

Report To: Council



Meeting Date: 28 November 2023

Subject: **Te Kuiti West Flooding – October 2023**

Type: Information Only

Purpose of Report

- 1.1 The purpose of this business paper is to provide a summary of the 8 October 2023 flooding event on the western side of Te Kuiti and provide information on staged works to improve the resilience of the stormwater network.
- 1.2 The paper identifies potential budget implications for both the roading and water activity groups as a flag for future decision making.

Background

- 2.1 The Te Kūiti West stormwater network was overwhelmed by a short period of intense and very localised rain on Sunday 8 October 2023.
- 2.2 Repair and recovery works prioritised after the weather events earlier in the year were unable to alleviate damage to private property which included flooding, gravel displacement and scouring of driveways.
- 2.3 These works included:
 - Unblocking stormwater open drains and pipes on Ward Street, Ngatai Street, George Street, Te Kūiti Road, Ngarongo Street, Eketone Street, King Street West and Anzac Street.
 - Repairing a stormwater pipe on Park Street that had been damaged by tree roots.
 - Replacing a damaged water main pipe on Mangarino Street.
 - Improvements to stormwater open drain inlets, outlets and road cesspits.
- 2.4 Most of the stormwater network in Te Kūiti is designed for a two-year storm event, however it is accepted that weather patterns are changing and that these rain events will happen more frequently and with increased intensity.
- 2.5 Seven critical sites in the western area of Te Kūiti have been identified. These drainage sites are now regularly monitored before and after a rainfall event.

Commentary

- 3.1 **FLOODING DAMAGE**
- 3.2 Public and private properties were damaged during the event.
- 3.3 The most significant damage was experienced by properties in Eketone, George, Ngatai, Ward, Duke, King Street West and Queen Streets. Flooding Rapid Building Assessments were undertaken on 16 flooded dwellings. Inspections and assessments are made by Building Officers under the Building Act to determine whether buildings are insanitary or dangerous.
- 3.4 It is understood that three families required emergency accommodation however as this is organised by families themselves exact numbers are not known.

- 3.5 Nine properties incurred damage to driveways scoured out by the water running off roadsides and hills. Some of the damage was significant with access to properties affected.
- 3.6 Other more widespread and less significant damage related to sections, garden sheds and garages being inundated with flood waters. Gravel was also displaced from roads and driveways and spread across lawns.
- 3.7 Council's administration building on Queen Street was flooded with water damage incurred to the ground level rooms closest to Queen Street.
- 3.8 The carpark at the Gallagher Recreation Centre (the Stadium) was inundated, with floodwaters getting very close to the building itself.
- 3.9 Some defects and shortcomings have been identified as exacerbating flood risk to the Stadium. These matters are being worked through between the Engineer to the Contract and the Contractors. The Defects and Liability period for the development remains live.
- 3.10 **COUNCIL AND EMERGENCY SERVICES RESPONSE**
- 3.11 Actions taken during the flood event and immediately afterwards by Council and emergency services, included:
- Dewatering of flooded sections in Duke Street by the Fire Service.
 - Rapid Building Assessments undertaken by Building Inspectors.
 - Critical sites checked for blockages by WDC contractors.
- 3.12 Whilst the stormwater network couldn't cope with the initial intensity of the event, once the rain slowed the drainage system was able to clear the majority of floodwater within approximately 40 minutes. This relatively quick drainage allowed the majority of property owners to begin clean-up works without needing to wait for waters to recede or for help to pump it away. It also shows there were not significant blockages within the main drainage networks.
- 3.13 A dedicated webpage 'District Flooding Updates' has been created to provide residents with useful information in one place. It includes a Frequently Asked Questions Fact Sheet and information on insurance claims. This page will be updated with news and information as appropriate. <https://www.waitomo.govt.nz/our-services/roads-water-waste/infrastructure-updates/district-flooding-updates/>
- 3.14 Residents who attended the Community Meeting held on 17 October 2023 were sent a link to the webpage via text message.
- 3.15 **RESIDENTS CONCERNS**
- 3.16 Key concerns raised by residents at the community meeting and through service requests can be summarised as people wanting to know:
- (a) What is being done to prevent future damage?
 - (b) Who pays for damage caused to private property when stormwater networks are overwhelmed?
 - (c) Are residents provided with copies of inspection reports?
- 3.17 The answer to (a) is covered in Section 3.30 below.
- 3.18 The response to (b), is that damage caused to private property as a result of a weather event is the responsibility of the property owner and a matter for the property owner's insurer. However, some residents may qualify for financial support from the Ministry for Social Development.
- 3.19 Residents have expressed concern that the increased number of events has resulted in several claims being made over a short period of time. It has been brought to staff attention that one property is no longer being covered for loss caused or contributed to by flood. The insurance company has assessed it as being at risk of being affected by flooding after rainfall due to the number of claims lodged.

