DARFIELD WASTEWATER BUSINESS CASE

PREPARED FOR SELWYN DISTRICT COUNCIL

11 October 2019

Stantec

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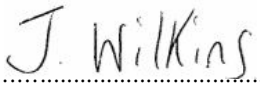
Joanna Wilkins		08/10/2019
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Executive Summary

As part of the Selwyn District Council Long Term Plan 2018-2028, the Council endorsed to "over the first three years of this Long-Term Plan, further work will be undertaken by the Council, the working group and technical experts, to gather more information and undertake targeted consultation with the community".

The purpose of this project is to establish if a Case for Change exists for wastewater management for the communities of Darfield and Kirwee.

To establish the current internal stakeholder understanding for a case for change, several meetings with internal Council stakeholders were held, along with public meetings and a public survey. The combined information from these meetings and survey identified the following drivers:

Public Health Risks

The public survey and public workshops identified that the principal driver that would cause people to change their perceptions and support implementing a scheme is the increased public health risk either through failing systems and direct contact, or ground water contamination.

Suitable housing for the future

The need for smaller land lots or suitable low maintenance property lots suitable for retiree in the area was repeatably mentioned and discussed in all the public workshops. However, these comments did not show in the same importance in the public survey.

Commercial Restrictions

The high ongoing maintenance cost, future consent concerns and restriction of commercial growth / opportunities were another key driver raised. This driver was emphasised in the survey responses and was reiterated by businesses during the workshops.

This strategic business case has been developed to assess the drivers for change for taking the communities of Darfield and Kirwee from onsite wastewater treatment and disposal systems to a centralised wastewater management solution. Two opportunities have been identified as solutions:

Community-Wide Scheme

There is little evidence to support the identified opportunity for a full township wastewater management scheme for Darfield and Kirwee, or for Darfield alone. There was little support from the wider stakeholder group for a scheme to be developed unless required to protect public health and that the capital contribution from ratepayers did not create a burden.

Partial Scheme

There is some evidence to support the identified opportunity of a central Darfield wastewater management scheme. There was feedback from the central business community of potential benefits for growth and for reducing onsite treatment costs.

The responses gathered during this assessment that support the opportunity for a Partial Scheme includes:

- There is a greater appetite for change within commercial property owners survey responses with a greater percentage that would considering connecting to a reticulated wastewater network, and also a willingness to pay more for it when compared to the overall survey results.
- General public support for the need for suitable future housing with smaller lot sizes that is not currently accommodated and, if smaller lot sizes are developed, that the smaller lots should be located in the central township area.
- Support from commercial property owners for a change to potentially reduce their maintenance cost.
- Potentially allow a greater range of industry and business in the central township area that can currently be restrained by the land size required for wastewater disposal.

Selwyn District Council

Darfield Wastewater Business Case

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1. Introduction

1.1 Purpose

The purpose of this project is to establish if a Case for Change exists for wastewater management for the communities of Darfield and Kirwee.

This strategic assessment outlines the context for the investment proposal and the Case for Change. It seeks approval to develop an indictive business case for wastewater management for the communities of Darfield and Kirwee.

This strategic assessment:

- Identifies the scale and scope of problems with the existing methods of onsite wastewater management;
- Introduces internal Council team stakeholders and outlines their prospective interest and areas of focus;
- Outlines the engagement completed with the general public in Darfield, to understand their perspective and key drivers; and
- Determines the next steps by undertaking critical, evidence-based decision making.

This Case for Change will allow the Selwyn District and the residents of Darfield and Kirwee clarity of what drivers are present and the level of potential uptake that may be achievable for any possible wastewater management solution in the area.

1.2 Background

The communities of Darfield and Kirwee are experiencing an increasing rate of growth, with projected residential populations approaching 8,000 by 2047/48 up from an estimated 4,035 in 2018/19. Sustained levels of growth mean that a long-term plan needs to be established to meet the requirements of the townships including; community facilities, commercial and business areas, transport links and 3 water servicing.

A potential limitation to growth is the ability for the existing onsite wastewater (WW) treatment and disposal configurations to be sustained if community activities were to intensify with increased business activities and a greater density of residential developments.

As part of the Selwyn District Council Long Term Plan 2018-2028, the Council endorsed to "over the first three years of this Long-Term Plan, further work will be undertaken by the Council, the working group and technical experts, to gather more information and undertake targeted consultation with the community".

Selwyn District Council has committed to carry out "consideration of a reticulated wastewater system for Darfield (and Kirwee)" within 10-14 years from the commencement of the 30-year infrastructure strategy (2018-2048).

