

### Folder [Flooding 20240222 Photos collected]

WRA Whangamata Rate Payers Association > Folder [Library: Stormwater Working Group 2023]

## 20240222 Flood Event

Overnight 29249221 and into the morning of 20240222 its reported we received 40mm of rain.

This does not get anywhere near a 10%AEP

Rules require surface flooding to not exceed (I think 150mm) and must dissipate within (I think 1 hour).

These images represent the same areas commonly flooded.

The rain was sporadic and did not fall evenly throughout the district. ie we get pockets of monsoon type conditions along one street and hardly any rain on the next. This was evident along Kiwi compared to Bellona and Sylvia.

### 2023 Hale and Gabrielle Flood Event

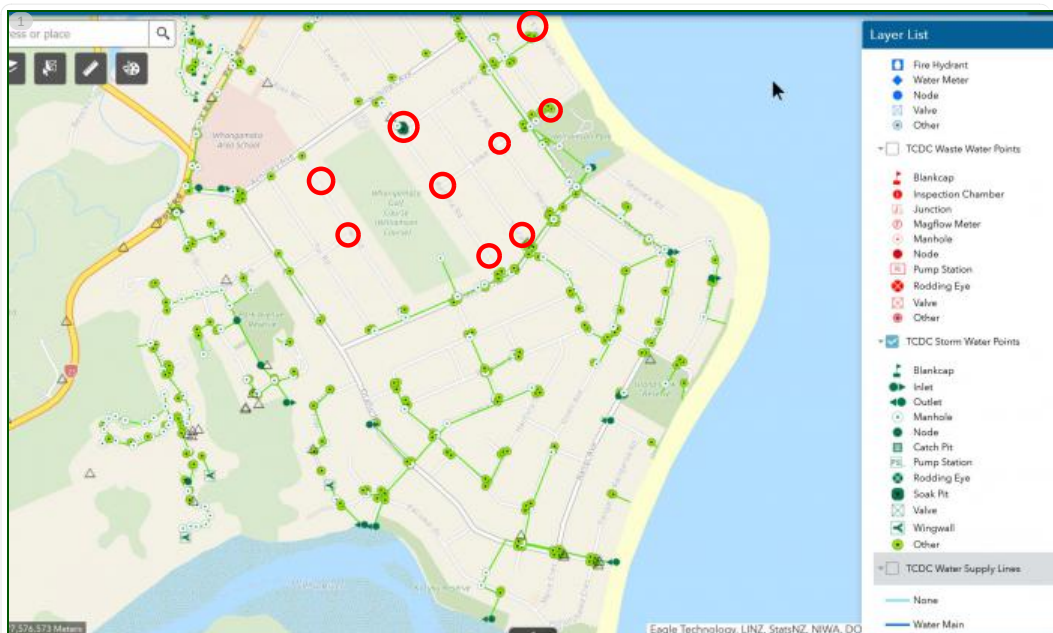
I have images after Gabrielle struck. These could be loaded up to get context.

2003 Opus and 2005 Opus images.

The 2003 Opus report included a library. These will cover off the same areas.

I have not included Lincoln, Lindsay, Heatherington, the business community area, or other likely HotSpots. They will have merit to be included.

