In the matter of: the Resource Management Act 1991

Application – CRC 190445 – by the Christchurch City Council for Comprehensive Resource Consent to discharge storm water from with-in the Christchurch City area on or into land into water and into coastal environments.

Submitters- Antonio and Kerrie Rodrigues

Submitters - A D Rodrigues and K F Rodrigues response to applicants additional information

Date-21-02-2019

Reinstatement of Barkers Drain

You will see on page 22 of the Joint Statement by the Christchurch City Council and Mr Rob Potts a diagram of Barkers Drain dated 2015. This diagram is not showing a true representation of what Barkers Drain network was pre earthquake and fill and that is misleading.

Please see diagram on page 22 of the Joint Statement (our attachment called Barkers drain diversion) – the lighter blue lines show the 2015 diversion done by neighbours and that is why his trees died due to the back flow of the Brooklands Lagoon.

We would like an explanation about the dark blue line that is shown in the Joint statement on page 22.

Barkers Drain consisted of a large Drain that ran parallel with Lower Styx Road from Earlham Street through to the Brooklands subdivision and Beacon Street and one branch went towards the Brooklands Lagoon. The Main Barkers Drain according to the current Christchurch City Council drainage Maps shows Barkers Drain running through 930 Lower Styx Road dwelling.

It had a series of 1 to 5 drain branches that ran from the Barkers drain towards the Lagoon with only one branch reaching the Brooklands Lagoon and the main Barkers Drain goes up towards Beacon Street which on map A,B,C & D (provided) is a street called “The Lagoon” There appears to be an outlet opposite to the Lower Styx River. Please see attached Christchurch City Drainage Maps A,B & D.

Reinstatement of Barkers Drain concerns

Barkers Drain reinstatement could potentially exasperate issues ie Lagoon flowing into drain in flood events and King tides. The lagoon has already entered our street since the Kaikoura earthquakes and killed a huge amount

of trees up the street and in the forest. It also has the potential for water to sit stagnant within it, as what already happens within low lying areas on our street all winter.

Barkers Drain re- instatement will not stop flooding and would only work to help drain flooding when the lagoon and river flood water falls below our ground water height. Our property sits lower than the river and lagoon when in flood. How will water flow uphill?

Opening Barkers Drain is just a "sticking plaster" and will **NOT** stop flooding occurring.

We would like to see full mitigation of flooding

The GHD report showed to stop flooding the following would be needed:

- stop banks
- ring banking the whole of Earlham Street
- pump stations
- retention ponds
- house lifting

None of this has not been implemented. Instead we have been left at unacceptable risk and now the Global Storm Water consent would put us at more risk!

If the River is allowed to have higher levels, then it will affect our flood heights and duration of ponding because groundwater connected to river heights

Fill and Lidar not post Kaikoura Earthquake

More fill come into the area between Earlham Street all the way to Harbour Road since the 2015 ,with fill even coming into this day!. This is more extensive than the areas alluded to in the Joint Statement. This will not be shown on the 2015 Lidar. Basically most of the” North East Lower Styx Ponding Area” plus large areas of the “Red Zone” have been filled. This will not be shown on the 2015 Lidar.

We have concerns that since Kaikoura Quake, the Lagoon has entered Earlham Street and this has not been investigated, and would not be in the 2015 LiDAR maps-LiDAR should be updated post Kaikoura EQ to look at changes to the lagoon, any changes in land height and to show the extent of fill.

Where is the compensatory storage for the areas that have been filled?

SMP monitoring system

We have no faith in SMP monitoring system due to our concerns over fill and as well as our flooding issues we raised with Christchurch City Council and Environment Canterbury (ECan) over the years have fallen on “deaf ears”

Weed management

We have never seen the weed-eater past Earlham Street Bridge – If the weed eater does not harvest past Earlham Street would there be a “plug’ stopping water flow?

