Agenda

Utilities and Roading Committee

TUESDAY

27 September 2016

4.00pm

Members:

Cr Peter Farrant (Chairperson)
Deputy Mayor Kevin Felstead
Cr Robbie J Brine
Cr Wendy Doody
Cr John Meyer
Mayor David Ayers (ex officio)
A Meeting of the UTILITIES AND ROADING COMMITTEE will be held in the COUNCIL CHAMBERS, 215 HIGH STREET, RANGIORA on TUESDAY 27 SEPTEMBER 2016 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 16 August 2016

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 16 August 2016.

3.2 Minutes of the public excluded portion of a meeting of the Utilities and Roading Committee held on Tuesday 16 August 2016

(see blue agenda papers)

4 MATTERS ARISING

5 DELEGATION
6 REPORTS

6.1 Deferral of West Belt Boost Main Project and Reallocation of Johns Road East Supply Main Budget – Colin Roxburgh (Water Asset Manager)

RECOMMENDATION

THAT the Utilities & Roading Committee recommends

THAT the Council:

(a) Receives report No. 160913094225.

(b) Notes that the Johns Road East Supply Main and West Belt Boost Main projects are not required to accommodate growth at this stage.

(c) Approves the West Belt Boost Main budget being deferred until the 2021/22 financial year.

(d) Approves the Johns Road East Supply Main budget of $170,000 to be reallocated with $100,000 going to the Northbrook Road Boost Main project and $70,000 going to the South Belt Boost Main project.

(e) Circulates this report to the Rangiora Community Board for their information.

6.2 Summary of Status of Council Water Supply Schemes – Colin Roxburgh (Water Asset Manager)

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.
6.3 Combining of Woodend and Pegasus Water Supplies – Feedback from Community Consultation – Alicia Klos (Project Engineer), Colin Roxburgh (Water Asset Manager) and Gary Boot (Senior Engineering Advisor)

**RECOMMENDATION**

THAT the Utilities and Roading Committee:

(a) **Receives** report No. 160824085330.

(b) **Notes** that approximately 73% of the Woodend, Tuahiwi and Pegasus submissions were in favour of the proposal to join the Pegasus and Woodend water supplies. Approximately 73% of Woodend and Tuahiwi respondents support the proposal, and 74% of Pegasus respondents support the proposal.

(c) **Notes** that the Woodend-Ashley Community Board supports the joining of the Woodend and Pegasus water supplies and recommends that the Utilities and Roading Committee adopt recommendations a to h.

(d) **Resolves** to join the Woodend and Pegasus water supplies physically and financially.

(e) **Requests** staff to investigate a two year phase in of the financial amalgamation and that this is to be considered as part of the 2017/18 Draft Annual Plan in response to Pegasus residents’ submissions.

(f) **Notes** that the financial amalgamation of the Woodend and Pegasus water supply schemes will occur in the 2017/18 financial year and will be consulted as part of the 2017/18 draft Annual Plan.

(g) **Notes** that Council staff have commenced a wider review into the safety of the district water supplies in light of the Havelock North contamination event, and this review will be completed prior to the programmed discontinuation of chlorination on the Pegasus water supply.

(h) **Notes** that Council staff will write to the scheme members, the Canterbury District Health Board, and the Pegasus Residents’ Group to advise the outcome of the consultation and the proposed way forward.

**NOTE TO MEMBERS:** There will be a copy of all submissions received in the Woodend Pegasus water supply consultation, available to view in a folder in the Councillors Lounge. There is also an electronic version available of a spreadsheet indexing the submissions.
7 REPORT FOR INFORMATION ONLY

7.1 Contract 2016/35 District Wide CCTV Inspection Contract – 2016 Tender Award Report – Robert Frizzell (Wastewater Engineer)  
(refer to copy of report no. 160816082123 to the Management Team meeting of 22 August 2016)

7.2 Request to Engage OnGrade Drainage and Excavation Ltd to undertake Sewer repairs in East Kaiapoi – Gary Boot (Senior Engineering Advisor) and Paul Reed (Consultant Engineer)  
(refer to copy of report no. 160823084848 to the Management Team meeting of 29 August 2016)

7.3 Request to Engage Clemence Drilling Ltd and Nairn Electrical for new Rockford Road Well Pump Installation and Well Head Construction – Colin Roxburgh (Water Asset Manager)  
(refer to copy of report no. 160824085695 to the Management Team meeting of 29 August 2016)

7.4 Approval to engage MWH for bridge inspection and other specialist services for the period 1 September 2016 to 31 August 2017.  
(refer to copy of report no. 160825086226 to the Management Team meeting of 29 August 2016)

7.5 Request for Approval to Engage Opus International Consultants for Waikuku Beach Water Supply Treatment Upgrade – Colin Roxburgh (Water Asset Manager)  
(refer to copy of report no. 160915095459 to the Management Team meeting of 19 September 2016)

Items 7.1 to 7.4 have been previously circulated.

RECOMMENDATION

THAT the information in Items 7.1 – 7.5 be received.

8 PORTFOLIO UPDATES

8.1 Roading and Residential Streetscape – Cr John Meyer

8.2 Stockwater and Drainage – Deputy Mayor Kevin Felstead

8.3 Utilities (Water Supplies and Sewer) – Cr Peter Farrant

8.4 Solid Waste – Cr Robbie Brine

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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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>Protection of privacy of natural persons To carry out commercial activities without prejudice</td>
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10 QUESTIONS

11 URGENT GENERAL BUSINESS

**STAFF BRIEFING**

At the conclusion of the meeting there will be a staff briefing to discuss Development contributions.
WAIMAKARIRI DISTRICT COUNCIL

MINUTES OF A MEETING OF THE UTILITIES AND ROADING COMMITTEE HELD IN THE COUNCIL CHAMBERS, 215 HIGH STREET, RANGIORA ON TUESDAY 16 AUGUST 2016 AT 4.00PM

PRESENT

Councillor P Farrant (Chairperson), Mayor D Ayers, Deputy Mayor K Felstead, Councillors R Brine, W Doody (until 6.05pm)

IN ATTENDANCE

Councillors J Gerard (until 5.50pm), P Allen (until 5.50pm) N Atkinson, and K Barnett
Messrs J Palmer (Chief Executive) G Cleary (Manager Utilities and Roading), K Simpson (3 Waters Manager), K Stevenson (Roading Manager), C Roxburgh (Water Asset Manager), G Stevenson (Utilities Projects Team Leader), B Rice (Senior Transport Engineer), G Bennett (Land Drainage Engineer), S de Roo (Utilities Engineering Officer), Ms K Graham (Journey Planner/Road Safety Coordinator), and Mrs A Smith (Committee Advisor).

1. APOLOGIES

An apology was received and sustained from Councillor Meyer.

2. CONFLICTS OF INTEREST

Councillor Farrant declared a conflict of interest with regard to Item 9.3 in the Public Excluded portion of the meeting – “Request to negotiate service agreement contract for water supply pump and well maintenance, well drilling, well pump installation and generator supply contract”.

3. CONFIRMATION OF MINUTES

3.1 Minutes of a meeting of the Utilities and Roading Committee held on Tuesday 21 June 2016

Moved Deputy Mayor Felstead  seconded Councillor Brine

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 June 2016, with the following correction to Item 6.5, page 7, first para following recommendation to read:

“Councillor Barnett believes that the recommendations in the report don’t go far enough and there has been issues with this intersection for many years. Councillor Barnett does not believe that removing a few signs is going to be enough to make this area safe.”

CARRIED

3.2 Minutes of the public excluded portion of a meeting of the Utilities and Roading Committee held on Tuesday 21 June 2016

(see Public Excluded minutes)
4. MATTERS ARISING

There were no matters arising.

5. DELEGATION

5.1 Shelley Huria, Barkers Road, Loburn

Mrs Huria presented a petition from residents of Barkers Road relating to the unsealed portion of Barkers Road, Loburn (petition Trim doc. 160819083907). Several residents from Barkers Road were also present at the meeting in support of this petition and Mrs Huria. The residents are concerned with the state of the unsealed portion of Barkers Road and the safety issues this presents, both to people driving on the road and the residents who live on it. The petition also asked several questions of residents, including the number of daily vehicle movements from their properties and whether there had been a roading contribution paid to the Council by the developer of their lifestyle block.

As time allowed it, the Chairperson granted speaking rights to several of the Barkers Road residents who were attending.

Rob Courtney a long term resident, spoke on concerns with the quality of the road, suggesting that the level of grader work (or lack of) has not been sufficient for quite some time. There is likelihood of accidents due to the speed of vehicles travelling through the community. He noted that the first 3kms of Barkers Road is sealed, there are 23 properties on this sealed section and 41 properties on the unsealed section. There are 200 vehicle movements on a daily basis just from residents of the road. The residents believe they deserve more with regard to the quality of the unsealed section of road than they are currently getting. Of the 41 properties in the unsealed section, 35 of these completed the petition.

Comments from another resident believes there should be enough funding available now for sealing with the number of new residents having been built along it. Residents believe that there is a “pot of money” that has accumulated, from the developers and from each residents to have built properties. Mr Cleary advised the sealing would cost approx. $500,000 to seal that section of road. There is currently $80,000 available at the moment. Council will act on the trigger of having 30% of the cost available. Resident then commented on this basis, does this mean that the sealing of Barkers Road is not likely to happen? Mr Cleary advised that a report will come to a future U&R Committee meeting with more detail on this matter.

Dust is a real issue for residents, resident believes this is not acceptable.

One resident also asked if safety is a consideration when looking at the “trigger point”? Concerns with the safety of the residents, especially children who live on Barkers Road.

In the past two years, there have been two vehicle accidents where cars have gone through the front fences of residents houses. Suggests that there should be better educational signage, and there is also a fairly narrow bridge on a bend in the road.

Councillor Farrant advised the formal process that has to be gone through, with the report.
Councillor Brine spoke to the deputation about presenting at the time of the Council’s Annual Plan budget time. Residents advised they felt it was time to be pro-active on this matter. Believe that the distance of the unsealed section of road is actually 3.9km. Councillor Farrant said the safety issues would be taken into account, with vehicle counts and it was confirmed by Mr Cleary that staff will consider the matter, and arrange a meeting with the residents and advise if this is an affordable outcome.

Councillor Barnett asked regarding the safety aspects, noted that sealing a road actually speeds up traffic. Residents noted that the majority of people using Barkers Road are already travelling at 100kph anyway, with it in its shingle state.

Councillor Farrant confirmed the process to the Mrs Huria and the residents.

6. REPORTS

6.1 Road Safety Action Plan Results 2015/16 – Kathy Graham (Journey Planner/Road Safety Coordinator)

Ms K Graham and Mr K Stevenson were present for consideration of this report. Kathy advised that there has been a trending down in the number of accidents in the Waimakariri district. Noted that there were accidents involving residents of Waimakariri district in the Christchurch area. Important to target the people in the district on safety issues and educating drivers who are residents in this district. Ms Graham said there is a very strong collaboration with the other districts in the region for addressing road safety issues in the bigger picture.

Councillor Allen asked if there was data available on the proportion of accidents that occur on unsealed or sealed roads. Mr Stevenson noted that there are very few accidents reported that occur on unsealed roads, but considered that it is probably that there are accidents happening, but not being reported.

Councillor Barnett asked about the upgrade of the current road safety signs in the district, and when these were going to be updated. Ms Graham said it is hoped to have these updated within the next six months.

Ms Graham advised that there has been concerns of the Woodend School community with the speed of traffic along Rangiora Woodend Road. The School has been noting instances of poor driving behaviour, and the children have been out with sandwich boards promoting safe driving, before and after the school day.

Moved Councillor Doody seconded Mayor Ayers

THAT the Utilities and Roading Committee

(a) Receives report No. 160805076748

(b) Notes the results of the 2015/16 Road Safety Action Plan

(c) Circulates this report to the Community and Advisory Boards

Councillor Doody thanked Ms Graham for this report, noting the high importance of road safety.

Mayor Ayers noted the important work of the Road Safety Committee.
6.2 **Mandeville North Area Speed Management Review – Bill Rice (Senior Transport Engineer)**

Messrs Bill Rice and Ken Stevenson presented this report which is proposing to do a review of the speed limits in the Mandeville North area. The process could start with the residents in the Mandeville North area. It was noted that the NZTA Draft Speed Management Guide and any calculation would need to be consistent with this Guide.

Councillor Atkinson has concerns that by consulting with the community, the views of community members may be quite different to those in the Speed Management Guide.

Councillor Barnett – what level of communication will be used to the Tram Road users. Mr Rice confirmed consultation will be a wide communication.

Councillor Barnett, suggested that there should be consideration given to when the Mandeville Business development is set to be constructed and open.

Moved Councillor Doody seconded Deputy Mayor Felstead

**THAT** the Utilities & Roading Committee

(a) **Receives** report No. 160803076046.

(b) **Supports** the calculation of appropriate speed limits in the Mandeville North area using the existing “Setting of Speed Limits Rule”.

(c) **Supports** a review of the speed limits calculated above, against the objectives and priorities of NZTA’s draft Speed Management Guide, to ensure consistency with the guide.

(d) **Supports** the identification and evaluation of additional speed management treatment using the draft guide.

(e) **Supports** consultation with the local community, road users (including the Automobile Association and Road Transport Association), and Police regarding speed limits in the Mandeville North area.

(f) **Notes** that staff will report back to the Committee the results of the speed limit calculations and the community views with a recommendation on speed limit changes.

(g) **Circulates** this report to the Oxford Eyre Advisory Board.

**CARRIED**

Deputy Mayor Felstead believes this review is well overdue.

Councillor Barnett has concerns with the way the recommendation is set up, with the establishment of an appropriate speed limit still to be set. Setting a speed limit doesn’t change driver behaviours, drivers need to be aware of all the conditions of the road. It is important that all the commuters who use the road everyday need to be included in the consultation process.
Mayor Ayers noted the recent developments in the area, with some having 50kph speed limits imposed but not in others, but it is important to note the varying conditions of these areas which are quite different.

6.3 **Pegasus to Waikuku Beach Link – Kaiapoi Pa Road Upgrade – Bill Rice (Senior Transport Engineer)**

Messrs Bill Rice and Ken Stevenson presented this report. Mr Rice provided some background information on this issue, 7km drive from Waikuku Beach to Pegasus School using the current route, which would be shortened to 4km if travelling through Kaiapoi Pa Road. Based on the cultural assessment that has been undertaken it is

There was discussion on this matter that had gone to the Woodend-Ashley Community Board at the August meeting of this Board. There was an additional recommendation to Council agreed by the Board. This recommendation, as follows, was conveyed to the Committee:

**Recommendation from the Board**

**THAT the Woodend-Ashley Community Board**

(g) Approves that a road connection from Pegasus to Waikuku be investigated by staff with the funding, $70,000 that was previously allocated for the Kaiapoi Pa Road upgrade being used for that purpose

Moved Councillor Farrant seconded Councillor Brine

That this report lie on the table until the September Committee meeting.

CARRIED

A Division was called

For: Councillors Farrant, Brine and Doody
Against: Mayor Ayers, Deputy Mayor Felstead

6.4 **Renewal of Drainage Maintenance Contract 11/52 – Greg Bennett (Land Drainage Engineer)**

Messrs Bennett and Davies presented this report to the committee

Moved Councillor Farrant seconded Councillor Doody

**THAT the Utilities & Roading Committee**

(a) **Receives** report 160714067865.

(b) **Approves** the renewal of the Drainage Maintenance Contract 11/52 to Michael Stopforth Contracting Ltd for a further one year from the 1st of July 2016.

(c) **Notes** that this is the final year of this contract.

CARRIED
6.5 Waimakariri District Stockwater Race Users Customer Satisfaction Survey – Janet Fraser (Utilities Planner) and Greg Bennett (Land Drainage Engineer)

Messrs Bennett and Simpson presented this report presenting the findings the Stockwater Race Users Customer Satisfaction survey to the committee. Mr Bennett noted that there was 41.8% of response rate to the survey, roughly 70% of respondents were using the stockwater races. Over 60 of respondents thought it was important to have a stockwater race on their properties. The findings of the survey said there is general support of the race maintenance currently in place. Some indicated that they were unsure of their responsibilities in relation stockwater races on their properties. It is intended to circulate information fliers and provide education on this matter.

