

Update on reducing flood risk in James Street/Taupō Stream catchment

30 March 2022

Wellington Water project team and Porirua City Council (PCC) staff thank community members who joined a meeting on reducing flood risk in and around James Street on Sunday 27 March.

An outline of the investigations into the issues and potential options for reducing flood risk was presented by Wellington Water Project Director Lyndie McMillan and Project Manager Josh Wright with the support of PCC Principal Advisor – Environment Ben Fountain, PCC Parks & City Services Operations Manager Mark Hammond and PCC Chief Advisor Olivia Dovey.

Project Director Lyndie McMillan says there was a lot of very useful feedback and input from those attending and this will be considered by the team.

The following is a summary of the information covered at the meeting.

Investigations

During the last flooding event in 2020, and during previous events, surface flooding has closed State Highway 59 at the roundabout and impacted a number of properties on James Street, as well as St Theresa's school and church.

Wellington Water's specific goals for the catchment study are to:

- determine possible solutions to reducing the frequency of flooding on SH59
- determine possible solutions to reducing the frequency of flooding in and around James Street
- identify opportunities for future planned developments in the catchment to make improvements that result in reduced downstream flood risk.

The project team spoke to residents and local businesses earlier in the year, completed a survey of the existing network, consulted with Plimmerton Farms and undertook initial stormwater modelling to inform the investigation phase.

The issues

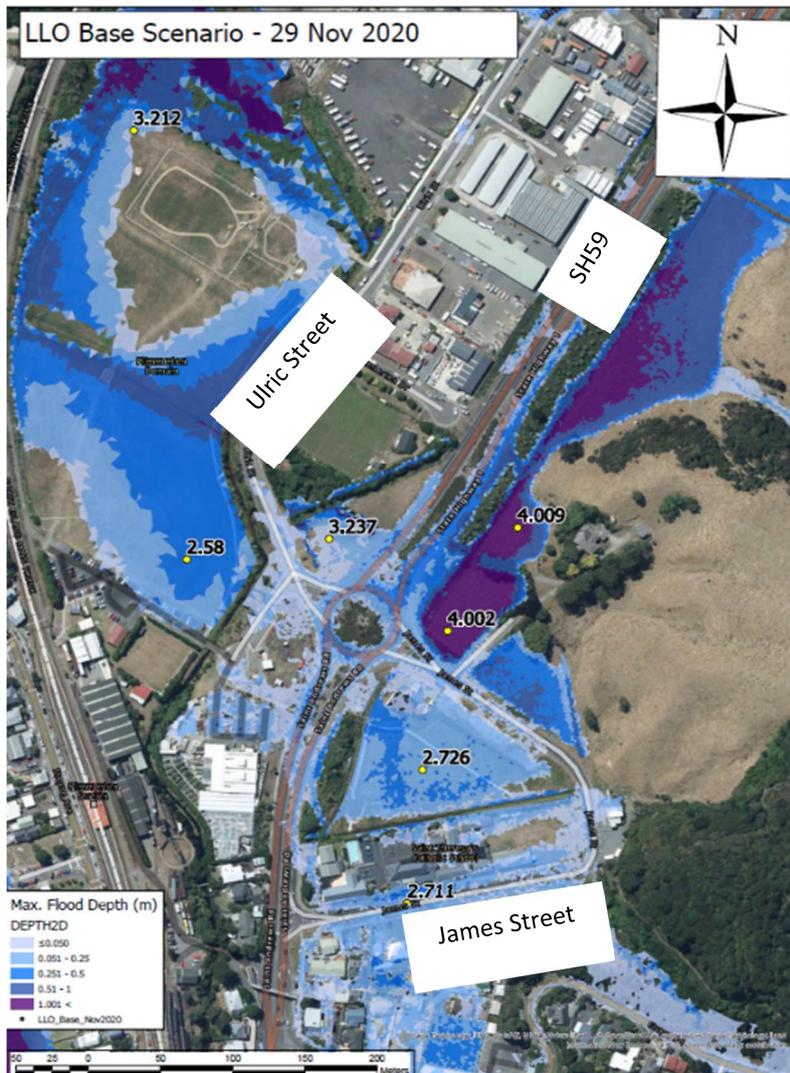
The challenges with the Taupō stream catchment that it is a large catchment (collecting rainwater from a large area) with a single outlet to sea, the Taupō stream. It is also a naturally low-lying area that has been built up, with roads and residential, school, church and commercial buildings in the primary flowpath (the path water naturally follows).

What we know from reports and modelling:

- the existing stormwater network to the north of the State Highway 59 roundabout floods in higher flows
- overflow from the east of State Highway 59 can flow toward James Street resulting in ponding
- stormwater flows overland from above James Street (Mo Street and Grays Road) down to James Street, contributing to the flooding issues.

We are using modelling as a representation of rainfall events as it is the most effective tool we have to determine the flow paths and ponding in the catchment, and effects of possible solutions. The model is continuously refined as we get more information (such as community feedback and additional survey) as we go through the study process.

The illustration below shows a modelled representation of rainfall equivalent to 29 November 2020.



Long list of options

A long list of options has been developed and workshopped including Wellington Water Operations Group, Waka Kotahi, Porirua City Council, Ngāti Toa representatives and Stantec (consultant engineers).

