr>
<td>Cycleways to schools, but not too near car parking as cars open doors without looking - especially main road by KNS</td>
</tr>
<tr>
<td>Damaged roads are not just temporary quick fixes.</td>
</tr>
<tr>
<td>Decrease the height of the speed humps or remove altogether in the Kaiapoi town. They are annoying, people go too slow over them, feel they are damaging our cars.</td>
</tr>
<tr>
<td>Diamond concrete areas on roads through towns etc. So dangerous for getting in and out of driveways beside them. And having to cycle onto the road (coming out of Oxford toward Rangiora) to get around them. Footpath or cycle track needed from Oxford to Barracks Road (girl knocked off bike last week).</td>
</tr>
<tr>
<td>Do road repairs once and do it right – not patched here and there every year.</td>
</tr>
<tr>
<td>Driving down Rangiora High Street is becoming more hazardous with the increased number of people in the area. Turning off High Street you are often faced with a pedestrian crossing meaning cars are sometimes stuck across the traffic flow. This is an area to review but unsure of solution aside from traffic lights. Maybe a public opinion review could be undertaken.</td>
</tr>
<tr>
<td>Easing traffic in and out of Rangiora, via Linside Road, during peak hours.</td>
</tr>
<tr>
<td>Ensure that the work done by contractors is done properly</td>
</tr>
<tr>
<td>Ensuring well travelled roads like Fernside Road are kept in good condition.</td>
</tr>
<tr>
<td>Extend 50kmh speed limit on Kippenberger Ave to Golf Links Road. Right turn land from Kippenberger Ave into Devlin Ave.</td>
</tr>
<tr>
<td>Extending the 50km zone further south from SH1/Rangiora Woodend Road/Woodend Beach Road intersection to make it easier for vehicles turning on to SH1.</td>
</tr>
<tr>
<td>Fix Ivory Street adjacent to KFC. Fix High Street west of the Town Hall.</td>
</tr>
<tr>
<td>Fix pot hole urgently especially over rail crossing Coldstream Road.</td>
</tr>
<tr>
<td>Fix the pot holes in the road</td>
</tr>
</tbody>
</table>
Footpath obstructions such as advertising sandwich boards. There are large wooden blocks in the Kaiapoi Countdown carpark, which prevent cars nosing up and taking a lot of footpath space - great.

Footpaths fixed

Footpaths in this town are very uneven and patched.

Footpaths needed along High Street and then right along Victoria Street, Oxford

Forced speed reduction corner- Johns Road and Swannanoa Road.

From Sefton to Ashley - basic cycleway please due to increased logging truck activity and high incidence of near misses to family, Sefton children, and myself.

Get rid of roundabout on Southbrook Road

Go back to angle parking and one-way traffic flow in High Street Rangiora - bigger vehicles don’t keep to their allotted space in parallel parks. Car parks beyond High Street are okay. Poor traffic flow on lower Percival Street before 9am, at lunchtime, and after school until end of evening commute - it is a nightmare for those living in lower Percival Street. Dedicated cycle lanes needed (not just the areas where people park outside their houses)

Grading more frequently

Gravel roads very dusty - rates should cover them to be tar sealed.

Hewitts Road, Woodend - still has hatches that protrude higher than the road. EQ related I think. I always adjust where I drive so the hatch goes between the wheels.

Hopefully with the new changes Council is making traffic flow in Rangiora will improve.

I am concerned regarding the traffic flow and footpaths in some of the small settlement rural schools. 4

I find walking on the footpaths with the ups and downs of each home driveway does not feel safe. Where possible I would walk on the grass.

I see more provisions are coming for cycling across the district which is great. Double laneing Lineside Road would be a well accepted idea by many.

I think the buying of ultra fast broadband by Enable has made a terrible mess to our footpaths.

I think there is not enough off street parking with the increase of businesses, ie cafes/restaurants. I think the Christmas period will be a nightmare to find a park as 'diners' will want to park for a while.

I trust the lights for Southbrook roundabout will help traffic flow.

I’d like a small stretch of sealed road at corner William Street/Old North Road where many people visit the Kaiapoi Lake. Travelling along william Street turning left is problematic due to the speed zone. To the left of the main road is gravel. When there is cars behind you and coming other direction it’s hard to slow down.

Improve congestion Ashley Street through to Lineside Road
Improve maintenance of rural roads, remake and reseal. Mark centre lines on busy roads - Whites Road, Ohoka (Council rep advised Ohoka Community Group that no centre line roads were safer because people drove slower ... Really!! Whitesl Road in fact without centre line is unsafe!)

Improved on/off ramp at the Ohoka/Kaiapoi motorway entry. Improved intersection at Rangiora-Woodend Road /Gressons Road and Tuahiwi/Boys road intersections.

Improvement in traffic management, particularly around peak hours and weekends. Notification of unexpected disruptions/works.

Improvement to Southbrook Road to help alleviate congestion in and out of Rangiora during peak times. Hopefully the new Northern Motorway upgrade will improve traffic flow into Christchurch.

It is a disgrace that Waimak Council has never built a new road. As a result the congestion through Southbrook is unacceptable. Look at Nelson-Tasman area - in the last few years they have built two fabulous new highways and have another one planned for Stoke. It is time our Council showed some foresight, after all, this Council has known for years of the potential growth of the area.

It is great to see new footpaths in the Rangiora area. Maybe more provision for cyclists could be investigated - shared footpaths or designated cycle lanes.

Just keep the road centre lines well painted.

Kaiapoi has by far too many speed bumps on the bridge and main street. Very hard on vehicle suspension.

Kaiapoi main bridge approach, south lane - very bumpy and dangerous.

Lack of parking and traffic congestion in Rangiora at peak periods is very poor.

Larger parking lots in Rangiora

Less angle on footpaths

Less bumpy, but that isn’t going to happen with our earthquakes.

Less congestion, more options in and out of Christchurch. Widening of SH1/Ashley River Bridge and Old Waimak bridge.

Level the footpaths where thee are tree roots making surface uplift - trip hazard.

Lights needed Beach Road/Williams Street

Like to see all roading done quickly and efficiently as possible. Contractors if possible working 24/7 as I see all the time not enough staff working on these projects. Example, Kaiapoi town centre road - it just took too long.

Many unsealed rural roads are unsafe and poorly maintained. Quality of grading is poor. Costs associated with vehicles - tyres/suspension/stone chips are expensive. Width of many roads not suitable for trucks/tractors and vehicles when oncoming.

More accessible parking in Rangiora.

More accessible parking near the town centre.

More bike tracks in/connecting smaller subdivisions and schools. Tarseal Ashworths Road. Motorway improve access to city.

More central car parking. Pay for time parks.
More cycle ways. Better road repairs.
More cycleways and repairs to potholes on rural roads
More cycleways would be helpful for both cyclists and motorists.
More cycleways, especially in high speed areas.
More footpaths in smaller towns. More parking in Rangiora.
More footpaths in urban areas, for walking safety.
More footpaths on outer roads, eg Oxford/Johns Roads.
More inter town / rural cycleways
More lights
More lights Southbrook
More long term off street parking for local business employees.
More off street parking, eg somewhere for workers to park. And also somewhere for
visitors to town to park.
More parking in and around main street if somehow possible (in Rangiora)
More parking in Rangiora
More parking in township
More regular maintenance of unsealed roads around district - continuous pitting.
More sealed roads, particularly in rural Amberley.
More sealing needs to be done. As an example, the road (River Road) behind the
racecourse bears increasing traffic as a bypass, but is in awful condition.
More signposting and provision for cycling.
More traffic lights at busy roundabouts (ie Johns Road/King Street, Rangiora)

**Motorway**

Multi-lane Lineside Road to ease congestion. It also feels very unsafe when cars turn into
Mulcocks Road due to the narrow road and high speed of vehicles.
Narrow main street - should be wider. Not enough parking now that the town centre is
being rebuilt.

**Need another road to Christchurch**

Need footpath built from Woodend to new shops in Ravenswood before the new shops
open. Same to Pegasus entrance. How many times do contractors fill pot holes and do they
get paid each time?

**Need footpaths in some roads, Harewood Road for one.**

Need to seal and open the roads between Pegasus and Woodend and Pegasus and
Waikuku. Removal of all rumble strips from Pegasus roads.

Needs to be much more parking spaces available, especially for those who have to park all
day for work. Traffic flow not too bad, but people need to be more aware when travelling
through town area.

**New sealing need to be of better standard**

No holes in roads (especially when just renewed - Oxford Road)

No Parking line at the end of Knight Street East. As church-goers park right up to road end
causing a hazard when exiting the street.

Northbrook Road to be fixed up as in very poor condition.
Not liking the lights on High and Ashley Street. Not a straight through line which you have to wait and the lights have already changed by then. Lights dont stay green for long.

Not sure what you mean by 'small settlements'. If its, eg Cust, then No Opinion as we dont walk the streets other than Main Road. West Belt has been dug up so many times it is a mess of uneven patches. As is the High Street shoulders, West Belt to King Street. You try biking down there. Also Ashley Street heading towards the bridge/hospital, the narrow strip to bike is unsafe.

Ohoka - Mill Road walkway on side of road.

One member of the household regularly rides Rangiora/Woodend Road to Smarts Road to get out to the river. Apart from a recently re-sealed section, the margin (shoulder) is irregular and in places (close to Woodend) very dangerous because there are deep potholes at the edge of the seal. The recently re-sealed section is an improvement because the shoulder, although not generous, is regularly sealed and a cyclist can maintain a good line to the left of the while line. The Rangiora to Woodend Cycle way cant come soon enough.

One rural road in particular (corner Gressons Road and SH1 and corner of Waikuku Beach Road where the footpath handrail has never been replaced after a car took it out.

One way High Street gave more parking

Peak hour traffic flows can be frustrating (Southbrook), but solutions could be costly.

Percival Street/Southbrook Road is a bottle neck not just morning and evening.

Plastic reflective markers at side of road need more frequent maintenance. Signage - Council needs to life its game on country road signs, preventing (heavy) vehicles overshooting intersections, eg no large "Downs Road" sign on South Eyre Road - used extensively by large vehicles daily to access dairy and forestry projects.

Please more off street parking in Rangiora

Poor quality of road repairs (sealed). More, clear cycleways in Rangiora.

Population is increasing hugely - I hope there is a plan in place for this. Traffic flow in and out of Rangiora (from Lineside Road to the town centre) can be very slow and will only get worse.

Pot holes in footpaths filled in - Southbrook area

Pot holes in roads around Rangiora are bad.

Potholes and rough edges on roads repaired

Proper flow around Rangiora feeding in to centre at differing parts. Provisions for cyclists to remain safe at all times through intersections.

Proper resealing - not just patching up that is unsuccessful, continual grading of unsealed roads without re-gravelling so its just dirt getting graded creating large ridges in driveway exits.

Put in the new road from Northbrook to Lineside ASAP

Q1 Notes - Town roads in general : excl Rangiora; Definition: Rangiora; town = Oxford; small settlement = Cust

Quicker repair of potholes on South Eyre and Tram Roads (these are the roads we use mostly)

Quite happy
<table>
<thead>
<tr>
<th>Raise the standard of road and footpath repairs. More consultation between services so that footpaths and roads are not ripped up 2 and 3 times increasing expense.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rangiora is an appalling mess. Not enough parking. The main street with its parallel parking is awful. Between Percival Street and Victoria Street (High Street) should be a pedestrian walkway - trees down the middle and seating. The whole town is a mess with vehicles and not enough parking. No public toilets in main part of town.</td>
</tr>
<tr>
<td>Rangiora main street made pedestrian only and more car parking. Kaiapoi traffic is congested due to roading issues - just do it.</td>
</tr>
<tr>
<td>Rangiora off street - parking - as workers in Rangiora, I am hugely dissatisfied. We are all paying a fortune in parking tickets, especially businesses like ours that work late and it is dark when we leave. As a female this is intimidating walking 2, 3 and sometimes 4 blocks to our cars. There is plenty of parks for shoppers. Surely we could pay a small amount per month for parking permits and this would keep the Council’s revenue up instead of being ticketed and sometimes unjustly due to the warden’s mood.</td>
</tr>
<tr>
<td>Rangiora off street parking needs more of. Small settlement roads are rough and oceany.</td>
</tr>
<tr>
<td>Rangiora off street parking will need improvement with growing population. Traffic flow in and out of Rangiora needs improving. It needs a ring road system.</td>
</tr>
<tr>
<td>Rangiora residents would NEVER put up with a “shingle footpath” (Queens Avenue). Nobody uses it they walk on the road. Same as Beach Road footpath. Waikuku pays HUGE RATES and we get NOTHING for it.</td>
</tr>
<tr>
<td>Remove all day parking outside Rangiora Borough School - it should be 60 minutes maximum.</td>
</tr>
<tr>
<td>Remove the 70km speed limit restriction on the northern motorway.</td>
</tr>
<tr>
<td>Repairs are completed correctly - stop patching up the roads - repair them properly</td>
</tr>
<tr>
<td>Repairs to footpaths completed quickly.</td>
</tr>
<tr>
<td>Repairs undertaken quicker.</td>
</tr>
<tr>
<td>Reseal West Belt for a start (south end) and Johns Road. Lights at orner Percival Street and Boys Road. Please.</td>
</tr>
<tr>
<td>Return High Street to one way with angle parking.</td>
</tr>
<tr>
<td>Road repairs to rough roads, eg Johns Road, West Belt</td>
</tr>
<tr>
<td>Roads are very rough, they dig up the roads then just patch them up</td>
</tr>
<tr>
<td>Roadworks seem to cause excessively long periods of disruption.</td>
</tr>
<tr>
<td>Rural lifestyle block road to be fixed more frequently (Mt Thomas Road).</td>
</tr>
<tr>
<td>Rural roads need the same attention as town roads. Patchups are only short term. Mill Road in Ohoka is a perfect example.</td>
</tr>
<tr>
<td>Rural roads widened</td>
</tr>
<tr>
<td>Safer cycling facilities</td>
</tr>
<tr>
<td>Safer cycling paths</td>
</tr>
<tr>
<td>Safer roads for cyclists</td>
</tr>
<tr>
<td>Seal well used gravel road re Woodfields Road, Cust and Springbank.</td>
</tr>
<tr>
<td>Sealed country roads are generally in poor condition. Patches on patches on patches .... and more patches.</td>
</tr>
</tbody>
</table>
Sealed rural roads are often very uneven and unsuitable for 100kph speeds - 80kph would be safer - especially as many are also very narrow.

Sealing of unsealed rural roads and provision of footpaths - with increase in lifestyle properties, more pedestrians, children cycling to school etc - gravel is dangerous, it constantly requires maintenance for pot holes, eg Bush Road and Mill Road, Oxford

Seems to be going as good as possible.

Slow speed through centre Kaiapoi

Smooth roads ahead.

Some country roads where heavy truck and trailer usage causing huge amounts of dust could do with being sealed or change the area where the housing is not so intense. - trucks taking shingle out of the Eyre River.

Some footpaths require major upgrading. They look untidy and are difficult for the householder to maintain.

Some footpaths, ie River Road get a lot of foot traffic on them therefore should be sealed. Some roads in and around Rangiora have very narrow white lines meaning cyclists sometimes have no option but to cycle out further onto the road.

Some roads in Kaiapoi have not been fully repaired since earthquakes. This also applies to footpaths and kerbing.

Some roads near new subdivisions are unsealed and have lots more traffic on them now - some roads are partly sealed and partly unsealed - make the road one thing or another, not a mixture.

Some rural roads need speed limits reduced.

South Belt / Southbrook Road roundabout. Speed up traffic lights.

Southbrook out to Lineside Road is very congested. Something needs to be done.

Southbrook roundabout

Southbrook roundabout slows traffic. Needs something else.

Speed bumps too big especially between McDonalds and gym. Traffic light intersection on Marshlands Road, where cars come off the motorway at the hire company needs a change as this slows traffic heading into town in the morning.

Speed humps introduced on Isaac Wilson Road to stop excessive speeding. Some vehicles would exceed 90-100kph (especially later in evening). Footpath corners on driveways to multiple homes are cracked.

Speed up the West Belt extension. Heavy traffic by-pass. Trucks banned from internal streets, eg Blackett Street, Kingsbury Avenue, unless making deliveries. Williams Street is becoming more congested and alternatives will need to be looked at with future growth.

Stop digging up road multiple times, and when contractors dig up road it is put back to better than before, not worse.

The build up of traffic in Southbrook for much of the day is frustrating, but especially bad in the early/late periods. It would be good if there was an alternative route to get to Lineside Road but avoiding Southbrook business and school traffic.
The car parks in Rangiora should go back to angle parking. Traffic moves more smoothly. The things that jut out to slow traffic, especially the ones on the corners, make it very dangerous when trucks with big loads try to get around them. German Road surface is atrocious and dangerous. Worst in NZ.

The changes are happening. Southbrook getting traffic lights.

The grass verge in Charles Street could be sealed. The footpaths in and around Charles Street and Collingwood Ave creek needs fixing. Lights at roundabout Southbrook.

The public car park which comes off Blake Street could be designed better for improved flow and parking. It seems like there is a lot of wasted space and parks appear to be 'dropped in' - difficult to use.

The quality of repairs (Sicon, CityCare ...) on roads are at a low standard. Over 20 years we have seen small repairs, once repaired ripple/fall apart more frequently.

The recent traffic lights and roundabouts are working well. One intersection which is difficult to negotiate at times is coming out of White Street, either into High Street, or through to White Street, due to vision from parked vehicles on High Street, that are facing east. These parked vehicles obstruct vision to east bound traffic.

The restricted parking times system needs to be extended to Queen Street and maybe other close streets. There needs to be a parking area designated for all day parking in town. I has become dangerous getting in and out of my driveway and I know others feel the same. (I use a mobility scooter and footpaths are very uneven, older crossings very uneven.

The roads going into Rangiora from the south (ie near Mitre 10 and PaknSave) tend to cause bottlenecks for some distance at odd times, eg 12 - 2pm, most days. An alternate through road would be good.

The roads in new subdivisions are too narrow and when cars are parked either side it sometimes becomes an obstacle course trying to get through.

The roundabout system in Kaiapoi can be tedious during peak hours and on weekends. There needs to be more roads to access Rangiora. Traffic build up is horrendous.

The section of Southbrook Road between South Belt and at least McAlpines Mitre 10/Countdown is the only north south connection between Camside Road and Townshend Road. I know improvements are underway and further development is proposed, however I believe what is planned is still not enough, and too far in the future. I wonder if too much reliance is placed on professional consultants who have little or no real time contact with the town, and charge far too much. How about rewarding the high school students to present options as a school study and keep the money in the community. I believe they could have come up with some "out of square" ideas. I would be interested to know if the traffic counters placed on the roads actually tell the story of traffic queues from the railway crossing on Lineside Road to Lillybrook shops. This is pretty amazing for a town the size of Rangiora.

The system on the motorway regarding the 70km limit, 90% of the traffic ignore it in peak morning times, change back to 100km.
The town centre needs more structured parking, getting to big city size so needs signage etc. I see it like Newmarket, Auckland, and needs to think like that.

The traffic islands on Main Street in Oxford create a hazard for cyclists.

The uphill approach road to Murphy Park and croquet green downright dangerous. Pot holes by croquet green quite large.

There are a lot of pot holes on the sealed rural roads, especially on left hand side/edges and in fords.

There is a serious need for more parking facilities in Rangiora for workers and shoppers. I often drive around for long periods or abandon the trip because with two tiny children there is nothing close enough.

There is difficulty with doors in the car parks. There is a contortionist move to get by.

There is not a lot of parking in Rangiora town with the way it is growing. More parking needed.

There should not be any heavy trucks permitted on West Belt between hours 7pm - 7am, seven days. Over the past five years it has got heavier and earlier. We wake at 4.50am all week.

Three storey parking building please.

Tidy up on rural roads

Time to improve things.

Timely maintenance

To have it (repairs) done at night so as not to disrupt traffic, particularly peak hour.

To hurry up and finish High Street in Rangiora - footpaths.

To take a look at areas under the Dissatisfied category and make improvements.

Too many commercial vehicles parked in residential areas on berms and side of road. Bylaws not upheld. Footpath damage and poorly repaired post fibre installation. Poor chip sealing, and inadequate repairs to chip sealed roads. Our road is an example of this. Roundabouts are not cycle friendly and my son (12 years) has suffered several near misses with cars.

Too many pedestrian crossings is causing congestion especially right after the roundabouts.

Traffic bypass to align with Lineside Road; four lane Lineside Road. Install traffic lights at intersection of Rangiora-Woodend Road and State Highway 1 to allow Rangiora East traffic easier access to SH1. Discourage cycling on Rangiora-Flaxton Road, very dangerous in area of bridges close to Kaiapoi. Complete Silverstream bypass road. Push for three lanes in each direction on motorway at Waimakariri Bridge. Another bridge over Waimakariri upstream of motorway may be worth considering with Government assistance - could be a toll road?

Traffic counts - especially in relation to access to Christchurch northern motorway.

Travelling south down Williams Street the road hump by McDonalds roundabout is nuts. It is too high; you slow down and hold up people to the left from Countdown.
Trees covering road signs to be trimmed.

Unsealed rural roads need more regular attention, eg gravel, potholes.

Very happy with the ongoing work being done.

Waimakariri Bridge to be widened/upgraded. Better footpaths on streets other than 'town' roads.