Moved Deputy Mayor Felstead seconded Councillor Farrant

THAT the Utilities and Roading Committee

(a) Receives report No. 160415033885

(b) Approves the Stockwater Race Users Customer Satisfaction Survey (TRIM 160329026818) for publication on the Council’s website.

(c) Notes the survey responses show, overall, that 79% are either satisfied or had no response to the question about overall satisfaction with the stockwater race service, whilst 21% are dissatisfied with the service.

(d) Notes a majority of respondents (60%) think it is important to have access to a stockwater race on or adjacent to their property, and 69% are using the races for a variety of purposes.

(e) Notes these responses indicate there is general support for the provision of a stockwater system in the District and that the service provided is still relevant to its customers.

(f) Notes that there is general support among survey respondents for the water race maintenance arrangements currently in place, and notes no changes to the responsibility for race maintenance are recommended.

(g) Notes that an information flier and other means of education covering maintenance responsibilities, methods for private race maintenance and reporting of supply issues via the Council’s service request system will be prepared and circulated to all stockwater rate payers.

(h) Notes specific issues with reliability and maintenance will be worked through with affected property owners’.

(i) Notes staff will prepare a further report on issues with stockwater race maintenance and outline proposals to address these.

(j) Notes it is intended to repeat the survey every five years in order to continue to gauge the overall levels of customer satisfaction with the stockwater race system.

CARRIED
6.6 Designated Fire Hydrant Filling Points for Contractors Water Tankers – Sean de Roo (Utilities Engineering Officer)

Messrs Sean de Roo and Kalley Simpson were present for this report, Mr de Roo presented the report advising the locations of designated fire hydrant filling points that have been installed around the district. Mr Simpson noted that there has been issues previously with unauthorised people using the fire hydrants.

Mr Cleary acknowledged that this matter should have been taken to the Community Boards, before installation of the filling points.

Moved Councillor Farrant seconded Deputy Mayor Felstead

THAT the Utilities and Roading Committee

(a) Receives report No. 160805076724.

(b) Notes that eight Water Tanker Filling Points have been installed across the district to provide a safe means for contractors to fill tankers, reduce disruption and damage caused by contractors using existing fire hydrants and to ensure backflow prevention is in place to protect the community water supply.

(c) Notes that an education programme will be undertaken to inform the public and contractors on the purpose of the Designated Fire Hydrant Filling Points by erecting signs at the sites and also information on the Council’s website.

(d) Notes that staff are to investigate the aesthetic visual aspects of these new hydrants and report back to the Committee.

(e) Circulates this report to all community and advisory boards for their information.

CARRIED

Deputy Mayor believes there needs to be differentiation between the fire hydrants and Water tanker filling points.

Mayor Ayers suggested it is important that the Council need to be careful where these are located.

Councillor Atkinson noted that the aesthetics are important with the locations of these, conveying the sentiments of all the Kaiapoi Community Board meetings. Every one of these things that the Council does make sure they are put in places that are acceptable to the community.

Councillor Barnett also supported this issue should have come through the Community Board first and the views of the members are important. Important to use the community for feedback.

Councillor Farrant believes that it doesn’t hurt to have a reminder that whatever the Council does, there is a wider issues needing to be considered.
6.7 Request for additional budget for Mandeville Water Renewals – Colin Roxburgh (Water Asset Manager)

Messrs Colin Roxburgh and Gary Stevenson presented this report, seeking additional funding to complete the first stage of the Mandalea Road water main renewal project that is programmed for the 2016/17 financial year. There is an additional $14,000 required to cover the shortfall. This is bringing forward

Moved Councillor Brine seconded Councillor Doody

THAT the Utilities & Roading Committee recommends

THAT the Council:

(a) Receives report No. 160801074771.

(b) Approves an additional $14,000 of funding to be allocated to the Mandeville Water Main Renewals budget (100627.000.5104) to bring the total budget to $44,000, and notes that this will be depreciation funded.

(c) Notes that this will allow the first stage of the Mandalea Road water main renewal to be completed to reduce the risk of ongoing leaks and bursts on this part of the scheme.

(d) Circulates this report to the Oxford Eyre Ward Advisory Board for their information.

CARRIED

6.8 Fernside Water Supply Upgrading and Funding Options – Gary Stevenson (Utilities Projects Team Leader) and Colin Roxburgh (Water Asset Manager)

Messrs Stevenson and Roxburgh presented this report presenting the Fernside water supply upgrading and funding options. There were five options assessed and Gary provided information the recommended option and

Mr Stevenson noted that staff have spoken with the Rangiora Community Board last week on this matter, and plan to speak informally with Oxford-Eyre Ward Advisory Board next week.

Deputy Mayor Felstead enquired about the recently drilled Ohoka well and had this been considered. Mr Roxburgh said this had been considered but it was a long way

Moved Deputy Mayor Felstead seconded Councillor Farrant

THAT the Utilities and Roading Committee

(a) Receives report No.160608053802.

(b) Notes that Staff have considered a number of options to upgrade the Fernside Water Supply and that Upgrade Option A – Connect Fernside to Mandeville (Lilly Road to Fernside Headworks) has been identified as the recommended upgrade option.
(c) **Endorses** the joining of the Fernside and Mandeville Water Supply Schemes as per Upgrade Option A (new pipe from Lilly Road to Fernside headworks).

(d) **Receives** for comment the proposed consultation flyer and feedback form (Trim 160805076680 & 160805076681) which are proposed to be mailed to Fernside and Mandeville water supply scheme customers on 19 August 2016.

(e) **Instructs** Council staff to consult with the Fernside and Mandeville communities to inform them of the preferred upgrade option for the Fernside scheme, and to seek feedback from the communities on their preferred funding option to fund the upgrade.

(f) **Notes** that public consultation will be undertaken from 20 August to 17 September 2016 and that the feedback received will be collated and presented to Council on Tuesday 4 October for consideration in order for Council to make a decision on which funding option to adopt.

(g) **Circulates** this report to the Rangiora Community Board and the Oxford Eyre Ward Advisory Board for their information.

**CARRIED**

7. **REPORT FOR INFORMATION ONLY**

7.1 **Contract 16/19 Wards Road and West Bradleys Road Stormwater Drain Upgrade Tender Evaluation Report** – Ben Pearce (Project Engineer) and Kalley Simpson (3 Waters Manager)

(refer to copy of report no. 160427037594 to the Management Team meeting of 27 June 2016)

*Item 7.1 previously circulated*

7.2 **Request to approve quote from Wai-Ora Forest Landscapes Ltd to plant the banks of the Kaikanui Stream** – Greg Bennett (Land Drainage Engineer)

(refer to copy of report no. 160715068686 to the Management Team meeting of 25 July 2016)

7.3 **Consultant Engagement for Oxford WWTP Aeration Renewal Design** – Ric Barber (Wastewater Asset Manager)

(refer to copy of report no. 160627061399 to the Management Team meeting of 1 August 2016)

Moved Councillor Brine seconded Councillor Farrant

**THAT** the information in Items 7.1 – 7.3 be received

**CARRIED**

8. **PORTFOLIO UPDATES**

8.1 **Roading and Residential Streetscape – Cr John Meyer**

Councillor Meyer is absent.
8.2 **Stockwater and Drainage – Deputy Mayor Kevin Felstead**

8.3 **Utilities (Water Supplies and Sewer) – Cr Peter Farrant**

8.4 **Solid Waste – Cr Robbie Brine**

Comprehensive briefing from CWS with regard to transport arrangements and the history involved on how these came to. Mr Gareth James is happy to come to speak to the new Council. It is recommended that this be included in one of the briefings to Council

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

*Section 48, Local Government Official Information and Meetings Act 1987*

Moved Councillor Farrant seconded Deputy Mayor Felstead

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

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PUBLIC EXCLUDED REPORTS FOR INFORMATION ONLY – reports previously circulated to members

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**CLOSED MEETING**

Resolution to resume in open meeting

Moved Councillor Farrant seconded Deputy Mayor Felstead

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

**CARRIED**

**OPEN MEETING**

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 6.23pm.

CONFIRMED

_______________________  ______________________
Chairman  Date
1. **SUMMARY**

1.1. The purpose of this report is twofold:

1.1.1. To gain Utilities and Roading Committee approval for the deferral of the West Belt Boost Main project that is programmed to be carried out over the 2016/17 and 2017/18 financial years and for this to be re-included in the Long Term Plan.

1.1.2. To re-allocate $170,000 that is budgeted to carry out the Johns Road East Supply Main project this year to instead provide the required additional funding for the South Belt Boost Main and Northbrook Road Boost Main projects.

**West Belt Boost Main Deferral:**

1.2. This project was identified in the 2015 Rangiora Water Supply Activity Management Plan to improve the resilience of the Rangiora scheme while the 2015-25 Long Term Plan identified this as a growth project. The growth requirements for the Rangiora water supply have been reviewed and it has been confirmed that this project is not required to service growth, therefore it is recommended that the project be deferred until the main is due for renewal in 2021/22.

**Reallocation of Johns Road East Supply Main Budget:**

1.3. The Johns Road East Supply Main was originally identified as a growth project, however the growth projections have been revised and it has been identified that this project is no longer required for the purpose of servicing growth.

1.4. It has been identified that existing budgets for the South Belt Boost Main and Northbrook Road Boost main projects are insufficient for the scope of works that are required to be carried out this financial year.

1.5. It is recommended that the Johns Road East Supply Main budget of $170,000 be reallocated with $100,000 going to the Northbrook Road Boost Main project and $70,000 going to the South Belt Boost Main project.

**Attachments:**
i.  

PDU Memo - Johns Road East and West Belt Booster Main Water Upgrades (record number 160829087239).

2. RECOMMENDATION

THAT the Utilities and Roading Committee recommends:

THAT the Council:

(a) Receives report No. 160913094225.

(b) Notes that the Johns Road East Supply Main and West Belt Boost Main projects are not required to accommodate growth at this stage.

(c) Approves the West Belt Boost Main budget being deferred until the 2021/22 financial year.

(d) Approves the Johns Road East Supply Main budget of $170,000 to be reallocated with $100,000 going to the Northbrook Road Boost Main project and $70,000 going to the South Belt Boost Main project.

(e) Circulates this report to the Rangiora Community Board for their information.

3. ISSUES AND OPTIONS

3.1. The purpose of this report is twofold:

3.1.1. To gain Utilities and Roading Committee approval for the deferral of the West Belt Boost Main project that is programmed to be carried out over the 2016/17 and 2017/18 financial years.

3.1.2. To re-allocate $170,000 that is budgeted to carry out the Johns Road East Supply Main project this year to instead provide the required additional funding for the South Belt Boost Main and Northbrook Road Boost Main projects.

Deferral of West Belt Boost Main

3.2. West Belt Boost Main. This project was identified in the 2015 Rangiora Water Supply Activity Management Plan as project AMP0230. The scope is to install a 200mm diameter main along West Belt from Seddon Street to High Street to replace the existing 100mm diameter asbestos cement (AC) main, and to provide an additional level of resilience to the scheme. The budget allowance for this work is $300,000 split over the 2016/17 and 2017/18 financial years.

3.3. It is noted that the West Belt Boost Main project was identified as a growth project in the 2015-25 Long Term Plan, but was not a growth project in the 2015 Rangiora Water Supply Activity Management Plan. For this reason the Network Planning Team of the Project Delivery Unit has carried out a review and confirmed that the West Belt Boost Main project is not required specifically to service growth.

3.4. Given that the above project is not required to accommodate growth, it is recommended that it be deferred until the main is due for renewal. This will ensure that the use of the existing main is maximised before being replaced.

3.5. Based on the age of the existing mains and the burst history, the West Belt main is expected to be required to be renewed in five years’ time. Therefore, it is recommended that the capital projects be deferred until the 2021/22 financial year.
3.6. It is noted that although the increase in size of the main is not required for growth, this increased capacity will be valuable in order to improve the resilience of the Rangiora water network. The main will essentially fill a gap in the existing network, and provide an alternative trunk main route in the event of a failure or failures in key trunk mains.

3.7. It is proposed that a resiliency study be carried out on the Rangiora scheme. This would confirm the benefit offered by renewing the West Belt main with a larger than existing pipe, as well as potentially identifying other pipes that may offer wider benefits in terms of network resiliency if they are replaced with larger diameter mains in the future. This will allow any projects with resiliency benefits to be identified and prioritised.

3.8. The intention of deferring this work is to firstly ensure that projects are not carried out for the purpose of allowing for growth that are no longer required, and secondly to ensure that if projects are carried out for the purpose of adding resiliency that this expenditure be prioritised accordingly and the timing managed to ensure that the life of existing mains is maximised where possible.

Reallocation of Johns Road East Supply Main Budget

3.9. The Johns Road East Supply Main project was identified in the 2012 Rangiora Water Supply Activity Management Plan as project AMP0231. The scope is to install a 200mm diameter main along Johns Road from King Street to Percival Street to replace the existing 150mm diameter asbestos cement (AC) main, and to allow for growth. The budget allowance for this work is $170,000.

3.10. Since the 2012 Rangiora Water Supply Activity Management Plan was prepared the growth projections for Rangiora have been revised. The Network Planning Team of the Project Delivery Unit has carried out a review and identified that the Johns Road project is no longer required to service growth.

3.11. It has been identified that existing budgets for the South Belt Boost Main and Northbrook Road Boost main projects are insufficient for the scope of works that are required to be carried out this financial year.

3.12. The Northbrook Road Boost Main budget is currently set at $70,000 however it has been identified that a total budget allocation of $170,000 is required to complete this project. It is recommended that $100,000 from the Johns Road East Supply Main budget be reallocated to cover the shortfall that has been identified with the Northbrook Road Boost Main project.

3.13. The key reasons for the budget shortfall are that there are two elements of the project which have the potential to add significant cost relative to other water main projects of this scale. There is a large stormwater culvert crossing, and there will be additional traffic management costs associated with working in Percival Street, Victoria Street and Northbrook Road which have high traffic volumes. These issues were not given appropriate weighting when the budget was first set.

3.14. The South Belt Boost Main project currently has a total budget allocation of $360,000. This budget has been reviewed and it has been deemed that a total budget of $430,000 will be required based on the detailed design that has been completed. It is recommended that $70,000 from the Johns Road East Supply Main budget be reallocated to cover the shortfall that has been identified with the South Belt Boost Main project.

3.15. The Management Team has reviewed this report and supports the recommendations.
4. **COMMUNITY VIEWS**

4.1. The community has not been consulted with regard to this report.

5. **FINANCIAL IMPLICATIONS AND RISKS**

5.1. The reallocation of the Johns Road East Supply Main budget to be used on other projects will have minimal rating impact as the total expenditure will not change, and all expenditure will still be within the Rangiora water supply scheme.

5.2. The deferral of the West Belt Boost Main project will have a positive rating impact by deferring the timing of the expenditure.

5.3. In terms of development contributions, the nett effect of the proposed funding changes is that the Rangiora water development contribution will be reduced. The West Belt Boost Main project was previously identified as a solely growth related project. It is now proposed that this be defined as partially growth related which will reduce the Rangiora water development contribution by approximately $140.

5.4. The Johns Road East Supply Main was previously defined as a solely growth related project. It is now proposed that this funding be reallocated to the South Belt Boost Main and Northbrook Road Boost Main projects, both of which are also solely growth related projects. Hence this reallocation will have no change to the Rangiora water development contribution.

6. **CONTEXT**

6.1. **Policy**

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

6.2. **Legislation**

NA

6.3. **Community Outcomes**

These projects are 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.
Colin

As requested I’ve had a closer examination of two water main upgrades that are currently in the 2016/17 Budget. The two projects are outlined in Table 1.