- 3.20 With regards to (c), Rapid Building Assessments are made under a Civil Defence declaration. Where no declaration has been made, inspections and assessments can be made by Building Officers under the Building Act. The purpose of these inspections is to ensure buildings are not unsanitary or dangerous.
- 3.21 Rapid Building Assessments are kept on property files and are available to those who wish to access them.
- 3.22 The Afterhours phone service as well as Customer Services received an influx of phone calls from concerned and affected residents during and after the event. People were looking to the Council for support and to provide assurance that things would be okay.
- 3.23 People were also very keen to share video footage, to show Council what had happened in real time in the hope that this information would help identify problems and inform remedial actions going forward.
- 3.24 **INITIAL COUNCIL FINDINGS AND CHALLENGES**
- 3.25 The storm event was considerably more intense (approximately a 30-year storm) than the two-year capacity the stormwater network is designed for, but there were also contributing factors such as the topography of the catchment acting as a funnel in some areas, existing land use, and debris from properties getting swept up in the deluge and blocking cesspits.
- 3.26 Farms and rural land use on the surrounding hills and catchments have been identified as one of the largest contributors to the flooding. Cooperation of farm owners on the western hills will be critical in ensuring flood damage from any future events is mitigated. This not only causes flooding of downstream properties but also leads to a lot of damage to the roading network and driveways.
- 3.27 Large commercial buildings with large roof surfaces and inadequate stormwater management collects and channels large volumes of water onto hard surfaces which can contribute to the amount of water ending up on surrounding properties and roads. Most of these are older buildings so meeting current standards will require cooperation from property owners. Ideally, these large buildings should have retention tanks to hold a certain volume of storm runoff before discharging to private soakholes or stormwater reticulation.
- 3.28 Like with large commercial buildings, older dwellings were found to have inadequate stormwater management. Water from the downpipes discharges onto the lawn or hard surfaces. This is even more problematic for dwellings that are lower than the road level. Most properties do not have retention tanks or drainage/cesspits to manage the runoff from their own properties. This all contributes to the overall flooding issue. Ideally, the properties will have private cesspits drain their property and tanks to hold a certain volume of runoff before discharging to private soakholes or stormwater reticulation.
- 3.29 During an event like the one experienced on 8 October 2023 loose debris from properties get sweep up in the deluge and end up blocking drainage inlets and cesspits. While cesspits on roads are cleaned once or twice a year, it is unfeasible and impractical to inspect all Council cesspits before every storm event. This requires the cooperation of the property owners to ensure private actions prevent debris such as lawn clippings and planter boxes from ending up in the stormwater and blocking inlet structures. Property owners can play their part by ensuring that the cesspits in front of their houses are clear. Any major blockages of cesspits and other inlet structures should be reported to Council.
- 3.30 The Water Services Bylaw 2015 requires property owners to clear any open channels on their property. In several cases, the channels are overgrown and unmaintained. We need to consider whether to enforce the bylaw or Council clears the channels for the property owners. If Council clears them then it will come at an unbudgeted cost and could lead to the property owners expecting it to be Council's responsibility in future.
- 3.31 **REMEDIAL OPTIONS**
- 3.32 Several plans, both long-term and short-term, are being worked on to help restore, repair, and improve the resilience of the stormwater network. This will help reduce the impact of future weather events.