Previous Studies

Numerous studies and plans have been prepared previously that explore some of the key issues and challenges facing Darfield and Kirwee wastewater disposal. These include:

- **Preliminary Report on the Issues and Options for Land Treatment and Disposal of Sewage from Darfield, 1996.** Lincoln Environmental were commissioned by SDC to carry out a desk top study to investigate the issues and options for land treatment and disposal of secondary treated sewage from Darfield Township.
- **Modelling impact of Darfield and Kirwee Wastewater Discharge on Groundwater Quality 2011.** Pattle Delamore Partners (PDP) carried out a report that outlined the potential impacts of the existing and future wastewater discharges from the township of Darfield and Kirwee on groundwater quality, with a particular focus on nitrate-nitrogen.
- **Existing onsite wastewater treatment systems assessment in Darfield 2014.** A sanitary survey undertaken by Community and Public Health to investigate the operation and maintenance of the onsite systems in the community.

- **The Potential Hazard On-Site Wastewater Treatment Systems in Darfield and Kirwee 2014.** A Community and Public Health critique of the groundwater monitoring used to detect contaminant plumes from the onsite systems.
- **Public health risk assessment of sewage disposal by onsite wastewater treatment and disposal systems in the Darfield and Kirwee Communities 2014.** A report that combined the two previous Community and Public Health reports to make an assessment of the public health risk presented by the onsite systems in Darfield and Kirwee.
- **Darfield Wastewater Strategy 2016**. An evaluation of sewerage options for servicing Darfield, with consideration of partial servicing options within the community.
- **Darfield and Kirwee Wastewater Strategy 2017.** A revision of the previous Strategy report to include the consideration of Kirwee.

Some of these documents have been used to inform and develop the evidence to support this Case for Change.

1.3 Study Area

The areas considered for combined wastewater management is defined by the SDC current and preferred future development areas for Darfield and Kirwee as shown in the Figures below:

Figure 1 Darfield and Kirwee area extents considered for combined wastewater management

2. Context

To establish the current internal stakeholder understanding for a case for change, several meetings with internal Council stakeholders were. These meetings provided:

- Identification of potential drivers for a case for change,
- Key questions to ask the public in a public survey of residents
- Confirmation of available consultation material and communication channels

Following the internal stakeholder meetings, public meetings were carried out. Combined with the public survey responses received the culmination of all the feedback from the various stakeholders has been used in the establishing the context outlined below.

Most of this information outlined below was gained through the public survey that was carried in conjunction with the public consultation.

Most survey respondents were through paper submissions, and varying numbers of questions were answered on each survey. This variation in the completion of each submission is why there are varying numbers of respondents for the various questions discussed below. Approximately 25% of household provided a submission to the survey.

2.1 Current Wastewater Management

Residents and businesses in Darfield and Kirwee all manage their own wastewater, relying on septic tanks and package on-site treatment plants. To gain a better understanding what systems are used in the areas, a questionnaire was sent out for the project to bring a greater understanding of what systems were used and how prevalent the different systems were.

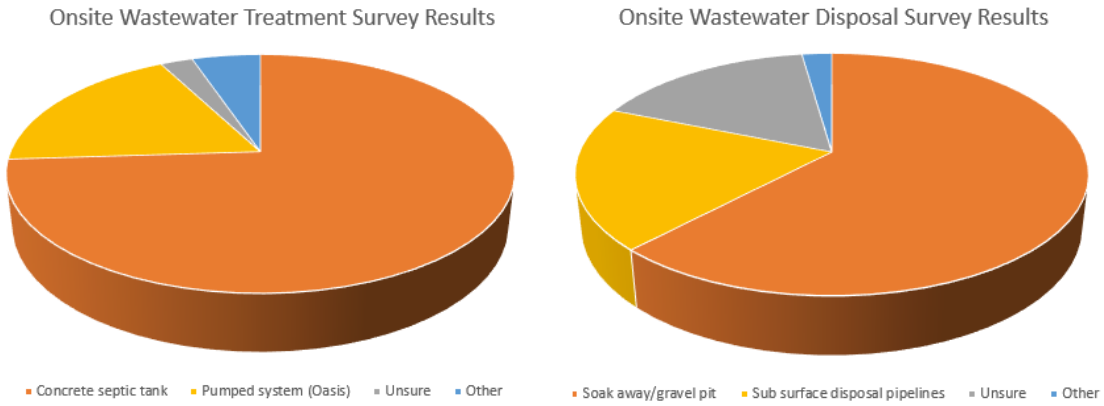

Figure 2 Survey results on the type of treatment and disposal systems in Darfield and Kirwee

From the survey sent out to all residents in the study area, 365 respondents answered the questions "what type of onsite treatment system does your property have?" and 356 respondents answered the questions "How is the treated wastewater disposal of?". The results indicate that most properties in the area have a more traditional system of a concrete septic tank and soak way or gravel pit.

2.2 Existing Ground Water Monitoring

SDC currently carry out groundwater monitoring in the Darfield and Kirwee areas and have done so since 2006. In the latest update in March 2019, it states "Overall, sample results indicate groundwater quality in the Darfield/Kirwee area is high with little indication of contamination likely to be associated with on-site wastewater disposal in the Darfield and Kirwee townships."