We have two young children who we like taking for walks in a buggy but the footpaths in Rangiora are so frustrating. (1) They often have steep slopes toward the road which require a lot of effort to drive in a straight line. People with wheelchairs and walkers/zimmer frames must be even more frustrated by this, eg the footpath outside the old courthouse and post office. (2) Having footpaths on only one side of the road becomes a major issue when there are roadworks etc. I have seen people with zimmer frames walking in the middle of traffic during the fibre installation lately. Scary! Council needs to come up with better foot traffic management strategies for roads with only one footpath.

We would like cycle paths. Keeps traffic levels down and helps with fitness.

We would like to see much wider road and streets to accommodate the growing traffic flows. Particularly Lilybrook to Southbrook during peak hours, and Lineside Road.

Weed killing outside house by roadside often

West Belt is a mess, ie needs resealing. Fill pot holes properly - not just throw asphalt at them. Extend 50km on Johns Road to west of Walnut.

When roads are upgraded provision for safe cycling should be included. Better timely repair of pot holes.

White lines down the sides of Jacksons Road and Whites Road - due to fog in winter.

Widening of gravel sections of Woodfields Road. Virtually one lane at southern end. Extreme dust problem in summer.

Wider and more cycle lanes

Wider rural roads that have a lot of heavy trucks on them, as they "chew" up the edges of the road, so when overtaking them you get pushed to the rough edges - accidents waiting to happen.

Wish to have more mirrors around corner ... Some kids really can’t see their eyes height

Woodend Bypass / Main Road is dangerous with high levels of traffic

Woodside Road Oxford has long puddles on the verge, which are dangerous to drive through. Dangerous dips on Mounseys Road.

Would like council to stop digging up Rangiora/Woodend Road every 5 mins. Would like Council to actually listen to people in Woodend regarding their footpaths, and parking rather than waste money. It would be good to see Kaiapoi's earthquake roads actually finished.

Would like to see footpaths on Adderley Terrace towards Island Road. Some residential streets could do with more street lighting. More rubbish bins outside of the town centre.

Would like to see gravel roads better maintained and a programme put in place to seal more rural roads.

Would like to see more lanes put in for cycle ways.

Would like to see off street parking increased in Rangiora and would love to see a lot more cycle lanes even consider separate cycle lanes beside motorways etc.
1. SUMMARY

1.1. The purpose of this report is twofold:

1.1.1. To seek Utilities and Roading Committee approval to adopt and implement the proposed chlorination strategy.

1.1.2. To update the Utilities and Roading Committee on progress with the emergency chlorination systems for the Council’s un-chlorinated supplies.

Chlorination Strategy

1.2. Council staff have prepared a draft chlorination strategy. The purpose of the strategy is to set out the various criteria for chlorination of potable water supplied in Council’s public water supply schemes.

1.3. This strategy aims to both document and justify established practices in terms of the way that chlorination is currently applied to schemes within the district, and also to give guidance as to how decisions will be made regarding the need for chlorination for new development areas in the future.

Emergency Chlorination Systems

1.4. As part of a review following the Havelock North contamination incident last year, Council staff have been developing a strategy as to how emergency chlorination will be implemented in an emergency situation for any of the Council’s currently unchlorinated water supplies.

1.5. It is noted that any water supply scheme that is not chlorinated will have a higher level of risk of contamination than an equivalent supply that is chlorinated. This risk however can be mitigated to some degree if staff have the ability to implement an emergency chlorination system in a short space of time in a potential future contamination event.

1.6. It is noted that for schemes that are chlorinated, the chlorine levels are continuously monitored and alarmed. If there is a low chlorine alarms the duty operator will travel to the site to investigate the issue. All operators carry back-up chlorine pumps to allow the quick replacement of a chlorine pump if required.
1.7. Emergency chlorination can be provided on schemes that are not permanently chlorinated either by permanently installing the chlorination equipment (chlorine dosing pump and analyser) on site ready to be turned on if required, or by having a mobile chlorination system that could be delivered to a site at short notice.

1.8. The following table summarises the current status of emergency chlorination systems for the water supply schemes that are currently un-chlorinated, and the recommended actions:

Table 1: Summary of Emergency Chlorination Requirements for Unchlorinated Schemes

<table>
<thead>
<tr>
<th>Scheme</th>
<th>Headworks</th>
<th>Existing Emergency Chlorination</th>
<th>Proposed New System</th>
<th>Time of implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rangiora</td>
<td>Ayers St</td>
<td>Permanent</td>
<td>Nil</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td>South Belt</td>
<td>Permanent</td>
<td>Nil</td>
<td>NA</td>
</tr>
<tr>
<td>Kaiapoi</td>
<td>Darnley Square</td>
<td>Nil</td>
<td>Permanent</td>
<td>2016/17</td>
</tr>
<tr>
<td></td>
<td>Peraki Street</td>
<td>Nil</td>
<td>Permanent</td>
<td>2016/17</td>
</tr>
<tr>
<td></td>
<td>Rinaldi Ave</td>
<td>Nil</td>
<td>Mobile</td>
<td>2017/18</td>
</tr>
<tr>
<td>Cust Headworks</td>
<td>Cust Headworks</td>
<td>Nil</td>
<td>Mobile</td>
<td>2017/18</td>
</tr>
<tr>
<td>Waikuku Beach</td>
<td>Kings Ave</td>
<td>Nil</td>
<td>Mobile</td>
<td>2017/18</td>
</tr>
<tr>
<td></td>
<td>Campground</td>
<td>Nil</td>
<td>Mobile</td>
<td>2017/18</td>
</tr>
<tr>
<td>Oxford Urban</td>
<td>Domain Road</td>
<td>Permanent</td>
<td>Nil</td>
<td>NA</td>
</tr>
<tr>
<td>Woodend</td>
<td>Chinnerys Road</td>
<td>Nil</td>
<td>Permanent</td>
<td>2017/18</td>
</tr>
<tr>
<td>Pegasus</td>
<td>Pegasus WTP</td>
<td>Permanent*</td>
<td>Nil</td>
<td>N/A</td>
</tr>
</tbody>
</table>

*Pegasus is currently chlorinated as part of manganese treatment system. This will be disabled when the treatment system is upgraded, but the chlorination equipment will be retained for emergency situations.

1.9. As summarised above, three new permanent emergency chlorination systems are recommended at the Darnley Square, Peraki Street and Chinnerys Road headworks. The Kaiapoi systems (Darnley Square and Peraki Street) will be installed this financial year as part of the headworks upgrade project, while the Chinnerys Road system will be installed next financial year subject to approval of the proposed 2017/18 Draft Annual Plan budget.

1.10. It is estimated that once the emergency chlorination systems are installed the time to implement chlorination if required would be approximately 1-2 hours from the decision being made.

1.11. It is recommended that two mobile emergency systems be purchased to cover the four sites at which it is recommended that mobile systems be available. There are either existing budgets that can be utilised, or new budgets have been recommended as part of the 2017/18 Draft Annual Plan budget to implement this recommendation.

Attachments:
  i. Chlorination Strategy (Record Number 170411035457).
  ii. Summary of Status of Water Supply Schemes (Record Number 160914094969[v2]).

2. **RECOMMENDATION**

    THAT the Committee:

    (a) **Receives** report No. 170321027265.
(b) Approves the adoption of the attached Chlorination Strategy.

(c) Notes that the Chlorination Strategy will be made publicly available on the Council website, and will be referenced in the updated Engineering Code of Practice to ensure that it is required to be adhered to for any new development areas.

(d) Notes that in order to provide an adequate level of emergency chlorination three new chlorine systems are required to be installed permanently, and two mobile chlorination systems are required.

3. ISSUES AND OPTIONS

3.1. The Council currently has 16 public water supply schemes of which six are currently unchlorinated. It is also noted that Pegasus is planned to be changed from a chlorinated scheme to an unchlorinated scheme as part of a treatment upgrade.

3.2. This report sets out a draft Chlorination Strategy which documents Council’s approach to chlorination, and also sets out the proposed strategy for the implementation of emergency chlorination systems on the unchlorinated schemes.

Chlorination Strategy

3.3. Council staff have prepared a draft chlorination strategy. The purpose of the strategy is to set out our approach for chlorination of potable water supplied in Council’s public water supply schemes.

3.4. This strategy aims to achieve two key outcomes:

3.4.1. Document and justify established practices of the way that chlorination is currently applied to schemes within the district.

3.4.2. Give guidance to Council staff and developers as to how decisions will be made regarding the need for chlorination for new development areas in the future.

3.5. In general there are five reasons why a water supply scheme may be chlorinated:

3.5.1. Where it is required as part of the treatment system to achieve compliance with the Drinking Water Standards for New Zealand (DWSNZ).

3.5.2. On restricted water supplies, where it is not required for compliance with the DWSNZ, but where Council requires it due to the risk of contamination within private onsite tanks. The reason is that properties on restricted water supply schemes required private on-site tanks, and these tanks have been identified as a key potential area where contamination may occur. Having residual chlorine in the water helps to mitigate this risk.

3.5.3. For on-demand (urban) water supplies, where chlorination is not required in order to comply with the DWSNZ, but where a decision is made to chlorinate the given supply following consultation with the public, as an additional barrier to contamination of the source water.

3.5.4. To provide residual disinfection within the reticulation. It is noted that Council currently reduces the risk of contamination occurring within the reticulation system through the following methods:

- Through the implementation of Council’s backflow prevention policy.
- By only allowing the Council’s Water Unit staff to work on the live reticulation system.
- By installing dedicated tanker filling points for contractors to use who take water from the reticulation system.
It is noted that despite the above measures there is still some risk of contamination occurring in the reticulation system. This may be caused by a break in a main, inducing negative pressure in the system meaning that contaminants could potentially be drawn into the reticulation.

3.5.5. If imposed by Central Government, following the inquiry into the Havelock North contamination event.

3.6. The attached chlorination strategy outlines the criteria that will be assessed in determining whether or not a supply or part of a supply will require chlorination.

3.7. The types of supply and the need for chlorination as discussed above is summarised in the following table:

<table>
<thead>
<tr>
<th>Source Water Type</th>
<th>Type of Scheme</th>
<th>Chlorination Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-secure with no alternative bacterial treatment system (i.e. no UV treatment).</td>
<td>On demand or restricted</td>
<td>Chlorination required</td>
</tr>
<tr>
<td>Secure</td>
<td>On demand</td>
<td>Council decide following community consultation.</td>
</tr>
<tr>
<td>Restricted</td>
<td>Chlorination required due to risk of contamination occurring within private onsite tanks.</td>
<td></td>
</tr>
<tr>
<td>Restricted properties connected to an unchlorinated (on-demand) scheme.</td>
<td>Council staff to decide based on criteria outlined in chlorination strategy.</td>
<td></td>
</tr>
</tbody>
</table>

3.9. The way in which it will be ensured that the strategy is implemented is that, once adopted, it will be made publicly available on the Council website. The Engineering Code of Practice will be updated to ensure that the need for chlorination of a given water supply or part of a water supply shall be consistent with the chlorination strategy. This will ensure that any developers extending or creating a water supply are required to comply with the strategy.

**Emergency Chlorination Systems**

3.10. In conjunction with developing a chlorination strategy and in response to the Havelock North contamination event, Council staff have been developing a strategy as to how emergency chlorination will be implemented in a potential contamination event for any of the Council’s six currently unchlorinated water supplies.

3.11. It is noted that any water supply scheme that is not chlorinated will have a higher level of risk of contamination than an equivalent supply that is chlorinated. This risk however can be mitigated if staff have the ability to implement an emergency chlorination system in a short space of time in an emergency situation.

3.12. Emergency chlorination can be provided either by permanently installing the chlorination equipment (chlorine dosing pump and analyser) on site ready to be turned on if required, or by having a mobile chlorination system that could be delivered to a site at short notice.

3.13. Permanent standby chlorination systems are recommended for Rangiora, Woodend and Kaiapoi. The key reasons for recommending permanent systems at these sites is
primarily due to the large number of people that would be affected by a potential contamination event on these schemes being seen to justify the additional expenditure on the permanent systems versus mobile systems. The expected cost per site to implement these chlorination systems is in the order of $10,000 - $15,000 per site.

3.14. Two mobile emergency systems are recommended to be shared between four sites:
- The Rinaldi Ave well (at the Pines Beach part of the Kaiapoi scheme)
- The Cust headworks
- The Kings Ave and Campground headworks in the Waikuku Beach scheme.

3.15. It is proposed that one of the mobile chlorination systems be located at the Cust headworks, and one at the Kings Avenue headworks.

3.16. The two sites that would not have an emergency chlorination system permanently at them (Rinaldi Avenue and the Campground well in Waikuku Beach) are back-up sources rather than primary sources. For this reason, the expenditure on a permanent emergency chlorination system at these sources is not seen to be warranted.

3.17. It is noted that it is not possible to store the sodium hypochlorite (chlorine) on site permanently where an emergency chlorination system is installed due to the deterioration of equipment that can occur after long periods of time at sites at which chlorine is present, and also as the effectiveness of the chlorine as a treatment product deteriorates with time. For this reason in order to implement an emergency chlorine system, Water Unit staff would need to transport the chlorine from their yard (where chlorine is stored) to the relevant site or sites before starting up the emergency chlorine system. This would be achievable within approximately one hour during normal working hours, and one to two hours outside of normal working hours.

3.18. The following table summarises the current status of emergency chlorination systems for the water supply schemes that are currently un-chlorinated, and the recommended actions as described above:

<table>
<thead>
<tr>
<th>Scheme</th>
<th>Headworks</th>
<th>Existing Emergency Chlorination</th>
<th>Proposed New System</th>
<th>Financial year of upgrade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rangiora</td>
<td>Ayers St</td>
<td>Permanent</td>
<td>No upgrade required</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td>South Belt</td>
<td>Permanent</td>
<td>No upgrade required</td>
<td>NA</td>
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<td>Kaiapoi</td>
<td>Darnley Square</td>
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<td>Nil</td>
<td>Mobile</td>
<td>2017/18</td>
</tr>
<tr>
<td>Waikuku Beach</td>
<td>Kings Ave</td>
<td>Nil</td>
<td>Mobile</td>
<td>2017/18</td>
</tr>
<tr>
<td></td>
<td>Campground</td>
<td>Nil</td>
<td>Mobile</td>
<td>2017/18</td>
</tr>
<tr>
<td>Oxford Urban</td>
<td>Domain Road</td>
<td>Permanent</td>
<td>No upgrade required</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td>Woodend</td>
<td>Chinnerys Road</td>
<td>Permanent</td>
<td>2017/18</td>
</tr>
</tbody>
</table>

3.19. As summarised above, three new permanent emergency chlorination systems are recommended at the Darnley Square, Peraki Street and Chinnerys Road headworks. The Kaiapoi systems will be installed this financial year as part of the headworks.
upgrade project, while the Chinnerys Road system will be installed next financial year subject to approval of the proposed 2017/18 Draft Annual Plan budget.

3.20. It is recommended that two mobile emergency systems be purchased to cover the four sites at which it is recommended that mobile systems be available. Budgets have already been recommended as part of the 2017/18 Draft Annual Plan budget to implement this recommendation.

3.21. The Management Team has reviewed this report and supports the recommendations.

4. COMMUNITY VIEWS

4.1. The community has not been consulted directly regarding the proposed implementation of the emergency chlorination systems.

4.2. The proposed chlorination strategy outlines requirements for public consultation before making changes to the chlorination of a scheme.

4.3. Staff will work with the community and engagement team to inform the community of the need to chlorinate should this be required in a future event.

5. FINANCIAL IMPLICATIONS AND RISKS

5.1. The estimated costs of the recommended emergency chlorination systems are on Table 4:

<table>
<thead>
<tr>
<th>Upgrade</th>
<th>Cost</th>
<th>Budget Allowance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Darnley Square and Peraki Street</td>
<td>$30,000</td>
<td>Can be accommodated within Kaiapoi headworks upgrade budget of $669,360.</td>
</tr>
<tr>
<td>headworks permanent emergency systems</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chinnerys Road permanent emergency</td>
<td>$13,000</td>
<td>Requested in 2017/18 Draft Annual Plan budget.</td>
</tr>
<tr>
<td>system</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cust / Rinaldi Ave shared mobile</td>
<td>$10,000</td>
<td>Requested in 2017/18 Draft Annual Plan budget.</td>
</tr>
<tr>
<td>emergency system</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kings Ave / Campground shared mobile</td>
<td>$10,000</td>
<td>Allowed for within $400,000 treatment upgrade budget for Kings Avenue headworks.</td>
</tr>
<tr>
<td>emergency system</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6. CONTEXT

6.1. Policy
This matter is not a matter of significance in terms of the Council’s Significance Policy.

6.2. Legislation
The following acts are relevant in this matter:

- The Health (Drinking Water) Amendment Act.

6.3. Community Outcomes
This report relates to the following community outcomes:

- There is a safe environment for all.
• There is sufficient clean water to meet the needs of communities and ecosystems.
• Core utility services are provided in a timely, sustainable, and affordable manner.
ATTACHMENT I

CHLORINATION STRATEGY
Waimakariri District Council Chlorination Strategy

1. Purpose

The purpose of this strategy is to set out the various requirements for chlorination of potable water supplied to the Waimakariri District Council’s public water supply schemes. The requirements apply both to the public water supply schemes and the individual connections to those schemes.

2. Strategy Context

The strategy has been developed to ensure requirements for chlorination are consistently applied to the public water supply schemes and their connected properties.

3. Strategy Objective

This strategy seeks to protect the public by ensuring all potable water supplied by the Council to its customers are safe from bacterial contamination, while still respecting the community’s choices regarding the level of service in regard to the degree of treatment versus aesthetic considerations.

Chlorination is a key method used to minimise the risks to public health associated with non-secure groundwater sources.

That is, chlorination is an important barrier to contamination from potential failures in the primary treatment process. It also provides a barrier to contamination that can occur after the treatment process, either through backflow, through a broken water main, or through a non-secure water tank or header tank.

4. Strategy Statement

Chlorination Requirements

All non-secure water supplies shall be treated to meet the bacterial and protozoal requirements of the Drinking Water Standards for New Zealand, with chlorine being the most common and cost effective form of disinfection to meet the bacterial requirements.

The Council will determine whether or not an on-demand water supply from a secure groundwater source will be chlorinated or not. In making that determination, the Council will consider the following factors:

1) Any legislative requirements.
2) The wishes of the community on the relevant water supply scheme.
3) The public health risks associated with chlorinating or not chlorinating the supply.
4) The views of other stakeholders such as the Canterbury District Health Board.

The trigger for Council to consider whether or not to chlorinate water for an on-demand scheme from a secure water source (as described in 4.2 above) will either be a new water supply scheme being proposed to be established, a previously non-secure source being upgraded to a secure source for an existing scheme, if requested by Council, or if Council staff decide that a review of the chlorination status of a given scheme or schemes is warranted.

Emergency chlorination systems shall be available for all schemes where chlorination is not implemented as a permanent part of the treatment system. The purpose for this is such that chlorine disinfection could be implemented at short notice in a potential future contamination event.
Restricted water supplies are required to be chlorinated, whether or not the supply is from a secure or non-secure source. This is subject to exceptions for some development areas as described in Section 4.6 or 4.7, below. The chlorination of restricted supplies ensures the on-site components of the supply located within any connected property boundary (such as on-site and header tanks) are appropriately protected from contamination.

If a new area not previously connected to a public water supply scheme that includes any restricted water connections is to be connected to an unchlorinated supply, the Council will decide whether or not chlorination should be provided for the new area. The Council will take the following factors into account in making that decision:

- The risk of contamination, including consideration of:
  1. The number of restricted connections;
  2. The reliability of the supply;
  3. The proximity of the water mains to any wastewater mains;
  4. The proximity of the water mains to groundwater levels;
  5. The age of on-site and header tanks within the area;
  6. The size of the on-site and header tanks within the area (determined by fire-fighting requirements);
  7. The presence of vulnerable customers;
  8. The length of the mains.

- The capital and operating costs of the supply;
- The practicality of chlorination;
- The public acceptance of chlorination, as indicated through consultation with the affected community;
- The view of the Canterbury District Health Board.

If an existing community that includes any restricted (chlorinated) water connections is to be connected to an unchlorinated supply, then consideration as to whether to continue to chlorinate that community will be undertaken by Council staff, based on the criteria outlined in 4.6 above.

Consultation Requirements

Any proposal to replace a chlorinated water supply with an unchlorinated supply shall be publicly consulted. Consultation will include a process for receipt and consideration of written submissions from the general public and other identified stakeholders including the Canterbury District Health Board.

Keeping the Scheme Members Informed

The Council will keep scheme members informed of the risks associated with the various types of water supply schemes. The methods used to keep scheme members informed will include:

- Information will be made available on the Council website regarding how to manage the particular risks associated with a restricted water supply. For instance, it will inform residents of the need to ensure contaminants cannot enter any components of their supply including the on-site or header tanks.
- Information will be made available on the Council website to advise residents of the backflow hazards that may affect the supply of water to and from their property.
- Letters will be sent to all residents with restricted water connections on un-chlorinated supplies documenting the same risks outlined in 4.8.4 above. The reason for targeting this group is that these scheme members are considered to have a higher level of risk of contamination than those with chlorinated water on restricted connections. These letters
will be sent every two years to keep these residents informed and included on the LIMs for these properties.

4 **Links to legislation, other policies and community outcomes**

The strategy will assist the Council to ensure its water supplies meet the requirements of the Health (Drinking Water) Amendment Act 2007 and meet the Drinking Water Standards of New Zealand 2005 (revised 2008).

The strategy meets the following community outcome:

- Water supplies to communities are of a high quality

The strategy will be reviewed and revised in line with any updated legislation, national guidelines or revisions to the Drinking Water Standards for New Zealand that may be published in the future.