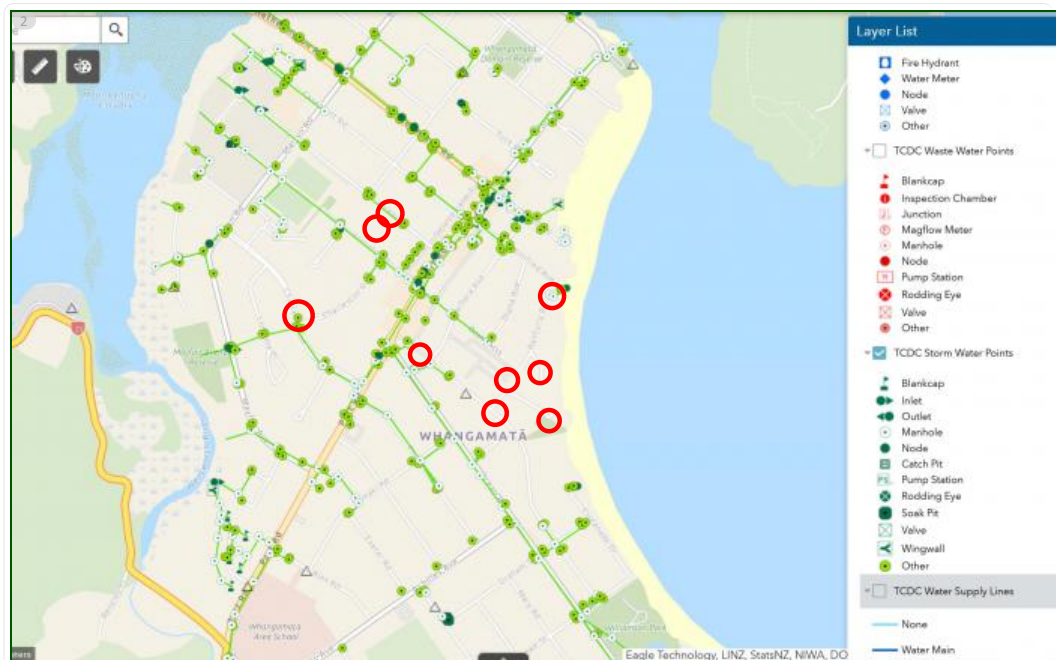
20240222 Graham back to Bellona.mp4 >>



20200000A Smart Maps Stormwater Infrastructure South.jpg

Circles of locations of images shown

These are not all the hotspots - chosen after 20240222 rain event



20200008 Smart Maps Stormwater Infrastructure North.jpg

Circles of locations of images shown

These are not all the hotspots - chosen after 20240222 rain event



20240222 Aickin 114a 2.jpg

114A Aickin new build 2022 - FFL about -250mm flooded in Gabrielle

Owner has installed defences - concrete block wall, boarded gate and pump.

NB: Water did not get down to 112 Aickin so never tested new defences

Can see trespass water but not to stage of flowing



20240222 Aickin 114a 3.jpg

Driveway to 114 Aickin ponding water

114A defence the block wall has contained the water.



20240222 Aickin 114a 4.jpg

Top end of Aickin

Trespass water comes in over curb and channel then along verge and into properties below verge.

Ponding flowing down now.



20240222 Aickin1.jpg

Opposite 114 Aickin driveway below road crown receives road water and verge water. NB: Verges less permeable as compacted. In Gabrielle ponding went right up to blue car.

Left of screen owner has installed pumps



20240222 Bellona 223 onwards.jpg

Bellona from 223 looking down

NB: Verge well formed BUT at power pole driveway has been dug to just above level for 2 story home. This flooded in 2017 through the block basement and came up through cracks in the concrete floor.

Water enters driveway BUT does not get to garage in these smaller events.

NB: verge on opposite side also well formed and above the road.

These properties get nuisance surface flooding but it soon goes away.



20240222 Bellona from Lowe intersection.jpg

Bellona from Lowe Street

NB: Verges good example of containing road water.

NB: The soakage devices are too small to absorb the 40mm overnight. It took a day and the soakage pits caught up.

Bigger soakage devices would contain this water and prevent it rising to breach where verges are lower or not well defined or altered to create driveways.



20240222 Beverly1.jpg

Beverly at Barbara end where the Church is.

Water has nowhere to go. Relies on soakage through impermeable verges or runoff onto lawns.

Needs extensive soakage pits which will only work when water table is low.



20240222 Chartwell.jpg

Chartwell remained passable but car owners were thinking twice.



