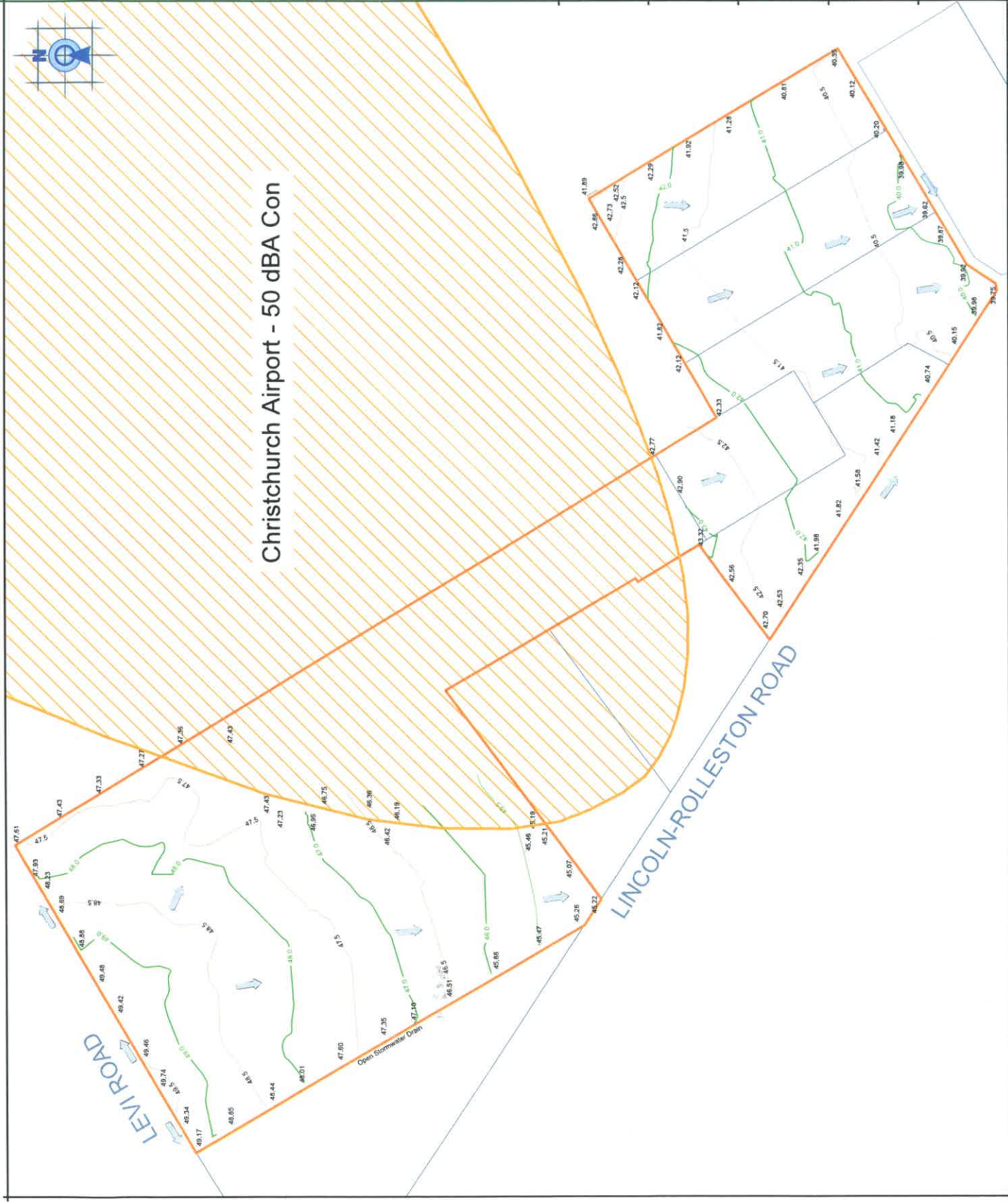


**ATTACHMENT 1 – PC71 TOPO MAP (Source Patterson Pitts Group)**



# Christchurch Airport - 50 dBA Con

## LEGEND:

- OVERLAND FLOW DIRECTION
- SITE BOUNDARY
- SPOT LEVELS

## NOTE:

1. FIELD WORK COMPLETED 08/09/2020
2. EQUIPMENT: TRIMBLE GPS RTK
3. ORIGIN OF LEVELS: LYTELTON VERTICAL DATUM 1937 B882 (UG 32) - RL 55.908m
4. AREAS AND MEASUREMENTS ARE SUBJECT TO TITLE SURVEY
5. BOUNDARIES SHOWN ARE INDICATIVE ONLY