An area of elevated concentrations of indicator species (e.g. EC, Nitrate-Nitrogen and Chloride) is observed to the east of Darfield, as shown in Figure 3 for Nitrate-nitrogen. While this is inferred to reflect general land use across the contributing recharge area, it was recommended in the report that nitrogen isotope investigations be undertaken to confirm it is not associated with on-site wastewater disposal in Darfield township on this area, this investigation was previously carried out in 2006/07.

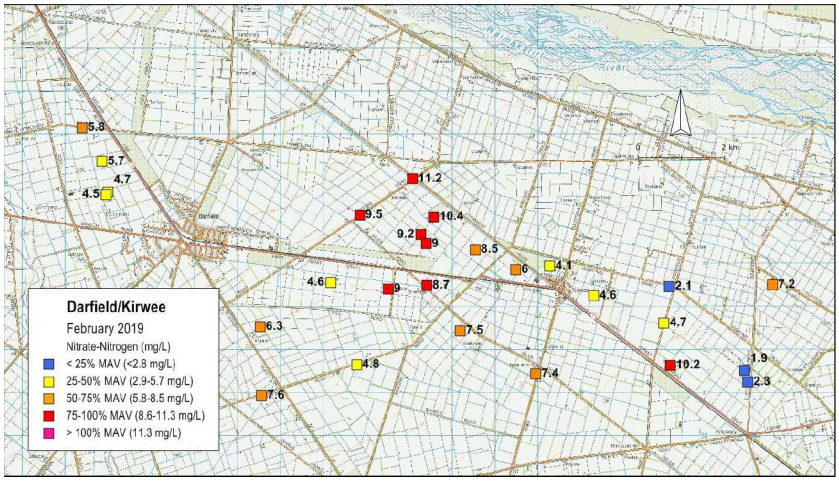

Figure 3 Nitrate-nitrogen concentrations from the February 2019 ground water monitoring survey

2.3 Consenting

Darfield and Kirwee have properties of varying age, and generally the older properties in the area may not have a consent to discharge their wastewater to land. This is likely due to the installed system having been installed and in operation prior being required for the sites, while newer properties typically have a discharge consent. This difference can be clearly seen in Darfield, with the older area of town not having consents, while the surrounding newer properties have consent (Blue dots) in the figure below.

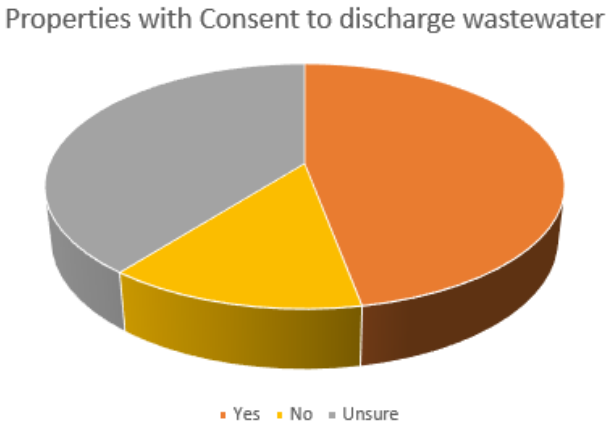

Figure 4 Survey results of, if a property had a consent, and example mapping of consents in Darfield

From the survey sent out to all residents in the study area, 340 respondents answered the questions "Does your property have a resource consent for discharge of wastewater?". A high percentage noted unsure (39%).

2.4 Current Wastewater Maintenance and Problems

Most onsite wastewater systems require regular maintenance, while the frequency of maintenance for each system varies depending on the type of treatment, the associated consent conditions (if it has any) and the rate of loading. To gain a better understanding of what residents of the Darfield and Kirwee were spending on maintenance on their current systems, we asked the question "How often is your system maintained, cleaned or checked independently", of which 344 respondents answered. This indicates a potential yearly cost for properties, where a maintenance clean or visit is likely to cost in the order of $200 per visit.

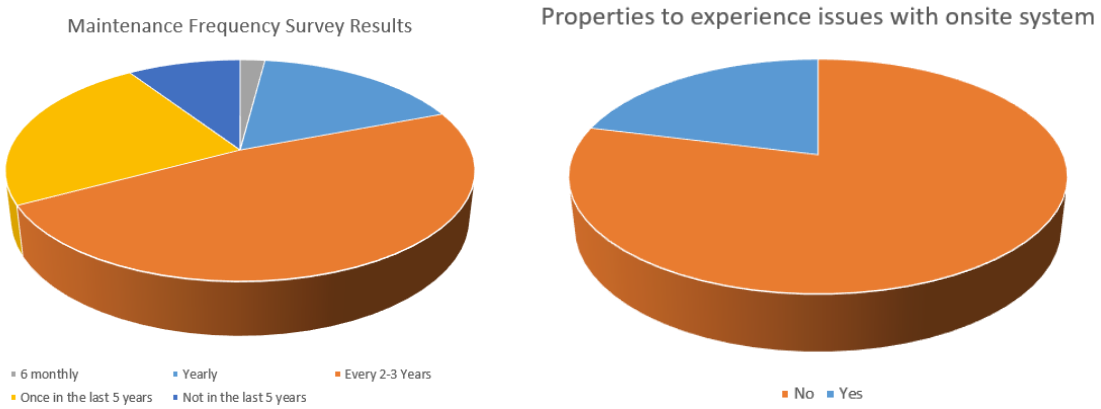

Figure 5 Survey Results on the maintenance frequency and other issues with wastewater systems