5 **Reference to Chlorination Strategy**

This strategy will be made publicly available on the Council website, and the need to comply with this strategy will be referenced in the Waimakariri District Council Engineering Code of Practice. This will ensure that any new developments are required to comply with the strategy.

6 **Definitions**

- Disinfection - the removal, deactivation or killing of pathogenic microorganisms.
- Chlorination - the disinfection of water by the addition of small amounts of chlorine or a chlorine compound.
- On-Demand Water Supply – water supplies on which the flow into each property is not restricted at the point of supply.
- Restricted Water Supply – water supplies on which the flow into each property is restricted at the point of supply to a given volume (based on units, where one unit equates to one m³ per day). Properties on restricted water supplies require a storage tank to collect the restricted flow of water as it enters the property and a pump to transfer this water from the tank to the dwelling.
ATTACHMENT II

SUMMARY OF STATUS OF WATER SUPPLY SCHEMES
1. SUMMARY

1.1. The purpose of this report is to provide a summary of the status of the Council’s public water supply schemes in terms of water quality and public health risk.

1.2. This has been assessed in three ways for all 16 of Council’s public water supply schemes:

1.2.1. Bacterial compliance with the Drinking Water Standards for New Zealand (DWSNZ). All schemes have achieved bacterial compliance.

1.2.2. Protozoal compliance with the DWSNZ. Seven out of the sixteen schemes have achieved protozoal compliance. Two more schemes (Ohoka and Cust) are expected to achieve protozoal compliance in the next few months with the remaining seven schemes being upgraded over the next two years.

1.2.3. All schemes have a Water Safety Plan (previously referred to as Public Health Risk Management Plans) that has been approved by Community and Public Health. These plans either demonstrate how each scheme complies with the DWSNZ, or outlines how and when each scheme will be upgraded to achieve compliance.

1.3. Based on the above, while it is acknowledged that all levels of risk associated with providing public water supplies cannot be completely eliminated, it can be concluded that as a whole the district’s water supplies are in good shape. All schemes are either fully compliant with the bacterial and protozoal requirements of the DWSNZ, or have a plan in place to achieve compliance within an approved timeframe.

1.4. It has been identified that budgets for the Poyntzs Road, Garrymere and Waikuku Beach schemes will be required to be reviewed in order to complete the required upgrades in the required timeframes. These budgets will be addressed with a separate report to Council once initial assessments on these upgrades have been completed to confirm the required budget.

2. RECOMMENDATION

THAT the Utilities and Roading Committee:
(a) **Receives** report No. 160914094969.

(b) **Notes** that all public water supply schemes achieve bacterial compliance with the Drinking Water Standards for New Zealand.

(c) **Notes** that seven out of the sixteen public water supply schemes achieve protozoal compliance with the Drinking Water Standards for New Zealand and that Council staff are working towards achieving full compliance on all schemes by 2019.

(d) **Notes** that all schemes have an approved Water Safety Plan or Public Health Risk Management Plan.

(e) **Notes** that the budgets for the Poyntzs Road, Garrymere and Waikuku Beach scheme may be required to be revised to complete the upgrades in the required timeframes. These budgets will be addressed with a separate report.

(f) **Circulates** this report to all community and advisory boards for their information.

### 3. ISSUES AND OPTIONS

3.1. The purpose of this memo is to provide a summary of the status of the Council’s public water supply schemes in terms of water quality and public health risk.

3.2. The intention of this memo is to document which schemes achieve compliance with the Drinking Water Standards for New Zealand (DWSNZ), and where the standards are not met what plans are in place to carry out the necessary upgrades.

3.3. Each scheme within the district is required to demonstrate compliance with the DWSNZ by providing barriers to protect against two key types of potential contamination.

   3.3.1. **Bacterial Compliance:** Each scheme is required to provide protection against contamination from bacteria (such as E. coli and campylobacter). This is achieved either by sourcing water from a deep and secure well, or by treating to disinfect the water against bacterial contamination (for example chlorine disinfection).

   3.3.2. **Protozoal Compliance:** Each scheme is required to provide protection against contamination from protozoa (such as cryptosporidium or giardia). This can be achieved by sourcing the water from a deep and secure well, or treating the water by means of filtration, ozone or ultra-violet (UV) disinfection.

### Existing Status of Schemes and Plans to Upgrade

3.4. There are 16 public water supply schemes within the district. Table 1 summarises each scheme’s bacterial and protozoal compliance with the DWSNZ.

3.5. Where compliance is not achieved on a given scheme, a plan has been put in place to upgrade the scheme to achieve compliance. The proposed methodology to upgrade each scheme has been documented in the respective Water Safety Plan (previously referred to as Public Health Risk Management Plans) for each scheme. These plans have been submitted to and approved by Community and Public Health. The approved proposed upgrades for each scheme are documented in Table 1.
<table>
<thead>
<tr>
<th>Scheme</th>
<th>Approx. Population</th>
<th>Source Description</th>
<th>Bore Depth (approx.)</th>
<th>Treatment</th>
<th>Compliance with DWSNZ</th>
<th>Proposed Upgrade</th>
<th>Completion Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rangiora</td>
<td>17,900</td>
<td>Four deep secure bores at Smith Street, Kaiapoi.</td>
<td>150 m</td>
<td>Not required.</td>
<td>Yes</td>
<td>Yes</td>
<td>Not required, fully compliant.</td>
</tr>
<tr>
<td>Kaiapoi (incl. Pines Kairaki)</td>
<td>12,600</td>
<td>Six deep secure bores in Kaiapoi, plus backup secure bore in Pines Beach.</td>
<td>100 m</td>
<td>Not required.</td>
<td>Yes</td>
<td>Yes</td>
<td>Not required, fully compliant.</td>
</tr>
<tr>
<td>Woodend</td>
<td>2,700</td>
<td>Two deep secure bores at Gladstone Park.</td>
<td>200 m</td>
<td>Biological filter to remove Manganese</td>
<td>Yes</td>
<td>Yes</td>
<td>Consultation underway to join with Pegasus. No decision has been made on this project yet.</td>
</tr>
<tr>
<td>Pegasus</td>
<td>4,000</td>
<td>Three deep secure bores south of Pegasus (near Gladstone Park)</td>
<td>140 – 250 m</td>
<td>Chlorine treatment to remove Manganese</td>
<td>Yes</td>
<td>Yes</td>
<td>Consultation underway to join with Woodend. No decision has been made on this project yet.</td>
</tr>
<tr>
<td>Waikuku Beach</td>
<td>1,160</td>
<td>Two shallow artesian bores</td>
<td>20 m</td>
<td>None at present, to be implemented as part of upgrade.</td>
<td>Yes</td>
<td>No</td>
<td>The Water Safety Plan identifies that the treatment will be upgraded in 2017/18. Council staff are planning to complete this project in the 2016/17 financial year (subject to Council approval).</td>
</tr>
<tr>
<td>Cust</td>
<td>350</td>
<td>One deep secure bore at Springbank.</td>
<td>80 m</td>
<td>Not required.</td>
<td>Yes</td>
<td>Yes</td>
<td>The project to upgrade the Cust source was recently completed with the new source coming online in late 2015.</td>
</tr>
<tr>
<td>Oxford Urban</td>
<td>2,300</td>
<td>One deep source on Domain Road (second deep secure well has been drilled but is not yet online).</td>
<td>120 m</td>
<td>Not required.</td>
<td>Yes</td>
<td>Yes</td>
<td>Not required, fully compliant.</td>
</tr>
<tr>
<td>Ohoka</td>
<td>230</td>
<td>One deep well on Bradleys Road</td>
<td>80 m</td>
<td>Chlorine</td>
<td>Yes</td>
<td>Yes</td>
<td>A new deep secure well was drilled recently and is due to come on-line mid-September 2016 which will achieve protozoal compliance.</td>
</tr>
<tr>
<td>Garrymere</td>
<td>100</td>
<td>One shallow well at headworks site</td>
<td>30 m (screen from 2.5 m)</td>
<td>Chlorine and pH correction</td>
<td>Yes</td>
<td>No</td>
<td>An investigation into new source options to achieve protozoal compliance is underway this financial year.</td>
</tr>
<tr>
<td>Scheme</td>
<td>Approx. Population</td>
<td>Source Description</td>
<td>Bore Depth (approx.)</td>
<td>Treatment</td>
<td>Bacterial Compliance</td>
<td>Protozoal Compliance</td>
<td>Proposed Upgrade Description</td>
</tr>
<tr>
<td>-----------------</td>
<td>--------------------</td>
<td>-------------------------------------------------</td>
<td>---------------------</td>
<td>----------------------</td>
<td>----------------------</td>
<td>----------------------</td>
<td>----------------------------</td>
</tr>
<tr>
<td><strong>Poyntzs Road</strong></td>
<td>200</td>
<td>One shallow well at headworks site</td>
<td>30 m</td>
<td>Chlorine</td>
<td>Yes</td>
<td>No</td>
<td>Source upgrade planned for 2023/24. This is to be revised to see if the budget can be brought forward. 2017/18</td>
</tr>
<tr>
<td><strong>Oxford Rural No.1</strong></td>
<td>800</td>
<td>Gallery intake from the Waimakariri River</td>
<td>5 m</td>
<td>Chlorine</td>
<td>Yes</td>
<td>No</td>
<td>A source upgrade project to achieve protozoal compliance is underway. A new deep secure well has been drilled and is due to come online in November 2016. This does not have sufficient capacity for the entire scheme so an additional well or wells are required. 2017/18</td>
</tr>
<tr>
<td><strong>Oxford Rural No.2</strong></td>
<td>800</td>
<td>Gallery intake from river at Coopers Creek</td>
<td>3 m</td>
<td>Chlorine</td>
<td>Yes</td>
<td>No</td>
<td>A project is underway to utilise the wells at Domain Road to provide secure water to the Oxford Rural No.2 scheme to achieve protozoal compliance. 2017/18</td>
</tr>
<tr>
<td><strong>Summerhill</strong></td>
<td>420</td>
<td>One deep secure well at West Eyreton</td>
<td>100 m</td>
<td>Chlorine</td>
<td>Yes</td>
<td>Yes</td>
<td>Back-up deep source proposed at West Eyreton headworks site for completion in 2017/18. Fully compliant.</td>
</tr>
<tr>
<td><strong>Mandeville</strong></td>
<td>2,000</td>
<td>Deep non-secure well at Two Chain Road headworks.</td>
<td>80 m</td>
<td>Chlorine and pH correction</td>
<td>Yes</td>
<td>No</td>
<td>A project is underway to install UV treatment to achieve protozoal compliance. 2016/17</td>
</tr>
<tr>
<td><strong>Fernside</strong></td>
<td>210</td>
<td>Shallow well at headworks</td>
<td>18 m</td>
<td>Chlorine and pH correction</td>
<td>Yes</td>
<td>No</td>
<td>Consultation is underway regarding the joining of the Fernside scheme with Mandeville (which will be fully compliant by the time they join). 2017/18</td>
</tr>
<tr>
<td><strong>West Eyreton</strong></td>
<td>170</td>
<td>Deep secure well at headworks</td>
<td>100 m</td>
<td>Chlorine</td>
<td>Yes</td>
<td>Yes</td>
<td>Back-up deep source proposed at West Eyreton headworks site for completion in 2017/18. Fully compliant.</td>
</tr>
</tbody>
</table>

1. Ohoka sources’ fully compliant status is subject to confirmation from CPH (following implementation of upgraded sources mid-September 2016).
2. Cust sources’ fully compliant status is subject to confirmation from CPH following some amendment to the site fencing to ensure the security of the well head.
3. The completion time for the Poyntzs Road scheme upgrade in the Water Safety Plan does not coincide with the timing of the budget. The budget is required to be brought forward.
4. Waikuku Beach budget is planned to be brought forward to achieve upgrade in 2016/17.
Existing Scheme Status Discussion

3.6. As is documented in Table 1, all public water supply schemes within the district achieve bacterial compliance with the DWSNZ, and seven out of the sixteen schemes achieving protozoal compliance at present, and two more (Ohoka and Cust) to achieve protozoal compliance in the next few months.

3.7. For the other schemes where protozoal compliance is not achieved, projects are either underway or planned to carry out the required upgrades. Based on existing budgets it is projected that by the end of the 2017/18 financial year all of the schemes will have achieved full compliance with the DWSNZ. Where upgrades are required to achieve full compliance, these are described below:

Waikuku Beach

3.8. The primary source for Waikuku Beach is a 21.6m deep artesian bore on Kings Avenue. While this is relatively shallow for an untreated source, a mitigating factor when considering the risk is the fact that the bore is artesian. This indicates that there is hydraulic separation between the surface water and source water. Furthermore the site has a good record of bacterial compliance with the DWSNZ, which also indicates a lower risk.

3.9. It was proposed to install a treatment system in order to achieve compliance in the 2017/18 financial year. This will likely consist of a UV treatment system. Council staff are proposing to bring a report to Council to bring the budget for this upgrade forward to allow it to be completed in the 2016/17 financial year.

Ohoka

3.10. The Ohoka source previously consisted of a shallow non-secure bore with chlorine treatment and pH correction. A new bore has been drilled which is due to come on-line mid-September this year, which will provide secure and fully compliant drinking water.

Garrymere

3.11. The source for the Garrymere scheme consists of a shallow bore, with the first screen installed approximately 2.5 m below ground level. The water is treated with chlorine to achieve bacterial compliance. Due to the shallow non-secure nature of this bore there is a risk of contamination from protozoa. This source is similar in nature to the source for the Rangiora scheme prior to the 2011 upgrade.

3.12. An assessment into options to upgrade the scheme to achieve protozoal compliance is being carried out this financial year, with the recommended solution proposed to be implemented in the 2017/18 year. The options for consideration will likely include drilling a new deep source, treating the existing source, or connecting with another scheme (the latter option is considered unlikely).

Poyntzs Road

3.13. The source for the Poyntzs Road scheme consists of a 30 m deep non-secure well. The water is treated with chlorine to achieve bacterial compliance. Due to the shallow non-secure nature of this bore there is a risk of contamination from protozoa. This source is considered to present a lower risk relative to some of the shallower non-secure bores.
3.14. An upgrade to the source to achieve full compliance with the DWSNZ is currently programmed for the 2023/24 financial year. It is the intention of 3 Waters staff to request that this budget be brought forward as part of the draft Annual Plan to allow the upgrade to be carried out sooner than currently planned.

**Oxford Rural No.1**

3.15. The source for the Oxford Rural No.1 scheme consists of an infiltration gallery in the Waimakariri River. The water is treated with chlorine to achieve bacterial compliance, however the current treatment system does not provide protection against protozoal contamination.

3.16. A project to upgrade the source is underway. A well has been drilled to a depth of approximately 200m which struck a secure groundwater source which is due to come online in November this year. This new source is only able to provide approximately 30% of the current peak demand for the scheme however, so further work is required to complete the source upgrade project. This will likely consist of an additional deep well or wells such that the existing river intake can ultimately be abandoned. This project is schedule to be completed in the 2017/18 financial year.

**Oxford Rural No.2**

3.17. The source for the Oxford Rural No.2 scheme consists of an infiltration gallery at Coopers Creek. The water is treated with chlorine to achieve bacterial compliance, however the current treatment system does not provide protection against protozoal contamination.

3.18. A project is underway to upgrade the Oxford Rural No.2 source. A second well has been drilled at Domain Road (next to the Oxford Urban source) to allow the two Domain Road wells to form a combined source for the Oxford Rural No.2 and Oxford Urban schemes. There is some further work required to bring the new well on-line and join the two schemes which is programmed to be completed in 2017/18. This will include detailed design and construction of the new well head, three booster pump stations and some reticulation upgrades to join the schemes but keep the treatment separate (such that the Oxford Rural No.2 scheme is chlorinated and Oxford Urban is not). Once this upgrade is completed the Oxford Rural No.2 scheme will achieve full compliance with the DWSNZ.

**Mandeville**

3.19. The primary source for the Mandeville scheme is an 80 m deep non-secure well that is treated with chlorine to achieve bacterial compliance with the DWSNZ. A project is underway this financial year to install a UV treatment system at the Mandeville headworks. Once this upgrade is completed the scheme will achieve full compliance with the DWSNZ.

**Fernside**

3.20. The primary source for the Fernside scheme is an 18 m deep non-secure well. The water is treated with chlorine to achieve bacterial compliance. Due to the shallow non-secure nature of this bore there is a risk of contamination from protozoa.

3.21. A project has commenced to carry out an upgrade on the Fernside scheme to achieve compliance with the DWSNZ. The recommended strategy to achieve compliance is to join with the Mandeville scheme, and utilise the Mandeville water headworks at Two Chain Road. The Fernside and Mandeville communities are currently being consulted regarding this upgrade. This upgrade is programmed to be completed in the 2017/18 financial year.
Chlorination Strategy

3.22. It is noted that all restricted schemes are chlorinated, regardless of whether or not they have a secure source. The reason for this is that chlorine offers residual disinfection against bacterial contamination that may enter the water downstream of the source. On restricted schemes it has been identified that there is a risk that contamination may enter the water in private storage tanks located at each property. Chlorinating restricted schemes provides a barrier against the risk of contamination in private storage tanks.

3.23. This risk of contamination entering water in private on-site tanks is not an issue for on-demand schemes, where private tanks are not required. For this reason on-demand schemes with secure sources (Kaiapoi, Rangiora, Oxford Urban, Woodend, Cust) are generally not chlorinated.

3.24. It is noted however that in some cases there are some restricted connections on rural-residential properties connected to some on-demand schemes. These properties are the exceptions to the rule, in that they are restricted properties with private storage tanks that receive unchlorinated (but secure) water. Council staff are considering the need for a chlorination policy to document the decision making process regarding the need to chlorinate water on all types of schemes for all types of connections.

Testing and Monitoring Strategy

3.25. As well as putting the barriers in place to prevent contamination, there are also testing requirements to demonstrate that these barriers are working effectively. This is predominantly demonstrated through testing for E. coli. The testing is carried out both at the sources and within the reticulation for each scheme. The frequency of testing is determined by the DWSNZ and is a function of the scheme and source characteristics and the population of each scheme.

3.26. The frequency of testing on each of the schemes being carried out at present is detailed on Table 2 and the results from the 2015/16 testing period are detailed on Table 3.

Table 2: 2016/17 E. coli Testing Programme

<table>
<thead>
<tr>
<th>Scheme</th>
<th>E. Coli Testing Frequency (Max Days Between Samples)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Source (Days)</td>
</tr>
<tr>
<td>Rangiora</td>
<td>135</td>
</tr>
<tr>
<td>Kaiapoi (incl. Pines Kairaki)</td>
<td>135</td>
</tr>
<tr>
<td>Woodend</td>
<td>135</td>
</tr>
<tr>
<td>Pegasus</td>
<td>135</td>
</tr>
<tr>
<td>Waikuku Beach</td>
<td>5</td>
</tr>
<tr>
<td>Cust</td>
<td>13</td>
</tr>
<tr>
<td>Oxford Urban</td>
<td>135</td>
</tr>
<tr>
<td>Ohoka</td>
<td>13</td>
</tr>
<tr>
<td>Garrymere</td>
<td>13</td>
</tr>
<tr>
<td>Poyntz Road</td>
<td>13</td>
</tr>
<tr>
<td>Oxford Rural No.1</td>
<td>5</td>
</tr>
<tr>
<td>Oxford Rural No.2</td>
<td>5</td>
</tr>
<tr>
<td>Summerhill</td>
<td>135</td>
</tr>
<tr>
<td>Mandeville</td>
<td>5</td>
</tr>
<tr>
<td>Fernside</td>
<td>13</td>
</tr>
<tr>
<td>West Eyreton</td>
<td>135</td>
</tr>
</tbody>
</table>
Table 3: 2015/16 E. coli Testing Results

<table>
<thead>
<tr>
<th>Scheme</th>
<th>E. Coli Testing – Number of Samples</th>
<th>Total</th>
<th>Clear Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Source</td>
<td>Reticulation</td>
<td></td>
</tr>
<tr>
<td>Rangiora</td>
<td>5</td>
<td>97</td>
<td>102</td>
</tr>
<tr>
<td>Kaiapoi (incl. Pines Kairaki)</td>
<td>17</td>
<td>100</td>
<td>117</td>
</tr>
<tr>
<td>Woodend</td>
<td>11</td>
<td>67</td>
<td>78</td>
</tr>
<tr>
<td>Pegasus</td>
<td>12</td>
<td>59</td>
<td>71</td>
</tr>
<tr>
<td>Waikuku Beach</td>
<td>115</td>
<td>60</td>
<td>175</td>
</tr>
<tr>
<td>Cust</td>
<td>55</td>
<td>34</td>
<td>89</td>
</tr>
<tr>
<td>Oxford Urban</td>
<td>9</td>
<td>60</td>
<td>69</td>
</tr>
<tr>
<td>Ohoka</td>
<td>58</td>
<td>18</td>
<td>76</td>
</tr>
<tr>
<td>Garrymere</td>
<td>58</td>
<td>17</td>
<td>75</td>
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<tr>
<td>Poyntzs Road</td>
<td>55</td>
<td>17</td>
<td>72</td>
</tr>
<tr>
<td>Oxford Rural No.1</td>
<td>110</td>
<td>56</td>
<td>166</td>
</tr>
<tr>
<td>Oxford Rural No.2</td>
<td>110</td>
<td>57</td>
<td>167</td>
</tr>
<tr>
<td>Summerhill</td>
<td>10</td>
<td>31</td>
<td>41</td>
</tr>
<tr>
<td>Mandeville</td>
<td>116</td>
<td>63</td>
<td>179</td>
</tr>
<tr>
<td>Fernside</td>
<td>58</td>
<td>18</td>
<td>76</td>
</tr>
<tr>
<td>West Eyreton</td>
<td>10</td>
<td>19</td>
<td>29</td>
</tr>
</tbody>
</table>

3.27. Council’s monitoring procedures were audited recently by Community and Public Health, and the monitoring was found to be fully compliant with the DWSNZ across all schemes for the 2015/16 monitoring period. No positive E. coli tests were received on any of the schemes for the 2015/16 monitoring period.

