



Memorandum

To	Marcia Christiansen - BOPRC
Copy	Vincent Murphy - Momentum
From	Sarah Millar
Office	Whakatāne
Date	17 August 2023
File/Ref	2-9Z729.01
Subject	ContainerCo Stormwater S92 Request

BOPRC's technical review of the ContainerCo stormwater application concludes;

For the technical review of the application to proceed, there are certain recommendations that must be followed by the applicant. The first recommendation is to resubmit the stormwater calculations, but this time, they must consider the entirety of the catchment. Following the stormwater calculation results, an adequate stormwater management system shall also be provided.

Additionally, the applicant should also resubmit their assessment of flooding effects. This assessment should take into consideration both stormwater and coastal inundation for large events, but also more frequent events (e.g. 10% AEP event). The assessment should include the factors mentioned in the review process so far. By doing so, the applicant can provide a more comprehensive analysis of the potential impact of flooding on the proposed application together with mitigation options.

Flooding effects for the wider area being developed are now quantified by modelling work carried out by Golovin (Dr Steven Joynes) for the Tinex Group Ltd (to the east), with recent additional work carried out for Tinex, Container co and OLP Logistics' Property (to the north) . This work has been through a number of iterations, for the purpose of determining the best mitigation for a number of situations, which would allow the development of the Container co site, and allow the continued use of the Tinex site.

The work is not completed, however is largely finalised, and the results of the work are included here. The model itself has been reviewed by the WBOPDC, who are comfortable with the methods used. WSP was privy only to the outputs of the model. Attached.

A range of flooding events were modelled, and it was found that the extent of flooding did not change substantially with larger events, just the depth.

Mitigation is proposed.

Option One, illustrated by 012 - TPBP SW PLAN.ai includes

- Removal of the culvert which drains the industrial area to the north – routing this water instead to a new connecting drain on the northern side of the road;
- Connection and possible widening of northern roadside drain all along Te Puna Station Road (to allow stormwater to flow towards Wairoa River)
- Removal of Tinex/TPL boundary culvert (to allow stormwater from ContainerCo and upper (southern) catchment to flow towards Wairoa River via overland flow path)
- Creation of a 45 m overland flow path through the Tinex property - 30m wide overland flow path required by the structure plan.
- Installation of a third Culvert at Teihana Road – required by the structure plan (allowing floodwater from the whole catchment to flow freely to Wairoa River, rather than gathering behind the culverts)
- Installation of fish friendly flapgates to 3 Teihana Road culverts.

Golovin modelling of Option One has indicated that this combination of mitigations indicates that decreased flooding levels from the structure plan baseline will be achieved. This is detailed in Steven Joynes' memo [attached](#).

Modelling indicates that flooding will be reduced by the mitigation measures proposed.

Option Two 011 – TPBP SW PLAN.ai includes

- Removal of Tinex/TPL boundary culvert (to allow stormwater from ContainerCo and upper (southern) catchment to flow towards Wairoa River via overland flow path)
- Creation of a 45 m overland flow path through the Tinex property - 30m wide overland flow path required by the structure plan.
- Installation of a third Culvert at Teihana Road – required by the structure plan (allowing floodwater from the whole catchment to flow freely to Wairoa River, rather than gathering behind the culverts)

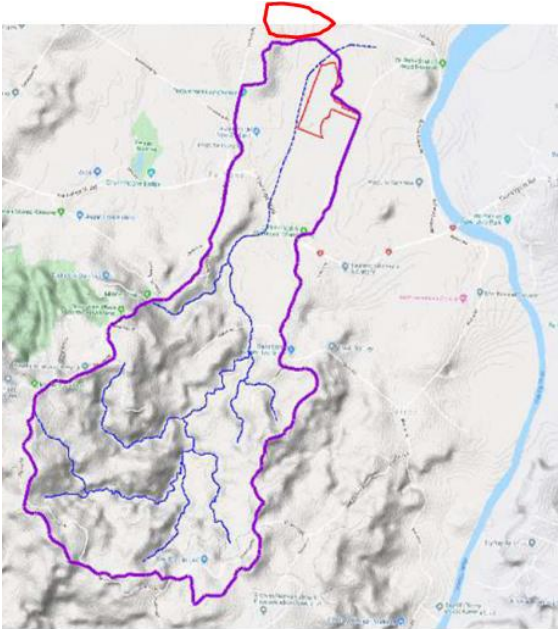
WSP is unsure of the resulting flood levels for Option Two; Plan 011 as this exact combination of mitigation has not been covered by Steven Joynes' modelling.