Thank you

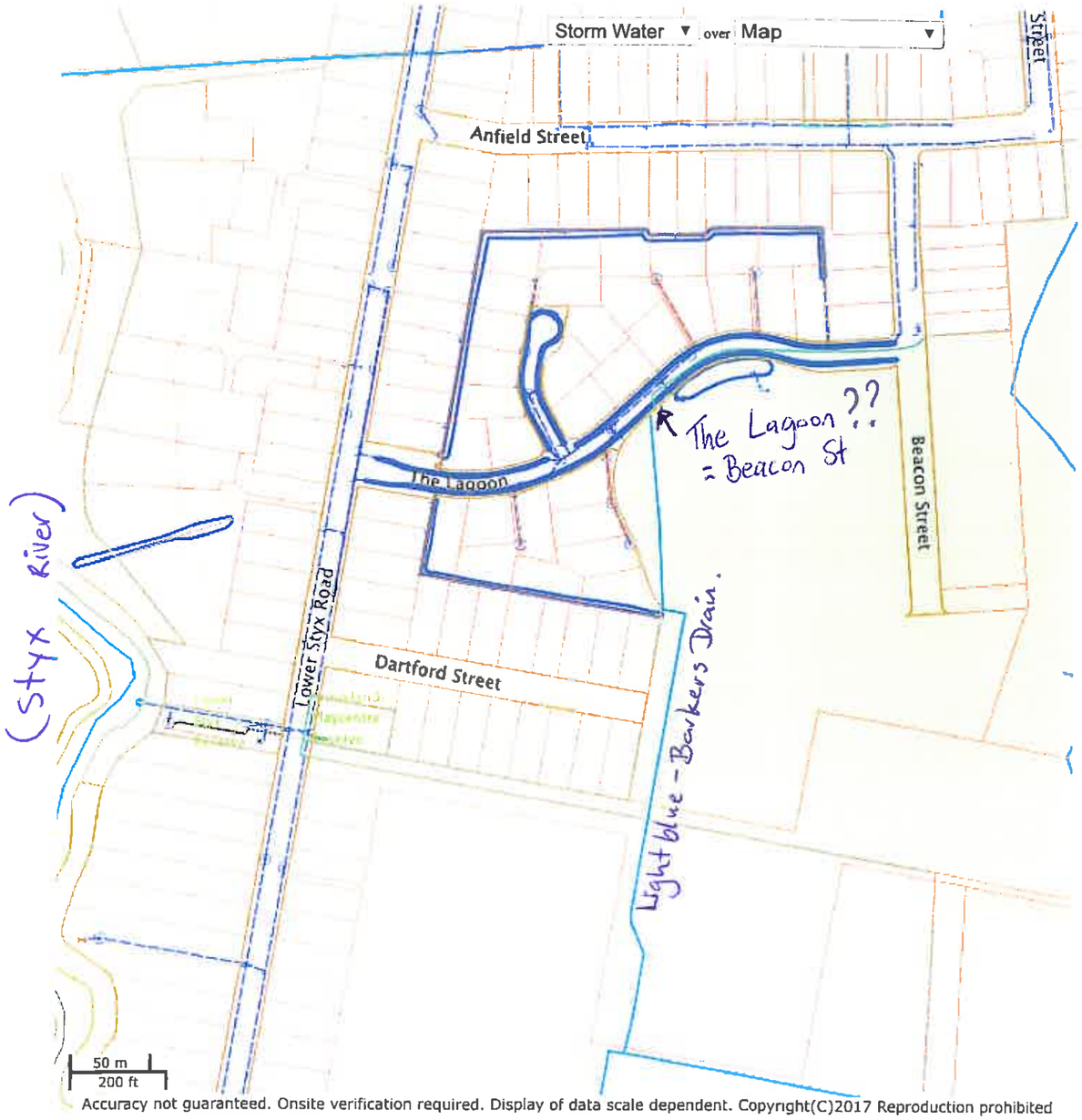
K F Rodrigues and A D Rodrigues

21-02-2019

Drainage plans for your property (Map B)

Use our interactive map to see public utility pipelines and waterways.

This map can also be viewed in **fullscreen mode**. Use the back button in your browser to return to this page.