Table 1 - Projects Identified for Investigation

<table>
<thead>
<tr>
<th>Project</th>
<th>Description</th>
<th>AMP Ref</th>
<th>Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Johns Road East</td>
<td>Supply Main 200mm dia main along Johns Road from</td>
<td>AMP0231</td>
<td>$150,000</td>
</tr>
<tr>
<td>Supply Main</td>
<td>King Street to Percival Street</td>
<td></td>
<td></td>
</tr>
<tr>
<td>West Belt Boost</td>
<td>Main 200mm dia main along West Belt from Seddon</td>
<td>AMP0230</td>
<td>$300,000</td>
</tr>
<tr>
<td>Main</td>
<td>Street to High Street</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

These two projects were both part of the 2012 AMP project list and were identified through 50 year growth modelling of the Rangiora water scheme at the time. Refer TRIM 121023073800 for the 2012 AMP document and Figure 2 which shows the two projects. Note however that West Belt Booster Main is referred to as West Belt North Booster Main in the 2012 document as another upgrade south of High Street was still be undertaken at the time.

Following a review of the growth model for Waimakariri District the Project Delivery Unit undertook another study in 2014 to re-examine the growth related upgrades for the Rangiora Water Scheme. This information was to inform the 2015 AMP and the future capital works budgets. Refer to TRIM 150213021192 for the 2014 50 Year Water Supply Upgrades and Figure 3 which shows the upgrades identified in the 2014 study for the 2015 AMP. Refer also to TRIM 150112003122 for the Growth Model Report on which the 50 year upgrades were based.

From examining the two sets of results (2012 and 2015) they are somewhat similar across Rangiora. Some of the upgrades identified in 2012 were completed in time for the 2015 AMP whilst other projects were removed or added in response to changes in the projected growth modelling. Of note is the fact that both the ‘Johns Road East Supply Main’ and the ‘West Belt Boost Main’ are no longer required in the 2015 AMP. There isn’t a definitive reason as to why these upgrades are no longer required, although the projected 50 year growth forecasts for Rangiora were scaled back in the 2014 growth study compared to the previous study so it is reasonable to conclude that the reduced growth forecast is the reason why these two projects no longer appear in the growth related project list.
Figure 1 shows a comparison between the two growth studies.

![Rangiora Water Projected Rating Units](image)

Figure 1 - Growth Model Comparison

The 2014 growth model shows a higher initial number of rating units and a higher corresponding growth rate over the first 10 year period. However after the first 10 year period the 2014 growth predicts a much reduced rate of growth out to 2064. The higher initial figures in the 2014 model are a combination of earthquake related growth contributing to a higher starting value and developer led growth in Rangiora over the first 10 year period. The lower long term values are indicative of the Statistics New Zealand forecasts for Rangiora and the wider Waimakariri District. The number of rating units at 2060 is approximately 12% lower in the 2014 growth model when compared to the 2011 growth model.

Both the Johns Road and West Belt projects do have some value in providing additional resiliency in the system and both provide linkages to existing 200mm diameter mains in other parts of the network (effectively filling in gaps in the network). However neither project should be described as a growth project as neither is needed for the projected growth over the next 50 years. Consideration should be given to leaving these projects in the budget for resilience but they should both be removed from any Development Contribution calculations. If these projects are done as part of resiliency improvements then further consideration should be given to the timing and affordability of both. It would be sensible to programme both in conjunction with any future Roading upgrades in the respective areas.

Chris Bacon
Network Planning Team Leader
Figure 2 - 2012 AMP Rangiora Water Projects
Figure 3 - 2015 AMP Rangiora Water Projects
WAIMAKARIRI DISTRICT COUNCIL

REPORT

FILE NO and TRIM NO: WAT-03 / 160914094969

REPORT TO: Utilities and Roading Committee

DATE OF MEETING: 27 September 2016

FROM: Colin Roxburgh, Water Asset Manager

SUBJECT: Summary of Status of Council Water Supply Schemes

SIGNED BY: (for Reports to Council or Committees)

Department Manager

Chief Executive

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>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>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>Fully compliant.</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 Pegasus. 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). 2016/17.</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>Yes¹</td>
<td>2016</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>Fully compliant.</td>
</tr>
<tr>
<td>Ohoka</td>
<td>230</td>
<td>One deep well on Bradley’s Road</td>
<td>80 m</td>
<td>Chlorine</td>
<td>Yes</td>
<td>Yes²</td>
<td>2016</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. 2017/18.</td>
</tr>
<tr>
<td>Scheme</td>
<td>Approx. Population</td>
<td>Source Description</td>
<td>Bore Depth (approx.)</td>
<td>Treatment</td>
<td>Compliance with DWSNZ Bacterial Compliance</td>
<td>Compliance with DWSNZ 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>Poyntzs Road</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.</td>
</tr>
<tr>
<td>Oxford Rural No.1</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.</td>
</tr>
<tr>
<td>Oxford Rural No.2</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.</td>
</tr>
<tr>
<td>Summerhill</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.</td>
</tr>
<tr>
<td>Mandeville</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.</td>
</tr>
<tr>
<td>Fernside</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).</td>
</tr>
<tr>
<td>West Eyreton</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.</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>
<th>Source (Days)</th>
<th>Reticulation (Days)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rangiora</td>
<td></td>
<td>135</td>
<td>6</td>
</tr>
<tr>
<td>Kaiapoi (incl. Pines Kairaki)</td>
<td></td>
<td>135</td>
<td>8</td>
</tr>
<tr>
<td>Woodend</td>
<td></td>
<td>135</td>
<td>11</td>
</tr>
<tr>
<td>Pegasus</td>
<td></td>
<td>135</td>
<td>11</td>
</tr>
<tr>
<td>Waikuku Beach</td>
<td></td>
<td>5</td>
<td>11</td>
</tr>
<tr>
<td>Cust</td>
<td></td>
<td>13</td>
<td>45</td>
</tr>
<tr>
<td>Oxford Urban</td>
<td></td>
<td>135</td>
<td>11</td>
</tr>
<tr>
<td>Ohoka</td>
<td></td>
<td>13</td>
<td>45</td>
</tr>
<tr>
<td>Garrymere</td>
<td></td>
<td>13</td>
<td>45</td>
</tr>
<tr>
<td>Poyntz Road</td>
<td></td>
<td>13</td>
<td>45</td>
</tr>
<tr>
<td>Oxford Rural No.1</td>
<td></td>
<td>5</td>
<td>11</td>
</tr>
<tr>
<td>Oxford Rural No.2</td>
<td></td>
<td>5</td>
<td>11</td>
</tr>
<tr>
<td>Summerhill</td>
<td></td>
<td>135</td>
<td>45</td>
</tr>
<tr>
<td>Mandeville</td>
<td></td>
<td>5</td>
<td>11</td>
</tr>
<tr>
<td>Fernside</td>
<td></td>
<td>13</td>
<td>45</td>
</tr>
<tr>
<td>West Eyretton</td>
<td></td>
<td>135</td>
<td>45</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>
</tr>
<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:

a) To advise the Utilities and Roading Committee of the feedback from the public consultation on the proposed joining of the Woodend and Pegasus water supplies; and

b) To seek a recommendation from the Committee to proceed with joining the supplies, which will be forwarded to Council in October 2016.

1.2 Submissions closed on 26 August 2016 with a total of 313 submissions received, including two submissions from the Canterbury District Health Board and the Pegasus Residents Group Inc. There were 2,096 feedback forms sent to connected properties and of these, 311 were returned to the Council, which is a response rate of 15%.

1.3 In total 73% of all submitters from the Woodend, Tuahiwi and Pegasus communities supported the Council’s proposal to join the Pegasus and Woodend water supplies. Of the submitters, 73% of respondents from Woodend, compared with 74% of those from Pegasus supported joining the supplies.

1.4 Overall, from the public feedback, the main reasons for supporting the proposal were:

- Wanting improved water quality
- Not wanting a chlorinated supply
- Wanting a decrease in rates
- Having the Bramleys Road well connected

1.5 The main reasons for opposing the proposal were:

- Concern about contamination risk
- Belief that they would be subsidising others
- Not wanting an increase in rates
- Concern about manganese discoloration
1.6 Given the overall benefits of joining the schemes, and the overall community support for the proposal, this report recommends that the U&R Committee support the joining of the Woodend and Pegasus water supplies.

1.7 This report was considered by the Woodend Ashley Community Board on Monday 19th September. The Board supports the joining of the schemes and adopted the recommendations in this report with the inclusion of an additional recommendation that the Council considers taking a staged approach (over two years) to joining the schemes financially so that the Pegasus residents’ rates increase is more gradual.

1.8 If the proposal proceeds, the schemes would be joined financially in 2017/18 once the work to join the schemes is underway. The treatment system upgrade at the Pegasus water treatment plant is programmed to be completed during the 2017/18 financial year. Joining the supplies physically with the pipeline along Pegasus Boulevard and Main North Road is anticipated to occur in the 2018/19 financial year.

Attachments:

i. Pegasus summary of submission comments
ii. Woodend summary of submission comments
iii. Canterbury District Health Board submission
iv. Pegasus Residents Group Inc. submission
v. Information brochure on the proposal
vi. Feedback form for the proposal

2 RECOMMENDATION

That the Utilities and Roading Committee recommends:

That the Council:

(a) Receives report No. 160915095497.

(b) Notes that approximately 73% of the Woodend, Tuahiwi and Pegasus submissions were in favour of the proposal to join the Pegasus and Woodend water supplies. Approximately 73% of Woodend and Tuahiwi respondents support the proposal, and 74% of Pegasus respondents support the proposal.

(c) Notes that the Woodend Ashley Community Board supports the joining of the Woodend and Pegasus water supplies and recommends that the Utilities and Roading Committee adopt recommendations a to h.

(d) Resolves to join the Woodend and Pegasus water supplies physically and financially.

(e) Requests staff to investigate a two year phase in of the financial amalgamation and that this is to be considered as part of the 2017/18 Draft Annual Plan in response to Pegasus residents’ submissions.

(f) Notes that the financial amalgamation of the Woodend and Pegasus water supply schemes will occur in the 2017/18 financial year and will be consulted as part of the 2017/18 draft Annual Plan.

(g) Notes that Council staff have commenced a wider review into the safety of the district water supplies in light of the Havelock North contamination event, and this review will be completed prior to the programmed discontinuation of chlorination on the Pegasus water supply.
(h) Notes that Council staff will write to the scheme members, the Canterbury District Health Board, and the Pegasus Residents’ Group to advise the outcome of the consultation and the proposed way forward.

3 ISSUES AND OPTIONS

3.1 Background

3.2 Public consultation with the Woodend, Tuahiwi and Pegasus communities commenced on 1 August 2016 and closed on 26 August 2016, regarding physically and financially joining the Woodend and Pegasus water supplies.

3.3 A previous report to the Woodend-Ashley Community Board was presented in July 2016, asking for endorsement of the consultation package for the Woodend, Tuahiwi and Pegasus communities (TRIM reference number 160628061761). The proposal to consult was endorsed by the Board.

3.4 Other reports to Council and the Utilities and Roading Committee have been presented on this proposal (TRIM reference numbers 150119006337[v2] and 160602052229 respectively). These reports are available upon request.

3.5 In brief, the proposal is to physically and financially join the Woodend and Pegasus water supplies. This will involve the following key steps:

  i. Convert the Pegasus filter to a biological manganese removal filter, and treat all water for the scheme at the Pegasus water treatment plant.

  ii. Discontinue chlorination of the Pegasus water supply.

  iii. Construct water mains to link the two supplies, from Pegasus Boulevard to Main North Road, and from the Pegasus water treatment plant to Gladstone Road.

3.6 The key benefits of the proposed joining of the schemes are:

- Increased physical resilience
- Increased financial resilience
- Reduced capital costs
- Reduced operating costs
- Reduced combined long term rating impact

3.7 The key risks of the proposal are:

3.7.1 A water supply is more susceptible to contamination if it is unchlorinated. However consultation has shown that the majority of the respondents are prepared to accept this increased risk in order to have the benefits of a non-chlorinated supply. Also the conversion of the Pegasus water treatment plant would include emergency measures to add chlorine to the supply, if required.

3.7.2 Conversion of Pegasus to a biological treatment process may not be successful full scale. However Council staff are confident the conversion is possible as preliminary pilot trial investigations have been undertaken to confirm that the Pegasus water is compatible with biological treatment. Also the Woodend biological filter has been successful at removing manganese for the past 10 years.

3.7.3 Potential for ongoing manganese issues in the combined supply. As a biological filter is unlikely to remove 100% of the manganese entering the water supply, there remains a small risk that, over time, manganese may build-up on the pipes. Council staff are currently working on options for dealing with this issue such as optimising the biological treatment process, possibly adding UV
disinfection, removing dead end mains within the reticulation network, and developing improved monitoring and flushing programmes.

3.8 Consultation Process

3.9 The consultation process was approved by the Utilities and Roading Committee on 21 June 2016, and endorsed by the Woodend-Ashley Community Board on 11 July 2016.

3.10 Consultation commenced on 1 August 2016 and closed on 26 August 2016.

3.11 The consultation process entailed:

- Newspaper advertisements
- Information brochure and feedback form mail delivered to affected water supply rate payers
- Additional information available on the Council’s website
- Advertised phone and email contact details for queries to staff
- Discussing the proposal with the Rūnanga at the joint monthly meeting
- Discussing the proposal with Canterbury District Health Board representatives
- Tuahiwi community drop-in evening
- Woodend and Pegasus community public meetings

3.12 The brochures and feedback forms were mailed to 2,096 Woodend and Pegasus water rate payers.

3.13 The options available on the feedback form were:

- Yes, I want the Woodend and Pegasus water supplies to join
- No, I do not want the Woodend and Pegasus water supplies to join

3.14 In addition to the brochures and feedback forms, flyers were hand delivered to Tuahiwi residents to advertise a drop-in evening. This evening covered several different Council infrastructure proposals, including joining the water supplies. The drop in evening was held on 15 August 2016.

3.15 Public meetings were held in Pegasus and Woodend on the 17 and 18 August, respectively.

3.16 A full page advertisement was published in the Northern Outlook on 30 July 2016 and repeated on 13 August 2016 as a reminder about the proposal and public meetings.

3.17 There were also several documents available on the Waimakariri District Council’s website, including the reports to Council, Utilities and Roading Committee and Woodend-Ashley Community Board, News Paper Advertisement, Woodend and Pegasus Activity Management Plans, Frequently Asked Questions document, Consultation Programme, Information Brochure and Feedback form.

3.18 Feedback forms were received and collated by Council Staff. The feedback forms have been scanned and are available in TRIM, and also electronically to view in the Councillors electronic drop box.
3.19 Feedback from Consultation

3.20 A total of 311 feedback forms were received from the Woodend and Pegasus water supply rate payers. This includes late submissions, which were received and reported until Tuesday 6 September 2016.

3.21 Two submissions were also received from the Pegasus Residents’ Group Inc. and the Canterbury District Health Board.

3.22 The 311 returned feedback forms represent 15% of the total feedback forms sent out to the community. This response is considered to provide a good indication of wider community views on the proposal.

3.23 A total of 128 feedback forms were received from the Woodend (including Tuahiwi) water supply rate payers. In total, 73% of Woodend and Tuahiwi respondents want the Woodend and Pegasus water supplies to join and 25% do not want the supplies to join. The remaining 2% had no opinion on the proposal.

3.24 A further 183 feedback forms were received from the Pegasus water supply rate payers. In total, 74% of Pegasus respondents want the Woodend and Pegasus water supplies to join and 25% do not want the supplies to join. The remaining 1% had no opinion on the proposal.

3.25 Overall 73% of the Woodend, Tuahiwi and Pegasus respondents want the Woodend and Pegasus water supplies to join and 25% do not want the supplies to join, with 2% having no opinion.