Nitrate

3.28. It is noted that nitrate is monitored on the Poyntzs Road scheme and that the samples taken show it to be within the maximum acceptable value (MAV). Nitrate is not required to be monitored on other schemes as testing has shown they are well within the MAV.

Plumbosolvency

3.29. Plumbosolvency is the process in which if drinking water sits stagnant in metal pipework for a period of time (i.e. overnight), small traces of metals can leach out of the pipework in the taps within households and into the water. For this reason, as is required by the DWSNZ, twice each year the Council issues public information notices to inform residents of this issue and recommend that taps be flushed briefly each morning.

Historic Transgressions

3.30. There have been several positive E. coli test results on Waimakariri District Council water supply schemes over the last decade. These are detailed below:

Kaiapoi

3.31. E. coli was recorded in the Kaiapoi reticulation immediately following the 2010 Earthquake. This was attributed to damage caused to both water and sewer mains causing cross contamination.

3.32. There was one positive E. coli test result in Kaiapoi due to an event involving contractor error. The event involved a digger bucket going through a water and sewer main simultaneously. This incident was identified and remedied immediately.
Mandeville

3.33. In 2012 there was a positive E. coli test result at one of the Two Chain Road wells in Mandeville. As a result of the transgression the bore lost its secure status and the project was put in place to upgrade the source with UV treatment.

Woodend

3.34. In 2013 there was a positive E. coli test result on the Woodend scheme. This was attributed to birds entering and contaminating one of the reservoirs. The point at which the birds entered the reservoir has been repaired, and there have been no positive test results since.

3.35. The Management Team has reviewed this report and supports the recommendations.

4. COMMUNITY VIEWS

4.1. A news story has been released to the public covering the content of this report titled ‘How good is our drinking water’. This has been published on the Council website and on social media.

4.2. Individual communities have been consulted as necessary for their specific upgrades.

5. FINANCIAL IMPLICATIONS AND RISKS

5.1. In general budgets have been set and approved through the Long Term Plan process for each of the upgrades required.

5.2. There are some projects where it is considered likely that a change to the budget may be required. These are:

5.2.1. Waikuku Beach treatment upgrade. There is $10,000 budgeted this financial year to design the treatment upgrade, and $200,000 budgeted in 2017/18 to construct the treatment upgrade. It is the intention of staff to construct the treatment upgrade this financial year if this is feasible. If budget is required to be brought forward a report will be brought to Council regarding this.

5.2.2. Garrymere new source. There is $50,000 budgeted this financial year to investigate and design a new source for Garrymere, and $150,000 budgeted next financial year to construct the upgrade. It is considered unlikely that the total budget allowance for this project will be sufficient, particularly if a new well is required to be drilled (as opposed to treating the existing source). Once the optimum upgrade option has been identified the budget will be reviewed, and a report put to Council to request additional funding if necessary.

5.2.3. Poyntzts Road new source. There is $150,000 budgeted for the 2023/24 financial year to upgrade the Poyntzts Road source. The Water Safety Plan states that the scheme will achieve compliance in 2017. It is recommended that the budget be reviewed to ensure the amount allocated is sufficient, and that the budget be brought forward to the 2017/18 financial year.

6. CONTEXT

6.1. Policy

This matter is not a matter of significance in terms of the Council’s Significance Policy.

6.2. Legislation
The Drinking Water Standards for New Zealand are relevant in this matter.

6.3. Community Outcomes

This project is linked to the following community outcomes:

- There is sufficient clean water to meet the needs of communities and ecosystems.
- Core utility services are provided in a timely, sustainable and affordable manner.
1. SUMMARY

1.1. The purpose of this report is twofold:

1.1.1. To inform the Utilities and Roading Committee of the outcome of the community consultation regarding the proposed new bore location for the Oxford Rural No.1 water supply scheme.

1.1.2. To seek the Utilities and Roading Committee’s endorsement to proceed with the drilling of the new bore at the amended recommended location.

Background

1.2. The aim of the project is to establish a new water source for the Oxford Rural No.1 community that complies with the Drinking Water Standards for New Zealand (DWSNZ) and provides the projected 50-year capacity for the scheme of 30L/s.

1.3. Two bores have been drilled to date in the west Rockford Road area. One bore was unsuccessful as it was dry, and one bore achieved a yield of 7 L/s. The 7 L/s bore has recently been connected up to the existing reticulation, with the bore now online.

1.4. The total budget allocation for this project is $2.4M, with approximately $1.0M either spent or committed to be spent giving a remaining budget of $1.4M.

1.5. Previous investigations have ruled out the options of either purchasing an existing private bore, or treating the existing source. Therefore, the only remaining option to complete the source upgrade project is to drill a new deep bore

Options Assessment

1.6. An options assessment was undertaken to determine the best location for a new bore to complete the source upgrade project. The options were narrowed down to two key areas; the west end of Rockford Road, near the existing 7 L/s new bore, or near the intersection of Watsons Reserve Road and McPhedrons Road.

1.7. Both the options identified above were assessed in terms of the likely remaining cost to complete the project, and both options had an estimated remaining cost in the order of $1.7 - $2.3M.
1.8. It was concluded that the two potential options could not be separated by comparison of the expected cost alone, and an analysis of the non-financial factors was undertaken to identify a preferred option. Based on this analysis the McPhedrons Road area is recommended as the preferred drilling location for the following reasons:

- McPhedrons Road is considered to be the higher yielding area on average, giving a greater degree of cost certainty as well as minimising the risk of delays to the project programme.

- The risk of any issues to do with land ownership are minimised at McPhedrons Road relative to the Rockford Road area.

- Both sites are expected to have no issues in terms of gaining consent from ECan to abstract the required volume of water.

Community Consultation

1.9. The Oxford Rural No.1 community were informed of the recommendation through an information pamphlet being distributed to all scheme members, as well as through social media, newspaper advertisements and the presence of staff at the Oxford A&P show.

1.10. The following table summarises the feedback received:

<table>
<thead>
<tr>
<th>Feedback</th>
<th>Number (Percentage)</th>
<th>Staff Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support Proposal</td>
<td>9 (31%)</td>
<td></td>
</tr>
<tr>
<td>No opinion stated</td>
<td>1 (3%)</td>
<td></td>
</tr>
<tr>
<td>Oppose Proposal (Total)</td>
<td>20 (67%)</td>
<td></td>
</tr>
<tr>
<td>Reason for Opposition</td>
<td>Number</td>
<td>Staff Comment</td>
</tr>
<tr>
<td>Vicinity of Sheep Dip Site</td>
<td>17 (59%)</td>
<td>Advice sought and location amended.</td>
</tr>
<tr>
<td>Vicinity of Offal Pit</td>
<td>2 (7%)</td>
<td>Advice sought and location amended.</td>
</tr>
<tr>
<td>Effect on neighbouring bores / aquifer</td>
<td>2 (7%)</td>
<td>This will be considered by ECan during consent process. Reasonable separation with existing wells has been achieved.</td>
</tr>
<tr>
<td>Scheme should not be paying for growth / developments</td>
<td>1 (3%)</td>
<td>This is considered a partially growth related project (primary benefit is the water quality upgrade, but additional allowance will be made for growth).</td>
</tr>
<tr>
<td>Existing source should be treated</td>
<td>2 (7%)</td>
<td>Previously considered but considered unfeasible to achieve compliance with the DWSNZ.</td>
</tr>
</tbody>
</table>

1.11. It is noted that during the consultation process some residents informed staff that the proposed well site was close to a historic sheep dip site. This site was not listed through the Listed Land Use Register (LLUR), however was known of by local residents. Some concerns were raised as to the safety of a public water supply well being located within the vicinity of the historic sheep dip site. This came through strongly in the consultation results.
1.2. Upon learning of the sheep dip site, Council staff sought expert advice as to the risk associated with a deep bore being located in the vicinity of the sheep dip site, and in particular requested a recommendation in terms of a safe separation distance between the proposed new well site and the sheep dip. Pattle Delamore Partners (PDP), who specialise in contaminated land assessments and hydrogeology, recommended a separation distance of 500m. The report also noted significant thicknesses of clay bound gravels being present in the soil profile of local bore logs which will act to impede the flow of contaminants downward to the deeper water bearing strata.

1.3. A water sample was taken by Council staff from an existing private bore approximately 700m downstream from the dip site. This sample did not show any evidence of hazardous chemicals being present from the dip site (refer to Attachment iii for chemical test results).

Revised Recommended Site Following Community Consultation

1.4. Based on the recommended safe separation distance between the sheep dip and the proposed well site, staff have revised the recommended site to a new location approximately 500m west of the original recommendation within the paper section of McPhedrons Road. This site retains all the original benefits identified with the McPhedrons Road option, but mitigates the issue identified through the consultation process regarding the sheep dip site.

1.5. It is noted that there will be negligible cost implications associated with the revision to the recommended location. There will be less new pipework required as a result of this change, however additional power cables will be required to be laid to supply the new site with power. The saving on the water pipe will approximately cancel out the additional expenditure on the power cable.

1.6. Therefore, based on the above, it is recommended that the Utilities and Roading Committee approve staff to proceed with the drilling of the bore at the revised recommended location on the paper section of McPhedrons approximately 500m west of the Watsons Reserve Road intersection.

Attachments

i. Summary of consultation feedback (Record Number 170329030712) (Public Excluded).

Members: See Public Excluded Agenda for this attachment.

ii. PDP report – contamination and hydrogeological assessment for the proposed Oxford Rural No.1 Water Supply well – corner McPhedrons and Watsons Reserve Road, Oxford (Record Number 170404033028).

iii. Chemical test results from private bore L35/0959 (downstream of dip site) (170406034225).

2. RECOMMENDATION

THAT the Utilities and Roading Committee:

(a) Receives report No. 170330031230.

(b) Notes that staff undertook consultation with the Oxford Rural No.1 community to seek feedback on the proposal to drill a new public water supply well near the Watsons Reserve Road and McPhedrons Road intersection.
(c) Notes that 30% of those that submitted feedback supported the proposal, and 67% opposed the proposal, and that a key reason for residents opposing the proposal was due to the presence of a historic sheep dip site in the vicinity of the proposed well site.

(d) Notes that as a result of the information obtained during consultation, staff have received advice regarding a safe separation distance between the sheep dip site and the new well site, and subsequently have revised the recommended new bore location to a new site approximately 500m west of the original recommendation.

(e) Approves staff to proceed with the drilling of the new bore at the revised recommended site, on the paper section of McPhedrons Road, approximately 500m west of the Watsons Reserve Road intersection.

(f) Notes that the estimated cost for the drilling, development and testing of the new bore is $250,000, and that this will be funded from the New Source budget, and that there is sufficient budget available.

(g) Notes that staff will write to the community to inform them of the decision regarding the new bore location.

(h) Circulates this report to the Oxford-Ohoka Community Board for their information.

3. ISSUES AND OPTIONS

3.1. The purpose of this report is twofold:

3.1.1. To inform the Utilities and Roading Committee of the outcome of the community consultation regarding the proposed new bore location for the Oxford Rural No.1 water supply scheme.

3.1.2. To seek the Utilities and Roading Committee’s endorsement to proceed with the drilling of the new bore at the amended recommended location.

Background

3.2. The aim of the project is to establish a new water source for the Oxford Rural No.1 community that complies with the Drinking Water Standards for New Zealand (DWSNZ) and provides the projected 50 year capacity for the scheme of 30L/s.

3.3. The current source consists of an intake from the Waimakariri River at the western end of Rockford Road. This source has a capacity of 23L/s, does not comply with the DWSNZ, is subject to restrictions when flow in the Waimakariri River is low, and has operational issues due to both high levels of turbidity and due to the river requiring diverting after changing course.

3.4. An initial budget of $1.4M was allocated to upgrade the source. Two wells have been drilled on Rockford Road, with the first not striking any water and the second striking a good quality water source, but with a capacity of only 7 L/s. Thus 23 L/s is still required to be found to complete the source upgrade.

3.5. Work is currently underway to connect the 7 L/s bore up to the existing reticulation. This has recently been completed, with the bore now on-line.

3.6. The total expenditure to date against the project is projected to be $1.0M once the construction works to bring the new bore online are completed and invoices are received.
3.7. In February 2016 Council approved an increase to the budget of $1.0M to complete the upgrade, meaning that the total project budget is $2.4M, and the remaining budget is forecast to be approximately $1.4M in March 2017 (refer to report 160203008705 for budget increase).

3.8. This $1.0M increase in budget in February 2016 was based on high level estimates of potential options prepared at that point in time. It should be noted that this total budget was only projected to be sufficient for some of the potential options identified at that time, and that it will be required to be monitored and potentially reviewed as the project progresses.

3.9. On the 19th of April 2016 a report was brought to the Utilities and Roading Committee to seek approval to enter into negotiations to purchase a private bore as a method of upgrading the source. In order to do this, calculations were presented as to the ‘likely expected cost’ to upgrade the source by continuing to drill deep bores. These likely expected cost estimates were then used to justify offers that were made to purchase a private bore.

3.10. Letters were sent to three private bore owners. Council staff were not successful in reaching preliminary agreements to purchase a private bore with any of the three private bore owners identified.

3.11. It is also noted that previously the option of treating the existing source has been removed from consideration due to the following factors:
   - The current issues with the existing source being lost at times due to changes in flowpath within the Waimakariri River. This leads to high ongoing costs to divert the river back towards the existing intake, as well as times of loss of supply for the scheme.
   - The flow restrictions that are required to be imposed at times of low flow within the Waimakariri River.
   - The high capital cost associated with constructing a treatment plant to treat the existing water.
   - The very high ongoing operating costs that would be associated with treating the existing river source water.
   - The fact that due to the very high turbidity at times it would be unlikely that compliance with the DWSNZ would be able to reliably be achieved at all times with the existing source water, even with a modern treatment system.

3.12. Given that purchasing a private bore and treating the existing source water have been ruled out as a potential options for upgrading the source, the only remaining viable option is to drill a new deep bore or bores.

**Bore Drilling Options Assessment (prior to March 2017 consultation)**

3.13. This section presents an analysis of the potential locations to drill a new deep source for the scheme to supplement the existing 7 L/s bore that has been drilled recently in order to complete the source upgrade.

3.14. It is noted that in order to inform a decision as to the optimum location to drill a new bore for the scheme, staff recently met with Southern Geophysical Limited regarding the option of seismic surveying to gain further information about the likelihood of finding water at a potential drilling location. It was concluded that the information obtained from a seismic survey at the sites being considered would provide minimal additional
information regarding the likelihood of finding a suitable water source at the proposed sites, and this would not warrant the estimated cost of approximately $20,000.

3.15. Two potential areas have been considered for drilling, with several sub-options considered in one of the general areas:

- **Option 1 – West Rockford Road Area.** This option would consist of drilling an additional bore or bores on Rockford Road between the existing new bore (with capacity of 7L/s) and an existing private bore (with capacity of 24L/s). This has the advantage of requiring the least amount of pipework to complete the upgrade but is considered a lower yielding area on average (refer to Figure 1).

![Figure 1: West Rockford Road Drilling Option](image)

- **Option 2 – Paper Section of McPhedrons Road Area.** This option would consist of drilling an additional bore or bores in the vicinity of the paper section of McPhedrons Road near to existing higher yielding private bores (capacity generally ranging from 15 – 70 L/s). This would require more pipework to complete the upgrade, but is considered to be a higher yielding area on average.

Three sub-options have been identified for the McPhedrons Road area depending on which location within the general area the bore would be drilled. These options are depicted in Figure 2 below:
Figure 2: McPhedrons Road Drilling Options
*it is noted that the specific location for Option 2C was revised following community consultation based on information received from the public. This is discussed in sections 3.30 – 3.40.

**Option 2A** (drilling in Council owned section of land at 288 Raineys Road which is a shingle pit reserve) is the lowest cost option however is not favoured due to:

- The presence of an unsuccessful bore approximately 250m north-west of the proposed location which increases the risk of this location being unsuccessful.
- The risk that if multiple bores were required at this location (due to the first bore not achieving the required yield), it may be difficult to select an available location for a second bore in this area due to the high level of congestion of existing bores.
- The high number of surrounding bores meaning that a bore drilled here would be more likely to have an adverse effect on the neighbouring bores, and similarly the neighbouring bores would be more likely to have an adverse effect on the potential new Council bore.

**Option 2B** is about 600m east of Option 2A (which would add approximately $150,000 worth of additional pipework, and $100,000 to extend the power supply to this location). It is however further from the unsuccessful bore, and being further east is generally further into the higher yielding area increasing the likelihood of the bore being successful. This bore would be drilled in a section of paper road.

**Option 2C** would involve drilling at the intersection of McPhedrons and Watsons Reserve Road either in a section of Council owned reserve land or in the eastern end of the paper section of McPhedrons Road. This is considered to be a high yielding area, being approximately 800m from a 70 L/s bore. This is approximately 1.8km further east from Option 2A, which would add approximately $425,000 to the cost estimate for this option, however would reduce the risk of requiring multiple bores to achieve the required yield.
Option 2C is recommended as it is within the highest yielding area identified that is still feasible to connect into the existing system, therefore it has the highest likelihood of achieving the required yield, and the lowest risk of an unsuccessful bore being drilled. This increase in the likelihood of establishing a successful source justifies the additional infrastructure required to connect up this source if it is successful.

3.16. Cost estimates have been derived based on the recommended locations at the Rockford Road and McPhedrons Road areas. The highlighted cells show the most likely scenarios in terms of the required number of bores for each of the areas considered.

Table 2: Cost Estimates for Bore Drilling Options

<table>
<thead>
<tr>
<th>Option</th>
<th>Sub Option</th>
<th>Estimated Remaining Cost Range*</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1: Drill New Bore/s on paper road just off Rockford Road.</td>
<td>1 New Bore</td>
<td>$1.2 - $1.6M</td>
<td>Best case option. Majority of surrounding bore capacity in order of 7-10L/s. One nearby bore has capacity of 24L/s.</td>
</tr>
<tr>
<td></td>
<td>2 New Bores</td>
<td>$1.7 - $2.2M</td>
<td>Considered most likely scenario of Rockford Road bore options (2 x 12L/s bores).</td>
</tr>
<tr>
<td></td>
<td>3 New Bores</td>
<td>$2.2 – 2.9M</td>
<td>Considered upper bound of Rockford Road options (3 x 8 L/s bores).</td>
</tr>
<tr>
<td>Option 2C: Drill New Bore/s on reserve land at intersection of Watsons Reserve and McPhedrons Road.</td>
<td>1 New Bores</td>
<td>$1.7 - $2.3M</td>
<td>Considered most likely of McPhedrons Rd options as the two nearest bores have excess capacity (50 – 70L/s).</td>
</tr>
<tr>
<td></td>
<td>2 New Bores</td>
<td>$2.1 - $2.8M</td>
<td>Considered upper bound of McPhedrons Rd options (2 x 12L/s).</td>
</tr>
</tbody>
</table>

*lower range of costs indicates 0% contingency allowance, while upper range indicates 30% contingency allowance.

3.17. It is noted that a range of costs is given for each of the options costed. This represents the uncertainty in estimating construction costs, particularly during the high-level options assessment stage. Typically a 30% contingency allowance is recommended to take into account the preliminary nature of the design and the uncertainties in estimating the tender price that will be obtained. There is however the possibility that this contingency will not be entirely required. For this reason the lower bound takes into account only the direct estimated construction costs with no contingency allowed for, while the upper bound assumes the full 30% contingency is consumed.

Summary of Updated Cost Estimates

3.18. The following key conclusions can be drawn from the cost estimates presented in Table 2 above:

3.18.1. The Rockford Road drilling option has the potential for the lowest remaining cost of $1.2M based on the best-case scenario option of finding all the required capacity with one bore, and no funding contingency being required. It also has highest projected overall cost of $2.9M if three additional bores are required and all the contingency allowance is required.

3.18.2. The McPhedrons Road drilling option where one bore is required is very similar in terms of expected cost to the Rockford Road option where two bores are required, with an expected cost ranging from $1.7M - $2.3M (approximately) for
both these options. As these options cannot easily be separated purely on a cost basis, a feasibility and risk assessment has been carried out in order to identify a preferred option.

**Feasibility and Risk Analysis**

3.19. In addition to the financial analysis carried out above, several other factors have been considered to inform the recommendation as to the preferred location for the new Oxford Rural No.1 water supply source. These factors are discussed in the following paragraphs:

3.20. **Land Ownership:**

3.20.1. The previous bore drilled on Rockford Road was drilled within the road reserve as a plot of land could not be obtained from the relevant neighbouring land owner. This introduced increased costs during construction due to the need for extensive traffic management. It also requires agreements with the neighbouring farmers regarding the movement of stock past the bore in order to achieve compliance with the DWSNZ. Although the required agreements have been obtained, it is more desirable to have water supply sources in areas that do not require such agreements.