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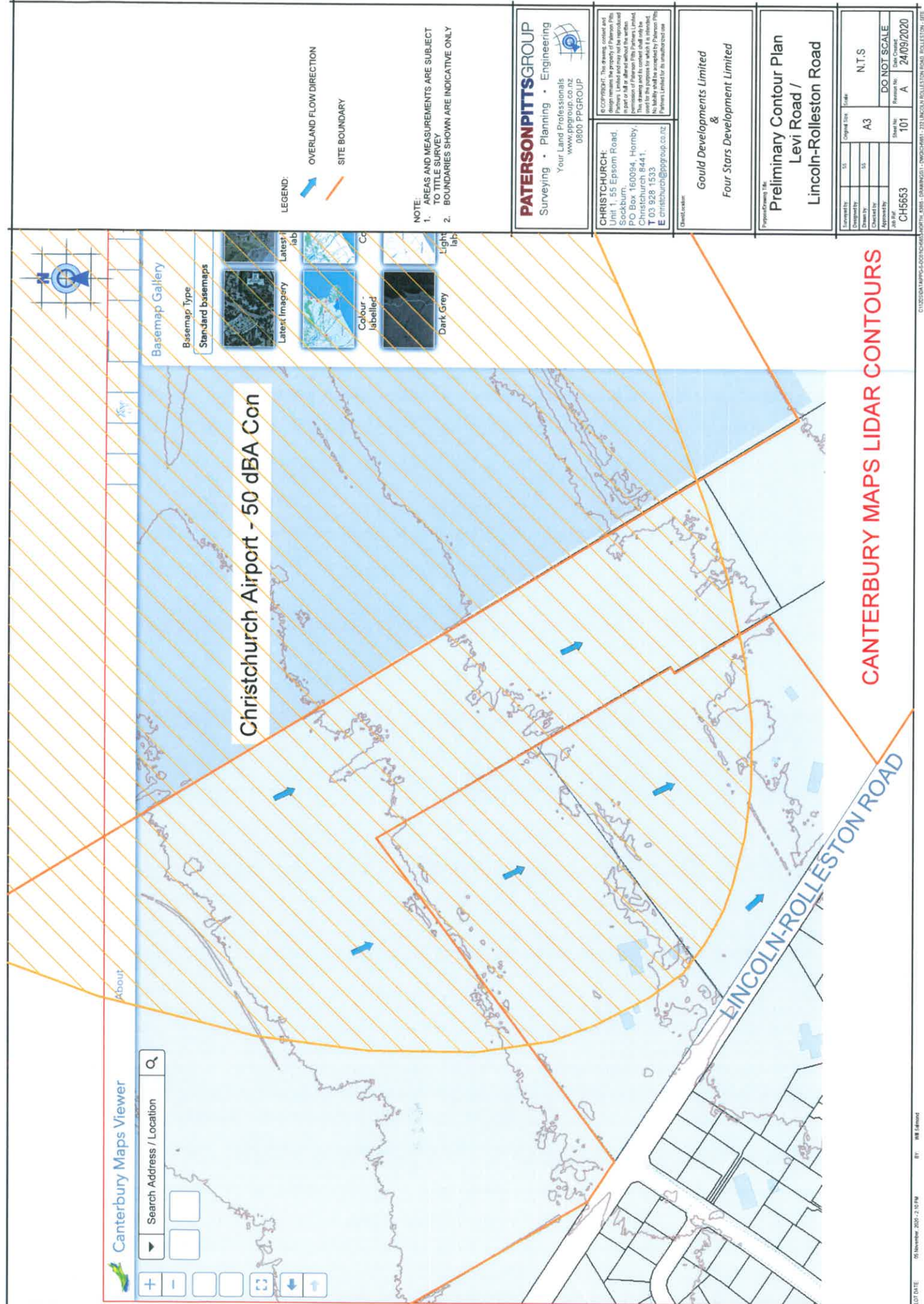
**CHRISTCHURCH:**  
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PO Box 160094, Homby  
Christchurch 8441.  
T 03 928 1533  
E christchurch@ppgroup.co.nz