3.26 The following 2 tables summarise the above results.

**Table 1: Talley of respondents for or against the proposal**

<table>
<thead>
<tr>
<th>Scheme</th>
<th>Yes</th>
<th>No</th>
<th>No Opinion</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Woodend</td>
<td>93</td>
<td>32</td>
<td>3</td>
<td>128</td>
</tr>
<tr>
<td>Pegasus</td>
<td>135</td>
<td>45</td>
<td>3</td>
<td>183</td>
</tr>
<tr>
<td>Total</td>
<td>228</td>
<td>77</td>
<td>6</td>
<td>311</td>
</tr>
</tbody>
</table>

**Table 2: Percentage of respondents for or against the proposal**

<table>
<thead>
<tr>
<th>Scheme</th>
<th>% Yes</th>
<th>% No</th>
<th>% No Opinion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Woodend</td>
<td>73%</td>
<td>25%</td>
<td>2%</td>
</tr>
<tr>
<td>Pegasus</td>
<td>74%</td>
<td>25%</td>
<td>1%</td>
</tr>
<tr>
<td>Total</td>
<td>73%</td>
<td>25%</td>
<td>2%</td>
</tr>
</tbody>
</table>
3.27 There were significantly more respondents supporting the joining of the schemes ("yes"), than keeping them separate ("no").

3.28 There were more respondents from Pegasus (183) than from Woodend and Tuahiwi (128). However, among all respondents the proportion indicating "yes" to the proposal were similar. However the comments supporting each community's views were very different.

3.29 Three phone calls and three emails were also received to discuss the proposal.

3.30 Approximately 50 people attended the Pegasus public meeting and approximately 30 people attended the Woodend public meeting. At each meeting Council staff gave a power-point presentation with additional information on the proposal then answered residents’ questions.

3.31 Comments from the public meetings, emails, phone calls and feedback forms were collated and grouped into common themes and summarised in the Table below.
Table 3: Comments Collated and Summarised from the Pegasus and Woodend Water Supply Ratepayers

<table>
<thead>
<tr>
<th>Comment Theme</th>
<th>Woodend</th>
<th>Pegasus</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>General agree</td>
<td>Yes 16</td>
<td>No 0</td>
<td>Yes 22</td>
</tr>
<tr>
<td>Want better water quality</td>
<td>Yes 7</td>
<td>No 1</td>
<td>Yes 19</td>
</tr>
<tr>
<td>Don’t want chlorine</td>
<td>Yes 7</td>
<td>No 3</td>
<td>Yes 15</td>
</tr>
<tr>
<td>Concerned about the contamination risk</td>
<td>Yes 2</td>
<td>No 1</td>
<td>Yes 5</td>
</tr>
<tr>
<td>General objection</td>
<td>Yes 0</td>
<td>No 16</td>
<td>Yes 0</td>
</tr>
<tr>
<td>Subsidising others</td>
<td>Yes 0</td>
<td>No 9</td>
<td>Yes 3</td>
</tr>
<tr>
<td>Opposed to the increase in rates</td>
<td>Yes 0</td>
<td>No 2</td>
<td>Yes 9</td>
</tr>
<tr>
<td>Want chlorine</td>
<td>Yes 0</td>
<td>No 0</td>
<td>Yes 3</td>
</tr>
<tr>
<td>Concern about the hardness of the water</td>
<td>Yes 0</td>
<td>No 0</td>
<td>Yes 9</td>
</tr>
<tr>
<td>Have already paid for a home filter</td>
<td>Yes 0</td>
<td>No 0</td>
<td>Yes 5</td>
</tr>
<tr>
<td>Support connecting Bramleys Road well</td>
<td>Yes 2</td>
<td>No 1</td>
<td>Yes 2</td>
</tr>
<tr>
<td>Concerned about the manganese discolouration</td>
<td>Yes 0</td>
<td>No 0</td>
<td>Yes 3</td>
</tr>
<tr>
<td>Cultural concerns with water entering Pegasus</td>
<td>Yes 0</td>
<td>No 4</td>
<td>Yes 0</td>
</tr>
<tr>
<td>Want a decrease in rates</td>
<td>Yes 2</td>
<td>No 0</td>
<td>Yes 1</td>
</tr>
<tr>
<td>Want fluoride</td>
<td>Yes 2</td>
<td>No 0</td>
<td>Yes 0</td>
</tr>
<tr>
<td>Concerned about the effects of construction</td>
<td>Yes 0</td>
<td>No 0</td>
<td>Yes 1</td>
</tr>
<tr>
<td>Don’t want fluoride</td>
<td>Yes 1</td>
<td>No 0</td>
<td>Yes 1</td>
</tr>
<tr>
<td>Want to connect the supply to Woodend Beach</td>
<td>Yes 1</td>
<td>No 0</td>
<td>Yes 0</td>
</tr>
</tbody>
</table>

3.32 Note that three of the themes above (subsidising others, opposed to increase in rates, and want a decrease in rates) all relate to cost in some way. If these were combined to a common theme, it would represent the single largest theme behind “general agree”. Therefore, it is fair to conclude that cost is a significant issue for scheme members.

3.33 Responses to the public consultation comment themes are as follows;

3.34 General Agree: There were forty “general agree” comments. These comments supported the proposal but did not provide reasons for their feedback.

3.35 Want better water quality: From both Pegasus and Woodend water supply ratepayers there were twenty seven comments wanting improved water quality. These comments were mostly all from residents that were in favour of the supplies joining.

The proposed new treatment system would not require chlorine to be added which, in many residents’ views, would improve the water quality.

In addition, the treatment process would be improved by:

- Optimising the well use: Using the wells with the least manganese most of the time, and potentially commissioning the Bramleys Road well.
- Improved biological filter: Utilising the new filters and treatment plant at Pegasus, and optimising the air injection.
- Possibly adding UV treatment: This could help manage the microbes that cause the build-up of biofilm in the reticulation. This still needs to be verified through pilot trials on the Pegasus and Woodend water.
- Removing dead end mains within the reticulation network.
- An improved monitoring and flushing programme.

3.36 **Don’t want chlorine:** There were twenty six comments from the Pegasus and Woodend water rate payers that did not want a chlorinated water supply.

There are risks associated with an unchlorinated water supply as chlorine provides residual disinfection against bacteria (but not protozoa). In many instances across the district (e.g. Rangiora and Oxford water supplies) community consultation has indicated there is a strong preference to have an unchlorinated supply that is nicer to drink, than have chlorine in the water that is safer to drink. These risks were documented in the brochure and discussed during the public consultation meetings.

3.37 **Concerned about the contamination risk:** there were twenty two respondents that commented on the contamination risk to the water supply. Some of these comments were supportive of having chlorine available only for use in an emergency rather than as an ongoing method of protection. This approach would be incorporated in the conversion of the Pegasus Water Treatment Plant.

Another comment received from a Pegasus resident was regarding the health risk of removing chlorine from the supply. Council has presented this risk to the community in both the brochure and public meetings, stating that a chlorinated supply is safer to drink than an unchlorinated supply. This is a risk that needs to be balanced against the overall views of the community.

One of the comments was regarding the risk that if the supplies were to join and if contamination were to occur it could affect many more people. To a small extent, this is a valid point. However, if this argument were taken to its logical conclusion, then every property on the scheme would have its own on-site treatment system. In reality, the optimum water supply is one that has sufficient size to make affordable the investment in reliable good quality sources, robust treatment processes, and an efficient and effective management structure. The combining of the Woodend and Pegasus supplies offers a more reliable, efficient and affordable scheme than operating two separate supplies.

3.38 **General Objection:** There were twenty one general objection comments. Often these comments were unrelated to the proposal or reflected a disbelief in the consultation material.

3.39 **Subsidising others:** There were nineteen comments received from residents who felt they would be partially subsidising others. This was a common theme brought up by both communities. Comments were received regarding paying for Ravenswood, Pegasus or replacing the older infrastructure in Woodend.

There is a misconception regarding the future developments within towns. Some people believe that the existing rate payers pay for development related infrastructure upgrades. This is not the case. Developers are required to fund the upgrade works to ensure the capacity of the water supply keeps up with growth. The funding is provided by either paying Development Contributions for each lot that is connected to the scheme, or by the developer constructing new infrastructure to cater for growth. The current development contribution on Woodend is $4,328 per lot. Generally growth on a water supply reduces rates due to economies of scale. Significant growth in Woodend is predicted and this will result in a long term reduction in water rates.

If the schemes are joined financially infrastructure renewals become a cost to both schemes. As Pegasus is a new scheme it has less immediate renewal requirements than Woodend. However the cost for renewing the assets is allowed for in the rates once the infrastructure is installed. Council subsequently depreciates these assets evenly over time and charges this as an annual cost as part of the water rate for the scheme. So although Pegasus has newer infrastructure the depreciation paid annually is the same as if the infrastructure was nearing renewal, therefore the depreciation costs for both schemes are comparable.
Combining the schemes also maximises the use of existing assets. It ensures the full benefit is obtained from the original investment in infrastructure prior to needing to renew or upgrade assets.

3.40 **Opposed to the increase in rates:** Eighteen comments were received from both Pegasus and Woodend water rate payers regarding rates increases.

As the Pegasus water rate is currently lower than the Woodend water rate, joining the supplies does mean that Pegasus residents would need to pay more and Woodend would pay less, so that the schemes can be joined financially.

The comments from Woodend and Tuahiwi were related to a mistrust of the Council or misunderstanding of the brochure material. It is predicted that the Woodend ratepayers would receive an $80 savings immediately after joining the supplies and $31 savings in approximately 10 years.

The comments from Pegasus were principally related to the $51 increase in rates immediately after joining the supplies. However there is projected to be a $42 savings in approximately 10 years due to growth on the Woodend scheme.

The following figure and table present the financial projections for the schemes if they remain separate and if they join.

![Figure 2: Rating effect of joining Pegasus and Woodend (including Tuahiwi) Water Supplies](image)

<table>
<thead>
<tr>
<th>Water Rates Change</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short Term Woodend</td>
<td>-$80</td>
</tr>
<tr>
<td>Long Term Woodend</td>
<td>-$31</td>
</tr>
<tr>
<td>Short Term Pegasus</td>
<td>$51</td>
</tr>
<tr>
<td>Long Term Pegasus</td>
<td>-$42</td>
</tr>
</tbody>
</table>

By joining the supplies and combining the costs, both schemes benefit financially in the long term.

Joining the rates is considered to be a fair approach, for the following reasons:

1. All scheme members would pay the same rates for the same level of service.
2. All scheme members would benefit from the increased resilience.
3. All scheme members would benefit from long term cost savings.
An alternative approach would be to physically join the schemes but maintain separate rates for approximately six years until both schemes would be achieving a lower rate than if the schemes had remained separate.

While this approach may appease the opposing Pegasus residents, it could generate an objection from Woodend residents on the basis that they would be receiving exactly the same level of service from the same supply, but paying more for the water than Pegasus residents. Additionally, from year 10 onwards the Pegasus rate is predicted to be less than the current Pegasus rate.

In recommending the complete joining of the schemes (financially as well as physically) Council staff have put more weighting on fairness of paying the same rate for the same level of service, while also acknowledging that it is more efficient to administer a scheme that has a common water rate.

It should also be acknowledged that the majority of respondents from Pegasus have supported the funding approach as presented.

3.41 Want chlorine: Fifteen respondents from Pegasus wanted to keep chlorine in the water supply. At the Pegasus public meeting on 17 August 2016 several residents were also concerned about the removal of chlorine from the supply.

The Canterbury District Health Board also supports maintaining an additional disinfection barrier, although this could be partially achieved by adding UV disinfection and does not specifically require chlorination.

It is widely accepted within the water industry that a chlorinated supply is safer to drink than an unchlorinated supply. This needs to be balanced against the improved taste of an unchlorinated supply. It is also important to note that chlorination can introduce its own risks in the form of disinfection by-products (albeit a small risk) and that chlorine does not provide effective disinfection of protozoan contaminants such as cryptosporidium or giardia.

If the chlorine is discontinued at Pegasus, water would be more susceptible to bacteriological contamination that may enter the reticulation. This risk is relatively low however as the reticulation is pressurised, and therefore it is unlikely that contaminants will enter the supply. Additionally, the implementation of the backflow prevention programme for new and existing customers in Woodend and Pegasus will further minimise risks of contaminants entering the reticulation.

With the exception of Pegasus, all the urban water supplies are not treated with chlorine. That is, Woodend, Rangiora, Kaiapoi, Cust, Waikuku Beach and Oxford Urban water supplies are not chlorinated. The intention is to have back up emergency chlorination for all supplies in the Waimakariri District.

All the Waimakariri water supplies are tested regularly in accordance with requirements of the Drinking Water Standards for NZ.

It is acknowledged that campylobacter contamination has recently occurred in the unchlorinated Havelock North water supply affecting over 5,000 customers. This event has understandably led to much discussion and commentary about the safety of NZ water supplies and the benefits of a chlorinated water supply.

A Government inquiry has been established to investigate how the Havelock North water supply became contaminated and whether there are any lessons that could be learned for other water supplies in NZ. While the enquiry may take some time, it is relevant to consider the Havelock North event and the possible implications on the proposal to join the Woodend and Pegasus water supplies, and discontinue chlorination of the Pegasus supply.
It is important to note that the water wells supplying Havelock North are reportedly in the order of 30 metres deep and have experienced contamination in the past, whereas the primary wells supplying Woodend and Pegasus are more than 200 metres deep and have a long history of no contamination at source. Therefore the risk of contamination at source is extremely low. That said, it is acknowledged that the risk to the water supply would be lower if chlorine were added.

The risks and benefits of chlorinating a water supply have been previously considered by the Waimakariri District Council, in consultation with the community and other stakeholders. On those occasions, the benefits of not chlorinating the water supplies and the wishes of the community have outweighed the additional risk associated with an unchlorinated supply.

Following the contamination of the Havelock North water supply, Council staff have commenced a review of all of the district water supplies to consider the risks in light of the Havelock North incident and whether any modifications are recommended. Any such recommendations from this review and/or the Government inquiry would likely apply to all of the Council’s unchlorinated water supplies, rather than just to the Woodend-Pegasus water supply.

If this proposal is adopted by Council, it would take over a year before the Council is ready to discontinue the chlorination at Pegasus. The Council review of our water supplies, and possibly the Government review of the Havelock North water supply, will be completed before this time.

3.42 Concern about the hardness of the water: There were nine comments from the feedback forms and from three residents at the Pegasus public meeting which mentioned the hardness of the Pegasus water. They were particularly concerned about the undesirable white staining of windows, shower glass and build up in their kettles.

Council water quality testing shows that the Pegasus water has a hardness of approximately 60g/m$^3$ as CaCO$_3$; and Woodend has a hardness of approximately 70g/m$^3$ as CaCO$_3$, which is considered to be moderately hard.

The following is a classification of water with respect to the degree of hardness:

<table>
<thead>
<tr>
<th>Classification</th>
<th>Hardness Range (g/m$^3$ as CaCO$_3$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soft</td>
<td>0 - 50</td>
</tr>
<tr>
<td>Moderately Hard</td>
<td>50 - 80</td>
</tr>
<tr>
<td>Hard</td>
<td>80 - 200</td>
</tr>
<tr>
<td>Excessively Hard</td>
<td>&gt; 200</td>
</tr>
</tbody>
</table>

The hardness of natural waters can range from almost zero to several thousand g/m$^3$ as CaCO$_3$. Groundwater supplies are typically range between 100 - 200 g/m$^3$ as CaCO$_3$ and generally waters containing less than 50 g/m$^3$ hardness are corrosive.

Corrosive water can be even more problematic than hard water, as it can result in metals such as lead and copper being leached out of the pipes and affecting the quality of the “first flush” from a tap. This is normally overcome by flushing the taps, especially in the morning, before the water is used for drinking or cooking.

Therefore, it is difficult to get water to the point of having just the right amount of hardness where it does not form excessive amounts of scale, but also does not cause corrosion of pipes and affect the quality of the drinking water.

The Pegasus and Woodend water is classified as “moderately hard”. This is actually a good level of hardness as it would reduce the risk of corrosion of pipework, but still provide the health benefits of moderately hard water. Woodend residents have slightly harder water than Pegasus, however based on comments from Woodend residents they have not noticed the same aesthetic effects as the Pegasus residents.
The Council does not propose to treat the water to reduce the hardness as this would require the addition of chemicals to the water (which is opposed by much of the community) and there would be greater risks associated with making the water more corrosive, if the hardness were reduced.