Plan 012 would, according to Steven Joynes' modelling, result in a change in flooding level for both 10 and 100y return events, which would reduce flooding from the baseline at all locations. Details are included in the attached "Summary of Flood levels using the Designed Drain 17th July 2023"

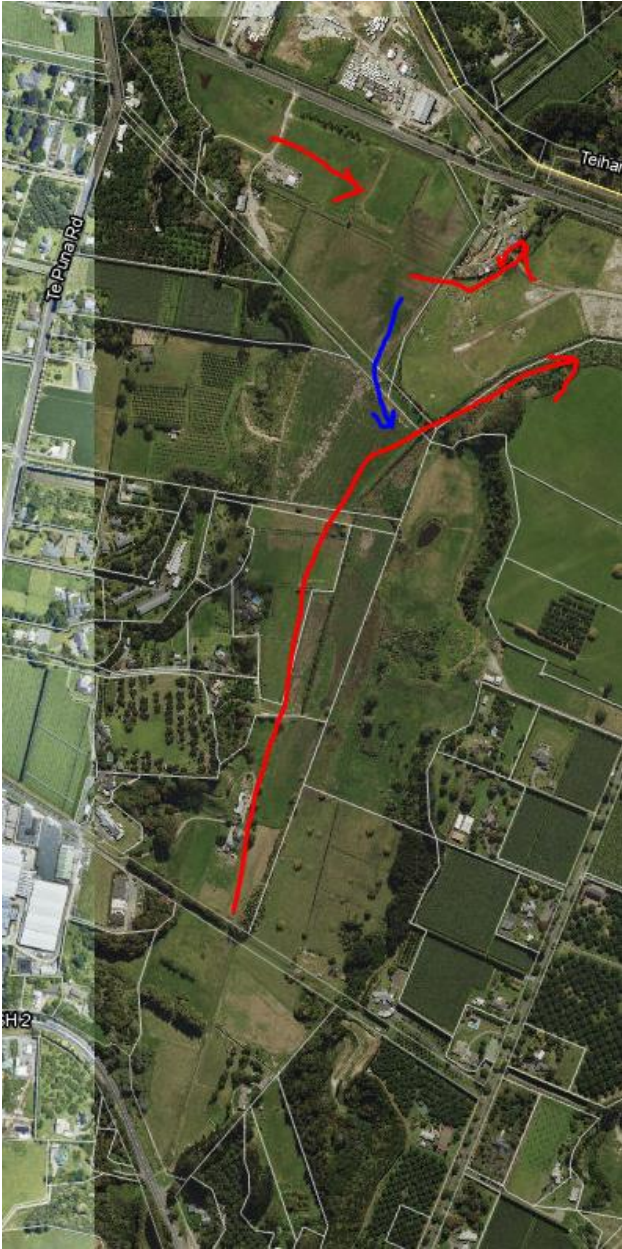
Stormwater Management

With regard to stormwater management on the ContainerCo site needing to include mitigation for stormwater from the entire upstream catchment “*stormwater calculations . . . must consider the entirety of the catchment*” and , “*the stormwater management devices are not suitable as they do not meet the capacity requirements for a larger catchment.*”