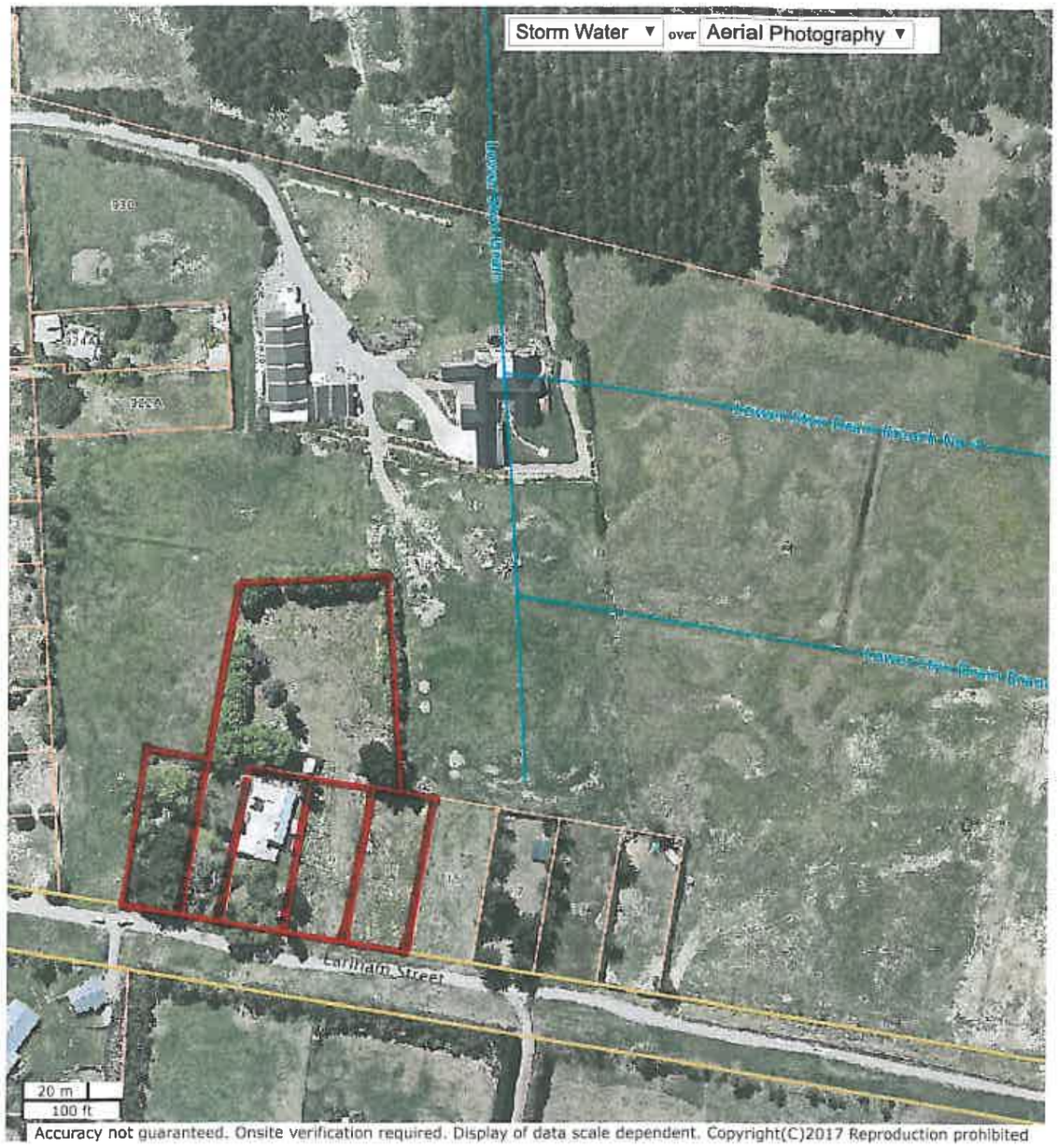
Legend

Utilities	Water supply	Waste water	Storm water

Drainage plans for your property (Map c)

Use our interactive map to see public utility pipelines and waterways.

This map can also be viewed in **fullscreen mode**. Use the back button in your browser to return to this page.