3.20.1. If another bore or bores were drilled on Rockford Road, either the road reserve would need to be utilised again, or a section of paper road may be able to be utilised. If the paper road was to be utilised there would be a process by which the status of the paper road or the purpose that the land is held for could be changed. The road could be stopped using the provisions of the Public Works Act 1981 and held for a utilities reserve or for the purpose of conveying water. This process does not necessarily require public notification however neighbouring residents would have the opportunity to submit on this. The land owners that currently utilise the section of paper road that runs through their property have already indicated that they would oppose the proposed road stopping. Ultimately the decision to stop the section of paper road would be at the discretion of Land Information New Zealand (LINZ). Although it is considered highly likely that this decision would be made in Council’s favour, there is a risk that the opposition of the neighbouring land owners would add complication to this option. Council may also stop the road using the provisions of the Local Government Act 1974, this process requires public notification and enables members of the public to provide objections.

3.20.2. It is also noted that it is considered likely that more than one additional bore would be required on Rockford Road, if this area was selected as the preferred drilling area. This would mean that any additional new bores required in this area would have to be drilled in the road reserve rather than in a section of paper road.

3.20.3. There are two potential land parcels that could be used for Option 2C (the preferred option).

- One option would involve utilising a section of reserve land that Council owns that runs along Watsons Reserve Road from Rockford Road to McPhedrons Road (address 124 Rockford Road). This plot of land is currently leased by neighbouring land owners for farming purposes. This land is subject to the provisions of the Reserves Act 1977. If this site was to be utilised for a new water supply source, the purpose for which the site is held would need to be re-classified as a utilities reserve. This process would require public notification and consultation with the Department of Conservation. It is considered unlikely that there would
be any issues changing part of this section of land to a utilities reserve, and the risk of this decision not going in Council's favour or any complications regarding this is considered to be minimal.

- The second option at this site would be to utilise the paper road section of McPhedrons Road. Discussions have been held with the Roading Manager regarding the use of the paper road as a future well site. It was concluded that there are provisions for the road reserve to accommodate utilities assets provided that this does not compromise the primary function of the land as a future road. Given that the road reserve is approximately 18m wide, and any future road along this alignment would be a narrow local road, it was determined that the well would be able to be accommodated within the road reserve of the paper section of McPhedrons Road without the need to change the status of the land or obtain external permission. As the road reserve land is currently utilised by neighbouring farmers, staff are working with the affected parties to let them know of the proposal.

3.20.4. In conclusion, in terms of land ownership, the McPhedrons Road area is considered to be the preferred site with the lowest risk. There is less chance of Council's use of this area being opposed, and it has the largest areas of land available. This larger land area reduces the risk of cost escalation due to site restrictions impacting on construction. Having a larger area of land available at the proposed well site also has advantages in terms of leaving options open to additional infrastructure being added in the future if required.

3.21. ECan Consent to Abstract Water

3.22. In order to take groundwater from a bore, consent is required to be granted by Environment Canterbury (ECan). There are two key factors that ECan consider when assessing a consent application:

3.22.1. **Cumulative Effects within Allocation Zone.** Both potential sites are located within the Eyre groundwater allocation zone, which is assessed to be fully allocated. This means that under the Land and Water Regional Plan, the taking of water from this zone would be considered a restricted discretionary activity. This would mean that the application for consent to take water from either site would need to be publicly notified, and that if there were submissions against the application a hearing would be required at which an ECan commissioner would decide whether to approve the application to take water or not. ECan staff have indicated that historically applications for community supplies to take water from fully allocated zones have been granted, due to the importance of public water supplies to communities and the relatively low percentage of total allocations that are consumed by public water supplies. Therefore the risk of a consent not being granted based on the cumulative effects within the allocation zone is considered to be very low.

3.22.2. **Interference Effects with Neighbouring Bore Owners.** In considering a consent application ECan takes into account any drawdown effects a new bore may have on any neighbouring bores. The likelihood of these effects is increased the more bores there are in the area surrounding a new bore, and the closer the new bore is to the existing bore/s. The taking of water from a bore is considered a permitted activity if no more than 20% of the total available drawdown in a bore is consumed by surrounding bores.

At the Rockford Road site considered, there is only one bore with the potential to be affected by the proposed new bore (bore L35/0716). This bore has an
available drawdown of 98.8m, of which 20% is not protected (19.76m). It is calculated that a bore drilled at the paper road off Rockford Road would not exceed this threshold in terms of available drawdown interference.

At the McPhedrons Rd site, as this is a high yielding area, there are more surrounding bores. However reasonable separation distances with these bores have been able to be achieved with the preferred site, meaning that the potential for excessive interference with neighbouring bores is minimal.

In order to further quantify the risk associated with not being able to gain consent to take water from a future bore, a meeting was held between Council and ECan staff to discuss how a consent application would likely be assessed if there were interference effects caused by a new Council bore for the Oxford Rural No.1 water supply scheme. It was noted that the application would have to be publicly notified, and that if existing bore owners made submissions against Council’s application a hearing would be required. It was however noted that the risk of the application being declined would be low based on the following factors:

- The application would be for a public water supply in order to comply with the DWSNZ which would be given a high weighting.
- Attempts have already been made with very limited success and at considerable cost to establish a new water supply source on Rockford Road without interfering with existing bore owners. It could be argued that these previous attempts to establish a source on Rockford Road have demonstrated reasonable attempts to minimise any effects on existing bore owners (i.e. alternatives have been considered and explored), and that the only viable option for the community is to drill in a higher yielding area, such as the McPhedrons Road area. Therefore if there were interference effects in this area, it could be argued that these were unavoidable.
- The Eyre zone is fully allocated at present, therefore it would likely only be a special case such as a public water supply that would be granted consent to take more water from within this zone. Therefore the risk of any additional interference in this area beyond that caused by the proposed new public water supply bore would be very low.

3.23. Based on the above, in terms of obtaining consent from ECAn to take groundwater from the two potential sites, it can be concluded that:

3.23.1. Both potential sites are located within the Eyre groundwater allocation zone, which is assessed to be fully allocated. This would mean that the application to take water would likely have to go to a hearing, however historically applications to take water for public water supplies in fully allocated zones have been granted.

3.23.2. In terms of interference with neighbouring bores, although the risk of interference with neighbouring bores is considered to be marginally greater at the McPhedrons Road site, the risk of any potential effects leading to a consent application being declined are considered to be very low.
Risk of Excessive Drilling Costs

3.24. Although the cost of drilling has been considered within the cost analysis section, there are several factors in terms of the risk of these costs escalating that warrant further discussion.

3.25. A key point to note is that the two nearest relevant bores in the Rockford Road area are screened at depths of approximately 130 - 160 m below ground level, while the two nearest bores in the McPhedrons Road area are screened at approximately 90 - 100 m below ground level. While the cost estimates have allowed for this difference in likely depth, what is harder to quantify in the costs is the level of risk of additional escalation of cost associated with increased depth. As bores increase in depth there is an increased risk of unforeseen additional costs, as drilling conditions typically are more challenging at greater depths. It can be concluded that the risk of cost escalation at Rockford Road is greater than the McPhedrons Road site due to the increased depth at this site. It is also noted that previous drilling has identified that the Rockford Road site has a risk of further escalation of costs relative to the McPhedrons Road site due to the potential for large underground boulders in this area, which can incur additional costs if they are encountered during drilling.

Bore Drilling Assessment Summary

3.26. The options for upgrading the Oxford Rural No.1 water supply source have been narrowed down to two key options:

3.26.1. **Option 1 – Rockford Road Bores:** Drilling between one and three new bores in the west Rockford Road area and constructing a 2.5 km dedicated main back to the View Hill reservoir.

3.26.2. **Option 2B – McPhedrons Road Bore:** Drilling between one and two new bores at the eastern end of the paper section of McPhedrons Road (near the Watsons Reserve Road intersection) and constructing a 5.6 km dedicated main back to the View Hill reservoir.

3.27. The relative merits of these two options are summarised on Table 3. This assessment formed the basis of the community consultation that was carried out in March – April 2017:
Table 3: Summary of Options and Risks

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Option 1: West Rockford Rd Area</th>
<th>Option 2C: McPhedrons Rd Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost Estimate (remaining cost to complete)</td>
<td>1 bore = $1.2 - $1.6M 2 bores = $1.7 - $2.2M (most likely) 3 bores = $2.2 - 2.9M</td>
<td>1 bore = $1.7 - $2.3M (most likely) 2 bores = $2.1 - 2.8M</td>
</tr>
<tr>
<td>Cost Confidence</td>
<td>Moderate. Greater range in potential number of bores, and greater likely depth of bore/s meaning higher degree of uncertainty.</td>
<td>Moderate to High: Lower range in potential number of bores relative to Rockford Road option giving a better defined potential cost range.</td>
</tr>
<tr>
<td>Land Ownership</td>
<td>Drilling would either have to take place within the road reserve (which can incur additional costs), or within a section of paper road that would likely be opposed by neighbouring land owner.</td>
<td>There is a large area of paper road that would make a suitable location to drill within, as well as a reserve site. It is considered unlikely that there would be any issues regarding land ownership in this area.</td>
</tr>
<tr>
<td>ECan Consent Issues</td>
<td>No issues foreseen due to low number of existing bores in area.</td>
<td>No issues foreseen due to good separation distances from existing high yielding bores (approx. 700m).</td>
</tr>
<tr>
<td>Timing</td>
<td>The risk of delays to the project with this option are considered to be high. This is due to the potentially high number of bores required, and the complications in finding a suitable site to drill due to limited areas of land that are available.</td>
<td>The risk of delays to the project associated with this option are considered to be moderate. There is inherent risk with any project reliant on the outcome of a bore, however a lower potential number of bores are expected to be required relative to Rockford Road, and there are more options in terms of land available for drilling, therefore the risk of delays is considered to be lower.</td>
</tr>
</tbody>
</table>

3.28. Based on the assessment above, Council staff recommended the McPhedrons Road area as the preferred area to drill.

3.29. Previously the Rockford Road area was recommended as this location offers the lowest potential cost as it would require the least infrastructural upgrades to connect a new bore to the existing system. Two wells have been drilled in this area however that have achieved lower yields than anticipated. This has caused the likely projected yield from any future bores in this area to be reviewed, which has subsequently caused the recommended location to be revisited.

Community Consultation March – April 2017

3.30. In March and early April 2017 the Oxford Rural No.1 community was consulted regarding this project. There were informed of the options assessment, and the recommendation of Council staff to drill a new bore near the intersection of Watsons Reserve Road and McPhedrons Road. Their feedback was sought regarding this recommendation.

3.31. The following table summarises the feedback received.

Table 4: Community Consultation Results Summary

<table>
<thead>
<tr>
<th>Feedback</th>
<th>Number (Percentage)</th>
<th>Staff Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support Proposal</td>
<td>9 (31%)</td>
<td></td>
</tr>
<tr>
<td>No opinion stated</td>
<td>1 (3%)</td>
<td></td>
</tr>
<tr>
<td>Oppose Proposal (Total)</td>
<td>20 (67%)</td>
<td></td>
</tr>
<tr>
<td>Reason for Vicinity of Sheep Dip</td>
<td>17 (59%)</td>
<td>Advice sought and</td>
</tr>
<tr>
<td>Opposition</td>
<td>Site</td>
<td>location amended.</td>
</tr>
<tr>
<td>------------</td>
<td>------</td>
<td>-------------------</td>
</tr>
<tr>
<td>Vicinity of Offal Pit</td>
<td>2 (7%)</td>
<td>Advice sought and location amended.</td>
</tr>
<tr>
<td>Effect on neighbouring bores / aquifer</td>
<td>2 (7%)</td>
<td>This will be considered by ECAn during consent process. Reasonable separation with existing wells has been achieved.</td>
</tr>
<tr>
<td>Scheme should not be paying for growth / developments</td>
<td>1 (3%)</td>
<td>This is considered a partially growth related project (primary benefit is the water quality upgrade, but additional allowance will be made for growth).</td>
</tr>
<tr>
<td>Existing source should be treated</td>
<td>2 (7%)</td>
<td>Previously considered but considered unfeasible to achieve compliance with the DWSNZ.</td>
</tr>
</tbody>
</table>

3.32. It is noted that during the consultation process some residents informed staff that the proposed well site was close to a historic sheep dip site. This site was not listed through the Listed Land Use Register (LLUR), however was known of by local residents. Some concerns were raised as to the safety of a public water supply well being located within the vicinity of the historic sheep dip site. This came through strongly in the consultation results.

3.33. Upon learning of the sheep dip site, Council staff sought expert advice as to the risk associated with a deep bore being located in the vicinity of the sheep dip site, and in particular requested a recommendation in terms of a safe separation distance between the proposed new well site and the sheep dip. Pattle Delamore Partners (PDP), who specialise in contaminated land assessments and hydrogeology.

3.34. It was also noted that there may have been an offal pit in the same parcel of land as the sheep dip site. The offal pit would present a lower level of risk than the sheep dip, as the key form of potential contamination associated with an offal pit is microbiological contamination. This form of potential contamination is protected against by sourcing secure groundwater. The risks associated with a sheep dip are regarding the potential presence of hazardous chemicals which are not necessarily protected against by sourcing deep secure groundwater, which is why specific advice was required regarding this issue.

3.35. A report was produced by PDP that recommended a separation distance of 500m between the historic dip site and the proposed well site. The report also noted significant thicknesses of clay bound gravels being present in the soil profile of local bore logs which will act to impede the flow of contaminants downward to the deeper water bearing strata.

3.36. As a secondary measure, staff have taken a water sample from an existing private irrigation bore that is located approximately 700m south from the dip site. The chemical test results do not show any evidence of hazardous chemicals from the dip site (such as arsenic) entering the deep aquifer (refer to Attachment iii for chemical test results). This bore is considered to be downstream from the dip site, with the understanding being that the groundwater generally travels in a south-east direction.
3.37. Staff are confident that given the analysis of the surrounding bore logs indicating significant physical separation between the surface layers and the deep groundwater source, and taking into account the recommended separation distance of 500m upstream of the dip site, that the risk identified has been sufficiently mitigated. This is reinforced by the test results from the existing bore downstream of the dip site that has been sampled.

3.38. While originally the majority of the feedback received was not supportive of the proposal, it is noted that the predominant reason for residents opposing the option was due to the close vicinity of the sheep dip site to the proposed well site. Given that the site has been amended in response to this information, it is considered that these concerns raised have been addressed.

3.39. Staff will write specifically to those that opposed the option due to the close vicinity of the sheep dip to the proposed site to inform them of Council’s proposed response to the issue raised.

3.40. There were several other reasons for community members opposing the proposal. These are discussed below:

3.40.1. Interference effects on neighbouring bores / drawdown of aquifer:

Some residents expressed concern that the proposed new bore would have impacts on the groundwater levels in their bore, and of the water level of the wider aquifer. While this is a reasonable concern, this would be a concern almost anywhere within the scheme due to the large number of groundwater bores in the wider area. The site that has been recommended has achieved a reasonable separation distance in the order of 900 – 1000m from existing bores, which is a greater distance than would have been able to be achieved with alternative options considered. Therefore while there may be some effects on the wider groundwater level associated with Council abstracting water from a new bore, this has been mitigated as much as is possible by selecting a site with reasonable separation from existing bores, and the effects are expected to be minor.

3.40.2. Existing intake should be treated and used as primary source:

There was some feedback received stating that the existing intake should be treated rather than looking for a new deep bore. This has been discussed previously and eliminated as a viable option (refer to section 3.11).

Revised Recommended Site Following Community Consultation

3.41. Figure 3 shows the revised recommended site taking into account the recommended separation distance between the bore and the historic dip site, following the community consultation that was undertaken. This site retains all the original benefits identified with the McPhedrons Road option, but mitigates the issue identified through the consultation process with the sheep dip site.
3.42. The following table sets out the proposed project programme

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
<th>Timeframe</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Oxford-Ohoka Community Board receive report and approve recommended drilling location.</td>
<td>9 March 2017 (complete)</td>
</tr>
<tr>
<td>2</td>
<td>Preliminary discussions to be held with the affected landowners regarding the intention to drill at the recommended location.</td>
<td>10 March 2017 (complete)</td>
</tr>
<tr>
<td>3</td>
<td>Information pamphlet distributed to all scheme members to update them on the project progress and request feedback on proposal.</td>
<td>10 March 2017 (complete)</td>
</tr>
<tr>
<td>4</td>
<td>Update to Oxford-Ohoka Community Board on community feedback to date.</td>
<td>6 April 2017 (complete)</td>
</tr>
<tr>
<td>5</td>
<td>Utilities and Roading Committee receive report (including any feedback from the community) and approve revised recommended drilling location.</td>
<td>18 April 2017</td>
</tr>
<tr>
<td>6</td>
<td>Drilling Contractor is engaged</td>
<td>19 April 2017</td>
</tr>
<tr>
<td>7</td>
<td>Drilling Commences on site</td>
<td>May - July 2017</td>
</tr>
<tr>
<td>8</td>
<td>Well testing and monitoring of neighbouring bores</td>
<td>August – September 2017</td>
</tr>
<tr>
<td>9</td>
<td>Application to take water submitted to ECAn</td>
<td>October 2017</td>
</tr>
<tr>
<td>10</td>
<td>ECAn consent hearing and consent to take water granted.</td>
<td>November - December 2017</td>
</tr>
<tr>
<td>11</td>
<td>Detailed design of well pump, well head and pipeline to connect new well is undertaken.</td>
<td>December 2017 - March 2018</td>
</tr>
<tr>
<td>12</td>
<td>Procurement of remaining physical works.</td>
<td>April – May 2018</td>
</tr>
<tr>
<td>13</td>
<td>Construction of remaining physical works.</td>
<td>June 2018 – March 2019</td>
</tr>
</tbody>
</table>

3.43. The Management Team has reviewed this report and supports the recommendations.

4. **COMMUNITY VIEWS**

   Previous Consultation
4.1. The Oxford Rural No.1 community has been consulted on this project prior to the drilling of the two previous bores. This consultation was in the form of information pamphlet distribution with feedback forms, and a public meeting. The majority of the community supported the drilling of the two previous bores.

March 2017 Consultation

4.2. The Oxford Rural No.1 community were informed of the recommendation for a new bore near the intersection of Watsons Reserve Road and McPhedrons Road and their feedback was sought. This consultation consisted of an information pamphlet being distributed to all scheme members, as well as through social media, newspaper advertisements and the presence of staff at the Oxford A&P show.

4.3. The results of the consultation are discussed in the issues and options section of this report.

4.4. Staff will write to scheme members to let them know the final decision as to where to drill the bore following the consultation exercise, and in particular to let those that expressed concerns regarding the sheep dip that their concerns were taken on board and the recommended location revised as a result of this.

4.5. Staff have been working with the affected landowners and the Council’s property team to gain permission to commence drilling at the recommended site.

5. FINANCIAL IMPLICATIONS AND RISKS

5.1. It is noted that the estimated cost range to complete this project based on the recommended option is $1.7 - $2.8M, which is greater than the remaining (not already committed) budget of approximately $1.4M.

5.2. Although analysis to date indicates that it is likely that there will be an increase in budget required to complete this project, it is recommended that the need for additional budget be addressed once the outcome of the next bore is known. At this point there will be a significantly higher level of certainty as to the remaining costs required to complete the project.

5.3. It is noted that this scheme has been identified as one where the affordability of the rates is an emerging issue as the source upgrade project progresses. This issue is being addressed concurrently to this project as part of a wider study into 3 Waters rating within the district. Any future increases in the required budget for this project will be taken into account in the wider study into 3 Waters rating options.

6. CONTEXT

6.1. Policy
This matter is not a matter of significance in terms of the Council’s Significance Policy.

6.2. Legislation

6.2.1. The Health (Drinking Water) Amendment Act 2007, via the Drinking Water Standards for New Zealand 2005 (Revised 2008). Council are required to take all practicable steps to comply with DWSNZ:2008 and therefore an upgrade to the Oxford Rural No.1 Water Supply Scheme is required.

6.2.2. The Local Government Act makes provision for the Council to establish and protect assets for the purpose of providing community water supplies.
6.3. Community Outcomes

6.3.1. There is a safe environment for all.

6.3.2. There is sufficient clean water to meet the needs of communities and ecosystems.

6.3.3. Core utility services are provided in a timely, sustainable and affordable manner.
ATTACHMENT I – CONSULTATION RESULTS
<table>
<thead>
<tr>
<th>Support</th>
<th>Not Support</th>
<th>No opinion stated</th>
<th>Comments</th>
<th>Reason for opposition (summary)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Sheep dip</td>
</tr>
<tr>
<td>9</td>
<td>20</td>
<td>1</td>
<td>17</td>
<td>2</td>
</tr>
<tr>
<td>30%</td>
<td>67%</td>
<td>3%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Please accept this email as my strong statement of opposition towards the proposed bore on McPhedrons Road. This area has been declared a red zone for new bores, and is almost entirely dependent on irrigated dairy farming for its economic viability (almost all Moreover, I understand that this site was formerly used as a sheep dip station, and is not appropriate for reasons of soil contamination.farms are now used either for dairy or dairy support). The notion that a new bore, even a deep one, does not threaten the flows, and therefore the economy, of this area is not credible. The Council is solving a problem by creating a bigger one. If the Council proceeds with this proposal and either flows are affected or contamination is discovered, local residents intend to pursue legal recourse to hold the Council accountable.
<table>
<thead>
<tr>
<th></th>
<th>Looks like it may be drilled on top of old community sheep dipping station. May need to check history of the site</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>what were the costs for the succesful 7 L/s bore? And why was this information no on the option sheet. Surely its easier to find water closer to the river. What is the existing land use on McPhedrons Road? As it smells like a lot of offal. And previous usage? McPhedrons site will draw from an aquifer that can't last all summer presently.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>If we stop further subdivision / dairy we should not need more water supply.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Watsons Reserve McPhedrons site not good. There has been an offal pit close by used weekly by Oxford butchery for disposal not to mention sheep dip what was a community dip operating 1890's to early 2000's, mid 20th century, dipping thousands of sheep per year. Keep it coming from waimak river using storage tanks and filtration.</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>This bore would be in close proximity to a communal sheep dipping site - the surround ground will be contaminated - one only has to look at the poor growth around that corner. It is not acceptable to put a community at risk due to possible contamination</td>
<td></td>
</tr>
</tbody>
</table>
In principle I understand the need for a better water source but my concerns are as follows:
1 - Heavy dairy usage in area contaminating future water draw / current water condition.
2 - reliable monitoring of water quality
   Also, using current source, is it better to treat water eg UV chemical filtration. What depth is these wells going to be 200m?