Client Location:  
**Gould Developments Limited  
&  
Four Stars Development Limited**

Project Name: **Preliminary Contour Plan  
Levi Road /  
Lincoln-Rolleston Road**

Drawn by	SS	Original Size	Scale
Checked by	SS	A3	N.T.S
Approved by			
Job No	CH5653	Sheet No	100
Revision No	A	Date Created	24/09/2020
DO NOT SCALE			





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Latest Imagery

Latest Imagery

Colour-labelled

Dark Grey

Christchurch Airport - 50 dBA Con

LEGEND:



OVERLAND FLOW DIRECTION



SITE BOUNDARY

NOTE:

1. AREAS AND MEASUREMENTS ARE SUBJECT TO TITLE SURVEY
2. BOUNDARIES SHOWN ARE INDICATIVE ONLY

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E: christchurch@ppgroup.co.nz

**Gould Developments Limited**  
&  
**Four Stars Development Limited**

**Preliminary Contour Plan**  
Levi Road /  
Lincoln-Rolleston Road

Drawn by	SS	Original Size	A3	Scale	N.T.S
Checked by	SS	Sheet No.	101	DO NOT SCALE	
Approved by	CH5653	Revision No.	A	Date Created	24/09/2020

CANTERBURY MAPS LIDAR CONTOURS

LINCOLN-ROLLESTON ROAD

**ATTACHMENT 2 – LUC CLASSES WITHIN THE PC71 AREA**





### ATTACHMENT 3 – IRRICALC ANNUAL VOLUME ESTIMATES

1

Enter the address or coordinates (latitude, longitude) of your farm and click 'Locate' or click on the map

Locate

Map

Satellite

+

-

2

Select Crop

Pasture

3

Select Plant Available Water

(a) Most likely PAW in this area

4

Select Irrigation Method

80% Efficient Irrigator

5

Fetch Data

Farm Details		Plant Available Water Details			Irrigation Requirements		
Description		PAW(mm)	Indicative Likelihood	Area (hectares)		Per Hectare	Total Area
Latitude	<input type="text" value="-43.599"/>	<input type="text" value="70"/>	<input type="text" value="46.3"/>	<input type="text" value="53"/>	System Capacity	<input type="text" value="0.51"/> (l/s/ha)	<input type="text" value="27.03"/> (l/s)
Longitude	<input type="text" value="172.401"/>	<input type="text" value="70"/>	<input type="text" value="46.3"/>	<input type="text" value="0"/>	System Capacity	<input type="text" value="4.4"/> (mm/day)	
Council	<input type="text" value="Canterbury"/>	<input type="text" value="70"/>	<input type="text" value="46.3"/>	<input type="text" value="0"/>	Daily Volume	<input type="text" value="44"/> (m³/ha)	<input type="text" value="2,332"/> (m³)
Climate Site ID	<input type="text" value="P129081"/>	<input type="text" value="70"/>	<input type="text" value="46.3"/>	<input type="text" value="0"/>	7 Day Volume	<input type="text" value="44"/> (m³/ha)	<input type="text" value="2,332"/> (m³)
Distance to Climate Site (km)	<input type="text" value="3.3"/>	<input type="text" value="70"/>	<input type="text" value="46.3"/>	<input type="text" value="0"/>	28 Day Volume	<input type="text" value="44"/> (m³/ha)	<input type="text" value="2,332"/> (m³)
Rainfall (mm)	<input type="text" value="641"/>	Total area =		<input type="text" value="53"/>	90% ile Annual Volume	<input type="text" value="6.615"/> (m³/ha)	<input type="text" value="350,595"/> (m³)

These estimates of irrigation requirements are based on the assumption that the crop you selected can be grown and irrigated at the site you have selected. Constraints such as topography and crop-specific climate requirements are not taken into account.

Irrigation requirements may be less than reported here if your soils are poorly drained or the water table is close to the soil surface.

**ATTACHMENT 4 – CONFIRMATION OF WATER AVAILABILITY**

## Will Salmond

---

**From:** Warwick Pascoe <hydrotradernz@gmail.com>  
**Sent:** Tuesday, 18 January 2022 10:56 pm  
**To:** Will Salmond  
**Subject:** Re: [#PPGCCH5653] PC71 - Rolleston

Hi Will,

The short answer is that the groundwater allocation zone is Selwyn - Waimakariri and that there is a "very good chance" that 110,000m<sup>3</sup>/yr would be attainable within the next year or so.