20240222 Chartwell sumps clear but not draining.jpg

Chartwell at about 10am 20240222

Owner of property by white car was out checking the grates on the sumps - all clear but nothing going down drains. He has sandbags at the ready because depth of water gets a lot higher

He said he would do another RFS

NB: Means a list of RFS are available to council

Dave said the FireService generally have to call in here often.

NB: the road has a dip here - can see the crown in the distance.

Port Road is higher this end by at least 1m.



20240222 Chartwell2.jpg

Chartwell

Well formed verges but not every property

Water comes down from Port and back from the 2 side roads

This becomes the central depression of the area.

Trees in middle of the road have been cut down

Concept is lots of space to form good overland flow path - just needs somewhere to go and not flood downstream properties.



20240222 Kiwi at 110 looking down.jpg

Kiwi Rd was not as flooded as expected.

Some very minor ponding on lawn of 110 but not much.

Sumps are full and water went down to Kea.

Verges not adequately formed along a lot of Kiwi.



20240222 Kiwi Kea.jpg

Intersection Kiwi and Kea - has series of sumps collecting water and taking it to a soakage device which is completely overwhelmed. Even with a low water table.

If rain carried on the depth of surface ponding would increase and trespass onto a lot more properties (at depth)



20240222 Kiwi Kea intersection.jpg

Kiwi Kea intersection wider angle looking back from Williamson end

Can see the grates are flooded.

All gone by the next morning.

Means soakage works but soakage surface area too small

Also means soakage device if uses as temporary detention device is under capacity.

NB: Without seeing LVL I would pick this is about 2-3m above Park Avenue Reserve



20240222 Mary down to Graham.jpg

Mary looking down to Graham

NB: Verges fall away from the crown.

This allows trespass water onto low lying private land.

The lower the ground the deeper the ponding.



20240222 Mary or Sylvia (2).jpg

Verge merges into driveway all below crown.

Flooding eminent.

No overland flow path down verge to Ocean Rd



20240222 Mary or Sylvia.jpg

Mary or Sylvia same issue road water and verges only partly formed flowing through low parts of verge into properties.



20240222 Mooloo1.jpg

Mooloo was impassible in my car - too deep.

Mooloo features in Opus - no solutions as the road level is below King Tide

Advice was no further impervious for this area.

Despite this 5-6 new properties since 2003, now Ranfurly road is concreted and 5 more BC approved at this end of the camping ground all with plans showing driveways flowing onto Ranfurly.

110 St Patricks has been ordered to remove electrical to basement as they predict 400mm deep flooding. That puts Mooloo at another aprox meter depth.

NB: Resource compliance must stop consents

Who is going to design out of this?

Fill road up by 1.5m so its passable - that means at least 8 homes will be below the new crown. All driveways will need redoing.

Garages lifted.

Council has a duty here.



20240222 Ocean 210a.jpg

210a Ocean Rd

Flooding partly managed by verges but not to all properties

Because the drains don't work the surface flooding gets deeper until it breaches poorly formed verges.

The road should be the overland flow path but to do this it must have verges well above the crown.





20240222 Ranfury.jpg

Ranfury from Winifred end showing road water with vans parked in water.

This end of the road always floods

The sand dunes are higher so has no flow path away.