Dear Sir
   Drilling a well at the intersection of Watsons Reserve Road and McPhedrons Road is a good idea, as we will now have good pure water, and we won’t have to rely on water from the Waimakariri River which is frequently in flood.

- what about the proposal at the rockford road site as also discussed in the news page 2 Thursday 10 April 2014
- is there a historic dipping station down at the McPhedrons Road site? That may contain contaminants?
- I would be interested in seeing some additional testing results prior to agreeing with McPhedrons Road site.

Has the site of Watsons Reserve Road and McPhedrons Road been checked for toxic waste? It would be good to see how $2.4M was going to be spent on a well and pipe work.

Not on the old dip site
<table>
<thead>
<tr>
<th></th>
<th></th>
<th>site proposed has history of hazardous activities and industrial use. Currently consented for local butchers, past use of sheep dip site. Given last year’s water contamination of Hawkes Bay by hazardous and industrial waste discharge infiltration into town supply bore I think Council is completely short of the mark proposing this site. Madness.</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>Nil</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>You have a good supply of water from the Waimakarir River drill deeper and refine the water to better drinking standard. Drilling well near old dip does not sit well with me. Talking to farmers with irrigation in Option 2 say there is water but not a reliable source of water. The cost from Option 2 is over the top. A break down of the annual power bill if you use Option 2. Stop wasting rate payers money you can't keep dipping into their pockets.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td>This identified site near the intersection of Watsons Reserve Road and McPhedrons Road that you are looking at drilling for water is directly opposite a historic sheep dipping site for stock which was used to early 2000’s by local farmers. We perceive the area is contaminated with dangerous toxic chemicals ie arsenic etc. These chemicals will still be leaching. We oppose this plan as there's no gaurantee of water and too many toxic chemicals in surrounding area.</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>I think there needs to be more public consultation on this matter given this is a major issue, lack of council initiative, the fact that it's an historic dipping site is enough to put up a big red flag, people need to be made more aware of what we are about to do here and possible consequences, and possibly flow on effects on rates if unsuccessful.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>I am very concerned that this site may be contaminated by the old sheep dip station. Has adequate testing been done to ensure the long-term safety of the supply?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Did Council know about the sheep dip site? If so, why was it not disclosed? If not, what amount of research has been done? Not confident in your decision making process at all.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| 1 | - It's an old community dip site  
   - I work in the area on a property with an irrigation system. Note of the wells in that area are good quality, it's known for its lack of high quality well systems |   |
<p>| 1 | It is my understanding that the proposed site will be on top of an old sheep dipping station which could have a devastating effect on the people of Oxford. Also bore water in general area with the amount of dairy farms in the area and the type of free draining soil is not good. |   |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th>For delivery of this info to No.1 RD for return by RD has been only 8 working days = hardly insufficient time for users of the No 1 scheme to do sufficient investigation into the pros and cons. A breakdown of costs have not been presented for either options including purifying existing supply. How could anyone have involvement in a scheme knowing the possibility of contamination from poisoned chemicals of dipping sheep, have a clear conscience.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>Is it true this proposed project is on top of, or very close to, an historical sheep dip? Is this a contaminated area?</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td>Go for it.</td>
</tr>
</tbody>
</table>
Kia ora Colin, After the rush to dairy conversions every sheep farmer, who was previously required to dip their sheep, simply filled them in and grassed over the site as they moved out. New owners would not have the local knowledge to locate these old contaminated pits. The council has known this for several years! The problem has been raised by several of your thoughtful staff. There are probably many more unmarked dips in the country! Movement of any solution in the soil is a very difficult issue to accurately predict both over time and direction. The initial suggestion that 200 metres separation between the 2 locations might serve for the immediate future is a risk you might be unwise to take. The movement of solutions in the soil can be very unpredictable depending on the rate and direction of leaching, and soil structure. Add to this equation the possible effects of seismic activity, it would seem a very brave person to take the responsibility of giving the go-ahead for an expensive project that could have long term health risks, without extensive research and water quality tests. I have suggested to the Water Zone Committee that they extend their regime of water testing beyond the current very restricted range in view of the unmonitored tips, dumps and industrial sites. It would seem a prudent precaution to check current contamination of arsenic, organophosphates and other banned pesticides in ground water at any proposed new boreholes and current ones! Because facilities for handling toxic waste of every kind have not been generally available in New Zealand in the past, and, she'll be alright, was the guiding
principle for disposal, caution would seem to be the recommendation in the present situation. Perhaps you could exert your influence to implement a wider testing regime and be instrumental in avoiding another DDT type of disaster! Wishing you well in your challenging task! Linda Pocock, BSc., M.Tec. environmental pollution.
31 March 2017

Colin Roxburgh
Waimakariri District Council
Private Bag 1005
Rangiora 7440

Dear Colin

PRELIMINARY DESKTOP CONTAMINATION AND HYDROGEOLOGICAL ASSESSMENT FOR THE PROPOSED OXFORD RURAL NO. 1 WATER SUPPLY WELL – CORNER MCPHEDRONS ROAD & WATSONS RESERVE ROAD, OXFORD

1.0 Introduction

Pattle Delamore Partners Limited (PDP) has been engaged by the Waimakariri District Council (WDC) to undertake a preliminary desktop contamination review and hydrogeological assessment for a proposed groundwater bore to supply water to their Oxford Rural No. 1 scheme. The site of the proposed well is located on the southern side of the McPhedrons Road and Watsons Reserve Road intersection approximately 6.5 km south-west of the Oxford township.

Anecdotal evidence from WDC suggests the proposed drilling site is in close proximity to an historical sheep dip. As such, WDC has recognised there is a potential contamination risk with a water supply bore being situated within the general vicinity of a suspected former sheep dip. PDP has therefore undertaken a preliminary contamination and hydrogeological assessment which has included:

- A review of historical aerial photographs and Environment Canterbury (ECan) information to support the anecdotal evidence of the presence of the former sheep dip;
- A review of geology and drilling log records in the area in relation to contaminant migration;
- Comment on the location of the proposed bore in relation to ECan Community Drinking-water Protection Zones;
- Capture zone analysis taking into account best estimate aquifer properties and hydrogeological information; and
- Discussion and comments on any potential risk to the proposed water supply from sheep dip contaminants and any recommendations for further investigative or intrusive site works.

2.0 Site Identification

The site details for the proposed well location are provided in Table 1 below. A plan showing the site location is attached as Figure 1 while a current aerial photograph of the site is attached as Figure 2. No site visit has been carried out as part of this assessment.
### Table 1: Site Details

<table>
<thead>
<tr>
<th><strong>Address</strong></th>
<th>Corner of McPhedrons Road and Watsons Reserve Road (known as 124 Rockford Road)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Legal Description</strong></td>
<td>RS 42113</td>
</tr>
<tr>
<td><strong>Current Land Use</strong></td>
<td>Vacant land with trees (based on recent aerial photograph)</td>
</tr>
<tr>
<td><strong>Total Site Area</strong></td>
<td>11.3 hectares</td>
</tr>
<tr>
<td><strong>Current Site Owner</strong></td>
<td>WDC</td>
</tr>
<tr>
<td><strong>Current Zoning</strong></td>
<td>Rural</td>
</tr>
<tr>
<td><strong>Surrounding Land Use</strong></td>
<td>Open paddocks</td>
</tr>
</tbody>
</table>

### 3.0 Available Historical Information and Background to Sheep Dips in New Zealand

#### 3.1 Historical Aerial Photographs

Historical aerial photographs for the site have been reviewed and summerised in Table 2 below. The reviewed aerial photographs are attached.

### Table 2: Historical Aerial Photographs

<table>
<thead>
<tr>
<th><strong>Year</strong></th>
<th><strong>Description</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1941</td>
<td>The site of the proposed well comprises vacant open paddocks. A possible water race or drain enters the north eastern corner of the property. The surrounding land is predominantly used as open paddocks possibly used for grazing or general cropping, however small sheds and stock holding pens (indicating a possible sheep dip structure) are evident to the north east of the site over a gravel road (the present day McPhedrons Road). An area of gravel extraction is apparent further to the north-east.</td>
</tr>
<tr>
<td>1958, 1975, 1982, 2004 and 2010</td>
<td>The site of the proposed well is covered in trees. Signs of pits and possible filling (uncontrolled) are evident in the north eastern corner of the site. The surrounding land continues to be open paddocks possibly used for grazing or general cropping. The suspected sheep dip structure is also evident in the 1955 to 2010 aerials to the north east of the site over McPhedrons Road. The gravel pit to the east of this area is also evident.</td>
</tr>
<tr>
<td>2011, 2013 and 2016</td>
<td>Trees continue to be present on the site, including signs of possible filling. The suspected sheep dip to the north east has been removed or covered and is no longer visible. It is interesting to note that the land owner continued to work around an area of the suspected sheep dip and gravel pit, possibly as the ground is uneven or contains debris of some sort.</td>
</tr>
</tbody>
</table>

**Notes:**
1. Historical aerial photographs sourced from Canterbury Map Partners, administered by ECAn.
2. It should be noted that some aerial images are at a large scale and therefore of relatively low quality.

### 3.2 Listed Land Use Register

The ECAn LLUR is used to hold information about sites that have used, stored or disposed of hazardous substances, based on activities detailed on the HAIL (MfE, 2011). It should be noted that the LLUR is not complete and new sites are regularly being added as ECAn receives information and conduct their own investigations.
The site of the proposed well (i.e. Corner of McPhedrons Road and Watsons Reserve Road; RS 42113) and the site of the suspected sheep dip (i.e. 278 McPhedrons Road; Lot 2 DP 5461 – based on aerial photographs) are both not recorded on ECan’s LLUR.

Copies of the LLUR documentation for both sites are attached.

3.3 Sheep Dips in New Zealand and Potential Contaminants of Concern

Dipping sheep to control external parasites was a legal requirement in New Zealand from 1849 to 1993. As a result, there are an estimated over 50,000 former sheep dip sites throughout New Zealand. Controlling external parasites on sheep (e.g. ticks and lice) was important for both animal welfare and the economy. The sheep dip chemicals used before 1980 are very persistent in the environment. These included arsenic, which was used from 1840 to 1980 and organochlorine pesticides (OCP), which were used from 1945 to 1961. As such, the use and disposal of these persistent chemicals at sheep dip sites has created a legacy of soil and water contamination at concentrations that are hazardous to human health and the environment.

The types of dips typically used on New Zealand sheep farms were sheep plunge dips and shower dips or spray- booths, each of which had a number of variable setups. Plunge and shower dips were typically located adjacent to a water source (surface, roof or bore) or attached to a reticulated water line to fill the sump. The sheep were driven through the dip and then allowed to ‘drip-dry’ on a draining platform or released to a holding paddock to drip-dry, which further spread the dip chemicals.

The dip sites were generally used for many years and the leaks and spills from the dip, disposal of excess dipping chemicals and residues from dipped animals have led to significant land contamination. Common practices for removing spent liquids and sludge from dips included gravity drainage to lower ground or a soak hole, pumping or bucketing liquid from the sump and shovelling of residual sludge onto a ‘scooping mound’. The accumulation of contaminants from repeated dipping events during a season and year-to-year dipping operations produced highly contaminated soil around the discharge or dumping zone(s). Excess dip solution and sludge were often discharged into gullies, drains, streams and the foreshore for ease of disposal. In addition, the storage and mixing of dipping chemicals or containers in sheds and other structures have also led to soil and groundwater contamination.

The main contaminants that are often identified within soil and groundwater at sheep dip sites are arsenic and dieldrin (an OCP). Other OCP such as lindane, DDT, aldrin and endrin have also been found at sheep dips sites in New Zealand. Long term exposure to OCP can affect the central nervous system and can cause liver damage in humans and animals while arsenic is a known human carcinogen and is very toxic to humans and animals.

3.4 Summary of Potential Land Use

Based on aerial photographs, the proposed drilling site has been used for general grazing and planted in trees. There is however some evidence to suggest that some pits may have been excavated, the filling of which may have been uncontrolled. A water race or drain also appears to enter the north eastern corner of the property in some aerial photographs.

Beyond the site boundary, a suspected sheep dip was identified, which confirms the anecdotal evidence provided by WDC. This is located approximately 80 m from the drilling site boundary at its nearest point. Details of how the sheep dip operated and the disposal practices are not known (if it is in fact a sheep dip). Evidence of gravel extraction pits and uncontrolled filling is also observed within 150 m of the site.

4.0 Preliminary Hydrogeological Assessment

We understand that the new bore may be situated in the vicinity of 80 m south-west from a suspected sheep dip and areas of possible uncontrolled filling (as shown in Section 3.0). WDC are proposing to abstract groundwater from a depth of around 90 to 100 m below ground level (bgl) at the site as they wish...
to meet a 'secure' status for the supply under the Ministry of Health (MoH) Drinking-water Standards for New Zealand 2005 (Revised 2008) (DWSNZ 2005). Based on previous work carried out for WDC in October 2016 with regard to Oxford rural water supply options we assume that a target yield of between 23 to 30 L/s is sought from the new bore.

4.1 Geology and Review of Driller Logs

The 1:250,000 geological map of the area (Forsyth et al, 2008) indicates the site is underlain by Quaternary age brownish grey river alluvium. The nearest deep drilling logs in the area are from bores BW22/0071 and L35/0959 (located adjacent to each other around 730 m south-east of the proposed bore site) and L35/0825 (situated around 1,450 m to the west). These logs are attached to this letter.

The drilling log for L35/0959 (107.5 m deep and screened from 86.15 to 104.15 m bgl) describes sandy gravels from the ground surface to 7 m bgl, underlain by dominantly clay bound sandy gravels to 47 m bgl. Thereafter sandier gravels were observed including water bearing zones from 74 m bgl. It is noted that this bore is screened over strata described as ‘water-bearing sandy gravels, large cobbles’, ‘water-bearing mix of poorly sorted stained gravels’ and ‘water-bearing stained large cobbles and gravels’. Clay bound sandy gravels and tight sandy gravels were encountered between 104.5 m and the base of the borehole.

Bore BW22/0071 was drilled to a depth of 108.16 m bgl and screened from 93.67 to 106.66 m bgl. The driller’s log indicates clayey gravel from near ground level to 36 m bgl, underlain by clayey sandy gravel to 59 m bgl. Dominantly sandy gravel (in some cases with minor or some clay) is described at greater depths to near the base of the bore, although a relatively thick zone of clayey gravel was present from 69.5 m bgl underlain by clayey gravel to 77.5 m bgl and clayey gravel is described once more from 106 m bgl to the base of the borehole.

The driller’s log for L35/0825 (149 m deep and screened over two separate intervals from 29 to 36 m bgl and 82.5 to 88.5 m bgl) describes silty and/or claybound gravels from near surface level to 28.9 m bgl at which point good water bearing gravels were encountered to 37.4 m bgl (within which the top screen was placed). Mainly claybound gravel (often reported as hard or tight) is described thereafter, with the exception of a zone of good water bearing gravel between 84.6 and 90.1 m bgl. The lower well screen in the bore is set mainly within this second interval of water bearing gravels.

It is noted that good yields (well in excess of that required by WDC from the proposed bore) are reported from L35/0959 (76 L/s with 21 m of measured drawdown) and BW22/0071 (64.4 L/s with drawdown of 20.71 m). In addition, 50 L/s is reported from L35/0825 with only 2 m of drawdown, however based on the two screens in this bore it is not possible to determine whether the shallow or deep strata is the most productive water source.

Overall the available driller’s logs in proximity to the subject site indicate significant thicknesses of clay bound gravels are present in the soil profile above the target depth for the new WDC bore (over 90 m in depth). In addition, information from ECans database suggests that the depth from the ground surface to the water table is likely greater than 10 m. The fine grained clay and silt particles in the overlying strata will act to impede the flow of contaminants downward to the deeper water bearing strata. However, it should be noted that the geology of the Canterbury Plains is very variable and therefore it cannot be guaranteed that at localised sites shallow surface derived contamination sources will not have any impact on the quality of the deeper water bearing strata.

4.2 Community Drinking-water Protection Zones

Schedule 1 of the Canterbury Land and Water Regional Plan (LWRP) specifies the requirement for Community Drinking-water Protection Zones. Based on the proposed depth of the new WDC bore at the site and the Schedule 1 criteria a provisional protection zone consisting of a 100 m radius around the bore would be applicable. Our understanding is that the distance to the suspected sheep dip from the proposed bore site is around 80 m (at its nearest point) and therefore it is feasible that the sheep dip site
may fall within or very slightly outside the provisional protection zone. Further to this, evidence of uncontrolled filling has been identified on site and in the general area.

4.3 Capture Zone Assessment

In addition to consideration of Schedule 1 of the LWRP a capture zone calculation has been carried out to estimate the potential area around the proposed bore that could contribute to the bore water supply. The method applied uses an analytical equation that assumes Darcian groundwater flow to a well under steady-state discharge conditions, in a homogenous isotropic confined aquifer with uniform hydraulic gradient (GNS, 2014). As a result, the assessment is dependent on the pumping rate from the bore, the slope of the water table surface and the transmissivity of the underlying strata (which is related to the thickness of the aquifer and the hydraulic conductivity of the aquifer materials).

ECAn’s online database indicates that groundwater flows in a general south-easterly direction in the vicinity of the site with a gradient of around 0.0012.

With respect to hydraulic information, there is only limited available aquifer test data in proximity to the site. The nearest deep bores with relevant pump test data are BW22/0051, L35/1074 and L35/1012. The distance of these bores to proposed bore varies between approximately 2.1 km and 3 km. Estimated transmissivities for these three bores are generally low, varying between 36 and 250 m$^2$/day.

The pumping rate for the capture zone assessment is assumed to be 30 L/s and based on the gradient above and range of transmissivity values from surrounding bores the assessment indicates that the capture zone will include the area of the suspected sheep dip and gravel pits. However, it should be noted that the capture zone assessment is considered conservative and evaluation of the risk to the bore does not take into account the potential for fine grained low permeability strata overlying the aquifer to impede the flow of surface derived contaminants to the deeper aquifer. In addition, the water is being drawn from over an area much larger than the suspected sheep dip and gravel pit(s) so there would be significant dilution occurring.

5.0 Discussion and Recommendations

A review of the aerial photographs has confirmed the anecdotal evidence that a suspected sheep dip may be present in close proximity to the proposed bore site. In addition, a number of gravel pits with possible uncontrolled filling have also been identified, including within the proposed site itself.

In terms of the overall risk to a proposed water supply bore at the site, given that we have only limited data available to us at this time (desktop based), it is not possible to rule out the potential contamination risk of the water supply bore being situated within the general vicinity of a suspected former sheep dip and uncontrolled filling in the immediate area. As such, if WDC wish to progress with a new bore at the McPhedrons Road and Watsons Reserve Road site then it is recommended that in the first instance the presence (and concentrations) of contaminants in the soils at the suspected sheep dip site and nature of the filling at the various gravel pits should be confirmed by investigation works (i.e. test pitting and soil sampling). Depending on what is identified, groundwater monitoring bores to enable the collection of shallow groundwater samples near these potential sources of contamination may also be required.

Another option would be to relocate the proposed well site further away from these potential contaminant sources. We would recommend a distance of at least 500 m across or up gradient from potential sources of contamination to provide a level of certainty. If the location is moved, we would recommend that an assessment of the potential for nearby contamination sources is also carried out given the presence of a number of gravel pits in the area.
6.0 References


7.0 Limitations

This letter has been prepared on the basis of information provided by WDC and others not directly contracted by PDP for the work. PDP has not independently verified the provided information and has relied upon it being accurate and sufficient for use by PDP in preparing the letter. PDP accepts no responsibility for errors or omissions in, or the currency or sufficiency of, the provided information.

This letter has been prepared by PDP on the specific instructions of WDC for the limited purposes described in the letter. PDP accepts no liability if the letter is used for any other purpose. PDP also accepts no liability to any other person for their use of or reliance on this letter, and any such use or reliance will be solely at their own risk.

Yours sincerely

PATTLE DELAMORE PARTNERS LIMITED

Prepared by

[Signature]

Carl Steffens
Groundwater Services Leader

Reviewed by

[Signature]

Gerard Stark
Contaminated Land Services Leader

Approved by

[Signature]

Peter Callander
Director
Dear Sir/Madam

Thank you for submitting your property enquiry in regards to our Listed Land Use Register (LLUR) which holds information about sites that have been used, or are currently used for activities which have the potential to have caused contamination.

The LLUR statement provided indicates the location of the land parcel(s) you enquired about and provides information regarding any LLUR sites within a radius specified in the statement of this land.