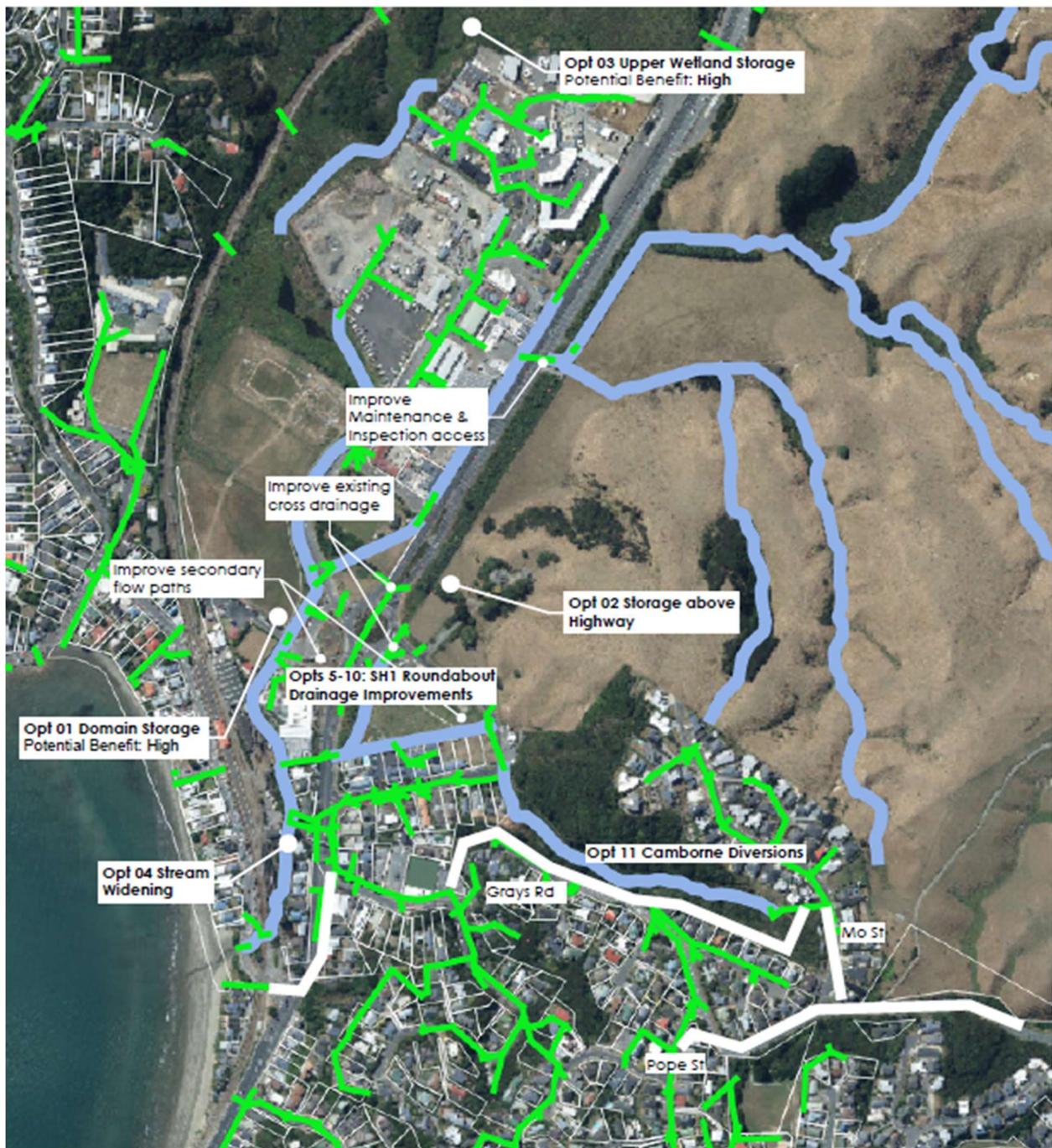
Possible long list options were considered in isolation of each other during modelling of scenarios.

The long list options considered are in three categories at various locations in the catchment:

- Attenuation – a storage basin upstream to hold back stormwater and release it at a rate the network can carry to sea. We have considered options on both sides of the highway.

- Improved capacity – a range of options including widening Taupō stream, upsizing culverts and swales, improving inlets and removing obstructions.
- Diversion – diverting flows from above James Street (Mo Street, Pope Street and Grays Road) to an alternative part of the network.

The long list options are shown on the map below:



These options were discussed with the community.

There was also discussion of maintenance of the existing system, with residents noting that recent maintenance had made a difference.

Next steps

- We will continue to refine the catchment model.
- We are continuing work to understand the effectiveness and viability of the long list options, and how they might work in combination, including gathering additional information from site investigations and modelling.
- We will narrow down to a short list based on this assessment and then a recommended solution (which may involve a package of works). We expect the shortlisting to be undertaken over the next two months.

Due to the challenges of the catchment the project plan may need to be refined as we work through the viable options and/or combination of options.

The shortlisting assessment will consider community feedback and include a multi-criteria analysis considering cost-effectiveness, environmental impact, and other factors.

We expect to have our recommendations for the catchment for consultation with PCC by July, dependent on progress of discussions with other parties with an interest in the catchment including developers and Waka Kotahi.

The final deliverable will be recommendations on options for stormwater management in the catchment, which will then be subject to prioritization in Wellington Water's/PCC's capital work programme.

We will keep the community informed through the shortlist and recommendation process, so keep an eye out for updates on the project website.

We also encourage you to continue to provide video/pictures of flooding events that may help the inform the solution. Please contact Janice.rodenburg@wellingtonwater.co.nz