

**BEFORE THE CANTERBURY REGIONAL COUNCIL
UNDER THE RESOURCE MANAGEMENT ACT 1991
AND
IN THE MATTER OF APPLICATION CRC190445 BY THE CCC
RIGHT OF REPLY TO**

- 1. FURTHER SUPPLEMENTARY EVIDENCE 15 MARCH 2019**
- 2. Applicants Joint statement #2**

**Submitter: Kathryn Leigh Snook
22.3.19**

I requested an extension on my submission in the morning of 21.3.19 as I had not received the written reports by post or email. To date I have not received confirmation of an extension. Due to work commitments I have had to submit this at 1.40am on 22.3.19.

FILL OF PONDING AREAS

1. It is unclear if the experts agree on statement Pg 2 (5) regarding the potential effects of the significant fill of the ponding areas in Brooklands. Within the document they acknowledge there is an impact from upstream urbanisation.
2. The CCC consent has an allowance for an increase in Styx River water level of 100 + 20 mm.
3. I am concerned the CCC states they control fill via district plan zoning. To date the CCC has allowed illegal fill in Brooklands and the consented fill in new developments such as the new arterial motorway/Rest Homes along Prestons Road have resulted in reduced ponding areas.
4. Currently CCC is considering Spencerville Road subdivision application where it is unclear how the developers intend to compensate for loss of flood ponding areas and the water run off is to be through an open farmers drain entering the Lower Styx River just down from my property. As residents are we going to have to continually lodge applications against subdivisions? This is stressful and tiring we need some protection.