Please note that if a property is not currently entered on the LLUR, it does not mean that an activity with the potential to cause contamination has never occurred, or is not currently occurring there. The LLUR is not complete, and new sites are regularly being added as we receive information and conduct our own investigations into current and historic land uses.

The LLUR only contains information held by Environment Canterbury in relation to contaminated or potentially contaminated land; other information relevant to potential contamination may be held in other files (for example consent and enforcement files).

If your enquiry relates to a farm property, please note that many current and past activities undertaken on farms may not be listed on the LLUR. Activities such as the storage, formulation and disposal of pesticides, offal pits, foot rot troughs, animal dips and underground or above ground fuel tanks have the potential to cause contamination.

Please contact and Environment Canterbury Contaminated Sites Officer if you wish to discuss the contents of the LLUR statement, or if you require additional information. For any other information regarding this land please contact Environment Canterbury Customer Services.

Yours sincerely

Contaminated Sites Team
Property Statement from the Listed Land Use Register

Visit www.ecan.govt.nz/HAIL for more information about land uses.

<table>
<thead>
<tr>
<th>Date:</th>
<th>30 March 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land Parcels:</td>
<td></td>
</tr>
<tr>
<td>Part RES 1081</td>
<td>Valuation No(s): 2154006201</td>
</tr>
<tr>
<td>RS 42113</td>
<td>Valuation No(s): 2154006201</td>
</tr>
</tbody>
</table>

The information presented in this map is specific to the property you have selected. Information on nearby properties may not be shown on this map, even if the property is visible.

Summary of sites:
There are no sites associated with the area of enquiry.

Information held about the sites on the Listed Land Use Register
There are no sites associated with the area of enquiry.

Information held about other investigations on the Listed Land Use Register
For further information from Environment Canterbury, contact Customer Services and refer to enquiry number ENQ161774.

Disclaimer: The enclosed information is derived from Environment Canterbury's Listed Land Use Register and is made available to you under the Local Government Official Information and Meetings Act 1987 and Environment Canterbury's Contaminated Land Information Management Strategy (ECan 2009).

The information contained in this report reflects the current records held by Environment Canterbury regarding the activities undertaken on the site, its possible contamination and based on that information, the categorisation of the site. Environment Canterbury has not verified the accuracy or completeness of this information. It is released only as a copy of Environment Canterbury's records and is not intended to provide a full, complete or totally accurate assessment of the site. It is provided on the basis that Environment Canterbury makes no warranty or representation regarding the reliability, accuracy or completeness of the information provided or the level of contamination (if any) at the relevant site or that the site is suitable or otherwise for any particular purpose. Environment Canterbury accepts no responsibility for any loss, cost, damage or expense any person may incur as a result of the use, reference to or reliance on the information contained in this report.

Any person receiving and using this information is bound by the provisions of the Privacy Act 1993.
Listed Land Use Register

What you need to know

What is the Listed Land Use Register (LLUR)?

The LLUR is a database that Environment Canterbury uses to manage information about land that is, or has been, associated with the use, storage or disposal of hazardous substances.

Why do we need the LLUR?

Some activities and industries are hazardous and can potentially contaminate land or water. We need the LLUR to help us manage information about land which could pose a risk to your health and the environment because of its current or former land use.

Sections 30 and 31 of the Resource Management Act (RMA, 1991) require Environment Canterbury to investigate, identify and monitor contaminated land. To do this we follow national guidelines and use the LLUR to help us manage the information.

The information we collect also helps your local district or city council to fulfil its functions under the RMA. One of these is implementing the National Environmental Standard (NES) for Assessing and Managing Contaminants in Soil, which came into effect on 1 January 2012.

For information on the NES, contact your city or district council.

How does Environment Canterbury identify sites to be included on the LLUR?

We identify sites to be included on the LLUR based on a list of land uses produced by the Ministry for the Environment (MFE). This is called the Hazardous Activities and Industries List (HAIL). The HAIL has 53 different activities, and includes land uses such as fuel storage sites, orchards, timber treatment yards, landfills, sheep dips and any other activities where hazardous substances could cause land and water contamination.

We have two main ways of identifying HAIL sites:

- We are actively identifying sites in each district using historic records and aerial photographs. This project started in 2008 and is ongoing.
- We also receive information from other sources, such as environmental site investigation reports submitted to us as a requirement of the Regional Plan, and in resource consent applications.

The Hazardous Activities and Industries List (HAIL) can be downloaded from MFE's website www.mfe.govt.nz, keyword search HAIL.

How does Environment Canterbury classify sites on the LLUR?

Where we have identified a HAIL land use, we review all the available information, which may include investigation reports if we have them. We then assign the site a category on the LLUR.

The category is intended to best describe what we know about the land use and potential contamination at the site and is signed off by a senior staff member.

Please refer to the Site Categories and Definitions factsheet for further information.

What does Environment Canterbury do with the information on the LLUR?

The LLUR is available online at www.llur.ecan.govt.nz. We mainly receive enquiries from potential property buyers and environmental consultants or engineers working on sites. An inquirer would typically receive a summary of any information we hold, including the category assigned to the site and a list of any investigation reports.

We may also use the information to prioritise sites for further investigation, remediation and management, to aid with planning, and to help assess resource consent applications. These are some of our other responsibilities under the RMA.

If you are conducting an environmental investigation or removing an underground storage tank at your property, you will need to comply with the rules in the Regional Plan and send us a copy of the report. This means we can keep our records accurate and up-to-date, and we can assign your property an appropriate category on the LLUR. To find out more, visit www.ecan.govt.nz/HAIL.
My land is on the LLUR – what should I do now?

**IMPORTANT!** Just because your property has a land use that is deemed hazardous or is on the LLUR, it doesn't necessarily mean it's contaminated. The only way to know if land is contaminated is by carrying out a detailed site investigation, which involves collecting and testing soil samples.

You do not need to do anything if your land is on the LLUR and you have no plans to alter it in any way. It is important that you let a tenant or buyer know your land is on the Listed Land Use Register if you intend to rent or sell your property. If you are not sure what you need to tell the other party, you should seek legal advice.

You may choose to have your property further investigated for your own peace of mind, or because you want to do one of the activities covered by the National Environmental Standard for Assessing and Managing Contaminants in Soil. Your district or city council will provide further information.

If you wish to engage a suitably qualified and experienced practitioner to undertake a detailed site investigation, there are criteria for choosing a practitioner on www.ecan.govt.nz/HAIL.

I think my site category is incorrect – how can I change it?

If you have an environmental investigation undertaken at your site, you must send us the report and we will review the LLUR category based on the information you provide. Similarly, if you have information that clearly shows your site has not been associated with HAIL activities (e.g., a preliminary site investigation), or if other HAIL activities have occurred which we have not listed, we need to know about it so that our records are accurate.

If we have incorrectly identified that a HAIL activity has occurred at a site, it will not be removed from the LLUR but categorised as Verified Non-HAIL. This helps us to ensure that the same site is not re-identified in the future.
Listed Land Use Register
Site categories and definitions

When Environment Canterbury identifies a Hazardous Activities and Industries List (HAIL) land use, we review the available information and assign the site a category on the Listed Land Use Register. The category is intended to best describe what we know about the land use.

If a site is categorised as Unverified it means it has been reported or identified as one that appears on the HAIL, but the land use has not been confirmed with the property owner.

If the land use has been confirmed but analytical information from the collection of samples is not available, and the presence or absence of contamination has therefore not been determined, the site is registered as:

Not investigated:
• A site whose past or present use has been reported and verified as one that appears on the HAIL.
• The site has not been investigated, which might typically include sampling and analysis of site soil, water and/or ambient air, and assessment of the associated analytical data.
• There is insufficient information to characterise any risks to human health or the environment from those activities undertaken on the site. Contamination may have occurred, but should not be assumed to have occurred.

If analytical information from the collection of samples is available, the site can be registered in one of six ways:

At or below background concentrations:
The site has been investigated or remediated. The investigation or post remediation validation results confirm there are no hazardous substances above local background concentrations other than those that occur naturally in the area. The investigation or validation sampling has been sufficiently detailed to characterise the site.

Below guideline values for:
The site has been investigated. Results show that there are hazardous substances present at the site but indicate that any adverse effects or risks to people and/or the environment are considered to be so low as to be acceptable. The site may have been remediated to reduce contamination to this level, and samples taken after remediation confirm this.
Managed for:
The site has been investigated. Results show that there are hazardous substances present at the site in concentrations that have the potential to cause adverse effects or risks to people and/or the environment. However, those risks are considered managed because:

- the nature of the use of the site prevents human and/or ecological exposure to the risks; and/or
- the land has been altered in some way and/or restrictions have been placed on the way it is used which prevent human and/or ecological exposure to the risks.

Partially investigated:
The site has been partially investigated. Results:
- demonstrate there are hazardous substances present at the site; however, there is insufficient information to quantify any adverse effects or risks to people or the environment; or
- do not adequately verify the presence or absence of contamination associated with all HAIL activities that are and/or have been undertaken on the site.

Significant adverse environmental effects:
The site has been investigated. Results show that sediment, groundwater or surface water contains hazardous substances that:
- have significant adverse effects on the environment; or
- are reasonably likely to have significant adverse effects on the environment.

Contaminated:
The site has been investigated. Results show that the land has a hazardous substance in or on it that:
- has significant adverse effects on human health and/or the environment; and/or
- is reasonably likely to have significant adverse effects on human health and/or the environment.

If a site has been included incorrectly on the Listed Land Use Register as having a HAIL, it will not be removed but will be registered as:

Verified non-HAIL:
Information shows that this site has never been associated with any of the specific activities or industries on the HAIL.
Dear Sir/Madam

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The LLUR only contains information held by Environment Canterbury in relation to contaminated or potentially contaminated land; other information relevant to potential contamination may be held in other files (for example consent and enforcement files).

If your enquiry relates to a farm property, please note that many current and past activities undertaken on farms may not be listed on the LLUR. Activities such as the storage, formulation and disposal of pesticides, offal pits, foot rot troughs, animal dips and underground or above ground fuel tanks have the potential to cause contamination.

Please contact and Environment Canterbury Contaminated Sites Officer if you wish to discuss the contents of the LLUR statement, or if you require additional information. For any other information regarding this land please contact Environment Canterbury Customer Services.

Yours sincerely

Contaminated Sites Team
Property Statement
from the Listed Land Use Register

Visit www.ecan.govt.nz/HAIL for more information about land uses.

Date: 30 March 2017
Land Parcels: Lot 2 DP 6461
Valuation No(s): 2154011100

The information presented in this map is specific to the property you have selected. Information on nearby properties may not be shown on this map, even if the property is visible.

Summary of sites:
There are no sites associated with the area of enquiry.

Information held about the sites on the Listed Land Use Register
There are no sites associated with the area of enquiry.

Information held about other investigations on the Listed Land Use Register

For further information from Environment Canterbury, contact Customer Services and refer to enquiry number ENQ161772.
Disclaimer:

The enclosed information is derived from Environment Canterbury’s Listed Land Use Register and is made available to you under the Local Government Official Information and Meetings Act 1987 and Environment Canterbury’s Contaminated Land Information Management Strategy (ECAN 2009).

The information contained in this report reflects the current records held by Environment Canterbury regarding the activities undertaken on the site, its possible contamination and based on that information, the categorisation of the site. Environment Canterbury has not verified the accuracy or completeness of this information. It is released only as a copy of Environment Canterbury's records and is not intended to provide a full, complete or totally accurate assessment of the site. It is provided on the basis that Environment Canterbury makes no warranty or representation regarding the reliability, accuracy or completeness of the information provided or the level of contamination (if any) at the relevant site or that the site is suitable or otherwise for any particular purpose. Environment Canterbury accepts no responsibility for any loss, cost, damage or expense any person may incur as a result of the use, reference to or reliance on the information contained in this report.

Any person receiving and using this information is bound by the provisions of the Privacy Act 1993.
What is the Listed Land Use Register (LLUR)?

The LLUR is a database that Environment Canterbury uses to manage information about land that is, or has been, associated with the use, storage or disposal of hazardous substances.

Why do we need the LLUR?

Some activities and industries are hazardous and can potentially contaminate land or water. We need the LLUR to help us manage information about land which could pose a risk to your health and the environment because of its current or former land use.

Section 40 of the Resource Management Act (RMA, 1991) requires Environment Canterbury to investigate, identify and monitor sites that contain hazardous land. To do this we follow national guidelines and use the LLUR to help us manage the information.

The information we collect also helps your local district or city council to fulfil its functions under the RMA. One of these is implementing the National Environmental Standards (NES) for Assessing and Managing Contaminants in Soil, which came into effect on 1 January 2012.

For information on the NES, contact your city or district council.

How does Environment Canterbury identify sites to be included on the LLUR?

We identify sites to be included on the LLUR based on a list of land uses produced by the Ministry for the Environment (MFE). This is called the Hazardous Activities and Industries List (HAIL). The HAIL has 53 different activities, and includes land uses such as fuel storage sites, orchards, timber treatment yards, landfills, sheep dips and any other activities where hazardous substances could cause land and water contamination.

We have two main ways of identifying HAIL sites:

- We are actively identifying sites in each district using historic records and aerial photographs. This project started in 2008 and is ongoing.
- We also receive information from other sources, such as environmental site investigation reports submitted to us as a requirement of the Regional Plan, and in resource consent applications.

How does Environment Canterbury classify sites on the LLUR?

Where we have identified a HAIL land use, we review all the available information, which may include investigation reports if we have them. We then assign the site a category on the LLUR. The category is intended to best describe what we know about the land use and potential contamination at the site and is signed off by a senior staff member.

Please refer to the Site Categories and Definitions factsheet for further information.

What does Environment Canterbury do with the information on the LLUR?

The LLUR is available online at www.llur.ecan.govt.nz. We mainly receive enquiries from potential property buyers and environmental consultants or engineers working on sites. An inquirer would typically receive a summary of any information we hold, including the category assigned to the site and a list of any investigation reports.

We may also use the information to prioritise sites for further investigation, remediation and management, to aid with planning, and to help assess resource consent applications. These are some of our other responsibilities under the RMA.

If you are conducting an environmental investigation or removing an underground storage tank at your property, you will need to comply with the rules in the Regional Plan and send us a copy of the report. This means we can keep our records accurate and up-to-date, and we can assign your property an appropriate category on the LLUR. To find out more, visit www.ecan.govt.nz/HAIL.
My land is on the LLUR – what should I do now?

**IMPORTANT!** Just because your property has a land use that is deemed hazardous or is on the LLUR, it doesn’t necessarily mean it’s contaminated. The only way to know if land is contaminated is by carrying out a detailed site investigation, which involves collecting and testing soil samples.

You do not need to do anything if your land is on the LLUR and you have no plans to alter it in any way. It is important that you let a tenant or buyer know your land is on the Listed Land Use Register if you intend to rent or sell your property. If you are not sure what you need to tell the other party, you should seek legal advice.

You may choose to have your property further investigated for your own peace of mind, or because you want to do one of the activities covered by the National Environmental Standard for Assessing and Managing Contaminants in Soil. Your district or city council will provide further information.

If you wish to engage a suitably qualified experienced practitioner to undertake a detailed site investigation, there are criteria for choosing a practitioner on www.ecan.govt.nz/HAIL.

I think my site category is incorrect – how can I change it?

If you have an environmental investigation undertaken at your site, you must send us the report and we will review the LLUR category based on the information you provide. Similarly, if you have information that clearly shows your site has not been associated with HAIL activities (eg. a preliminary site investigation), or if other HAIL activities have occurred which we have not listed, we need to know about it so that our records are accurate.

If we have incorrectly identified that a HAIL activity has occurred at a site, it will be not be removed from the LLUR but categorised as Verified Non-HAIL. This helps us to ensure that the same site is not re-identified in the future.
Listed Land Use Register
Site categories and definitions

When Environment Canterbury identifies a Hazardous Activities and Industries List (HAIL) land use, we review the available information and assign the site a category on the Listed Land Use Register. The category is intended to best describe what we know about the land use.

If a site is categorised as Unverified it means it has been reported or identified as one that appears on the HAIL, but the land use has not been confirmed with the property owner.

If the land use has been confirmed but analytical information from the collection of samples is not available, and the presence or absence of contamination has therefore not been determined, the site is registered as:

Not investigated:
- A site whose past or present use has been reported and verified as one that appears on the HAIL.
- The site has not been investigated, which might typically include sampling and analysis of site soil, water and/or ambient air, and assessment of the associated analytical data.
- There is insufficient information to characterise any risks to human health or the environment from those activities undertaken on the site. Contamination may have occurred, but should not be assumed to have occurred.

If analytical information from the collection of samples is available, the site can be registered in one of six ways:

At or below background concentrations:
The site has been investigated or remediated. The investigation or post remediation validation results confirm there are no hazardous substances above local background concentrations other than those that occur naturally in the area. The investigation or validation sampling has been sufficiently detailed to characterise the site.

Below guideline values for:
The site has been investigated. Results show that there are hazardous substances present at the site but indicate that any adverse effects or risks to people and/or the environment are considered to be so low as to be acceptable. The site may have been remediated to reduce contamination to this level, and samples taken after remediation confirm this.
**Managed for:**
The site has been investigated. Results show that there are hazardous substances present at the site in concentrations that have the potential to cause adverse effects or risks to people and/or the environment. However, those risks are considered managed because:
- the nature of the use of the site prevents human and/or ecological exposure to the risks; and/or
- the land has been altered in some way and/or restrictions have been placed on the way it is used which prevent human and/or ecological exposure to the risks.

**Partially investigated:**
The site has been partially investigated. Results:
- demonstrate there are hazardous substances present at the site; however, there is insufficient information to quantify any adverse effects or risks to people or the environment; or
- do not adequately verify the presence or absence of contamination associated with all HAIL activities that are and/or have been undertaken on the site.

**Significant adverse environmental effects:**
The site has been investigated. Results show that sediment, groundwater or surface water contains hazardous substances that:
- have significant adverse effects on the environment; or
- are reasonably likely to have significant adverse effects on the environment.

**Contaminated:**
The site has been investigated. Results show that the land has a hazardous substance in or on it that:
- has significant adverse effects on human health and/or the environment; and/or
- is reasonably likely to have significant adverse effects on human health and/or the environment.

**If a site has been included incorrectly on the Listed Land Use Register as having a HAIL, it will not be removed but will be registered as:**

**Verified non-HAIL:**
Information shows that this site has never been associated with any of the specific activities or industries on the HAIL.
# BW22/0071 details

**Borelog for well BW22/0071**
- Grid Reference (NZTM): 1527479 mE, 5202701 mN
- Location Accuracy: 10 - 50m
- Ground Level Altitude: m + MSD
- Driller: McMillan Drilling Ltd
- Drill Method: Rotary/Percussion
- Borelog Depth: 108.2 m  Drill Date: 07-Aug-2015

<table>
<thead>
<tr>
<th>Scale(m)</th>
<th>Water Level</th>
<th>Depth(m)</th>
<th>Full Driller's Description</th>
<th>Formation Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.00m</td>
<td></td>
<td>TOPSOIL. Not Recorded.</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td>clayey GRAVEL (2 - 60 MM). Not Recorded.</td>
<td></td>
</tr>
</tbody>
</table>

[Image of borelog chart]

https://ecan.govt.nz/data/well-search/welldetails/Q1cyMi8wMDcx/Q1cyMi8wMDcx

31/03/2017
sand gravel (2 - 60 MM) with minor clay. Not Recorded.
sand gravel (2 - 60 MM) with minor clay. Not Recorded.
sand gravel (2 - 60 MM) with minor clay. Not Recorded.
sand gravel (2 - 60 MM) with some clay. Not Recorded.
clayey gravel (2 - 60 MM). Not Recorded.
clayey gravel (2 - 60 MM). Not Recorded.
clayey gravel (2 - 60 MM). Not Recorded.
## L35/0825 details

**Borelog for well L35/0825**

- **Grid Reference (NZTM):** 1525564 mE, 5203040 mN
- **Location Accuracy:** 2 - 15m
- **Ground Level Altitude:** 305.5 m
- **Drill Date:** 27-Aug-2004
- **Driller:** Clemence Drilling Contractors
- **Drill Method:** Rotary Rig
- **Borelog Depth:** 149.0 m

### Depth vs. Water Level

<table>
<thead>
<tr>
<th>Scale (m)</th>
<th>Water Level</th>
<th>Depth (m)</th>
<th>Full Driller's Description</th>
<th>Formation Codes</th>
</tr>
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<td></td>
<td>0.10m</td>
<td>top soil</td>
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<tr>
<td>1</td>
<td></td>
<td>0.10m</td>
<td>top soil</td>
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<tr>
<td>2</td>
<td></td>
<td>1.30m</td>
<td>claybound gravel</td>
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<tr>
<td>3</td>
<td></td>
<td>1.30m</td>
<td>claybound gravel</td>
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<td>4</td>
<td></td>
<td>5.40m</td>
<td>dry silty gravel</td>
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<td>5</td>
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<td>6.40m</td>
<td>dry silty gravel</td>
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<td>6</td>
<td></td>
<td></td>
<td>silt claybound gravel with boulders</td>
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<td>7</td>
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<td></td>
<td>silt claybound gravel with boulders</td>
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<td>8</td>
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<td>dry silty gravel with large boulders</td>
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<td>dry silty gravel with large boulders</td>
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<td>10</td>
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<td>19.70m</td>
<td>silty claybound gravel with boulders</td>
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<td>claybound gravel with large boulders</td>
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<td>25.10m</td>
<td>claybound gravel with boulders</td>
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<td>dry silty gravel with large boulders</td>
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<td>clay washed gravel</td>
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<td>good water-bearing gravel - 12 or 13 %</td>
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<td>31</td>
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<td>good water-bearing gravel - 12 or 13 %</td>
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<td>32</td>
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<td>claybound gravel with large boulders</td>
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<td>45</td>
<td></td>
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<td>claybound gravel</td>
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</tbody>
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https://ecan.govt.nz/data/well-search/well-details/TDM1LzA4MjU%3D/TDM1LzA4MjU%3D 31/03/2017
# L35/0959 details