3.43 **Have already paid for a home filter:** six residents from Pegasus have mentioned that they have filters in their homes to remove the chlorine taste and odour from the water. One household has submitted a “no” to the proposal as they have already spent money on a filter. However the remaining five ratepayers submitted “yes” to the proposal as they preferred non-chlorinated water straight from the tap and to avoid the need to maintain their own filters in future.

3.44 **Supporting connecting Bramleys Road well:** five of the Woodend and Pegasus water ratepayers have commented on wanting the Bramleys Road well to connect into the supply.

One respondent has signalled that they would only submit “yes” if the Bramleys Road well was connected to the supply.

The use of the Bramleys Road source is not certain at this stage. While there would be some significant benefits in joining the Bramleys Road source into the water supply, there is a significant cost in doing so and the amount of water that can be taken from the well is still uncertain. If the yield from the well is sufficient to justify the cost, then the Bramleys Road well will likely be connected into the supply.

Work is currently underway to determine the amount of water than can be taken from the Bramleys Road well. We are hopeful of having a clearer idea of the yield from the well by the end of this calendar year (2016).

There is another relevant benefit in joining the Bramleys Road well, which relates to the cultural sensitivity associated with the proximity of the Pegasus development to the Old Kaiapoi Pa site. A small number of Tuahiwi residents have expressed concerns with their water being treated at Pegasus.

If the Bramleys Road well were to be connected to the combined supply, then the water supplying the Tuahiwi area would almost exclusively come from the Bramleys Road well and this would help address these cultural sensitivities. This is a factor Council staff will take into account when considering whether or not to recommend connecting the Bramleys Road well.

3.45 **Concerned about the manganese discolouration:** There were five residents from Pegasus which commented on the discoloration of the water as a concern. Both supplies have elevated manganese concentrations above the aesthetic guideline specified in the NZ Drinking Water Standards.

Manganese can be undesirable in the water supply as the manganese can precipitate out of solution and cause discolouration of the water. The common problem is the discoloured water staining clothing in the washing process.

There are no health issues associated with drinking tap water which contains dissolved manganese in the concentrations present in the Woodend and Pegasus supplies.

Council believe this risk can be adequately managed with the proposed improved treatment system and careful monitoring and management of the reticulation.

3.46 **Cultural concerns with water entering Pegasus:** At the Tuahiwi drop-in evening a Tuahiwi resident was not supportive of the joining of the schemes as they are opposed to water entering Pegasus before being distributed to the Tuahiwi community. This position was supported to some degree by three written submissions.

The northern extent of Pegasus is in close proximity to the Kaiapoi Pa site on Preeces Road and the land upon which Pegasus is situated was a part of the area where...
important cultural events took place. In its entirety the area is of great significance to Ngāi Tūāhuriri.

The cultural sensitivity of the source water for Tuahiwi was raised and carefully considered during the process to establish a water supply for the community. While some people within the Tuahiwi community raised concerns regarding the location of the source water and the proximity to both the Kaiapoi Pa site and the Woodend wastewater treatment plant, the majority of the community favoured the Woodend source over the Kaiapoi source, based on balance of water quality and affordability of the supply.

A Cultural Impact Assessment (CIA) was commissioned when considering the source options for Tuahiwi. The CIA concluded that the cultural risk associated with the Woodend source (being on Gladstone Road) was low but that the water would have reduced mana associated with its proximity to the wastewater treatment plant. The principal water wells for Pegasus draw from a well field on the south side of Gladstone Road, adjacent to the (Woodend) Gladstone Park wells, and are therefore of similar status to the Gladstone Park wells which currently source the Woodend water.

The specific concern raised was in relation to the water for Tuahiwi being taken from the Gladstone Park area and then passing into Pegasus for treatment, before being returned to Tuahiwi residents by way of Woodend.

Perhaps one mitigating factor could be the possible connection of the Bramleys Road well to the combined water supply. If the Bramleys Road well is connected then the water supplied to Tuahiwi residents would be almost exclusively from this well. It is acknowledged that the use of this well is still being considered. Staff will undertake to put some weighting on the potential cultural benefits of connecting the Bramleys Road well when making a future recommendation to the Council.

3.47 Want a decrease in rates: Three comments were received from Woodend or Pegasus water rate payers saying they were supportive of the proposal as there would be a decrease in their rates. The comment from a Pegasus resident regarding the decrease in rates may have been looking at the rate savings on the scheme in the longer term.

3.48 Want fluoride: Three respondents (two from Woodend and one from Pegasus) wanted fluoride to be added to either the joined or separate water supplies.

The Council currently has no plans to add fluoride to the water supplies in the district.

3.49 Concerned about the effects of construction: Two comments were made raising concerns over the disruption that could be caused by constructing the new water main along Pegasus Boulevard and the modifications at the Pegasus Water Treatment Plant.

Modifications at the treatment plant would be relatively minor and should not cause any material disruption to the public. The pipeline along Pegasus Boulevard would cause some disruption, but this would be relatively short term and relatively minor. These works would be undertaken in a manner to minimise the disruption to the community.

3.50 Don’t want fluoride: Two respondents (one from each of Woodend and Pegasus) did not want fluoride added to the water supply.

Fluoride is not added to any of the water supplies in the district and there are currently no plans to do so.

3.51 Want to connect the supply to Woodend Beach: There was a comment regarding the opportunity to join the combined supply to Woodend Beach as Pegasus is not far from Woodend Beach.

The Council has previously considered connecting Woodend Beach to the Woodend water supply, but the community considered it was unaffordable so it did not proceed at the time. The 3 Waters Team are currently reviewing options for supplying water to Woodend Beach. The combining of the supplies may or may not make the extension to
Woodend Beach more affordable, although an initial assessment is that it is unlikely to materially change the cost.

3.52 Submissions from Other Stakeholders

3.53 Council Staff attended two of the joint Te Ngāi Tūāhuriri Rūnanga and Waimakariri District Council representatives meetings on the 21 July and 18 August 2016 to discuss the proposal (meeting minutes TRIM reference 160719069705 and 160816082136 respectively). It was also requested that Council hold a drop-in evening in Tuahiwi, which was held on 15 August 2016.

Mixed views were received from the community at the drop-in evening. Three people supported the proposal and one person did not. This resident was opposed to the water entering Pegasus for cultural reasons as discussed earlier in this report.

Council staff gave an update at the 18 August 2016 joint meeting, where the Rūnanga queried the purpose of changing the schemes. The meeting minutes also recorded that Rūnanga had “a mind-set against having drinking water associated with Pegasus.” The staff response to this at the meeting was to highlight the benefits of the scheme namely resilience, remove the need to renew the Woodend filter, remove chlorine from the Pegasus supply and the financial benefits to the communities.

As discussed earlier, the possible connection of the Bramleys Road well could mitigate the principal concerns associated with the connection with Pegasus.

3.54 The Pegasus Residents Group Inc. has made a submission on the proposal (TRIM reference number 160824085662). The group is in favour of the proposal, subject to the following;

1. That your water testing regime is robust enough to detect any contaminants at an early stage.

2. That the procedures for adding chlorine remain in place, ready to be reactivated in case contamination occurs.

3. That there is no increase in noise or visual pollution following the joining of the two supplies.

4. That the rating impact of joining the supplies is fair between Pegasus and Woodend Tuahiwi residents. In this regard we note from your report dated 30 January 2015 that the Pegasus water supply account has a surplus of $0.7m whereas the Woodend water supply account had a debt of $1.4m. We wonder if this disparity should be reflected in the water rates of the two towns.

Responses are as follows:

1. The water testing regime would meet the requirements outlined in the Drinking Water Standards for New Zealand (revised 2008).

2. Emergency chlorination would be incorporated into the reconfigured design of the Pegasus Water Treatment Plant.

3. There would not be a noticeable change in the appearance or noise of the Pegasus water treatment plant during regular operation.

4. It is correct that there are differing levels of debt in the Woodend and Pegasus accounts. However, the principle of having one rate for the communities receiving the same level of service does require that these accounts be combined, just as the maintenance and operations cost will be shared, and the benefits of growth shared.

Staff remain of the view that combining the schemes financially provides a fair outcome as all members of the scheme would receive the same level of service and
benefit from the joining of the schemes. That said, it is acknowledged that initially
the financial benefit to the Woodend scheme members is greater than that to the
Pegasus scheme members, and if a shorter term view was taken this could be
considered by some to be unfair.

As discussed earlier in this report, the alternative would be to have differing rates for
the schemes, which is not an approach favoured by staff.

3.55 Canterbury District Health Board (CDHB) has made a submission (TRIM reference
number 160824085832). Their submission is presented below:

“The CDHB are in general support of the consolidation of the Woodend and
Pegasus water supplies to enable effective management and full utilisation of
the Pegasus plant.

CDHB acknowledge that the full technical specification of the proposal has not
been released with the public consultation. The information provided does not
indicate any form of disinfection after the biological filter. A multi barrier
approach should be used to reduce the risk of contamination for drinking water
supplies. Therefore, an additional disinfection barrier is recommended to reduce
the risk of contamination.”

If this proposal was accepted by Council, chlorine would be removed from the Pegasus
water supply. This would remove the current disinfection barrier from the Pegasus
supply, and make it more vulnerable to bacteriological contamination.

The wells that supply the Pegasus, Woodend and Tuahiwi townships are over 200m
deep secure bores. Water quality testing is undertaken regularly on both supplies in
accordance with the Drinking Water Standards for New Zealand (2008). These wells
have had a long standing history of safe drinking water. The proposed treatment system
would have the ability to chlorinate in emergency circumstances.

As discussed earlier in this report, Council staff are currently undertaking a review of all
Council supplies, and any recommendations from that review will be known prior to the
discontinuation of the chlorine from the Pegasus supply.

Furthermore, it should be noted that one of the treatment methods being considered to
improve the manganese treatment is the installation of UV disinfection.

The addition of UV disinfection would both provide a “multi barrier approach” and also
provide an “additional disinfection barrier”. However, UV would not provide residual
disinfection, which would be provided by chlorination. The decision to use UV or not as
part of the treatment process will depend on the outcome of the wider review into risks to
the Council water supplies and the pilot trials for the manganese treatment.

It is also important to note that the first stage of joining the water supplies involves
converting the Pegasus water treatment plant to a biological process. This is a sound
approach, regardless of any future decisions to change the treatment process to provide
a multi barrier approach and provide an additional disinfection process.

In summary CDHB makes a valid point in that a multi barrier approach would represent a
lower risk option for the community. This is still a possible outcome for the combined
scheme. The submission from the CDHB will be taken into consideration when making
recommendations to the Board and Council during subsequent stages of this project.

3.56 Timing and Sequencing for Approval

3.57 If Council was to decide that the schemes are to join, the next step in the investigation
would be to further optimise the biological treatment. This would involve investigating the
following:
Optimising the dissolved oxygen concentrations – The purpose of further investigating this would be to reduce the rate of biofilm build-up in the reticulation. The theory is that if only the required amount of oxygen is added to the biological filter for the microbes to remove the manganese, there will be none remaining in the reticulation, therefore inhibiting the manganese microbes oxidising the dissolved manganese.

Possible use of UV – The purpose of this further treatment would be to reduce the amount of manganese removing microbes that are entering the reticulation, which would prolong the biofilm build-up on the walls of the pipes. This would mean the scheme could be run for longer before flushing is required and residents would get less frequent aesthetic issues. A small UV unit could be added to the existing pilot trial to test this theory.

Source operational optimisation – after the trials are complete Council staff would have a clear idea regarding which wells produce the lowest manganese levels post biological treatment. A source strategy would be developed to maximise the use of the well that provide the best quality water after treatment.

If approved it is anticipated that the physical works would be undertaken in the following order;

1. 2017/18: Convert the existing Pegasus filters to biological filters and begin full scale treatment of the Pegasus Water without chlorination.
2. 2018/19: Construct a source link main between the Gladstone wells and Pegasus Water Treatment Plant.
3. 2018/19: Begin treatment of Pegasus and Woodend (including Tuahiwi) water at the Pegasus Water Treatment Plant.
4. 2018/19: Link the Pegasus and Woodend water supply reticulation along Pegasus Boulevard and Main North Road.

It should be noted that discussions are currently underway with Ravenswood Developments Ltd (RDL) regarding supply of water to Ravenswood. It is possible that as part of these discussions an agreement may be reached to permit the commercial area of the development to be supplied from the Pegasus supply, prior to the schemes being formally joined. This would accelerate the extension of the main along Pegasus Boulevard and would reduce the cost to the community, as the main would be partly funded by RDL. If this does proceed, it will not change the overall programme as the two supplies cannot be physically joined until the Pegasus water treatment plant has been converted to a biological process.

4 COMMUNITY VIEWS

4.1 The views of the community have been sought through public consultation in accordance with Section 82 of the Local Government Act 2002, in accordance with the principles of consultation as outlined in the Act.

4.2 The public have been notified of this proposal through a brochure to all water rate payers connected to the Woodend (including Tuahiwi) and Pegasus water supplies, public notice in the Northern Outlook, and via information on the Council’s website. Submissions were received from the community on the feedback form provided as an insert within the brochure (refer attachment vi).

4.3 Council staff have also held two public meetings in Woodend and Pegasus, and a drop in evening at Tuahiwi to discuss the proposal with the community.

4.4 Council staff have also attended and presented this proposal at the Rūnanga meetings.
4.5 A summary of the communities views on this proposal is presented in section 3.

4.6 Council Staff presented the combining of Woodend and Pegasus Water Supplies – Feedback from Community Consultation report (TRIM reference number 160824085330[v2]) to the Woodend Ashley Community Board on 19 September 2016. The Board supports the joining of the schemes and adopted the recommendations in this report. They requested the inclusion of an additional recommendation that the Council considers taking a staged approach (over two years) to joining the schemes financially so that the Pegasus residents’ rates increase is more gradual.

5 FINANCIAL IMPLICATIONS AND RISKS

5.1 It is proposed that the Woodend and Pegasus schemes be joined financially as the schemes would receive the same level of service.

5.2 The table below summarises the projected rates for the separate and combined schemes.

| Table 5: Rating effect of joining Woodend (including Tuahiwi) and Pegasus Water Supplies |
|---------------------------------|----|----|----|----|----|----|----|----|----|
|                                 | 17/18 | 18/19 | 19/20 | 20/21 | 21/22 | 22/23 | 23/24 | 24/25 | 25/26 |
| Woodend and Tuahiwi Properties  | $486  | $483  | $498  | $472  | $481  | $445  | $414  | $385  | $360  |
| Woodend Separate Supply Rates ($/yr) | 1191  | 1266  | 1366  | 1466  | 1566  | 1666  | 1766  | 1866  | 1966  |
| Pegasus Properties              | 1794  | 1840  | 1885  | 1887  | 1889  | 1892  | 1894  | 1896  | 1896  |
| Pegasus Separate Supply Rates ($/yr) | 3106  | 3251  | 3353  | 3455  | 3558  | 3660  | 3762  | 3862  |       |
| Combined Scheme Properties       |       |       |       |       |       |       |       |       |       |
| Combined Scheme Rates ($/yr)     | $403  | $388  | $379  | $378  | $357  | $347  | $349  | $329  |       |

5.3 The overall capital and operational cost savings associated with joining the schemes represents a 10% reduction in the long term rates required for the schemes.

5.4 The saving is immediate for the Woodend Water Supply, with a reduction of approximately $80 per ratepayer per year in the Woodend water rate.

5.5 Initially, the joining of the schemes would result in an increase in the Pegasus water rate of approximately $51 per ratepayer per year, but this converts to a saving 2023/24.

5.6 If the proposal is adopted, then staff will prepare the budgets to reflect the savings associated with joining the schemes and this budget will be consulted on as part of the 2017/18 draft Annual Plan.

5.7 The principal risks associated with the proposed joining of the schemes are:

- The full scale biological filter at Pegasus may be less effective than the pilot trial suggests.
- The removal of chlorine from the Pegasus supply creates an increased risk.

5.8 These risks have been discussed in this report and are considered to be manageable and outweighed by the benefits of the proposal.