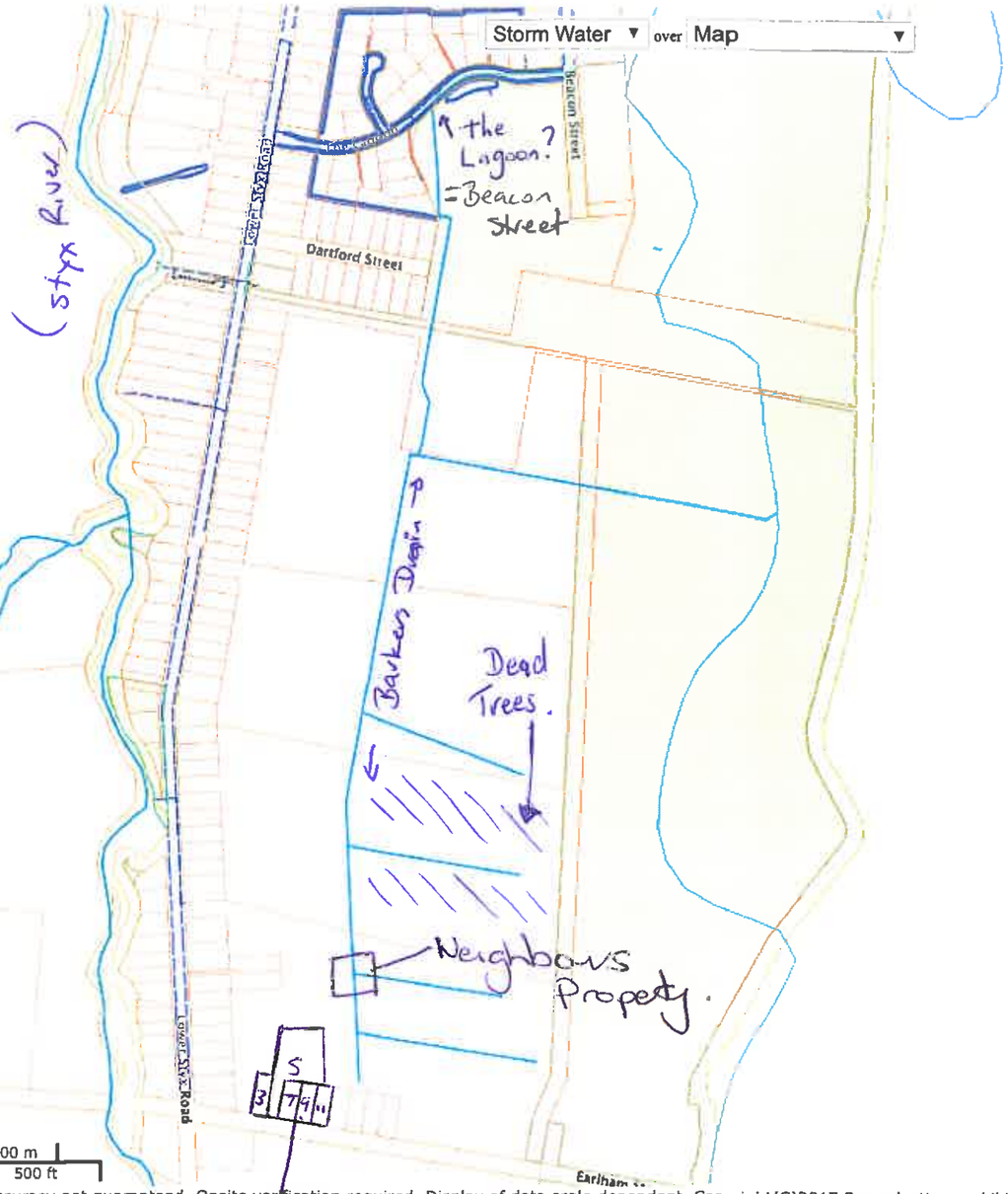
Legend

Utilities	Water supply	Waste water	Storm water

Drainage plans for your property (Map A)

Use our interactive map to see public utility pipelines and waterways.

This map can also be viewed in **fullscreen mode**. Use the back button in your browser to return to this page.



Legend

Utilities **Water supply** **Waste water** **Storm water**

(Map Key) A & B.

Request a drainage plan

Apply

Private drainage plans

You can request a plan by:

- Applying online.
- Emailing **customerservicesplans@ccc.govt.nz**.
- Calling the contact centre on (03) 941 8999.
- Visiting one of our **service desk locations**.

The Council can supply private drainage plans up to 1:500 scale. A private drainage plan might include:

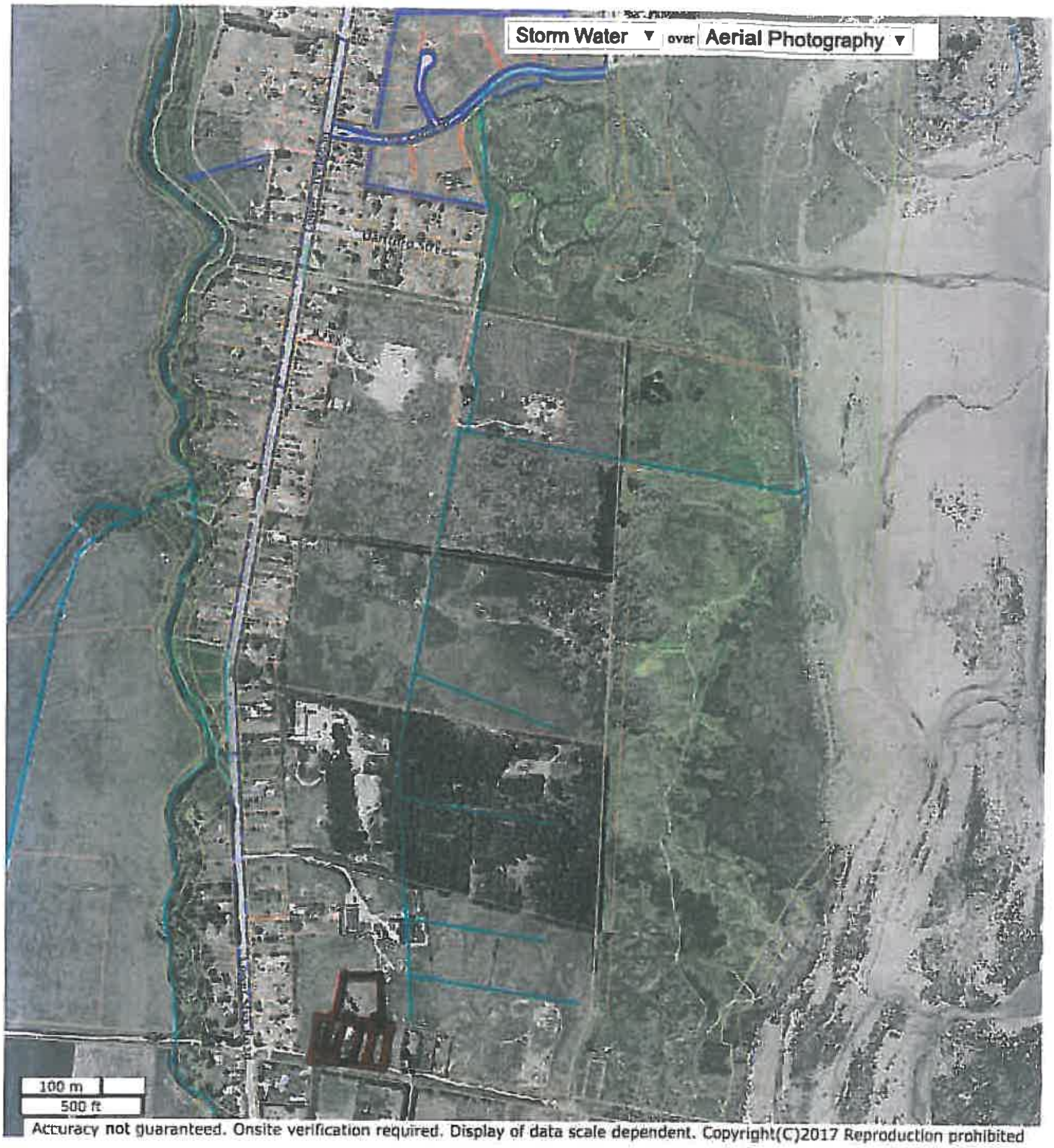
- Public and private sewer pipes.
- Public and private stormwater pipes.
- Open waterways that have been located on site and plotted or electronically recorded from field surveys.

(Map D)

Drainage plans for your property

Use our interactive map to see public utility pipelines and waterways.

This map can also be viewed in **fullscreen mode**. Use the back button in your browser to return to this page.