To understand potential ongoing cost to residents beyond regular maintenance, we asked the questions "Have you experienced any issues with your system?" and "Have you ever had to renew or replace any part of the system?" to which we had 360 respondents. It was also reported that six (6) properties had experience an overflow of their system.

3. Outlining the need for investment

3.1 Defining the drivers for change

3.1.1 Driver Identification – Public Survey results

A number of meetings with internal Council stakeholders were held on 6 March 2019 to identify potential drivers for a case for change and to inform ongoing consultative processes. The potential drivers identified were:

- Public health risk from failing systems
- Ongoing performance and maintenance of resident's system
- Restriction on commercial growth in the area due to being unable discharge waste to ground
- Restriction in higher density housing due to needing space to discharge wastewater to ground
- Increased requirements on renewal of Resource Consents for residents
- Negative connotations of having an onsite over reticulated sewerage for the township

Once these potential drivers were identified the residents of both Darfield and Kirwee were then asked via survey to rank the drivers or identify the ones they felt were most important. The respondents were asked "Describe your basis for change from existing onsite treatment systems?" and to score each criteria to enable us to identify the perceived leading driver for change.

There were 250 respondents with results that were able to be used to identify the greatest driver[1]. Figure 6 has been compiled from the adjusted scores showing that the driver perceived to be of greatest importance was concern for public health from failing systems.

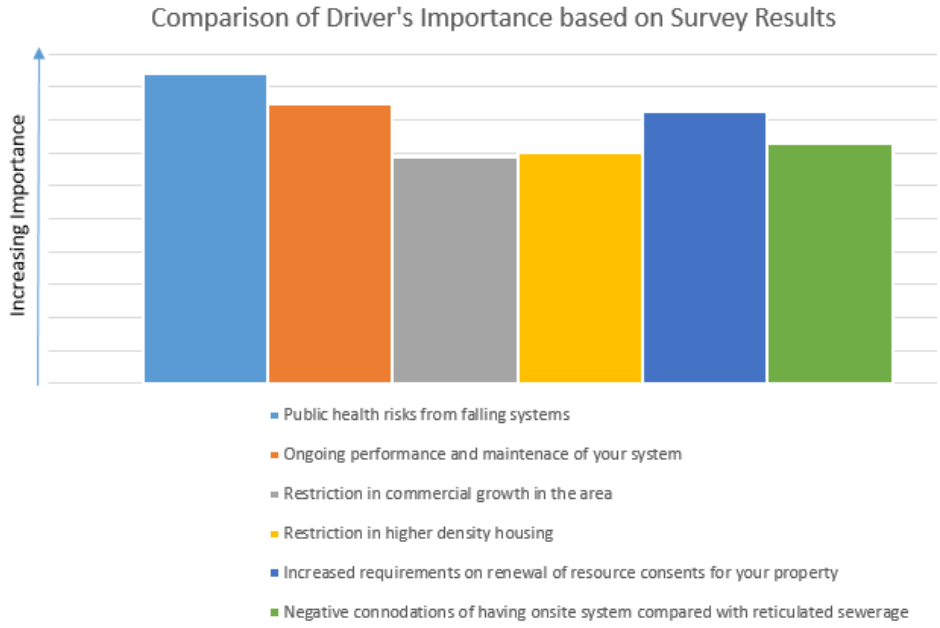

Figure 6 Ranking of possible drivers for a case for change

[1] Where respondents have not ranked the options and given the same scores across all options (e.g. All drivers ranked most important), we have set these records aside and tabulated remaining submissions

3.1.2 Driver Identification – Public workshop

A series of public workshops were held on 27 and 29 June 2019 at the Darfield Library to consult with the community and stakeholders of Darfield and Kirwee on the potential development of a wastewater collection system. These workshops were undertaken to facilitate discussion within the communities, to present to stakeholders previous investigations and development strategies, and listen to feedback on concerns or opinions that they may have.

3.1.2.1 First public workshop

The first workshop was a lunch time presentation and discussion held on Thursday, 27 June 2019, with the intent to focus on local business owner during working hours although the wider public were also invited. There were 7 attendees to the workshop, which consisted of business owner, land developers, and local residents. The following key points were recorded:

- Concerns over Public Health; not wanting to be reactive but instead be proactive in reducing the risk of ground water contamination;
- Confirmation that people were unable to subdivide properties due the cost of consenting;
- Discussion around the idea that larger lots sizes were a reason people moved to Darfield while they could get small lots in Rolleston;
- Acknowledgement that some elderly people were looking for smaller homes close to the town centre of Darfield;
- Business limitations (potential growth) and high ongoing maintenance cost were raised.