In fact, we have two permits available right now that would be ideal:

**SW141 (58,651m<sup>3</sup>/yr, expires July 2028)**

**SW155 (52,390m<sup>3</sup>/yr, expires Feb 2033)**

Combined volume = 111,041m<sup>3</sup>/yr.

If you require the above in a formal HydroTrader letterhead, along with additional explanation, this will cost \$454.25 (incl GST).

Would you also be wanting an estimate of cost to purchase (in \$m<sup>3</sup>/yr) included in the letter?

Regards  
Warwick

On Mon, Jan 17, 2022 at 4:07 PM Will Salmond <[will.salmond@ppgroup.co.nz](mailto:will.salmond@ppgroup.co.nz)> wrote:

Hi Warrick

Thank you for your time on the phone in December and again today regarding buying water rights/permit.

As outlined in December our clients have made a Private Plan Change Request (PC71) bound by Levi Road, Lincoln Rolleston Road and Nobeline Drive in Rolleston as outlined below.



Part of PC71 is outside the Future Development Area (FDA) of Rolleston set by the Urban Development Strategy for Greater Christchurch. Unfortunately, such areas typically do not have to be supplied water by Selwyn District Council (SDC). In PC71's instance this equates to approximately 38.4ha. If we assume 12hh/ha this equates to 460 households. SDC typically supply per household 545l/day of potable water, this equates to 91,505m<sup>3</sup> of water per annum. However, SDC for PC71 has indicated that 600l/day per household will be tentatively required for planning purposes. This equates to 100,740m<sup>3</sup> per annum. Accordingly, a conservative volume for PC71 we should allow for a 110,000m<sup>3</sup> of potable water per annum. SDC have confirmed that if such a permit were obtained that the water would be extracted from their HELPET facility.

Can you please provide a letter outlining the applicable zone and how attainable such rights/permits would be with an indicative value?

Any questions please don't hesitate in asking.

Thanks

Will

**Will Salmond**



**Principal**

**Licensed Cadastral Surveyor**

**M** 021 226 3422

**P** (03) 928 1533

**E** [will.salmond@ppgroup.co.nz](mailto:will.salmond@ppgroup.co.nz)

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**ATTACHMENT 5 – CORRESPONDENCE WITH SDC**

## Will Salmond

---

**From:** Murray England <Murray.England@selwyn.govt.nz>  
**Sent:** Wednesday, 19 January 2022 1:26 pm  
**To:** Will Salmond  
**Subject:** RE: [#PPGCCH5653-North] [#PPGCCH5653] PC71 - Water Supply

Thanks Will,  
You could potential include both options in your evidence.  
Our preference at this point would be to transfer the actual Consent.  
Murray

---

**From:** Will Salmond [mailto:will.salmond@ppgroup.co.nz]  
**Sent:** Wednesday, 19 January 2022 10:00 AM  
**To:** Murray England <Murray.England@selwyn.govt.nz>  
**Subject:** RE: [#PPGCCH5653-North] [#PPGCCH5653] PC71 - Water Supply  
**Importance:** High

Hi Murray

Based on your evidence of the water maximum demand per day for the past 3 years, SDC has a surplus capacity of 3,883,440m<sup>3</sup> per annum for Rolleston.

Liaising with Hydrotrader they have confirmed water permits in this zone are readily available to purchase which would then have to be transferred to SDC for potable water supply. However, as Rolleston has a significant surplus, would SDC be open to the idea of PC71 paying Council the equivalent amount to purchase water permits and cost to transfer to service PC71, then in due course SDC when the nearing capacity balance point could either undertake a purchase plus transfer or apply for additional rights from Ecan?

Thanks  
Will

**Will Salmond**  
Principal  
Licensed Cadastral Surveyor

**M** 021 226 3422  
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**E** [will.salmond@ppgroup.co.nz](mailto:will.salmond@ppgroup.co.nz)

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---

**From:** Murray England <[Murray.England@selwyn.govt.nz](mailto:Murray.England@selwyn.govt.nz)>  
**Sent:** Friday, 14 January 2022 10:23 am  
**To:** Will Salmond <[will.salmond@ppgroup.co.nz](mailto:will.salmond@ppgroup.co.nz)>  
**Cc:** Zani van der Westhuizen <[Zani.vanderWesthuizen@selwyn.govt.nz](mailto:Zani.vanderWesthuizen@selwyn.govt.nz)>; Liz White <[liz@lwp.co.nz](mailto:liz@lwp.co.nz)>  
**Subject:** RE: [#PPGCCH5653] PC71 - Water Supply

Good morning, Will

Great break thanks, hope you had an enjoyable break also.