**Borelog for well L35/0959**

- **Grid Reference (NZTM):** 1527478 mE, 5202698 mN
- **Location Accuracy:** ±15m
- **Ground Level Altitude:** 285.0 m
- **Driller:** McMillan Drilling Ltd
- **Drill Method:** Rotary Rig
- **Borelog Depth:** 107.5 m
- **Drill Date:** 06-Sep-2007

<table>
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<tr>
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<th>Water Level</th>
<th>Depth (m)</th>
<th>Full Driller Description</th>
<th>Formation Code</th>
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<td></td>
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<td>sandy gravels</td>
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<td>5</td>
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<td>7.00m</td>
<td>sandy gravels</td>
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<td>claybound sandy gravels</td>
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<td>33</td>
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<td></td>
</tr>
</tbody>
</table>
47.00m
claybound sandy gravels trace of water
sandy gravels some stain

59.00m
sandy gravels some stain
sandy gravels poorly stained

72.00m
sandy gravels poorly stained
sandy gravels & small amount of clay

74.00m
sandy gravels & small amount of clay
water-bearing sandy small pea gravels
### ATTACHMENT III – CHEMICAL TEST RESULTS FROM BORE L35/0929

<table>
<thead>
<tr>
<th>Sample</th>
<th>Site</th>
<th>Map Ref.</th>
<th>Date Sampled</th>
<th>Date Received</th>
<th>Order No.</th>
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<tr>
<td>1723736-01</td>
<td>WDC Domestic Water Supply</td>
<td>R17151</td>
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<td>31/03/2017 07:30</td>
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**Notes:** CNR Watsons Road & McPhedrana Road, R17151

<table>
<thead>
<tr>
<th>Test</th>
<th>Result</th>
<th>Units</th>
<th>Comments</th>
<th>Signatory</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>7.0</td>
<td></td>
<td>Passes GV of 7.0 to 8.5</td>
<td>Gordon McCaughan (KTP)</td>
</tr>
<tr>
<td>Total (NP) Organic Carbon</td>
<td>0.2</td>
<td>g/m³</td>
<td>Below US-EPA Limit of 2</td>
<td>Sharon van Soest (KTP)</td>
</tr>
<tr>
<td>Alkalinity - Total</td>
<td>43</td>
<td>g CaCO₃/m³</td>
<td>Not a NZDWS test</td>
<td>Gordon McCaughan (KTP)</td>
</tr>
<tr>
<td>Conductivity at 25°C</td>
<td>15.6</td>
<td>mS/m</td>
<td>Not a NZDWS test</td>
<td>Gordon McCaughan (KTP)</td>
</tr>
<tr>
<td>Total Dissolved Solids</td>
<td>86</td>
<td>g/m³</td>
<td>Below GV of 1000</td>
<td>Gordon McCaughan (KTP)</td>
</tr>
<tr>
<td>Saturation Index</td>
<td>-1.5</td>
<td></td>
<td>Below GV of -1.5</td>
<td>Mary Lou Cabrera</td>
</tr>
<tr>
<td>Bicarbonate</td>
<td>43</td>
<td>g CaCO₃/m³</td>
<td>Not a NZDWS test</td>
<td>Gordon McCaughan (KTP)</td>
</tr>
<tr>
<td>Carbonate</td>
<td>&lt; 1</td>
<td>g CaCO₃/m³</td>
<td>Not a NZDWS test</td>
<td>Gordon McCaughan (KTP)</td>
</tr>
<tr>
<td>Free CO₂</td>
<td>8</td>
<td>g CO₂/m³</td>
<td>Not a NZDWS test</td>
<td>Gordon McCaughan (KTP)</td>
</tr>
<tr>
<td>Turbidity</td>
<td>1.17</td>
<td>NTU</td>
<td>Below GV of 2.5</td>
<td>Gordon McCaughan (KTP)</td>
</tr>
<tr>
<td>Fluoride</td>
<td>0.10</td>
<td>g/m³</td>
<td>See Notes Below</td>
<td>Shareen Kumar (KTP)</td>
</tr>
<tr>
<td>Chloride</td>
<td>6.33</td>
<td>g/m³</td>
<td>Below GV of 250</td>
<td>Shareen Kumar (KTP)</td>
</tr>
<tr>
<td>Nitrate - Nitrogen</td>
<td>4.97</td>
<td>g/m³</td>
<td>Passes MAV Limit of 11.3</td>
<td>Shareen Kumar (KTP)</td>
</tr>
<tr>
<td>Sulphate</td>
<td>4.09</td>
<td>g/m³</td>
<td>Below GV of 250</td>
<td>Shareen Kumar (KTP)</td>
</tr>
<tr>
<td>Arsenic - Acid Soluble</td>
<td>&lt; 0.005</td>
<td>g/m³</td>
<td>Passes MAV Limit of 0.01</td>
<td>Shareen Kumar (KTP)</td>
</tr>
<tr>
<td>Boron - Acid Soluble</td>
<td>&lt; 0.01</td>
<td>g/m³</td>
<td>Passes MAV Limit of 1.4</td>
<td>Shareen Kumar (KTP)</td>
</tr>
<tr>
<td>Calcium - Acid Soluble</td>
<td>16.1</td>
<td>g/m³</td>
<td>See Total Hardness</td>
<td>Shareen Kumar (KTP)</td>
</tr>
<tr>
<td>Copper - Acid Soluble</td>
<td>0.014</td>
<td>g/m³</td>
<td>Below GV of 1</td>
<td>Shareen Kumar (KTP)</td>
</tr>
<tr>
<td>Iron - Acid Soluble</td>
<td>0.426</td>
<td>g/m³</td>
<td>Above GV of 0.2</td>
<td>Shareen Kumar (KTP)</td>
</tr>
<tr>
<td>Magnesium - Acid Soluble</td>
<td>3.49</td>
<td>g/m³</td>
<td>See Total Hardness</td>
<td>Shareen Kumar (KTP)</td>
</tr>
<tr>
<td>Manganese - Acid Soluble</td>
<td>0.029</td>
<td>g/m³</td>
<td>Below GV of 1.4</td>
<td>Shareen Kumar (KTP)</td>
</tr>
<tr>
<td>Potassium - Acid Soluble</td>
<td>0.94</td>
<td>g/m³</td>
<td>Below GV of 0.4</td>
<td>Shareen Kumar (KTP)</td>
</tr>
<tr>
<td>Sodium - Acid Soluble</td>
<td>6.53</td>
<td>g/m³</td>
<td>Below GV of 200</td>
<td>Shareen Kumar (KTP)</td>
</tr>
<tr>
<td>Zinc - Acid Soluble</td>
<td>0.012</td>
<td>g/m³</td>
<td>Below GV of 1.5</td>
<td>Shareen Kumar (KTP)</td>
</tr>
<tr>
<td>Total Hardness</td>
<td>55</td>
<td>g CaCO₃/m³</td>
<td>Below Moderate Hardness Level of 100</td>
<td>Shareen Kumar (KTP)</td>
</tr>
<tr>
<td>Calcium Hardness</td>
<td>40</td>
<td>g CaCO₃/m³</td>
<td>See Total Hardness</td>
<td>Shareen Kumar (KTP)</td>
</tr>
<tr>
<td>Total Coliforms</td>
<td>&lt; 1</td>
<td>MPN/100ml</td>
<td>No limit listed in NZDWS</td>
<td>Yuenel Yu (KTP)</td>
</tr>
<tr>
<td>E. coli</td>
<td>&lt; 1</td>
<td>MPN/100mL</td>
<td>Passes MAV Limit of 0</td>
<td>Yuenel Yu (KTP)</td>
</tr>
<tr>
<td>Overall Compliance</td>
<td>NZDWS</td>
<td></td>
<td>See Notes Below</td>
<td></td>
</tr>
</tbody>
</table>
WAIMAKARIRI DISTRICT COUNCIL

REPORT

FILE NO: RDG–08-02-01/170331031491

DATE: 3 April 2017

REPORT TO: Management Team

FROM: Yvonne Warnaar, Asset Planning Engineer

SUBJECT: Approval to engage GeoSolve Ltd for 2017 Falling Weight Deflectometer Surveys

1. SUMMARY

1.1. The purpose of this report is to seek the Management Team’s approval to directly engage GeoSolve Ltd to carry out Falling Weight Deflectometer (FWD) surveys.

1.2. The proposed surveys will provide information on the strength of the road pavements across the network. This information is a requirement in the DTIMS modelling process, a critical input for the Activity Management Plan and the next three year Programme.

1.3. As only one price has been sought Management Team approval is being requested.

1.4. The approximate value of this work is $60,000+GST, with the final cost dependent on the length of road surveyed.

1.5. Geosolve are one of only two companies in NZ offering FWD data capture capability. Of the two, Geosolve offers the more comprehensive package which will require considerably less staff input.

1.6. GeoSolve offer a highly experienced team of technical staff who will provide optimum understanding of the work to be carried out.

2. RECOMMENDATION

THAT the Management Team:

(a) Receives report No. 170331031491

(b) Approves the engagement of GeoSolve Ltd to undertake Falling Weight Deflectometer surveys on all Arterial and Primary Collector roads, and between 10 and 20% of all other sealed roads in the network.

(c) Notes that the total value of the work depends on the actual number of rating units and the roughness length completed but will be in the order of $60,000.

(d) Circulates this report to the Utilities and Roading Committee for their information
3. **ISSUES AND OPTIONS**

3.1. Falling Weight Deflectometer surveys provide critical information on the strength of the roading pavements, which in turn informs a number of inputs into the roading programme, including the dTIMS model, treatment selection, and forward works programmes.

3.2. There are two companies in New Zealand who carry out FWD surveys, but only GeoSolve are prepared to offer additional analysis required to ensure the most appropriate selection of roads is surveyed.

3.3. Because a comprehensive survey of the network has not been carried out before, decisions on where to carry out work to balance information required against budget require a higher skill level within Council than is currently available within the timeframe required to carry out this work.

3.4. As the quality of the information and data from the surveys is of utmost importance it is essential that the consultant carrying out the surveys has a proven track record. GeoSolve have a highly skilled team of geologists who have been working in this field for many years, which provides confidence in the likely outputs. They have carried out surveys for WDC previously, and this year are also carrying out surveys for Ashburton, Timaru, Mackenzie and Selwyn Districts.

3.5. Under NZTA Approved Procurement Procedures we are permitted to negotiate directly with one supplier for work of this value and type providing best value can be demonstrated.

3.6. Options available are as follows.

- Option 1 – (recommended option) - Direct engagement of GeoSolve with an indicative budget of $60,000.
- Option 2 – Go to open market. As the other contractor, Data Collections Ltd, is unable to provide all the services provided by GeoSolve in one package, this would require engaging another consultant to carry out the work Data Collections are unable to, with the associated extra administration costs and time delays.

4. **COMMUNITY VIEWS**

4.1. This is an internal management matter so community views are not applicable and have not been sought.

5. **FINANCIAL IMPLICATIONS AND RISKS**

5.1. There is funding provided in the roading budget under GL 39 17 2 219 – RAMM Surveys for this work. This work will be carried out during April/May 2017.

5.2. This work is subsidised by NZTA and negotiating with one supplier is permitted provided best value can be demonstrated. In this case there is only one supplier able to provide the work required.
6. **CONTEXT**

6.1. **Policy**

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

Council policy is that the letting of contracts to consultants where the value of the work exceeds $20,000 and 3 prices have not been obtained needs the approval of the Management Team.

This engagement is consistent with the Roading Procurement Strategy.

6.2. **Community Outcomes**

Transport is accessible, convenient, reliable, affordable and sustainable.

- The standard of our District's roads is keeping pace with increasing traffic numbers.

6.3. **Health and Safety**

This approval is subject to a Health and Safety plan with methodology suitable for the work being carried out to be provided prior to commencement of work.

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Yvonne Warnaar
Asset Planning Engineer
1. SUMMARY

1.1. The purpose of this report is to accept a price from JFC for town centre upgrade work in the vicinity of Victoria Street.

1.2. In January the Management Team approved negotiating a price with JFC for the remaining work in High Street. Refer to TRIM 161012105034 – Report Updating Management Team and approving negotiation with JFC for remaining Paving works.

1.3. The work included in this price involves the upgrade of Victoria Street from High Street to Alfred Street, the upgrade of the High Street between Victoria Street and the Cenotaph, and the completion of the northern footpath between Conway Lane and Good Street.

1.4. The northern footpath between Good Street and Victoria Street will not be completed at this stage so as to tie into the proposed development of two new buildings, these being the proposed development on the northeast corner of High Street and Good Street, and the Pulleys site (next to the Junction Hotel).

1.5. JFC have provided a price of $328,705.17. This price includes provisional items for street furniture and concrete planters with the estimated values based on previous prices.

1.6. It is proposed that any variation in the above price be covered within the current project contingency, which is currently set at $60,000, (as per the financial information in section 5.3)

Attachments

i. Plans showing work to be completed
2. **RECOMMENDATION**

THAT the Management Team:

(a) **Receives** report No. 161012104756.

(b) **Accepts** the price of $328,705.17 from John Fillmore Contracting (JFC) for the upgrade of Victoria Street from High Street to Alfred Street, the upgrade of the High Street between Victoria Street and the Cenotaph, and the completion of the northern footpath between Conway Lane and Good Street.

(c) **Circulates** this report to the U&R Committee.

3. **ISSUES AND OPTIONS**

3.1. The High Street project has focused on the section of Rangiora’s High Street between Ashley Street and King Street and involved:

- Reinstituting two-way traffic with parallel parking on both sides of the street including a review of parking restrictions.
- Streetscape enhancements including new footpaths on High Street and around the corners of immediately adjacent streets, street furniture, landscaping and a new raised platform at the High Street / Percival Street junction.
- Conway Lane as a new pedestrian link to connect High Street to the Blake Street carpark and deepen the town centre to the north by increasing the retail and office floorspace.
- Redeveloping the greenspace in front of the Council offices on High Street following the removal of the temporary retail units located on High Street and Durham Street.
- Upgrading of the Good Street pedestrian area.

3.2. The scope of the works originally included the Blake Street carpark improvements however that work was subsequently removed when the parking building project was confirmed.

3.3. Because of the importance of this project a cross organisation Project Control Group (PCG) was put in place to manage all aspects of this project. This PCG has operated very effectively to ensure all planning, consultation, communication, property and construction aspects are well coordinated. The Roading, PDU, Policy, Property, Planning, Greenspace and Communications teams have all been involved in the PCG. The core members are:

- Ken Stevenson, Roading Manager
- Joanne McBride, Civil Projects Team Leader
- Daniel Thompson, Special Projects Manager
- Chris Brown, Community and Greenspace Manager
- Simon Hart, Business and Centres Manager
- Nicola Hunt, Communications Coordinator

3.4. The project has been managed to coordinate the work with the adjacent building work so as to minimise disruption to existing businesses.

3.5. JFC has successfully completed the previous stages of the work and Management Team approved negotiating a price from them for the remaining work in High Street. A price of $328,705.17 has been received and this is considered a fair and reasonable price.

3.6. JFC are able to start the work immediately and this timing suits the businesses effected.
3.7. A Communications Plan is in place for the project.

4. **COMMUNITY VIEWS**

4.1. Community views have been extensively canvassed through this project.

4.2. For this part of the project all businesses impacted have been approached and they support the work being done now.

5. **FINANCIAL IMPLICATIONS AND RISKS**

5.1. The approved budget and other funding sources for the project is detailed below:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>High St 2-Way Budget</td>
<td>$1,000,000</td>
</tr>
<tr>
<td>Allocation from Crown Cost Share of Town Centre Revitalisation</td>
<td>$1,100,000</td>
</tr>
<tr>
<td>Allocation from Town Centre Budgets</td>
<td>$ 500,000</td>
</tr>
<tr>
<td>Council Precinct Budget</td>
<td>$ 250,000</td>
</tr>
<tr>
<td>Earthquake Recovery Authority</td>
<td>$ 108,000</td>
</tr>
<tr>
<td>Roading Minor Improvements Budget (Durham St)</td>
<td>$  40,000</td>
</tr>
<tr>
<td>Footpath Resurfacing Budget</td>
<td>$ 110,000</td>
</tr>
<tr>
<td>Water Main Budget</td>
<td>$   5,000</td>
</tr>
<tr>
<td>Contribution from Ron Van Til for Durham St work</td>
<td>$   25,000</td>
</tr>
</tbody>
</table>

Total                                $3,138,000

5.2. Expenditure to date as at 6 March 2017 is as below:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal Professional Fees</td>
<td>$ 248,239</td>
</tr>
<tr>
<td>Conway Lane, Percival intersection</td>
<td>$ 456,545</td>
</tr>
<tr>
<td>Durham Street/High Street/Council Precinct</td>
<td>$ 805,123</td>
</tr>
<tr>
<td>Percival Street/Farmers frontage</td>
<td>$ 407,776</td>
</tr>
<tr>
<td>Coffee Culture, Good Street south crossing</td>
<td>$ 271,833</td>
</tr>
<tr>
<td>Services, Conway Lane cost share</td>
<td>$ 169,331</td>
</tr>
</tbody>
</table>

Total                                $2,358,847

5.3. Projected expenditure as at 6 March 2017 is as below:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Street footpath hotmix and paving completion (incl fees)</td>
<td>$ 120,295</td>
</tr>
<tr>
<td><strong>Works involved in this Variation</strong></td>
<td><strong>$ 328,705</strong></td>
</tr>
<tr>
<td>Good Street pedestrian area upgrade (Incl fees)</td>
<td>$ 210,000</td>
</tr>
<tr>
<td>Amenity lighting</td>
<td>$   60,000</td>
</tr>
<tr>
<td>Contingency</td>
<td>$   60,000</td>
</tr>
</tbody>
</table>

Total                                $ 779,000
5.4. Summary

Budget - $3,138,000

Final Forecast cost = $2,358,847 + $779,000 = $3,137,847

6. CONTEXT

6.1. Policy

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

6.2. Legislation

Local Government Act 2002

6.3. Community Outcomes

There is a safe environment for all

Transport is accessible, convenient, reliable, affordable and sustainable

Businesses in the District are diverse, adaptable, and growing

The distinctive character of our towns, villages and rural areas is maintained

Public spaces and facilities are plentiful, accessible and high quality

__________________________
Daniel Thompson
Special Projects Manager

__________________________
Ken Stevenson
Roading Manager
WDC CONTRACT'S 2015/25, 2015/79 and 2016/06 HIGH STREET 2 WAY UPGRADE

LAYOUT PLAN
1:2000

KEY DATES:
1. Conway Lane - Work in September 2015 - Opening in October 2015
5. Junction Hotel - Work in April 2016 - Opening in Late 2016
6. Former Harcourts Building - Demo in March - Building May to November 2017

KEY:
- Work Completed
- Work In Progress
- Work to be done

DRAWING LIST
01 - Cover and Locality Plan
02 - Conway Lane Concept Plan
03 - Conway Lane Stormwater Plan
04 - Conway Lane Water Plan
05 - Conway Lane Surfacing Plan
06 - Conway Lane Lighting Plan
07 - High Street Percival Street Intersection
08 - High Street Percival Street Details
09 - Street Furniture Plan
10 - High Street - Ashley to Victoria
11 - High Street - Victoria to Good
12 - High Street - Good to Percival
13 - High Street - Percival to Durham
14 - High Street - Durham to King
15 - High Street - High Street Threshold
16 - Durham Street Plan
17 - Percival Street Plan
18 - Victoria Street Plan
19 - Coffee Culture Site Clearance Plan
20 - Coffee Culture Proposed Plan
21 - Durham Street Carpark
36m² of New Paving

Limit of works for this Stage

12.13m
11.14m
10.00m
9.00m
8.98m
9.98m
8.98m
9.98m
69.06m

Stainless Steel "Webber"
Rubbish Bin from FEL
Group - with foundation

Future Street Light

Proposed Streetlight Duct in
Service Trench 10m Long

Limit of works

KEY:
- 200mm x 100mm x 60mm Firth "Double Black Oxide" Herringbone Paving
- 400mm x 200mm x 60mm Firth "Graphite" Honed Piazza Stretch Brond Pattern Paving
- Proposed Asphalt Footpath - Mix 10
- Proposed Tactile Indicators

STREET FURNITURE:
A. 2.0m Long Bench - 2.0m Outside Radius
B. 1.5m Long Straight Bench
C. 2.0m Long Straight Bench
D. 2.0m Long Bench - 2.0m Outside Radius
KEY:
- 200mm x 100mm x 60mm Firth *Double Black Oxide* Herringbone Pattern Paving
- 200mm x 100mm x 80mm Firth *Double Black Oxide* Hammered Holland Herringbone Pattern Paving
- 400mm x 200mm x 60mm Firth *Graphite* Honed Piazza Stretcher Bond Pattern Paving
- Proposed Bench Seats
- Proposed Tactile Indicators
- Proposed Asphalt Footpath - Mix 10
- Existing Asphalt Footpath