6 CONTEXT

6.1 Policy

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

6.2 Legislation

The provisions of the Health (Drinking Water) Amendment Act, the Local Government Act, and the Rating Powers Act are relevant to this matter.
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.

Alicia Klos  Colin Roxburgh  Gary Boot
Project Engineer  Water Asset Manager  Senior Engineering Advisor
## APPENDIX

### Table 6: Pegasus Summary of Submission Comments in Support of Proposal

<table>
<thead>
<tr>
<th>Number</th>
<th>Date</th>
<th>Response</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>24</td>
<td>8-Aug</td>
<td>Yes</td>
<td>I am in favour of water supply made more efficient. The only thing that worries me is the ever increasing cost of rates. They are right up there now. It is beginning to have quite a chunk of disposable income and some may struggle in the future.</td>
</tr>
<tr>
<td>30</td>
<td>8-Aug</td>
<td>Yes</td>
<td>It will be good when the water does not taste like chlorine anymore. I hope that pH/acidity levels will change as well. At the moment splashes of water leave really bad marks on the window glass and are very hard to take off.</td>
</tr>
<tr>
<td>31</td>
<td>8-Aug</td>
<td>Yes</td>
<td>It would be advantageous to remove manganese - due to staining on showers etc. The Chlorine treatment / water quality at Pegasus is inconsistent, strong and generally forces residents to buy bottled water or boil it. Not what you would expect for a modern day subdivision in Canterbury.</td>
</tr>
<tr>
<td>64</td>
<td>10-Aug</td>
<td>Yes</td>
<td>Hope the water will taste like Christchurch water</td>
</tr>
<tr>
<td>68</td>
<td>10-Aug</td>
<td>Yes</td>
<td>It about time use some com seen would go a long way to get better in the long term</td>
</tr>
<tr>
<td>70</td>
<td>10-Aug</td>
<td>Yes</td>
<td>Connect to Bramleys Road Well for better quality water you owe it to your rate payers. Drop your costly treatment process for poor quality water and target good quality water from the start. Initial cost may be more but treatment will be less. Water here is shocking we use magnesium filters for our drinking water and bring 90% of it from Christchurch to help us out.</td>
</tr>
<tr>
<td>71</td>
<td>10-Aug</td>
<td>Yes</td>
<td>Excellent idea, it will be wonderful to have nice tasting water</td>
</tr>
<tr>
<td>74</td>
<td>10-Aug</td>
<td>Yes</td>
<td>Great - no more yucky chlorine tasting water</td>
</tr>
<tr>
<td>77</td>
<td>10-Aug</td>
<td>Yes</td>
<td>I am in favour of any future works which will result in a supply of water to us that is of good quality and of consistent acceptable taste. At present our supply is so 'tainted' at times I bring home water from Woodend supply to make tea and coffee.</td>
</tr>
<tr>
<td>83</td>
<td>10-Aug</td>
<td>Yes</td>
<td>Sick of tasting chlorine water</td>
</tr>
<tr>
<td>104</td>
<td>11-Aug</td>
<td>Yes</td>
<td>The chlorine is shocking and getting worse, for a small amount extra it will be worth it.</td>
</tr>
<tr>
<td>108</td>
<td>11-Aug</td>
<td>Yes</td>
<td>For better quality water and cheaper cost</td>
</tr>
<tr>
<td>109</td>
<td>11-Aug</td>
<td>Yes</td>
<td>I think this would be wonderful, having water from the tap to drink is very important, it will save us $$$ in power bills as we have to empty and fill our kettle every time after we have used it as if it is reboiled, it tastes awful. Also hair will be softer after washing.</td>
</tr>
<tr>
<td>111</td>
<td>11-Aug</td>
<td>Yes</td>
<td>A good idea</td>
</tr>
<tr>
<td>112</td>
<td>11-Aug</td>
<td>Yes</td>
<td>Got to be better than it is at the mo!</td>
</tr>
<tr>
<td>113</td>
<td>11-Aug</td>
<td>Yes</td>
<td>If everyone will benefit and with one filter plant (no chlorine) and rates will decline; it's a no brainer.</td>
</tr>
<tr>
<td>148</td>
<td>15-Aug</td>
<td>Yes</td>
<td>Makes sense for long term future</td>
</tr>
<tr>
<td>150</td>
<td>15-Aug</td>
<td>Yes</td>
<td>I think constant monitoring and improvements is water supply to be an extremely important Borough activity</td>
</tr>
<tr>
<td>151</td>
<td>15-Aug</td>
<td>Yes</td>
<td>Taste of the water in Pegasus has been terrible!! None of our family will drink it from the tap. Even boiled it's terrible. We had to buy a water filter jug just to be able to drink it at all. So we would welcome this change.</td>
</tr>
<tr>
<td>154</td>
<td>15-Aug</td>
<td>Yes</td>
<td>Question. If the three communities are coming together for the greater good and all receiving benefits i.e. improve treatment provided to Tuahiwi and Woodend then why $ savings for two</td>
</tr>
<tr>
<td></td>
<td>Date</td>
<td>Response</td>
<td>Comment</td>
</tr>
<tr>
<td>---</td>
<td>--------</td>
<td>----------</td>
<td>---------</td>
</tr>
<tr>
<td>155</td>
<td>15-Aug</td>
<td>Yes</td>
<td>Anything to help improve the taste of Pegasus water, even with a slight rate rise, is good.</td>
</tr>
<tr>
<td>157</td>
<td>15-Aug</td>
<td>Yes</td>
<td>I use filter jugs for drinking water at the moment, but bathing and showering is drying our skin terribly, so the removal of chlorine would be great.</td>
</tr>
<tr>
<td>161</td>
<td>15-Aug</td>
<td>Yes</td>
<td>With Ravenswood coming into the bigger picture it would make sense for the whole area to be combined.</td>
</tr>
<tr>
<td>162</td>
<td>16-Aug</td>
<td>Yes</td>
<td>If the water supply can be treated without chlorine to remove manganese, then this should be applauded. Using the biological filter sounds very progress and a win for all. While we are discussing water, I don't want to see is Fluoride added to our water supplies!!!!! I feel very strongly about this, and will become very vocal on this point if the wrong decisions look like they are going to be made.</td>
</tr>
<tr>
<td>167</td>
<td>17-Aug</td>
<td>Yes</td>
<td>Sooner rather than later</td>
</tr>
<tr>
<td>171</td>
<td>17-Aug</td>
<td>Yes</td>
<td>The ultimate solution would seem to be sourcing all water from 'clean' (i.e. manganese free) wells - more of the Bramleys Road type. Perhaps that might be feasible in the longer term</td>
</tr>
<tr>
<td>172</td>
<td>17-Aug</td>
<td>Yes</td>
<td>Don't want Pegasus water supply to include chlorination</td>
</tr>
<tr>
<td>175</td>
<td>17-Aug</td>
<td>Yes</td>
<td>Yes! In favour even though my own water is filtered against chlorine and fluoride - pricey but a one off expense except of course for filter replacement. The cost must be affordable to already financially stressed ratepayers and carefully explained and the 10 year length to put it in place as they wont want to be changed for something not received.</td>
</tr>
<tr>
<td>177</td>
<td>17-Aug</td>
<td>Yes</td>
<td>The water supply in Pegasus is terrible, my son cannot drink it as it upsets his stomach. It also affects my skin.</td>
</tr>
<tr>
<td>197</td>
<td>18-Aug</td>
<td>Yes</td>
<td>As someone who lives close to the Pegasus headworks and treatment plant, we want an assurance that there will not be an increase in noise or activity at the plant following the merging of the water supplies. We ask that consideration be given to increasing the amount of shrubbery around the area to reduce any noise and/or visual pollution. We support the joining of the Woodend and Pegasus water supplies and the removal of the chlorine from the water supplies, provided that the chlorine remains available and ready to be utilised should there be signs of contamination or should the government make the use of chlorine in water supplies compulsory. As residents of Pegasus we are not happy with the affect on rates and query whether Woodend could receive a small reduction to enable Pegasus to not have such a large increase? Thank you for the opportunity to make a submission on this matter.</td>
</tr>
<tr>
<td>198</td>
<td>18-Aug</td>
<td>Yes</td>
<td>It would be great to get rid of the chlorine taste and smell!</td>
</tr>
<tr>
<td>201</td>
<td>18-Aug</td>
<td>Yes</td>
<td>The proposed Woodend-Pegasus joint water supply sounds like a great idea. We are Pegasus residents and often note the very strong chemical-like toast of our drinking water. The proposal seems like a reliable and financially sustainable option.</td>
</tr>
<tr>
<td>213</td>
<td>22-Aug</td>
<td>Yes</td>
<td>We do not want chlorine in our water supply</td>
</tr>
</tbody>
</table>
| 215 | 22-Aug | Yes      | I would love to be able to turn on my tap and get clean water to have a lovely cool drink of water without additives etc. I don't drink tea or coffee and rely on water for drinking. I have a filter jug which helps a lot, when my family come they use the water from my jug to make their tea and coffee as they can taste the chlorine. We lived in Woodend and went through the whole water thing there, and finally got pretty good water from the tap although it had
to be flushed now and then. As I live on the living alone pension and find the rates take a good part of my income, so I wouldn’t want it to be too expensive to change to the Woodend water supply. Hoping for a good outcome.

<table>
<thead>
<tr>
<th>No.</th>
<th>Date</th>
<th>Yes/No</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>219</td>
<td>22-Aug</td>
<td>Yes</td>
<td>We do not drink the tap water due to the odour and taste</td>
</tr>
<tr>
<td>220</td>
<td>22-Aug</td>
<td>Yes</td>
<td>We think the taste of chlorine is strong and would be better removed. The water currently stains glass and ruins appliances. We have to filter our water to drink the water and enjoy the taste of clean water.</td>
</tr>
<tr>
<td>221</td>
<td>22-Aug</td>
<td>Yes</td>
<td>In the long term, I think this will be a benefit to the combined communities due to resilience of the combined network. That is the reason for my yes vote. On, and the better taste of the water. In the short term, it seems to me that my rates will increase, the chance of more manganese, due to biological process not being as good as chlorine and that I appear to be subsidising the cost of a better supply to Woodend, catch 22 really! But I guess its best to have a reliable supply of water for everyone.</td>
</tr>
<tr>
<td>222</td>
<td>22-Aug</td>
<td>Yes</td>
<td>I think joining the 2 water supplies together is a great idea, however, after attending the meeting of August 17, I am not in favour of eliminating chlorine. I feel that the risk (even though small) is not worth it.</td>
</tr>
<tr>
<td>230</td>
<td>24-Aug</td>
<td>Yes</td>
<td>Totally in agreement with proposal but would like the Council to include an ion exchange resin system for removing lime scale from the system. From our point of view this is a bigger problem than the current chlorination system.</td>
</tr>
<tr>
<td>233</td>
<td>24-Aug</td>
<td>Yes</td>
<td>Reasons for amalgamation of water supply: Economy of scale; Redundancy built into system; improved quality of water</td>
</tr>
<tr>
<td>244</td>
<td>25-Aug</td>
<td>Yes</td>
<td>Impact of chlorine on skin, taste and smell</td>
</tr>
<tr>
<td>253</td>
<td>25-Aug</td>
<td>Yes</td>
<td>The removal of chlorine from the Peg. Water supply is a bonus providing it can be quickly introduced when necessary. Is it possible to complete the required pipework for joining through still run as separate units? Given the recent problems at Havelock North smaller and easily separated supplies would be advantageous. Is it possible to filter calcium from the supply? How expensive is it to soften hard water?</td>
</tr>
<tr>
<td>258</td>
<td>26-Aug</td>
<td>Yes</td>
<td>The comments relating to this property can be found on the form relating to 61 Mapleham Drive.</td>
</tr>
<tr>
<td>259</td>
<td>26-Aug</td>
<td>Yes</td>
<td>I accept the rationale for a joint water supply. However, given the sorry history of Woodend manganese stained washing etc., a first class result is expected. Issues- I received only one form for this important matter. 2 extra forms are returned to demonstrate the scope and scale here. The water rating projections provided at the Pegasus presentation were not supplied in the document provided to Pegasus ratepayers. Why not ensure that all involved are fully informed. Unacceptably at the 17 August meeting neither the presenters nor the comments to and from those present could be fully heard. A fine presentation was marred as a consequence.</td>
</tr>
<tr>
<td>260</td>
<td>26-Aug</td>
<td>Yes</td>
<td>Presently bare land it is probable that a dwelling will be erected over the next 12 months. The comments included on the 61 Mapleham Drive form also apply to 63 Mapleham Drive.</td>
</tr>
<tr>
<td>265</td>
<td>29-Aug</td>
<td>Yes</td>
<td>The joint water supply seems logical as long as costs are contained and not a larger than expected burden on ratepayers.</td>
</tr>
<tr>
<td>272</td>
<td>29-Aug</td>
<td>Yes</td>
<td>Don’t see why Pegasus water charges increase and Woodend decrease. The cost allocation is all wrong. Surely cost of upgrade should be borne pro-rata time/distance etc.</td>
</tr>
<tr>
<td>273</td>
<td>29-Aug</td>
<td>Yes</td>
<td>Would like the potential for chlorination possible, if needed in the future</td>
</tr>
<tr>
<td>281</td>
<td>26-Aug</td>
<td>Yes</td>
<td>But only if the ability to chlorinate remains. Also, I would not be in favour of joining the supplies if it meant an increase in water hardness.</td>
</tr>
<tr>
<td>282</td>
<td>26-Aug</td>
<td>Yes</td>
<td>Finally, a solution to the problems that chlorination has made, as we have had to replace our kettle annually, our windows and glass need constant scrubbing with special products and who knows what it does to our health.</td>
</tr>
<tr>
<td>284</td>
<td>26-Aug</td>
<td>Yes</td>
<td>My experience of consolidating services is that promised cost savings never come to fruition. I expect the same here. However I understand and support the plan.</td>
</tr>
<tr>
<td>288</td>
<td>31-Aug</td>
<td>Yes</td>
<td>With chlorination? Feel a bit uneasy about removing chlorine from the water after the mass illness experienced recently in the Hawkes Bay.</td>
</tr>
<tr>
<td>294</td>
<td>26-Aug</td>
<td>Yes</td>
<td>Please get rid of that awful chlorine taste in the water. It tastes worse than Auckland water.</td>
</tr>
<tr>
<td>302</td>
<td>26-Aug</td>
<td>Yes</td>
<td>It is essential to have back up supplies for this area. With recent event up North it is also imperative that the water supply is chlorinated and the chlorine removed for the end user. NB we have never had a problem with chlorine taste/smell at our address.</td>
</tr>
<tr>
<td>304</td>
<td>29-Aug</td>
<td>Yes</td>
<td>I want the chlorine out of the water! The smell when I fill a bath is horrible &amp; we currently buy water to drink! I would also like you to look at the hardness of the water too if possible the effect on our appliances, showers &amp; windows is all too visible- you are more than welcome to pop in and see. I also work a job where I see the effect on people’s homes in this area all the time.</td>
</tr>
<tr>
<td>307</td>
<td>2-Sep</td>
<td>Yes</td>
<td>A smart move.</td>
</tr>
<tr>
<td>Number</td>
<td>Date</td>
<td>Response</td>
<td>Comment</td>
</tr>
<tr>
<td>--------</td>
<td>----------</td>
<td>----------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>5</td>
<td>8-Aug</td>
<td>No</td>
<td>I'm quite satisfied with Pegasus current water quality arrangements.</td>
</tr>
<tr>
<td>88</td>
<td>10-Aug</td>
<td>No</td>
<td>My concerns are the council are NOT managing the Pegasus Lakes and algae and contamination is high so serious doubts would be if they change to a similar management style (High Risk) Pegasus residents could suffer serious discoloration and supply issues.</td>
</tr>
<tr>
<td>89</td>
<td>10-Aug</td>
<td>No</td>
<td>The rate payers of Pegasus should not pay for any scope of work that is for Woodend or Tuahiwi. If is not feasible for Woodend and Tuahiwi rate payers then it should be across whole of Waimakariri. Personally the taste of water is not an issue.</td>
</tr>
<tr>
<td>90</td>
<td>10-Aug</td>
<td>No</td>
<td>Risk/the health risk if there is a complication is not worth it not with all the earth movement that we have around the areas.</td>
</tr>
<tr>
<td>91</td>
<td>10-Aug</td>
<td>No</td>
<td>Water Ok. Do not want more digging up Pegasus Blvd and risk to trees etc. Have only just finished digging up for broadband to school.</td>
</tr>
<tr>
<td>93</td>
<td>10-Aug</td>
<td>No</td>
<td>We have no issue with our current water supply and see this as an attempt by WDC to strengthen the Woodend/Tuahiwi Network at our cost! We have a water (whole house) filter at our cost. Why would we pay again via our rates.</td>
</tr>
<tr>
<td>102</td>
<td>11-Aug</td>
<td>No</td>
<td>What is in this proposal for Pegasus residents? Why would we agree to a proposal that increases our water rates for no real gain? Why would we agree to join two water supplies that are known to be sub-standard and be expected to be financially tied to their improvements; The Council has been mean spirited in turning off the water to our swales, parks and reserves, with no consultation, when the town was designed to be irrigated; the council stipulated to the original developer that they had to provide their own water supply, which they did, so the company may wish to use some of that water when they develop Ravenswood; Water supply is a basic necessity and should be supplied by the Council to all areas out of the general rate; I understand that when Rangiora was in need of water that it piped into Kaiapoi supply. Perhaps the same could be done for Tuahiwi and Woodend.</td>
</tr>
<tr>
<td>143</td>
<td>15-Aug</td>
<td>No</td>
<td>One area should not subsidise another why should Pegasus rates increase, the rates burden should be shared if its for mutual benefit. Looking at the 10 year graph Pegasus looks to be subsidising Woodend water supply.</td>
</tr>
<tr>
<td>144</td>
<td>15-Aug</td>
<td>No</td>
<td>We don’t want the risk of discoloured water - we can filter the chlorine out. Plus we do not want rates for Pegasus residents to increase.</td>
</tr>
<tr>
<td>180</td>
<td>17-Aug</td>
<td>No</td>
<td>We feel that there would be too many future risks involved in changing…. Would rather the water not tasting the best as opposed to health risks</td>
</tr>
<tr>
<td>182</td>
<td>17-Aug</td>
<td>No</td>
<td>Why should Pegasus residents subsidise other users, all should pay exactly the same if it goes ahead</td>
</tr>
<tr>
<td>184</td>
<td>17-Aug</td>
<td>No</td>
<td>Already paying more rates for living in Pegasus</td>
</tr>
<tr>
<td>225</td>
<td>23-Aug</td>
<td>No</td>
<td>Our Pegasus water supply system is new. Cross contamination with old contaminated Woodend pipe network. Pegasus is self sufficient. I will not pay for something I already have in my rates. I don't trust the Council. Tuahiwi has contaminated supply pipes.</td>
</tr>
<tr>
<td>226</td>
<td>22-Aug</td>
<td>No</td>
<td>In view of water quality remaining safe to drink chlorination is acceptable to us. No use putting chlorine in the water after a bug has been detected.</td>
</tr>
</tbody>
</table>
The discontinuation of chlorination would put everyone at risk of a micro-organism (campilorbacta) entering our water system similar to that in Havelock north. Flushing the water system after an event will not help those already affected.