Legend

Red showing our Properties

Utilities **Water supply** **Waste water** **Storm water**

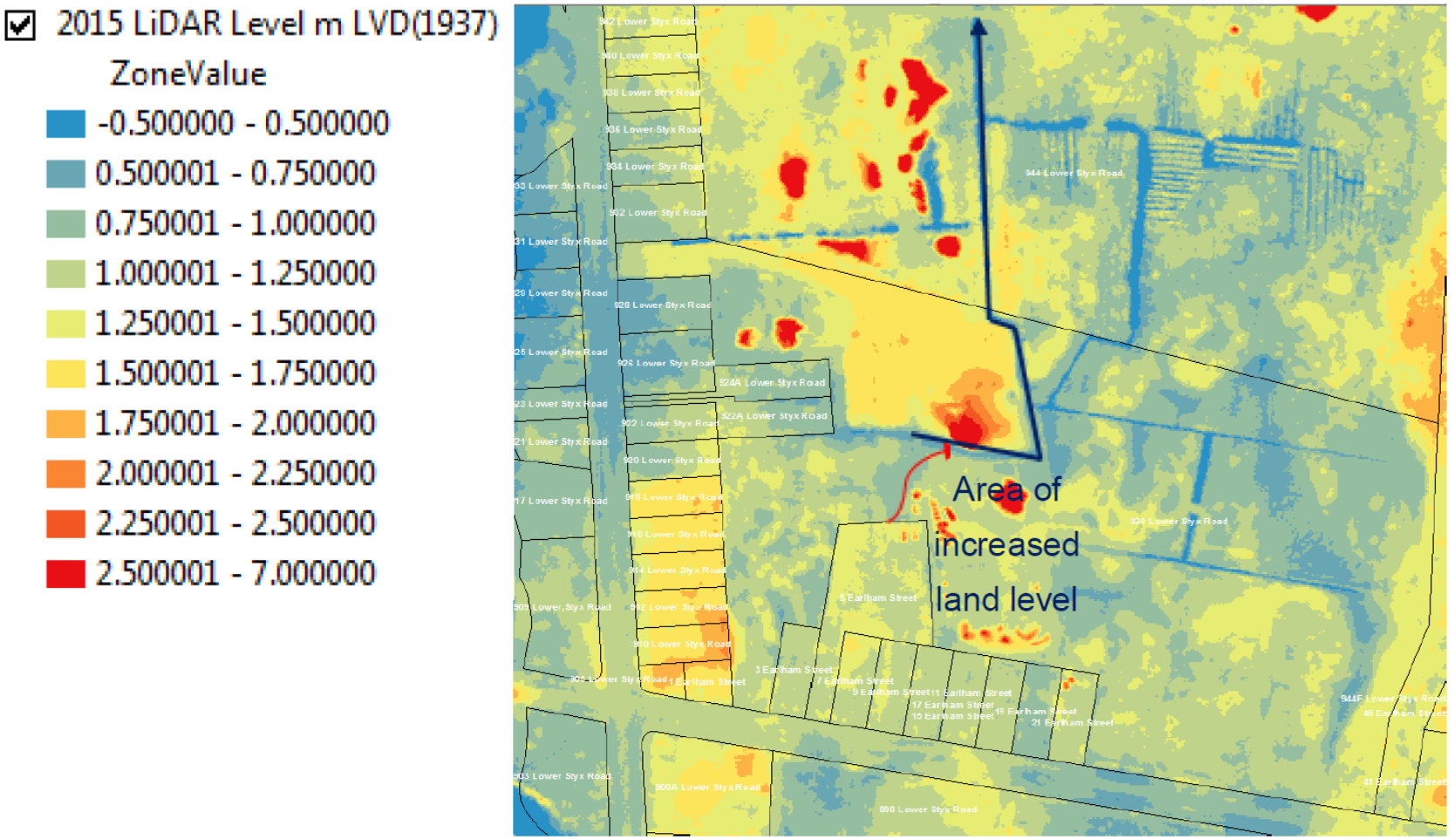


Figure 9 2015 LiDAR survey data (overland flow paths shown with red arrows and Barkers Drain shown in blue)

Please see above as at 2015 (dark blue line Barkers Drain) (light blue lines =diversion of Barker Drain)???

BEFORE THE CANTERBURY REGIONAL COUNCIL

in the matter of: the Resource Management Act 1991

and: application CRC190445 by the Christchurch City Council for a comprehensive resource consent to discharge stormwater from within the Christchurch City area on or into land, into water and into coastal environments

and: **Antonio and Kerrie Rodrigues…**
Submitter

Robert Potts Response to CCC response to Minutes 4 and 5 Robert Potts

Dated: 20th February 2019

RESPONSE TO CCC RESPONSE TO MINUTES 4 AND 5

1 This brief evidence is in response to the CCC response to Commissioners' minutes 4 and 5, dated 08 February 2019.

2 The only issues I have are in Council's Counsel legal response:

3 Cl 35. This is not worded strongly enough by Mr Pizzey. The restoration of drainage and removal of illegal fill to restore flood storage both need to happen as part of the offered mitigation package and included as conditions of consent. I do not believe it can be separated out. More detail is included in Cl 15 of the Joint Statement.

4 If flood storage cannot be restored by fill removal, then compensatory storage needs to be provided.

5 Any opening up and/or deepening of Barkers Drain needs to be carried out with sea level rise in mind so that it does not exacerbate the situation, i.e. a flap valve on the outlet is required.

6 As groundwater levels could be an issue in localised areas in the Lower Styx floodplain, and groundwater levels are shown to be closely related to river water levels, elevated water levels in the Styx River can impact on surface water ponding depth and duration. Therefore, restoration and deepening of the Barkers Drain will assist in mitigation of this issue. Pumping to artificially lower groundwater in localised areas would assist further.

7 I consider these mitigation measures are required to offset the predicted increase in river water levels as modelled.

Dated: 20th February 2019

Robert John Potts