3.33 **SHORT-TERM SOLUTIONS – WITHIN 6 MONTHS**

- CCTV in stormwater pipes to find blockages and also confirm pipe sizes.
- Water blasting to clean out blockages inside pipes.
- Removing screens from outlet drains that prevent blockage.
- Installing scruffy domes in designated areas to help drain out the surface flooding into underground pipelines.
- Install screens on open drain inlets to help with capturing debris and prevent blockage.
- Installing wingwalls on critical open drains to help control and divert surface flooding.
- Increasing the size and quantity of roadside catchpits on certain streets.
- Checking and clearing all critical blockage points before potential heavy rainfalls.
- Improving information and advice to property owners on their stormwater related responsibilities under the Water Services Bylaw 2015.

3.34 **MEDIUM-TERM SOLUTIONS – 12 TO 24 MONTHS**

- Investigate how we can reduce surface flooding coming down from the hills. One option is to build retention ponds; however, further investigation is required. This will involve several and considerable steps such as identifying potential sites, dealing with landowners, seeking Regional Council resource consents, securing sufficient budget for the project, procurement and construction.

3.35 **LONG-TERM SOLUTIONS – 24 MONTHS AND MORE**

- Carry out stormwater modelling. The modelling will identify network capacity issues, depth of flooding under the different storm sizes and where more significant works may be required such as larger pipes or new pipes. Pipe upgrades will be a costly exercise and options will be considered based on budget, design and available land.
- The scope of this exercise is currently being finalised with a consultant. The modelling and full mitigation options are expected to cost over \$200,000. The whole process of building the model, calibration, analysis and mitigation options will take almost 24 months. After the options have been agreed on, detailed design will need to be done before procuring a contractor to carry out the upgrades.

3.36 **COMMUNICATIONS PLAN**

- 3.37 Ongoing engagement with the most affected residents and Te Kuiti residents will be planned to keep people informed.

Potential/ Future Budget Implications

4.1 **WATER BUDGET IMPLICATIONS**

- 4.2 The capital cost of \$240,000 to implement short term measures has been approved for the following financial years 2023/24 and are planned for in the LTP for 2024/25 and 2025/26.

- 4.3 The medium and long term solutions are unbudgeted.

Description	Area	Current FY	Y1	Y2
		2023/24	2024/25	2025/26
Stormwater - Improvement	Te Kuti	\$240,000.00	\$240,000.00	\$240,000.00
Stormwater - Renewals	Te Kuti	\$168,760.00	\$109,000.00	\$113,000.00
Consent Renewals	District Wide	\$200,000.00		
Medium term (ponds) and Long term (Modelling and pipe upgrades)	Te Kuiti	Unbudgeted		
Additional - Devices & Structure Management	District Wide		\$87,000.00	\$90,000.00

Description	Area	Current FY	Y1	Y2
		2023/24	2024/25	2025/26
Additional - Renewals	District Wide		\$86,000.00	\$104,000.00
Additional - Comprehensive SW Management Plan	District Wide	Implemented this FY		
Proposed actions through Management Plan	District Wide		\$250,000.00	\$200,000.00
Additional - Renewals	District Wide		\$150,000.00	\$150,000.00
TOTAL		608,760.00	922,000.00	897,000.00

4.4 **ROAD BUDGET IMPLICATIONS**

- 4.5 The initial cost to complete the short-term solution for works related directly to the roading expenditure is estimated to be \$450,000.
- 4.6 These works include the installation of new double catchpit and associated connections into the existing stormwater network at specific locations that were directly affected by surface flooding.
- 4.7 As these works were not planned during this current funding period, the following re-allocation of funds are proposed:

Roading GL:	Proposed Reallocation	Comment
Minor Improvements (73060715)	\$215,000	Proposed resilience site located on Te Waitere Road will be deferred.
General Roding Renewal Budgets	\$150,000	It is proposed to take budget from GLs that will not further impact KPIs and areas where a small amount will not have a large impact including Unsealed Metaling, resurfacing & pavement rehabs.
Unsubsidised Road Improvements (74060705)	\$106,000	Currently unallocated budget.
Total:	\$471,000	

Suggested Resolution

The business paper on Te Kuiti West Flooding – October 2023 be received.

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GENERAL MANAGER – INFRASTRUCTURE SERVICES

20 November 2023