The reason why I don’t want combined is that the option of chlorination is not in the combined option. In view of the recent contamination of water in many rural based water supplies I don’t trust unchlorinated water to be safe to drink.

Your last paragraph under "risk" on the background page of the "suggested joint water supply" document said it all - "chlorinated water is safer to drink". It all comes down to the fact that water safety is the redeeming point that should be in the forefront of citizens minds! We don’t want a supply that could through numerous factors impinge on public health, similar to which has occurred in a number of areas around Canterbury and wider New Zealand in the past. It is not good for the community or the district as a whole to have a system with potential Fatalities due to not dosing with chlorine. Separate supplies would be preferred (the don’t put all your eggs in one basket syndrome)!!

A few years ago the Woodend water supply was possibly contaminated (there was a notice about usage). Since the problems have emerged in Havelock north, I feel that chlorination of our supply is the best way to keep water safe.

Consider unchlorinated water unsafe to drink

It should be Woodend having the rate increase to connect to Pegasus. To whole 7 years, before any benefit in rates is a laugh, as every year the WDC rates will increase. Pegasus was design and built, with a water supply to suit Pegasus, not supply everyone else. What about make Ravenswood developers provide new well and treatment plant as they are closer to Woodend, and that way WDC won’t have to pay. Pegasus water is ok, doesn’t need changing.

I want flouride to remain in water supply, not chlorine. We already pay high rates don’t want them to increase.

Pegasus currently has a robust supply. Issues elsewhere in country would make it essential to have the supply chorinated.

Keep chlorinating the water in Pegasus so we do not have the same risk as the Hawkes Bay and experience a outbreak. Chlorination benefits are: It has been proven to kill reduce/kill bacteria and viruses, there remains a residual effectiveness against recontamination in the water supply. It is easy to use and cheap form of water purification. the perceived health risks from the by products of chlorine and elements that may be present in the treated water, at the levels at which they occur in drinking water are extremely small in comparison with the risks associated with inadequate disinfection. Chlorine oxidises many naturally occurring substances such as foul smelling algae secretions, sulfides and odours from decaying vegetation. Chlorine disinfectants eliminate slime bacteria, molds and algae that commonly grow in water supply reservoirs, on the walls of water mains and in storage tanks. Woodend water has microorganisms that damage and destroy water cylinders etc.

But I think the Council should be looking for new well sites that may give us magnesum free water. Also I think that Council should be using both biological UV and chlorine to make water safe. Chc City has already got Ecoli in water system lets be proactive and prevent it from entering our supply. I found meeting the other night interesting but also think that we should have back up supplies.
Table 8: Pegasus Summary of Submission Comments with No Opinion on Proposal

<table>
<thead>
<tr>
<th>Number</th>
<th>Date</th>
<th>Response</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>8-Aug</td>
<td>No Opinion</td>
<td>We are with the majority</td>
</tr>
<tr>
<td>231</td>
<td>24-Aug</td>
<td>No Opinion</td>
<td>I have not ticked one of the boxes above as I would like to see the water supplies joined, but do not think we should stop chlorinating the water</td>
</tr>
<tr>
<td>256</td>
<td>25-Aug</td>
<td>No Opinion</td>
<td>Neither of the above options. I would like Woodend and Pegasus water supplies joined using a combination of the biological filter (for manganese removal) and some chlorine addition to prevent biological contamination. Presumably the chlorine level would be less than the current Pegasus chlorine levels.</td>
</tr>
</tbody>
</table>
### Table 9: Woodend Summary of Submission Comments in Support of proposal

<table>
<thead>
<tr>
<th>Number</th>
<th>Date</th>
<th>Response</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>8-Aug</td>
<td>Yes</td>
<td>It would be wonderful if the pipeline linked to Woodend Beach residents to the water supply as it wouldn’t be too far from Pegasus Supply.</td>
</tr>
<tr>
<td>14</td>
<td>8-Aug</td>
<td>Yes</td>
<td>I am happy for short term chlorination if contamination detected. If it makes economical sense it is a good idea to join the supplies. Keep customers in the loop if problem arise especially build-up of manganese.</td>
</tr>
<tr>
<td>16</td>
<td>8-Aug</td>
<td>Yes</td>
<td>…in favour of the proposal. Believe the overall benefits outweigh the risks.</td>
</tr>
<tr>
<td>36</td>
<td>10-Aug</td>
<td>Yes</td>
<td>The area is growing lets spend the money now to get a volume of clean water for everyone. Option Two strains our existing reticulation and have poor quality. Thank you.</td>
</tr>
<tr>
<td>38</td>
<td>10-Aug</td>
<td>Yes</td>
<td>Don’t want chlorination of Woodend supply; Our water is better than most in NZ; I ticked yes per commercial benefits in long term for community = makes sense; People buy bottled water because chlorination; Haven't experienced much discolour water over 5 years living here.</td>
</tr>
<tr>
<td>40</td>
<td>10-Aug</td>
<td>Yes</td>
<td>Seems like a sensible approach.</td>
</tr>
<tr>
<td>47</td>
<td>10-Aug</td>
<td>Yes</td>
<td>Please no chlorine.</td>
</tr>
<tr>
<td>51</td>
<td>10-Aug</td>
<td>Yes</td>
<td>Better quality filtered water yes. I’ve seen the quality water that goes through my big fish tank even with a big filter working hard in tank I still get this problem.</td>
</tr>
<tr>
<td>52</td>
<td>10-Aug</td>
<td>Yes</td>
<td>If it means no chlorine in the water and cheaper rates - then YES; if not NO.</td>
</tr>
<tr>
<td>54</td>
<td>10-Aug</td>
<td>Yes</td>
<td>Good to get rid of the chlorination, except if there is contamination.</td>
</tr>
<tr>
<td>55</td>
<td>10-Aug</td>
<td>Yes</td>
<td>Why you are at it building a pipeline along Main North Road, why not build a walking and cycle way.</td>
</tr>
<tr>
<td>61</td>
<td>10-Aug</td>
<td>Yes</td>
<td>The water at the moment has an unpleasant taste. It would be great if it could be improved.</td>
</tr>
<tr>
<td>63</td>
<td>10-Aug</td>
<td>Yes</td>
<td>This all seems quite logical to join the 2 supplies. I support this on the basis that: 1. There is NO chlorination of the supply - excepting in emergencies; 2. Continuation of the Biological Filtration; Many Thanks.</td>
</tr>
<tr>
<td>87</td>
<td>10-Aug</td>
<td>Yes</td>
<td>Revised Answer - Thanks Colin for this very informative reply. Well answered! Therefore I am all for going ahead with it.</td>
</tr>
<tr>
<td>114</td>
<td>11-Aug</td>
<td>Yes</td>
<td>Sounds like a good solution for the combined areas.</td>
</tr>
<tr>
<td>116</td>
<td>11-Aug</td>
<td>Yes</td>
<td>In what time frame would the Bramleys Road source be linked into the Network? Look forward to hearing back from you.</td>
</tr>
<tr>
<td>118</td>
<td>11-Aug</td>
<td>Yes</td>
<td>Only when 100% complete assurances that our Woodend supply doesn’t become compromised or depleted. P.S. why didn’t council explore putting a deep bore in Waikuku - Parts of Patersons Rd have artesian water (or at least they used to). I have a daughter and son in law renting in Pegasus and they cant drink the water. They drink our water by the bottle from our taps.</td>
</tr>
<tr>
<td>126</td>
<td>15-Aug</td>
<td>Yes</td>
<td>Water Quality of Woodend is Good; 2 management issues of Woodend in last 3 years; 1. E-Coli in the water due to illegal connection of farmer result: the farmer was spoken to: Ridiculous; 2. July 2016 connection of Tuahiwi resulted in massive dirt/shit in water of 3 Hewitts Road (Saturday) called council and worker showed up to explain they were flushing pipes because of Tuahiwi work. I should not have used water: we did not get notification. Worker said they do not do notifications of flushing. Please supply full test of Woodend Pegasus water supply test July 2016.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>127</td>
<td>15-Aug</td>
<td>Yes</td>
<td>I do agree to this action proceeding as long as there Woodend supply does not ever get chlorinated.</td>
</tr>
<tr>
<td>132</td>
<td>15-Aug</td>
<td>Yes</td>
<td>I fully agree with this proposal as it will provide long term benefits to the wider community</td>
</tr>
<tr>
<td>138</td>
<td>15-Aug</td>
<td>Yes</td>
<td>I hope that whatever option is used the water supply is fluoridated</td>
</tr>
<tr>
<td>189</td>
<td>17-Aug</td>
<td>Yes</td>
<td>Sounds good to me</td>
</tr>
<tr>
<td>195</td>
<td>17-Aug</td>
<td>Yes</td>
<td>There should be always water without chlorine and fluoride</td>
</tr>
<tr>
<td>206</td>
<td>19-Aug</td>
<td>Yes</td>
<td>I am happy with any proposal that could mean lower rates….</td>
</tr>
<tr>
<td>242</td>
<td>24-Aug</td>
<td>Yes</td>
<td>The public meeting held at the Woodend Community Centre on 18th August convinced me that this is the right way forward and allayed my initial concerns</td>
</tr>
<tr>
<td>248</td>
<td>25-Aug</td>
<td>Yes</td>
<td>Happy for fluoride too</td>
</tr>
<tr>
<td>274</td>
<td>29-Aug</td>
<td>Yes</td>
<td>More information required-ie costs in future</td>
</tr>
<tr>
<td>293</td>
<td>26-Aug</td>
<td>Yes</td>
<td>The proposal for a joint scheme is a no brainer. However, several residents in the East Woodend ODP have been waiting patiently for the opportunity to access water, stormwater and sewerage schemes for many years while watching other later developed communities have access - some, like Tuahiwi, did not require any developer to get water. Please ensure that our requirements do not get forgotten and that we are included in any planning.</td>
</tr>
<tr>
<td>306</td>
<td>2-Sep</td>
<td>Yes</td>
<td>Sounds good. Just more details about time frames etc. and sooner the connection to Bramleys Road the better. As better quality water would be great as sometimes not the best.</td>
</tr>
</tbody>
</table>
Table 10: Woodend Summary of Submission Comments Opposed to Proposal

<table>
<thead>
<tr>
<th>Number</th>
<th>Date</th>
<th>Response</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>8-Aug</td>
<td>No</td>
<td>Definitely not, no way</td>
</tr>
<tr>
<td>94</td>
<td>10-Aug</td>
<td>No</td>
<td>Rates are high enough in Woodend now without taking on more debt from either the Pegasus or Tuahiwi water supplies.</td>
</tr>
<tr>
<td>95</td>
<td>10-Aug</td>
<td>No</td>
<td>Assuming there is no manganese or chlorine in Woodend supply, I wouldn’t want to join into one that had any. This only benefits the Pegasus residents and if co-joined could affect all supplies if contamination occurs in Pegasus by removal of chlorine</td>
</tr>
<tr>
<td>96</td>
<td>10-Aug</td>
<td>No</td>
<td>We are happy with the current water supply to our home in Tuahiwi. Especially as we’ve tasted the rank water at Pegasus. NO THANK YOU!</td>
</tr>
<tr>
<td>97</td>
<td>10-Aug</td>
<td>No</td>
<td>I am happy with the current system</td>
</tr>
<tr>
<td>98</td>
<td>10-Aug</td>
<td>No</td>
<td>We do not want Woodend water chlorinated</td>
</tr>
<tr>
<td>99</td>
<td>10-Aug</td>
<td>No</td>
<td>As we hate the taste and smell of chlorine we definitely do not want the supplies to join as that would enable Woodend water to be chlorinated from the Pegasus Plant in the future. Please do not chlorinate Woodend water or spend large amounts of money on unnecessary pipeline.</td>
</tr>
<tr>
<td>100</td>
<td>10-Aug</td>
<td>No</td>
<td>This all seems to be aimed at solving a Pegasus problem. Since the new well was sunk at Gladstone Park a few years ago the Woodend water has not been an issue - prior to that there had been corrosion problems with things like hot water cylinders. When Pegasus was first mooted there was concern expressed about Woodend water going to Pegasus. We were assured Pegasus would have an independent supply but now it looks as though Woodend residents concerns are going to come to fruition.</td>
</tr>
<tr>
<td>139</td>
<td>15-Aug</td>
<td>No</td>
<td>The only people going to win if the water is supplied to Pegasus is them. Our water is spread thinly enough as is and will be even more so with Ravenswood going ahead and supplying Tuahiwi. I don’t see how our current water supply can sustain it.</td>
</tr>
<tr>
<td>140</td>
<td>15-Aug</td>
<td>No</td>
<td>When we built in 1972 there was no water supply and the sewers was just in. We were told that as others came on stream the cost would go down. DID NOT HAPPEN. Pegasus was started and were to have modern up to date sewer disposal shocked to see pipe line to Woodend Sewerage. Too many underhand and false promises have been offered by WDC. Don't believe any of it - Don't trust WDC in any way. Leave Woodend's water to Woodend we have paid for it.</td>
</tr>
<tr>
<td>141</td>
<td>15-Aug</td>
<td>No</td>
<td>I would say yes ONLY if Bramleys Well was added to the supply.</td>
</tr>
<tr>
<td>142</td>
<td>15-Aug</td>
<td>No</td>
<td>Keep it how it is. Our water is fine. Is this for Ravenswood??</td>
</tr>
<tr>
<td>191</td>
<td>17-Aug</td>
<td>No</td>
<td>Your Comment &quot;Council Staff are of the 'view' that these risks can be managed&quot; does not inspire confidence in there ability to do so. With Pegasus being a private Developer I don’t wish to be forced by the Council to help them out financially.</td>
</tr>
<tr>
<td>192</td>
<td>17-Aug</td>
<td>No</td>
<td>I don’t want to be up for replacing hot water cylinder or pipes like the earlier days of Woodend.</td>
</tr>
<tr>
<td>202</td>
<td>18-Aug</td>
<td>No</td>
<td>The Woodend water supply is excellent. Please do not alter it. We have had no problems with the Woodend water supply - no discoloration and tastes great. We do not want any change made.</td>
</tr>
<tr>
<td>203</td>
<td>18-Aug</td>
<td>No</td>
<td>Why should I just share cost with developers - increase rates; Happy with water quality at present; don’t need others problems</td>
</tr>
</tbody>
</table>
In my opinion the data that the Waimakariri District Council has supplied is incorrect. I find any connection to with the Pegasus site culturally offensive.