I have started looking at per household water use – see below.

SDC Development Contribution Policy is based on **545 litres/day**  
[Long-Term-Plan-2021-2031 Document WEB.pdf \(selwyn.govt.nz\)](#) Page 250

2021/21 Annual Report states 425 litres/day per person or 1145 litres/day (but this is calculated by all flow (including parks etc.) / number of households.

[SDC-Annual-Report-2021-Doc WEB.PDF \(selwyn.govt.nz\)](#)

As council implements demand management strategies, and the average lot sizes reduce, the actual daily use per household should reduce also.

I would be aiming for around **600 litres/day/property** in your planning at this stage.

Murray

---

**From:** Will Salmond [<mailto:will.salmond@ppgroup.co.nz>]  
**Sent:** Thursday, 13 January 2022 1:49 PM  
**To:** Murray England <[Murray.England@selwyn.govt.nz](mailto:Murray.England@selwyn.govt.nz)>  
**Cc:** Zani van der Westhuizen <[Zani.vanderWesthuizen@selwyn.govt.nz](mailto:Zani.vanderWesthuizen@selwyn.govt.nz)>  
**Subject:** RE: [#PPGCCH5653] PC71 - Water Supply

Hi Murray

HNY to you hope you got a well-earned holiday.

As discussed prior to Christmas are you able to come back to me on my email below?

Thanks  
Will

**Will Salmond**  
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Licensed Cadastral Surveyor

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**E** [will.salmond@ppgroup.co.nz](mailto:will.salmond@ppgroup.co.nz)

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---

**From:** Will Salmond

**Sent:** Tuesday, 21 December 2021 2:30 pm

**To:** [murray.england@selwyn.govt.nz](mailto:murray.england@selwyn.govt.nz)

**Cc:** Zani van der Westhuizen <[zani.vanderwesthuizen@selwyn.govt.nz](mailto:zani.vanderwesthuizen@selwyn.govt.nz)>

**Subject:** [#PPGCCCH5653] PC71 - Water Supply

**Importance:** High

Hi Murray

Following on from your conversation with Fiona yesterday re water supply for PC71 I have a few questions that we need answers to be able to move forward.

1/- what is the daily consumption per household that SDC recognise for Rolleston? Refer above

- Going by your evidence fro PC73 it appears to be 545L per household
  - o Greater Christchurch states 450L per person per day in Urban Selwyn so at 2.7 people per household this equates to 315L per day
    - <https://www.greaterchristchurch.org.nz/our-work/indicators/environment/water-use>

2/- If we can buy a water permit, do we just buy the m<sup>3</sup> required with 10% margin as will transfer to SDC or do we need to buy double due to Red Zone as will lose half?

- Are there any further Ecan requirements that you know of? Previous consents have been transferred without reduction of volume. You will need to check with Environment Canterbury though.

3/- Based on buying allocations would these just be applied to Helpet or future Levi/Weedons Road well? Yes, likely the Helpet site.

It would be greatly appreciated if you could reply as soon as possible as we have a very limited timeframe to resolve.

Regards

Will

**Will Salmond**

Principal

Licensed Cadastral Surveyor

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**E** [will.salmond@ppgroup.co.nz](mailto:will.salmond@ppgroup.co.nz)

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**ATTACHMENT 6 – 200 YEAR FLOOD MAP**

Layer List

Layers

Land Parcels



Current District Plan

Flood Zones

Lake Ellesmere Flood Area

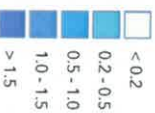
Lower Plains Flood Area

Waimakariri Flood Plain

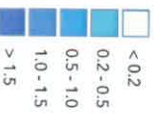
200-year ARI rainfall flood depth (m)