3.1.2.2 Second public workshop

The second workshop was an evening presentation and discussion on Thursday, 27 June 2019, which was advertised to all residents in the areas as focusing on general public. There were 30 attendees which were mainly individuals. The following key points were discussed after the formal presentations:

- Concerns of planning for retirement;
- Wanting a local referendum or further consultation before anything was progressed;
- Disagreement at the negative connotations of not having centralised sewerage;
- Need to understand cost implication and funding options available if a scheme was progressed;

3.1.2.3 Third public workshop

The third workshop was a morning drop in session held on Saturday, 29 June 2019 where people were able to talk one on one or in small group with representatives from project team. This workshop was advertised to all residents in the areas as focusing on people unable to attend the earlier workshops. There were 5 attendees including local residents and one developer. No additional points not already noted in the previous workshops were discussed

3.1.3 Key Driver for Change

Public Health Risks

As outlined from the public survey, and reemphasised in all the public workshops, the principal driver that would cause people to change their perceptions and support implementing a scheme is the increased public health risk either through failing systems and direct contact, or ground water contamination.

Suitable housing for the future

The need for smaller land lots or suitable low maintenance property lots suitable for retiree in the area was repeatably mentioned and discussed in all the public workshops. However, these comments did not show in the same way in the public survey.

Commercial Restrictions

The high ongoing maintenance cost, future consent concerns and restriction of commercial growth / opportunities were another key driver raised. This driver was emphasised in the survey responses and was reiterated by businesses during the workshops.

3.2 Opportunity 1 – full township scheme

The opportunity to implement a wastewater management solution for Darfield and Kirwee has been investigated through previous reports and was presented to residents at the workshops for discussion.

3.2.1 Appetite for Change

To understand whether a Case for Change exists, we have to understand the appetite for residents to be willing to change, and their willingness to pay. From the survey sent out to all residents, 343 respondents answered the questions "Would you consider connecting to a reticulated wastewater network if available?" and 295 respondents answered the questions "What would you expect to pay to connect to a reticulated sewerage scheme (per property)?

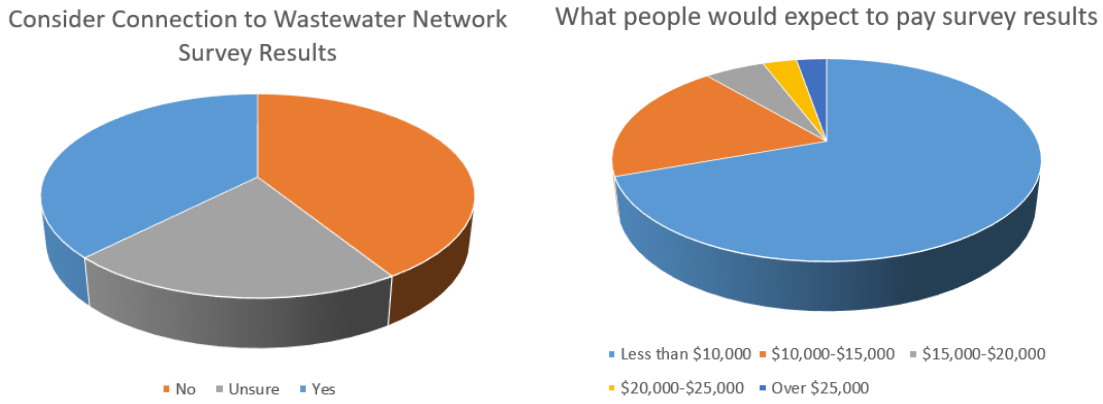

Figure 7 Survey Results on willingness to change and pay of all respondents

These responses indicate that a full township scheme, would likely be met with objection from the general public, considering the expected cost for connection as outlined in the Darfield and Kirwee WW Strategy 2017 estimated the expected cost per property lot would be greater than $20,000.

3.2.2 Related Drivers

As outlined previously, the principal driver for change raised through consultation was concern for public health, either though failing systems and direct contact with wastewater, or the risk of ground water contamination through leaching of wastewater into the aquifer used for water supply.