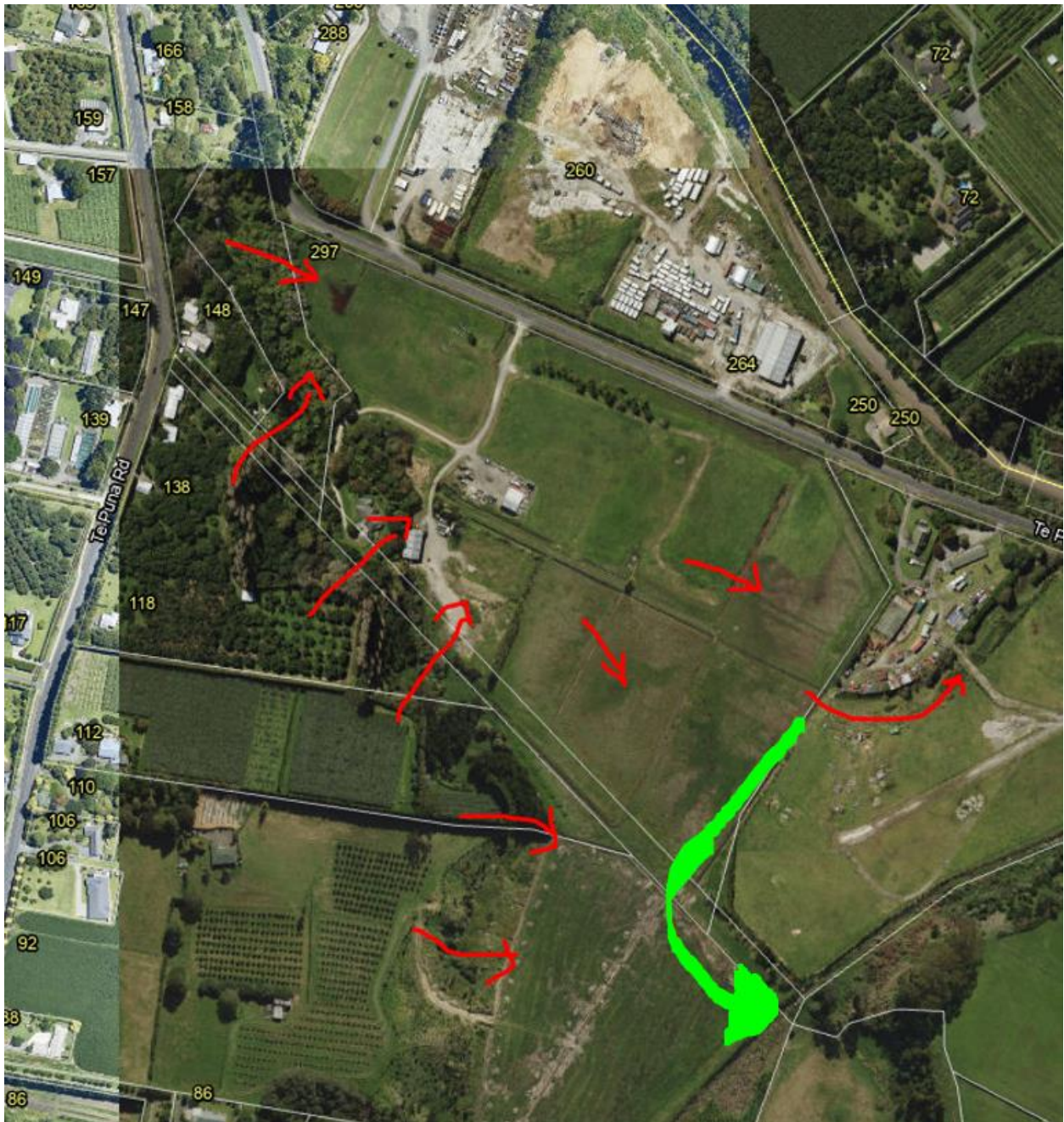
WSP’s assessment of the catchment was that it was outside of the catchment boundary identified by the technical review – the approximate ContainerCo location marked here in red;



Even if there is some flow from the larger catchment into the ContainerCo Site, the bulk of the upstream flow passes by the ContainerCo site, flowing directly down the stream. There is under some circumstances a secondary flow path from the ContainerCo site (marked below in blue) when the area downstream of the ContainerCo site is flooded, or the capacity of the small culvert on the Tenix boundary is exceeded;



Our assessment of the direction of flow of water from the Container Co site is that it currently either flows through the Tinex site to the east via the culvert, or backs up behind the small culvert, flows south and then east to discharge to the stream (secondary flow path marked in GREEN), and that the only inflows are from the hills to the south and west, and a small amount of the catchment behind, extending as far back as Te Puna road;



ContainerCo are only required to consider and mitigate the stormwater from their own operation, and that which flows directly through the site - not that from the wider catchment that the Container co site discharges to. We have calculated the stormwater flow rate for the current situation and that from the proposed development, and mitigated accordingly, as per the consent application, and the previously submitted stormwater spreadsheet.

In our view it is not reasonable to ask Container Co to mitigate stormwater flows from catchment areas upstream. These are lands which they do not own and have no control over.

Disclaimer and Limitations

This report ('Report') has been prepared by WSP exclusively for ContainerCo ('Client') in relation to stormwater consent for the proposed ContainerCo site on Te Puna Station road ('Purpose') and in accordance with the ACENZ/ENZ short form contract for the project. The findings in this Report are based

on and are subject to the assumptions specified in the Report and the Golovin report “Floodplain Assessment for 245 Te Puna Station Road for the Tinex Group Ltd of April 2022”, and subsequent additional modelling. WSP accepts no liability whatsoever for any reliance on or use of this Report, in whole or in part, for any use or purpose other than the Purpose or any use or reliance on the Report by any third party.

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