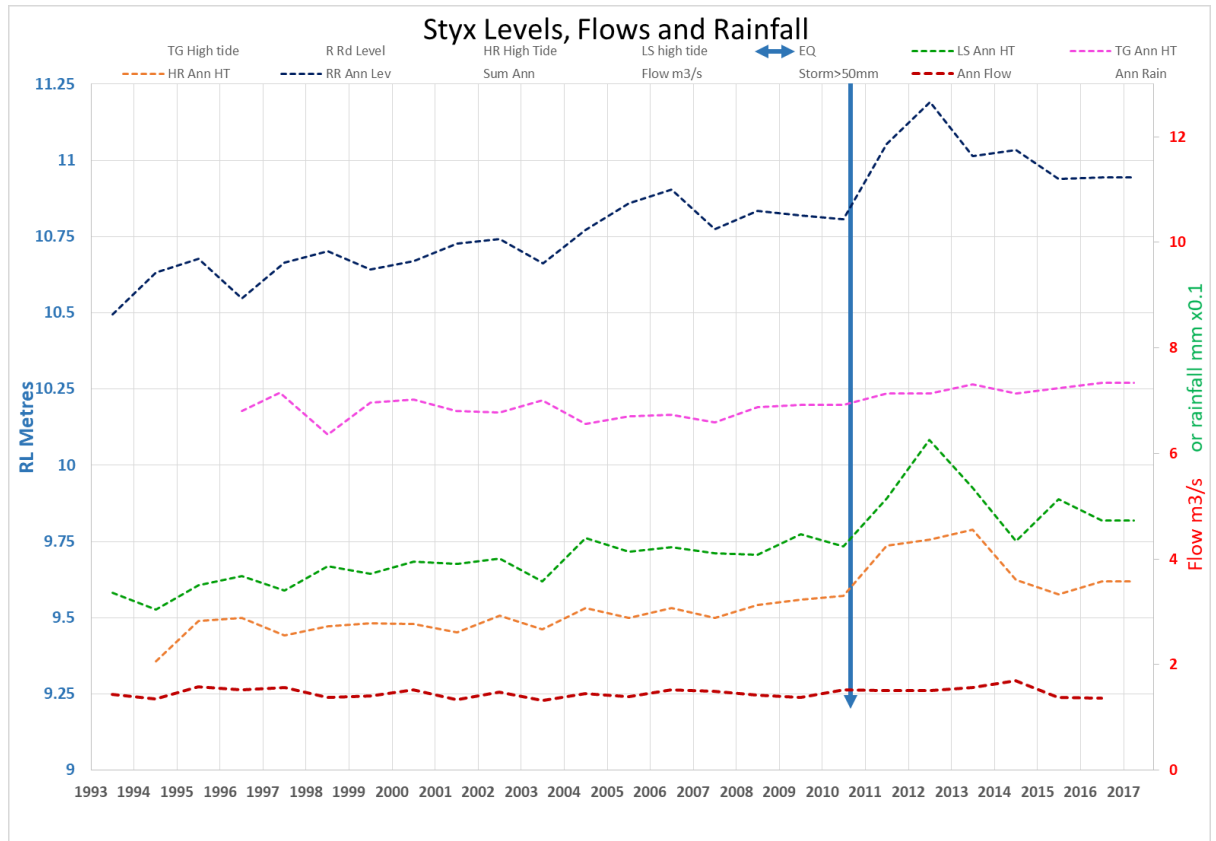
MODELS

5. I continue to question the validity of the models used? In particular the focus on the new weed maps that seems to turn the evidence for flooding in Brooklands from River to Lagoon – I question why to date the CCC has never taken this into account before?
6. More importantly their models should be supporting what residents have experienced as the Styx River breaks its banks in an under 1 in 10 event.
7. (Note: If I had more time I would follow up on my belief that the during my term on the Styx working party that there was a comment that a recent weed cutting had very little impact on the Styx River level .) **26/3/19 due to extension I have located the reference to the notes from the Styx working party 18 Oct 17 page 2 – attached.**
8. Even the cross section diagram on page (5) implies the Ex CERA Land provides a buffer for the Rodrigues property. Yet in close proximity is the road at a much lower level that would channel the water into their property.

STYX RIVER EARTHQUAKE MITIGATION

9. Much of the effects seen in the Brooklands area and to the Styx River are as a result of the earthquake. To date this has not been mitigated. See graph from Styx Working party presentation on Styx Levels, flows & rain fall –clearly showing the river is running higher in the lower reaches of the Styx River since the earthquake

10. graph



11. I ask that the commissioner to include in the CCC consent for earthquake mitigation of the river in areas that will impact residents properties in under a 1 in 50 event. This puts some responsibility on the CCC to protect residents who are at risk of flooding since the earthquake

NO RIVER LEVEL RISE

12. In statement pg3 (9) the CCC have put their results under a microscope and have shifted the evidence to imply the rain event has more impact than the river on the groundwater in Brooklands. I am relieved to find there is still a connection with the river level therefore there will still be an undesirable impact of the CCC consent if the river levels rise.
13. I ask the commissioner to enforce within the consent that all new subdivisions develop full detention of storm water up to a 1 in 50 event and partial detention of stormwater up to a 1 in 100 to take into account the flood prone nature of Christchurch City. This will allow the CCC to abide by its own consenting requirements that in granting a consent it should not cause existing residents any risk, hazards or harm.

NOTES FROM THE STYX WORKING PARTY MEETING

18 October 2017 AT 5.00PM

**HELD AT THE SPENCERVILLE
RESIDENTS ASSOCIATION BUILDING
6 HEYDERS ROAD SPENCERVILLE**

Working Party:	Community Board:	Cr David East (Chair Coastal-Burwood) Linda Stewart (Coastal Burwood) Emma Norrish (Papanui-Innes)
	Community Representation:	Kathryn Snook Carolyn Richards Jan Burney Barry Robertson
Council Officers:		Jenny Hughey; Community Governance Manager (Papanui-Innes) Tim Joyce; Team Leader Operations Land Drainage Dr. Antony Shadbolt; Landscape Architect & Ecologist-Parks Heather Davies; Community Development Advisor (Papanui-Innes) Trevor Cattermole; Community Development Advisor (Papanui-Innes)
Community Liaison		Dr. Phil Driver

Apologies

Apologies were received and accepted from Ali Jones (Chair Papanui-Innes) Vyvyan Treleaven, Marina Wylaars, Pauline McGuigan and staff members Jo Wells (CGM Coastal-Burwood), Keith Davison and Graham Harrington (Land Drainage).

1. Welcome

The Chair, Cr David East, welcomed members of the Working Party to the meeting. The Chair outlined re-emphasized the expectations of the meeting noting that it would be run in a semi-formal style and the governance- management separation with regard to conduct in the meeting.

2. Operation update

Tim Joyce; Team Leader Operations Land Drainage provided an update on

- Tree trimming work under way
- Bigger branches being chipped
- Stumps poisoned
- Due to the size of the presentation document Tim will produce hard copies for the next meeting which will include maps of the area.