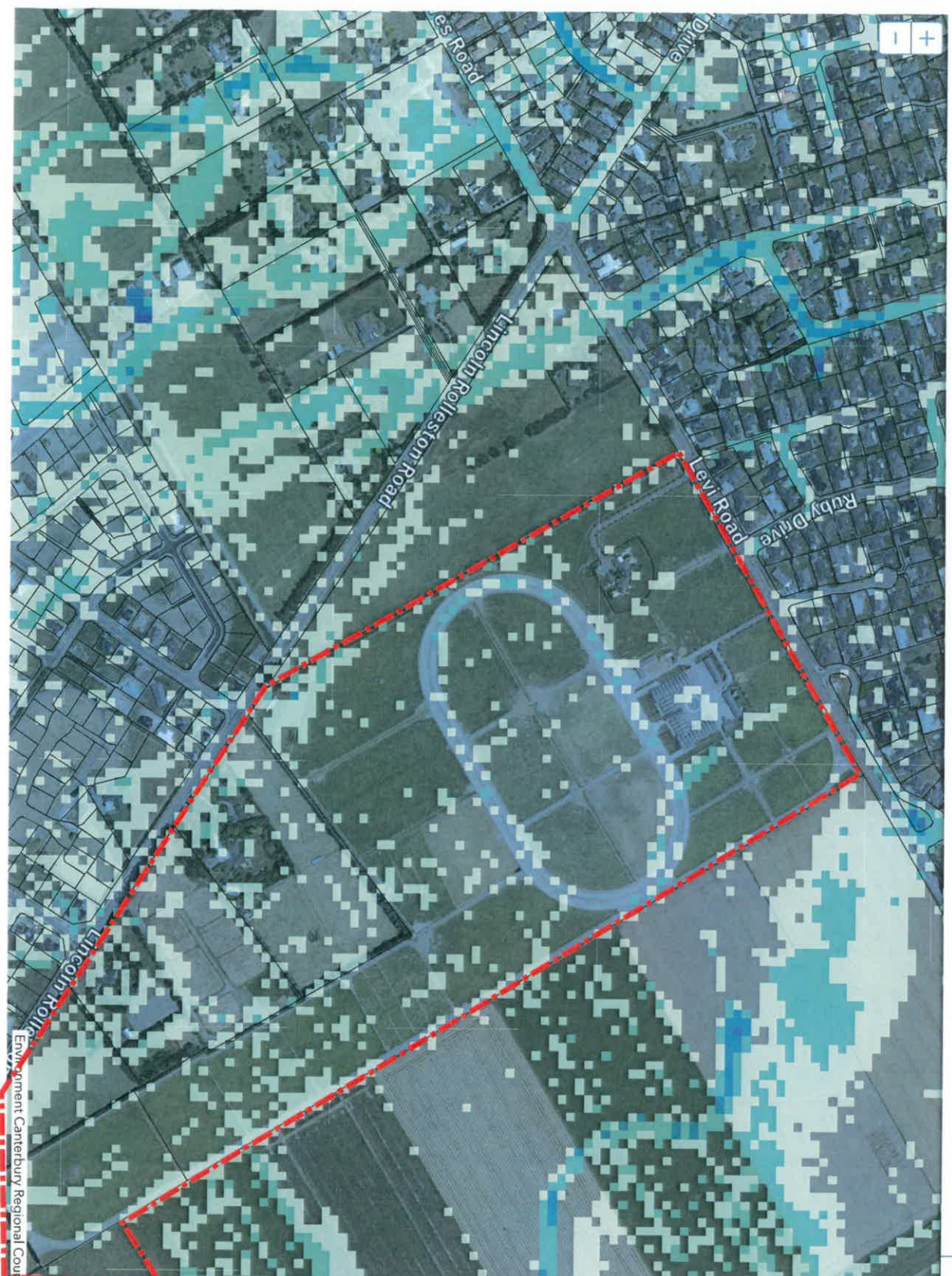
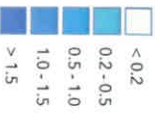
200-year ARI Selwyn River flood depth (m)



500-year ARI rainfall flood depth (m)



500-year ARI Selwyn River flood depth (m)



200-YEAR ARI RAINFALL FLOOD DEPTH



Find address or place



Layer List

Layers

Land Parcels



Current District Plan

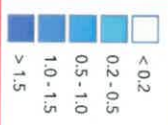
Flood Zones

Lake Ellesmere Flood Area

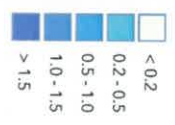
Lower Plains Flood Area

Waimakariri Flood Plain

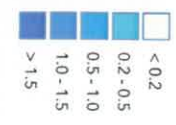
**200-year ARI rainfall flood depth (m)**