There has been numerous studies and investigations in the past to try to quantify if this risk is present or not, these are outlined below and indicate that there is no justifiable need for investment based on this driver:

- SDC carry out regular ground water sampling of 27 wells in the vicinity of Darfield and Kirwee, and the March 2019 report states:
    - "Groundwater quality in the Darfield/Kirwee area is consistent with that observed across the wider Canterbury Plains area (ECan, 2017). The most significant departures in the 2018 Darfield/Kirwee data were for sulphate, magnesium and Total Alkalinity which were at least 40 percent lower than regional median values, while nitrate concentrations were approximately twice regional median values"
    - "An area of elevated concentrations of indicator species (e.g. EC, Nitrate-Nitrogen and Chloride) is observed to the east of Darfield. While this is inferred to reflect general land use across the contributing recharge area it is recommended that nitrogen isotope investigations undertaken in 2006/07 be repeated to discount any influence associated with on-site wastewater disposal in Darfield township on this area";
- Ministry of Health completed a study "Public health risk assessment of sewage disposal by onsite wastewater treatment and disposal systems in the Darfield and Kirwee Communities" in October 2014 which concludes:
    - "Based on the available information, it is unlikely to very unlikely that onsite systems in Darfield and Kirwee contribute to illness in the towns, or properties down-gradient, through drinking-water contamination".

- "The very low likelihood of residents in the Darfield-Kirwee area becoming ill through indirect exposure to contaminants from the clustered onsite systems in the townships results from a combination of favourable factors, particularly the great thickness of the vadose zone in the area".

3.3 Opportunity 2 – Central Darfield township scheme

The opportunity to implement a wastewater management solution for just the central area of Darfield township has been investigated through previous reports and was presented as a possible option to residents at the workshops for discussion. It is assumed that most commercial business are located within the central Darfield area and would form part of the scheme.

3.3.1 Appetite for Change

From the survey results, 15 commercial property owners responded to the question "Would you consider connecting to a reticulate wastewater network if available?" and of those respondents, 13 answered the question "What would you expect to pay to connect to a reticulated sewerage scheme (per property)?

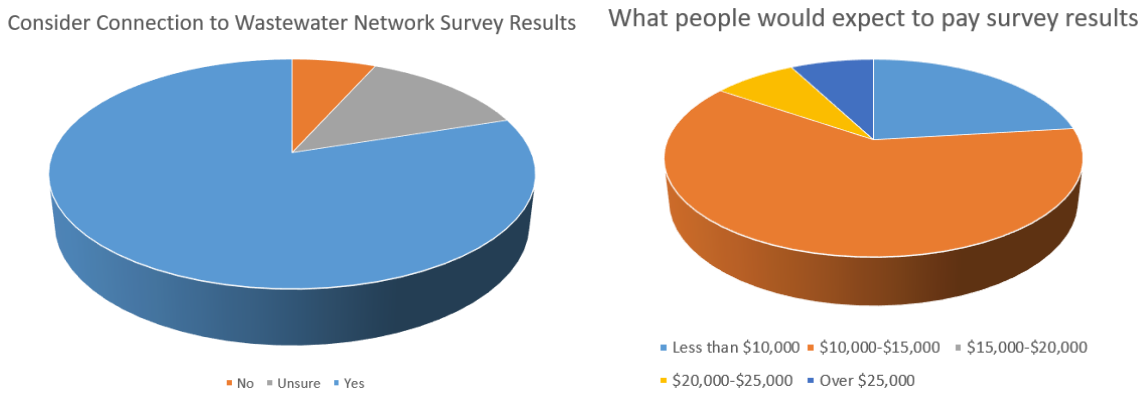

Figure 8 Survey Results on willingness to change and pay of commercial respondents

There is shown to a greater appetite for change within the commercial property owners, although the number of respondents is a relatively low number.

The expected cost for connection as outlined in the Darfield and Kirwee WW Strategy 2017 estimated the expected cost per property lot would be greater than $30,000, if a partial scheme was developed, but could increase or decrease in cost depending on the number of properties connecting (this value assumes 728 lots connecting, or 25% of current properties within Darfield).

3.3.2 Related Drivers

Highlighted through the survey and workshops were drivers for suitable housing for the future and reduction of commercial restrictions caused by the current wastewater management requirements.

Both drivers, would be supported as a case for change, although further investigation would be required to assess whether any option would be affordable. The following aspects of each driver should be considered:

Suitable housing for the future

- When discussed at the workshops, a key point made by the public was that any land considered as being developed with a greater intensity, likely though individual property subdivision, should be located within close proximity / walking distance of key businesses such as the supermarket.
- A number of discussions at the workshops revolved around the aging population of the area and the need for low maintenance properties, both in terms of land size and ongoing wastewater management cost (e.g. septic tank failure for retirees can become unaffordable).
- It was also discussed at the workshop that future developments may also benefit from the ability of having a centralised wastewater management scheme that they may be able to be connected onto as to not to have to compete with areas that don't have septic tanks (i.e. West Melton). Which is possible with the preferred network solution outlined in previous Darfield and Kirwee WW Strategy (2017), where a low-pressure network could be built to allow for future land developments.

Commercial Restrictions

- There was general support from business owners and developers in the area for a public wastewater management solution. It was noted that the current onsite systems restrict the potential commercial activities (both extent and type) that is can be carried out in Darfield due to the land requirements to discharge wastewater.
- There is a high maintenance cost for some commercial water uses currently that would be significantly reduced with the implementation of public wastewater management solution.

