

SOUTH WAIRARAPA DISTRICT COUNCIL

2 SEPTEMBER 2020

AGENDA ITEM D3

WATER LEAK DETECTION UPDATE

Purpose of Report

To inform Councillors of the progress in detecting leakage from the SWDC water networks.

Recommendations

Officers recommend that the Council:

1. *Receive the Water Leak Detection Update Report.*
2. *Note that funding from the water reform stimulus package will be used to bring forward water leak detection work across the district.*

1. Executive Summary

In response to identified network leakage, Wellington Water has undertaken leak detection work in Greytown and identified leakage points in the public network that have been scheduled for repair. Further detection work is required in Featherston and Martinborough and it is proposed that water stimulus funding is used to bring forward this work as soon as possible.

2. Background

At the Assets and Services committee meeting, Wellington Water detailed leakage within the SWDC water network to be around the 55%. Given the extent of these losses, urgent investigation work in Greytown (where most leakage was identified) was undertaken to identify the points of leakage for repair.

3. Discussion

The report at Appendix 1, prepared by Wellington Water, details water leak detection work undertaken. The report identifies that similar detection work is required in Featherston and Martinborough and it is proposed to be brought forward using water reform stimulus funding.

Funding and conducting water leak detection work in all towns, every year is also recommended and will be considered for the future, as part of the Council LTP process.

4. Appendices

Appendix 1 – Wellington Water – SWDC Water Supply Leakage Update – August 2020

Contact Officer: Euan Stitt, GM Partnerships and Operations

Reviewed By: Harry Wilson, CEO

**Appendix 1 – Wellington Water –
SWDC Water Supply Leakage Update –
August 2020**

MEMO

TO South Wairarapa District Council

COPIED TO Ian McSherry, Chief Advisor Service Delivery

FROM Laurence Edwards, Chief Advisor Drinking Water & Lawrence Stephenson, Senior Engineer Network Engineering

DATE 26 August 2020

FOR YOUR INFORMATION

SWDC Water Supply Leakage Update – August 2020

Consumption in SWDC is higher than we would like due to a combination of leakage (both private side and within the public network), and relatively high per capita consumption.

We have a number of initiatives under way to reduce leakage, including leak detection sweeps, replacing meters with smart meters in rural properties, and a further smart meter system trial planned as part of the water reform funding work over the next 18-24 months.

In Greytown, water leakage of 39% was reported in a recent Wairarapa Times Age article (10 July 2020), based on annual report figures from June 2019. Flow meter information for Greytown in July suggests this has increased to 69% for the month. While this appears alarming and is much greater than we would like, it is important to put this increase in context.

Typical demand in Greytown is around 13 - 24 litres a second (L/s) on a daily basis. Leakage of 39% therefore equates to between 5 – 9.4 L/s, and 69% equates to 9 – 16.6 L/s, or an increase of between 4 and 7.2 L/s between June and July 2020. A single leak on a pipe in the network could result in as much as 1-2 L/s, and a number of small leaks within private property can have a similar impact, and therefore a significant percentage increase in overall leakage across the town. The relatively small size of the network means leakage can be disproportionately high, and this is supported by previous leak detection and repair work that has reduced the leakage significantly.

More recently, a recent check of the night flows (to 18 August 2020) suggests a reduction in leakage of about 20%, which is likely indicative of private properties fixing leaks following annual invoices based on water meter reads that are issued at this time of year, and is consistent with what has been observed in previous years at around this time. Further reductions in leakage are expected as private property leaks continue to be repaired.

We have also recently (August 2019) completed a leak detection sweep in Greytown, the first time a sweep has been completed in Greytown since around the end of 2018. The leak detection contractor has estimated leaks on the public side to contribute around six litres a second, which equates to between 25 and 46 % leakage. These leaks have been programmed for repair as soon as crews are available.

Based on assessment of night flow information, leakage in Martinborough is estimated at around 25%. Leak detection was last completed in Martinborough in October 2019.

Leakage in Featherston is currently estimated at around 62% (approximately 10 L/s from a typical flow of around 17 L/s), and a reduction in private property leakage is expected in the near future in response to annual water usage invoices, similar to Greytown. Leak detection was last carried out in Featherston in December 2018.

Leakage in Pirinoa is negligible given that the town reticulation network was replaced in 2017.

Current budgets allow for leak detection sweeps of one town in SWDC per year at around \$20k, so typically there may be a 2-3 year gap between sweeps. Increasing the frequency of leak detection sweeps and repairs will result in a reduction in leakage, but has a diminishing rate of return on investment. Ideally a sweep of each town would be completed each year (at around \$60k per annum) as this would demonstrate clearly to the community an ongoing commitment to minimising leakage generally and would provide a strong basis for discussions with residents about reducing their consumption as part of the water conservation strategy and proposed water conservation plan.

As part of the three waters reform funding stimulus, we plan to initiate further pilot trials of smart technology to should assist with identifying leaks more quickly and driving down leakage. For example, currently domestic meters in SWDC are read manually once a y ear, meaning there is limited scope for prompt identification and response to leaks particularly on the private side. More frequent monitoring and analysis could be made easier through use of smart meters.

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