The water supply from Woodend is inferior, so it would still remain inferior if we join. We need quality water before we join anywhere.

No I don’t want Woodend-Tuahiwi water supply joined up to Pegasus Supply now or ever in the future.

No I don’t agree to Woodend Tuahiwi water supply being joined up with Pegasus water. Pegasus Township should never have been built on that land which was where Kaiapohia Maoris lived. There has never been any respect shown for this area.

Leave Woodend water supply as it is. Pegasus is going to be a liability to Woodend and all of Waimakariri Ratepayers.

From the information provided by mail, there does not appear to be any real advantage in joining existing supplies, other than to improve Pegasus water at the probable expense of reducing water quality to Woodend’s already excellent water. Woodend water treatment obviously works well. If it's not broken do not spend public funds on unnecessary repairs.

<table>
<thead>
<tr>
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<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>238</td>
<td>24-Aug</td>
<td>No</td>
<td>In my opinion the data that the Waimakariri District Council has supplied is incorrect. I find any connection to with the Pegasus site culturally offensive.</td>
</tr>
<tr>
<td>241</td>
<td>24-Aug</td>
<td>No</td>
<td>The water supply from Woodend is inferior, so it would still remain inferior if we join. We need quality water before we join anywhere.</td>
</tr>
<tr>
<td>249</td>
<td>25-Aug</td>
<td>No</td>
<td>No I don’t want Woodend-Tuahiwi water supply joined up to Pegasus Supply now or ever in the future.</td>
</tr>
<tr>
<td>250</td>
<td>25-Aug</td>
<td>No</td>
<td>No I don’t agree to Woodend Tuahiwi water supply being joined up with Pegasus water. Pegasus Township should never have been built on that land which was where Kaiapohia Maoris lived. There has never been any respect shown for this area.</td>
</tr>
<tr>
<td>277</td>
<td>26-Aug</td>
<td>No</td>
<td>Leave Woodend water supply as it is. Pegasus is going to be a liability to Woodend and all of Waimakariri Ratepayers.</td>
</tr>
<tr>
<td>301</td>
<td>26-Aug</td>
<td>No</td>
<td>From the information provided by mail, there does not appear to be any real advantage in joining existing supplies, other than to improve Pegasus water at the probable expense of reducing water quality to Woodend’s already excellent water. Woodend water treatment obviously works well. If it’s not broken do not spend public funds on unnecessary repairs.</td>
</tr>
<tr>
<td>310</td>
<td>2-Sep</td>
<td>No</td>
<td>Because of cultural reasons</td>
</tr>
</tbody>
</table>

Table 11: Woodend Summary of Submission Comments With No Opinion on Proposal

<table>
<thead>
<tr>
<th>Number</th>
<th>Date</th>
<th>Response</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>8-Aug</td>
<td>No Opinion</td>
<td>Cannot decide water rates implication on Woodend residents are known. Lack of building at Pegasus could mean higher rates for Woodend residents? In a sharing scenario</td>
</tr>
<tr>
<td>290</td>
<td>31-Aug</td>
<td>No Opinion</td>
<td>Sensible</td>
</tr>
<tr>
<td>305</td>
<td>29-Aug</td>
<td>No Opinion</td>
<td>If the water for all three communities comes from the same source, why does chlorine need to be added to Pegasus water? You do not explain this! In the wake of the water issues in the north island, Pegasus currently would be safer than us should an outbreak occur here.</td>
</tr>
</tbody>
</table>
iii. Canterbury District Health Board submission

Comments on the Woodend, Tuahiwi and Pegasus joint water supply proposal

To: Waimakariri District Council  
215 High Street, Rangiora

Submitter: Canterbury District Health Board
Attn: Bruce Waddleton  
Community and Public Health  
C/- Canterbury District Health Board  
PO Box 1475  
Christchurch 8140

Proposal: To connect the Woodend (including Tuahiwi) and Pegasus Water Supplies
COMMENTS ON WOODEND-PEGASUS JOINT WATER SUPPLIES

Details of submitter
1. Canterbury District Health Board (CDHB).

Details of submission
2. The submitter is responsible for promoting the reduction of adverse environmental effects on the health of people and communities and to improve, promote and protect their health pursuant to the New Zealand Public Health and Disability Act 2000 and the Health Act 1956. These statutory obligations are the responsibility of the Ministry of Health and, in the Canterbury District, are carried out under contract by Community and Public Health under Crown funding agreements on behalf of the Canterbury District Health Board.

3. The CDHB welcomes the opportunity to comment on the proposal to join the Woodend and Pegasus water supplies and implement new treatment technologies.

Comments
4. The CDHB are in general support of the consolidation of the Woodend and Pegasus water supplies to enable effective management and full utilisation of the Pegasus plant.

5. CDHB acknowledge that the full technical specification of the proposal has not been released with the public consultation. The information provided does not indicate any form of disinfection after the biological filter. A multi barrier approach should be used to reduce the risk of contamination for drinking water supplies. Therefore, an additional disinfection barrier is recommended to reduce the risk of contamination.
Person making the submission

A.R.G. Humphrey
Dr Alistair Humphrey MPH FAFPHM FRACGP Date: 24/08/2016
Public Health Physician

Contact details

Bruce Waddleton
For and on behalf of
Community and Public Health
C/- Canterbury District Health Board
PO Box 1475
Christchurch 8140

P +64 3 364 1777
F +64 3 379 6488
Bruce.waddleton@cdhb.health.nz
22 August 2016

Waimakariri District Council
Private Bag 1005
RANGIORA 7440

Dear Sir/Madam

PEGASUS AND WOODEND JOINT WATER SUPPLY SUBMISSION

We refer to your recent information pamphlet regarding the proposal to join the Woodend (including Tuahiwi) and Pegasus water supplies.

We have attended the public meeting on 17 August and reviewed the reports on your Website dated 30 January 2015 and 11 July 2016.

Feedback from Pegasus residents indicates that water quality is an issue for many of them. This is mainly due to the taste of chlorine but also to do with discoloration and staining that can occur. We understand this latter problem comes from manganese inherent in the water and that the proposed biological filter will remove most of this. We are also mindful of the fact that if chlorine is removed from the water supply, it could be more susceptible to contamination.

Having weighed up the information available to us, we advise that this group is in favour of joining the Woodend and Pegasus water supplies subject to the following:

1. That your water testing regime is robust enough to detect any contamination at an early stage.

2. That the procedures for adding chlorine remain in place, ready to be reactivated in case contamination occurs.

3. That there is no increase in noise or visual pollution following the joining of the two supplies.

4. That the rating impact of joining the supplies is fair between Pegasus and Woodend Tuahiwi residents. In this regard we note from your report dated 30 January 2015 that the Pegasus water supply account had a surplus of $0.7m whereas the Woodend water supply account had a debt of $1.4m. We wonder if this disparity should be reflected in the water rates of the two towns.

Yours sincerely

Rhonda Mather
Secretary
Pegasus Residents’ Group Inc.

Email: pegasusresidentsgroup@gmail.com
Website: pegasusresidentsgroup.com
v. Information Brochure on this proposal
Background
The Woodend, Tahunui and Pegasus communities all source their water from the same location near Gladstone Park. The water is treated using different methods to remove manganese.

The Woodend and Tahunui water is treated using a biological filter. Chlorine is not required as part of the biological treatment. While the treatment process works well, some manganese build up still occurs in the reticulation system, and occasionally this leads to some discoloration of the water.

The Pegasus water is treated using chlorine and a filter to remove manganese. While the treatment process works well at removing manganese, the chlorine can have a strong taste at times, and occasionally this leads to variations in taste and odour from the supply.

An opportunity exists to join the two supply, making both supplies more resilient and combining the treatment to enable the chlorine to be removed from the Pegasus supply but also improve the biological treatment to reduce the risk of manganese problems in the Woodend (including Tahunui) reticulation.

How?
- Join Woodend (including Tahunui) and Pegasus water supply schemes, physically and financially.
- Ferris all Woodend and Tahunui water at the Pegasus water treatment plant.
- Centrate chlorination of the Pegasus water supply.
- Join Woodend, Tahunui and Pegasus reticulation with a new pipe along Malo North Road and Pegasus Pumplugh.
- Potentially connect Bramleys Road new source well directly into the network in the future.

Why?
- To increase the resilience of the three communities to natural disasters by providing redundant backup water sources, emergency storage and back-up sites.
- To improve the treatment that is provided in Woodend and Tahunui and remove the chlorination from the Pegasus treatment process.
- To share long term costs (removal, treatment upgrades, maintenance) across a wider reticulation basis.
- To reduce the long term costs of supplying water to all three communities.

Risks
Trials have demonstrated that we can use biological treatment to remove manganese from the Pegasus water supply. The use of biological treatment at Pegasus would enable the chlorine to be removed from the water supply.

However, there are risks associated with converting chlorine from the Pegasus water supply, including:
1) If contamination of the water supply occurs and the water is not chlorinated, then the health risk to the customers is greater.
2) Chlorination is the best method available to prevent manganese build up in the reticulation. If the chlorine is removed from the water, then there is a risk that manganese will build up over time and cause occasional discoloration.

Council staff are of the view that these risks can be managed.

If the chlorine is discontinued, the ability to chlorinate would remand and would be unadvised against as a short term protective measure if contamination is detected.

The biological treatment that would be provided at Pegasus would be better than that currently provided in the Woodend supply.

The decision to discontinue chlorination is a serious one for Pegasus residents. Not simply, chlorinated water is preferable to drink, but water tastes better without the chlorine. For more information on the benefits and risks of chlorinated water, go to our website waterhealth.org.nz.

Benefits
The benefits of the proposed joining of the supplies are as follows:
1) The manganese removal at Pegasus would be better than that currently provided to the Woodend supply.
2) Pegasus water would taste better.
3) The combined water supply would be more resilient than the two individual supplies. Due to the shared back-up sources, storage, and pumping facilities.
4) The overall long term cost of supplying water would be shared for the combined supply.
5) The possible addition of the Bramleys Road well would further increase the resilience of the supply and improve the overall water quality, as the Bramleys Road well has very low levels of manganese.

Rates Impact
OVER A 10 YEAR PERIOD
- Immediate savings for Tahunui and Woodend water supply ratepayers.
- An initial increase for Pegasus water supply ratepayers, but a long term savings.
- A reduced overall cost in comparison with maintaining two separate supplies.

A Staged Approach
If this proposal is adopted, the project would be carried out in two stages.

Conversion of Pegasus Treatment System
The Pegasus chlorination treatment system would be converted to a biological treatment system to remove manganese from the Pegasus supply without the addition of chlorine. Following that works would be carried out to treat the Woodend and Tahunui water at the converted Pegasus treatment system, thus taking advantage of the economies of scale by combining two treatment systems.

Roses, Ltd. Kingswood & Malo North Road
Pegasus Water
Woodend Water
Wires

KEY
Woodend and Tahunui Water Scheme connections
Existing Water Mains
Future Water Mains
Groundwater & Treatment Plant
Wires

Combination Reticulation
A pipeline, connecting the Woodend and Pegasus reticulation networks to create one combined reticulation network, would be constructed along Pegasus Boulevard and along Malo North Road.
vi. Pegasus, Woodend and Tuahiwi Consultation Feedback form

Woodend-Pegasus Joint Water Supply

Name ________________________________
Signature ______________________________
Property location ______________________________
Postal address ______________________________
Phone (optional) ______________________________
Email (optional) ______________________________

Please indicate whether you want the Woodend and Pegasus water supplies to be joined.

☐ Yes, I want the Woodend and Pegasus water supplies to join
☐ No, I do not want the Woodend and Pegasus water supplies to join

Comments

_________________________________________________________________________________
_________________________________________________________________________________
_________________________________________________________________________________
_________________________________________________________________________________
_________________________________________________________________________________

Thank you for taking the time to complete this form.

WAIMAKARIRI DISTRICT COUNCIL

waimakariri.govt.nz
1. **SUMMARY**

1.1. The purpose of this report is to request Management Team approval to engage Opus International Consultants (Opus) to carry out the design of a treatment system for the Kings Avenue water headworks to achieve compliance with the Drinking Water Standards for New Zealand for the Waikuku Beach water supply scheme.

1.2. Opus have prepared a proposal for $24,970 to carry out the required concept design to identify the recommended treatment option, followed by detailed design through to the tendering stage of the works.

1.3. This price is considered fair for the scope of the works, and is within the total budget allocation for the Waikuku Beach source upgrade budgets.

1.4. This work has not been competitively tendered due to Opus' expertise with water supply treatment design systems, their experience within the district and their availability to carry out the work at short notice.

Attachments:

i. Opus Proposal – Waikuku Beach Kings Avenue Water Supply Headworks Upgrade

2. **RECOMMENDATION**

**THAT** the Management Team:

(a) Receives report No. 160915095459.

(b) Awards the professional services contract for the Waikuku Beach Kings Avenue Treatment Upgrade Design to Opus International Consultants for the value of $24,970.

(c) Notes that this will be funded through the Design Treatment Upgrade Waikuku Beach and Headworks Source Capacity Upgrade Waikuku Beach budgets which have a combined value of $60,000.

(d) Circulates this report to the Utilities and Roading Committee for their information.
3. **ISSUES AND OPTIONS**

3.1. The Waikuku Beach water supply scheme is in need of an upgrade to achieve compliance with the Drinking Water Standards for New Zealand (DWSNZ).

3.2. The Kings Avenue source is the primary source for the scheme. The water is currently not treated. As the source is not secure treatment is required to achieve compliance with the DWSNZ.

3.3. A request for a proposal was presented to Opus International Consultants (Opus) to design a treatment system for the Kings Avenue source. It is expected that this treatment system will consist of an Ultra Violet (UV) disinfection system.

3.4. Opus were the only consultancy approached for a proposal due to their recent experience designing the Mandeville UV system (which is to be installed this year), as well as their experience at the site and within the district on other water supply projects.

3.5. Opus are available to commence the work immediately, with detailed design and contract documentation programmed to be completed 10 weeks from acceptance of their proposal.

4. **COMMUNITY VIEWS**

4.1. It is proposed that the community be engaged with once the recommended treatment system has been confirmed but prior to construction.

5. **FINANCIAL IMPLICATIONS AND RISKS**

5.1. A total budget of $60,000 is available this financial year for the capacity and treatment upgrade projects. Opus' proposal is within this budget allowance.

5.2. There is a budget of $200,000 next financial year to construct the treatment upgrade. It is the intention of staff to request that Council bring this budget forward to allow this upgrade to be completed this financial year. This will be done once the concept design and preliminary cost estimate has been completed.

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.