4. Key Stakeholders

Below is a list of Key Stakeholders, a full list of names and contacts can be found in the project's communication plan for all key stakeholders.

Stakeholders	Responsibilities and Focus
Local Residents	Residents have all been invited to the mentioned workshops, but if any further work is carried out, they should be updated on progress and in developing any solutions. The focus of the community will be to ensure that the proposed benefits and options are desired and supported by the effected community. Key local resident or parties are listed in this project's communications Plan
Local Business Owners	All local business owners have been invited to the mentioned workshops, but if any further work is carried out, they should be updated on progress and in developing any solutions. The focus of the business community will be to ensure that the proposed benefits and options are desired and supported.
Selwyn District Council (Asset Management Team)	The Asset Management Team at Selwyn District Council provides and manages changes to infrastructure for Darfield and Kirwee. In relation to this case for change, they would be deciding on the extent of the scheme and managing the design and construction of any assets being built.
Selwyn District Council (Operational Team)	The Operational Team at Selwyn District Council provides the operational and maintenance for all council owned infrastructure for Darfield and Kirwee. In relation to this case for change, they would need to be maintain any collection system, and operate any treatment works required.
Selwyn District Council (Finance Team)	The Finance Team at Selwyn District Council would be involved in implementation of any solution for the council, as they will need to manage the long-term finance for the project and any changes to localised rates for ratepayers that benefit from the scheme.
Selwyn District Council	Other stakeholders at the Selwyn District Council, include the greater Council (particularly the Malvern Ward councillors), and other support teams such as the communication team. They will need to understand the scope of any changes or further investigations to facilitate clear and effective connections with of effected residents and business owners.
Environment Canterbury (ECan)	Environment Canterbury is the regional regulator that controls the wastewater discharge consents for the area. The focus of ECan is to ensure protection of ground water and potential effects any future proposed solutions may have on effected parties.
Canterbury Health Board	Canterbury Health Board is the regional health protection agency. The focus of the Health Board to is ensure the protection of public health for the local residents, in this case through ensuring public water is safe to drink.

5. Strategic Alignment

5.1 Ministry of Health

The availability of safe drinking-water for all New Zealanders, irrespective of where they live, is a fundamental requirement for public health. Darfield and Kirwee are serviced by a raw water source, drawn from a ground water from a confined aquifer below the townships, the UV treatment (at Kirwee only) is to protect customers from bacteria and protozoa that maybe found in the source water, the source water for Darfield is reliant of the aquifer remaining uncontaminated. There is currently no chemical treatment carried out on the water. The water is then supplied to customers through an SDC owned and maintained system.

The ground water in the area is subject to higher than average levels of Nitrate-Nitrogen and Chloride, although the levels are not to a level that require treatment. Concern from local residents, SDC and Canterbury District Health Board (CDHB) that increased loadings from uncontrolled onsite wastewater disposals risk the quality of the raw water supply has led to SDC carrying out continuous monitoring of the ground water, and CDHB completing a study into the risk of uncontrolled onsite wastewater disposals effecting drinking water quality. Both the study and monitoring indicate that the uncontrolled onsite wastewater disposal has no greater risk to the drinking water than the surrounding land usage (i.e. farming).

The Ministry of Health also believe that adequate sanitary works in communities is the most effective and usually the most efficient means of managing the risks to public health associated with inadequate sewage treatment. The CDHB completed a study into the risk of onsite wastewater disposals and public health and determined it to be a low risk.

The legislation that covers standards around sewage are: Building Act 2004 (managed by SDC), the Resource Management Act (RMA) 1991 (managed by ECan) and the Health Act 1956 (compliance by Canterbury District Health Board).

Although a wastewater scheme would align with the long-term objectives of the Ministry of Health, in the case of Darfield and Kirwee there is no public health reason to change the existing onsite wastewater disposal methods as there is no evidence of determinantal effects or greater risk to the public compared with a reticulated solution.

5.2 Selwyn District Council Long Term Plan 2018-2028 (SDC LTP)

The Selwyn District Council endorsed, further work to be undertaken by the Council, to explore wastewater options for Darfield and Kirwee and to gather more information and undertake targeted consultation with the community.

A SDC owned and maintained wastewater network for Darfield and Kirwee will help contribute to the community outcomes:

- A clean environment
- A healthy community
- A safe place in which to live, work and play
- An educated community
- A prosperous community: and
- A community which values its culture and heritage.

Although an SDC owned and maintained wastewater network for Darfield and Kirwee could have a detrimental effect on the SDC LTP service Targets for 5 water activities due to the nature of the targets around complaints (currently none in Darfield as no residents are serviced).