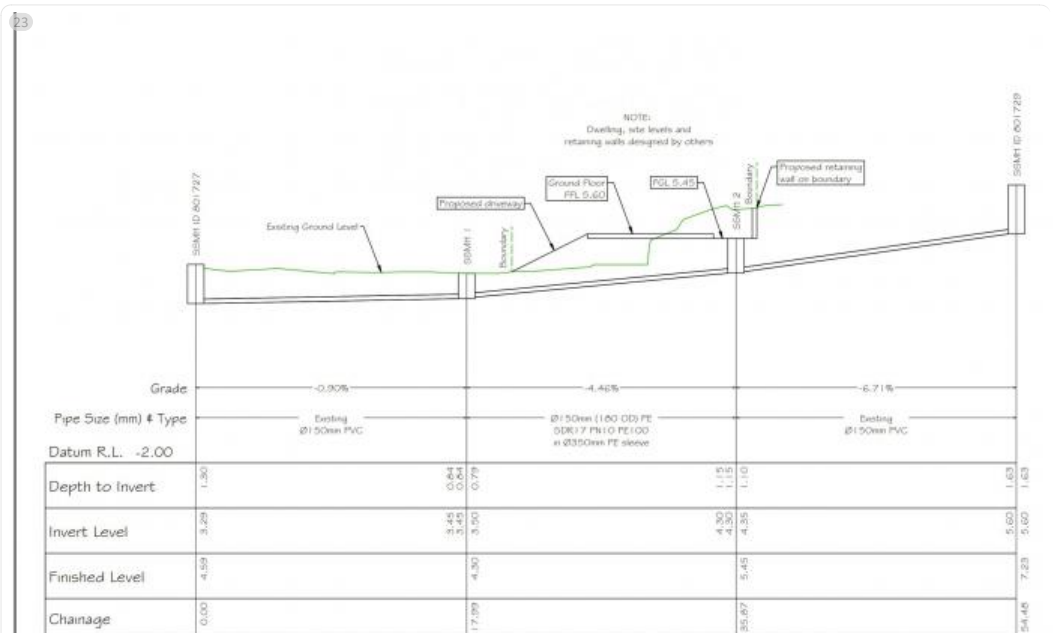


20240222 Ranfury3.jpg

Ranfury looking to Winifred better angle showing deep water. My car went through okay but would have come in through the doors ie crown is flooded.

There is a property further along with a dug out basement for his boat. Water does not seem to get that deep to build up this far down Ranfury.

The corner is the depression.



20240222 Ranfury4 cross section FFL.jpg

This is the cross section for the 3 new apartments.

Crown is 4.3 (not specified but looks like)

FFL 5.6 so about 1.3m above crown so probably around 600mm above high water mark.

I haven't looked at all the plans but don't see contour lines of dunes height.

If water was to run over the dunes it could scour like Island View has when Pipi overflowed and washed out from the toilets to Hinemoa.



20240222 St Patricks Ranfurly new houses.jpg

Showing Ranfurly extension and 2 new townhouses with 110 St Patricks behind - the consent for the new townhouses included an order to make basement uninhabitable as it expects 400mm depth of flooding.

NB: The plans for 110 St Patricks have a out of date satellite view before the 2 lots of 110 Mooloo got built. These 2 homes have built a retaining wall through the old overland flow path. They are on wooden floors but maybe not to the expected new depth with all the additional impervious runoff.



20240222 St Patricks and Beverly.jpg

Need to check but corner of St Patricks and Beverly surface flooding



20240222 St Patricks Beverly.jpg

St Patricks and Beverly flooding



20240222 St Patricks turnaround.jpg

#### Turnaround of St Patricks

This was much deeper after Gabrielle and remained for months with the winter rains. Was impassible.

Needs accurate contours BUT may be good as a natural depression to drain the surplus water.



20240222 Sylvia from Williamson.jpg

#### Sylvia from Williamson Rd.

Massive ponding right across the crown

Verges not well formed to right.

What is preventing water flowing to Williamson is the way verges and driveways have been formed.



20240222 The Esplanade.jpg

#### The Esplanade at Graham end.

This is where council cut off the crown and directed water to a new soak pit and detention pond dug into the dunes where the ponding is.

This is relatively recent work the rumour mill says is by agreement with the owners of 203-205 (4)

that get flooded by trespass water - prevented being sued.

Since the work was done the sump gets continuously blocked with sand - the blow ups put sand right across the road and onto the lawns - once the sand was above the curb and channel. The depression is probably half its original size through build up of sand.

Lesson here is no sumps within range of blow up sand - or if they have to be there they need cleaning out after every blow up.

Shows that council does do case by case.

Similar detention device at the end of Lowe Street into Williamson Park to remove road water that kept flooding apartments basements at 117 The Esplanade on the corner.