Weed Harvesting

- Mechanical Weed harvesting is undertaken from 286 Radcliffe Road to the tide gates.
- Weed Harvester is coming on Friday 27 October for approximately 6-7 weeks

- Findings
- The premise is that when Harvesting occurs the water level drops 500-600Mls.
- Some recent research by Graham Harrington has shown some surprise results in that the water levels didn't drop after the Harvester had completed its run.

- Question. Do we therefore weed Harvest three times per year?
- Q. What did the study find/-Not all had been beneficial?
- The obvious matter to consider then –is do we cut back to two times per year?
- Request for water level tables (TIM)-Please refer to the presentation. Graham Harrington will have more information next meeting.
- Q. You cut/harvest does it release nutrients which makes more weed growth
- Q. Is Autumn a better time to harvest (re growth)
- Q. What is the Science behind the harvesting
- Comment; after weed eating there is incredible weed growth, does the weed eating trigger renewed growth (e.g. January).
- Can residents be provided with dates when harvesting will be done.

Comment-from residents

- A lot of new growth after harvesting.
- Willows are so overgrown they are almost touching.
- Pruning may be causing a denser matt of weed.
- There may be a need for an Aquatic Biologist to look at it. Tim to ask CCC Aquatic Biologist the question raised above.
- Residents stated that they did not want a reduction in weed eating.
- Questions around the possibility of Harvesting the weed deeper to cut into the silt (dredging the roots).
- Is this a possibility? It would allow the silt to migrate out to the sea-especially with support from a rain episode.
- With a target cut to leave 300mm deep weed there is minimal risk of disturbing silt. This depth of cut is what is recommended in the Councils Waterways, Wet Lands and Drainage Guide” (The Land Drainage Bible) and has therefore been incorporated in the contract with City Care.
- Once you cut into the silt it is dredging not weed cutting.
- Is there an alternative to dredging that does not disturb the silt which results in further weed growth? (No).
- By Harvesting at a lower level, Can we try for short term pain for long term gain?
- Maybe we need to do this, and get out of the old pattern and set up new things.
- Can we cut into the middle of the river
- Should we be looking at data we already hold and deciding if we are cutting at an optimum time of the year.
- What type of weeds are growing faster.
- Data needs to be assessed (Graham Harrington is presenting at the next meeting).
- Request for graphs of the data, and to acknowledge and use the wisdom of the residents.
- **Q;** Does the weed harvesting drop the water level under normal flow levels and under flood conditions

- **Q;** Can more money be allocated? **A ;**(In short no, everything is rates funded.
- **Q;** Can EQC \$\$ be allocated-**A;** (Not applicable)
- Discussion; every budget goes before Council, therefore the need to raise the profile of the Styx area in the Long Term Plan, through the Land Drainage Recovery Programme.

Summary

- Tim reiterated the Drainage Guidelines and reiterated what his budget allows.
- Styx is no longer treated as a drain but as a river, with adherence to the six values, Ecology, Drainage, Culture, Heritage, Landscape and Recreation. This was set up by Ecan/Wildlife Act.
- Phil reiterated that possibly it can be harvested at a lower level.

Comment; Need for impact study, based on the question what matters more.

Additional

- Meeting noted that Ben Pasco Land Drainage will be overseeing surveyors investigating property floor levels in Lower Styx River Catchment during November 2017
- Phil mentioned taking an 'Integrated Strategy' approach for the Styx area, a 100 year vision that includes the red zone. He said this was likely to be the best entity to drive the vision. It could include technical issues and recreation opportunities. The description was, 'Styx a self-pumping aquatic resource'.

Long Term Plan

Meeting noted that there needs to be an integrated Styx Strategy noting the technical and recreational impact. Meeting noted that the two Community Boards work with the group to establishing the integrated strategy in respect of the Long Term Plan

Actions for next meeting

- **What is the minimum level the weed harvester can cut to, can it cut lower?**
- **Presentation of data around flooding and flood levels city wide**
- **Start date and completion date of Dredging/Harvesting**
- **Update on Modelling.**
- **Water levels**

Graham Harrington; to present at the next meeting on the water level trends

Dr Anthony Shadbolt; to present an update at the next meeting on the Styx Vision.

The Chair, Cr East, thanked all members of the Working Party for their input and reiterated the action points for the next meeting.

Meeting ended at 6.40

The next meeting will be held on

**Wednesday, 22 November 2017 at 5.00pm at the Spencerville Residents Association Building
6 Heyders Road Spencerville.**

Resident /Community members of the Working Party are invited to meet with Phil at 4pm.