5.3 SDC 30-year infrastructure strategy (2018-2048)

Volume 2 of the SDC LTP is the SDC 30 year infrastructure Strategy, where thee Selwyn District Council has committed to carry out "consideration of a reticulated wastewater system for Darfield (and Kirwee)" with the benefit of "reduced environmental impact, potential for more intensive development" within 10-14 years from the commencement of the 30-year infrastructure strategy

6. Next steps

This strategic business case has been developed to assess the drivers for change, taking the communities of Darfield and Kirwee from Onsite wastewater treatment and disposal systems to a full township wastewater management scheme. Key observations drawn from the information gathered as part of this assessment;

- Community-Wide Scheme: There is little evidence to support the identified opportunity for a full township wastewater management scheme for Darfield and Kirwee, or for Darfield alone. There was little support from the wider stakeholder group for a scheme to be developed unless required to protect public health and that the capital contribution from ratepayers did not create a burden.

- Partial Scheme: There is some evidence to support the identified opportunity of a central Darfield wastewater management scheme. There was feedback from the central business community of potential benefits for growth and for reducing onsite treatment costs.

The responses gathered during this assessment that support the opportunity for a Partial Scheme includes:

- There is a greater appetite for change within commercial property owners survey responses with a greater percentage that would considering connecting to a reticulated wastewater network, and also a willingness to pay more for it when compared to the overall survey results.
- General public support for the need for suitable future housing with smaller lot sizes that is not currently accommodated and, if smaller lot sizes are developed, that the smaller lots should be located in the central township area.
- Support from commercial property owners for a change to potentially reduce their maintenance cost.
- Potentially allow a greater range of industry and business in the central township area that can currently be restrained by the land size required for wastewater disposal.

With this evidence, there is a Case for Change that should be carried forward looking at servicing option for the Central Darfield area alone. The following next steps should be carried out:

- Mapping of the existing survey result to understand the public view within a potential central Darfield scheme.
- Develop an outline plan that meets the requirements / feedback from the public consultation process to inform further consultation both in possible extent and estimated costs;
- Further public consultation and survey of effected parties to accurately understand the willingness to connect and the willingness to pay.

Appendices

Appendix A Public Workshop Engagement Plan

Appendix B Public Survey Form

Please use this feedback form to tell us about your current wastewater treatment system and give your thoughts on the proposed scheme.

Provide feedback by **Friday 5 July.** You can return this form to Darfield Library.

You can fill this form in online: www.selwyn.govt.nz/SurveyWW

See our website for more details on this project: www.selwyn.govt.nz/InfoWW

Location Details

1) Property address: _____

2) SDC Rating Number: _____

3) What type of property do you own? Residential ☐ Commercial ☐

4) How long have you occupied this address? (years) <1 ☐ 1-5 ☐ >6 ☐

5) Number of occupants at property? _____

About your current onsite treatment system

6) What type of onsite treatment system does your property have?
Concrete Septic Tank ☐ Pumped System (Oasis) ☐ Unknown ☐

Other (please state: type/model/age) _____

7) How is the treated wastewater disposed of?
Soak away / Gravel pit ☐ Sub surface disposal pipelines ☐

Disposal field in above ground ☐ Unknown ☐

Other (please describe) _____

8) Where is your on-site treatment system located?
At the front (towards the road) ☐ To the rear (behind the property) ☐ Unknown ☐

9) How often is your system maintained, clean or checked independently?
Regularly (yearly) ☐ Often (2-3 years) ☐ Sometimes (in last 5 years) ☐

Very rarely (not in the last 5) ☐ Never ☐ Unknown ☐

10) If you have had your system cleaned, who have you used?
Leech ☐ Robsons ☐ Mainland Liquid Waste ☐

Other (please define) _____

11) Have you experienced any issues with your system?
Odour ☐ Overflow ☐ Breakage/Leaks (e.g. due to tree roots) ☐

Other (please define) _____

12) Are you aware of anyone else who may have experienced problem?
Yes ☐ No ☐

If yes, please describe _____

13) Have you ever had to renew or replace any part of the system?
Yes ☐ No ☐

If yes, please describe _____

Describe your basis for change from existing onsite treatment systems?

14) Please rank from 1 – 6 the following drivers as to why you might consider a change:

1 = very important to 6 = least important

Public health risks from failing systems	
Ongoing performance and maintenance of your system	
Restriction commercial growth in the area	
Restriction in higher density housing	
Increased requirements on renewal of Resource Consents for your property	
Negative connotations of having an onsite over reticulated sewerage	

15) Would you consider anything else to be a driver and reason to change? _____

_____

Current and future requirements

16) Does your property have a resource consent for discharge of wastewater?
Yes ☐ No ☐ Unsure ☐

17) Would you consider connecting to a reticulated wastewater network if available?
Yes ☐ No ☐ Unsure ☐

18) What would you expect to pay to connect to a reticulated sewerage scheme?
less than $10,000 ☐ $10,001<$15,000 ☐ $15,001<$20,000 ☐

$20,001<$25,000 ☐ >$25,000 ☐

19) Do you have any other comments about this project? _____

_____

_____

_____

_____

Thank you for taking time to complete this form.

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Please visit **www.stantec.com** to learn more about how Stantec design with community in mind.

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