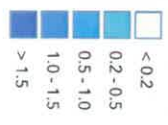
200-year ARI Selwyn River flood depth (m)



500-year ARI rainfall flood depth (m)



500-year ARI Selwyn River flood depth (m)

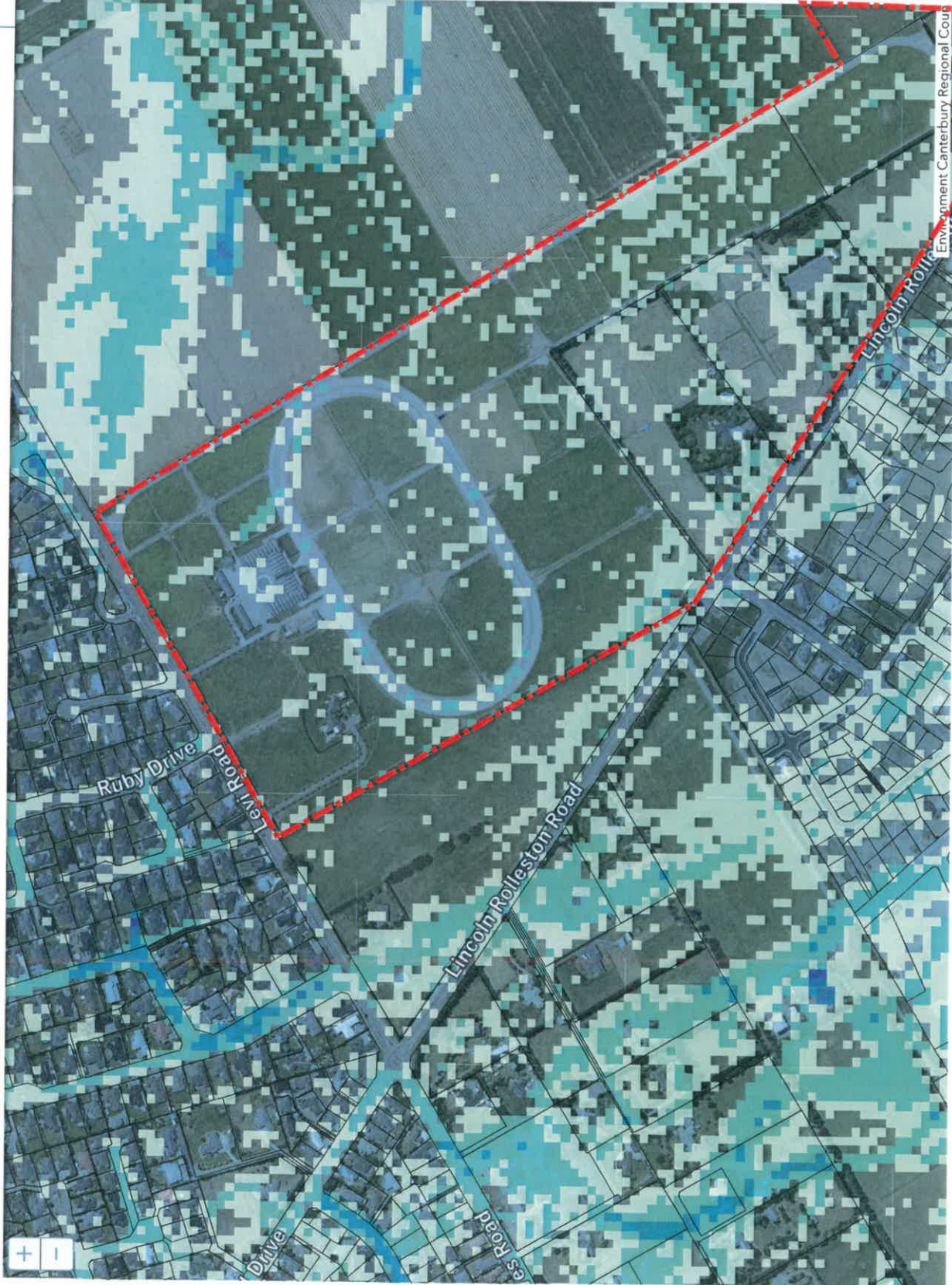


200-YEAR ARI RAINFALL FLOOD DEPTH

100m

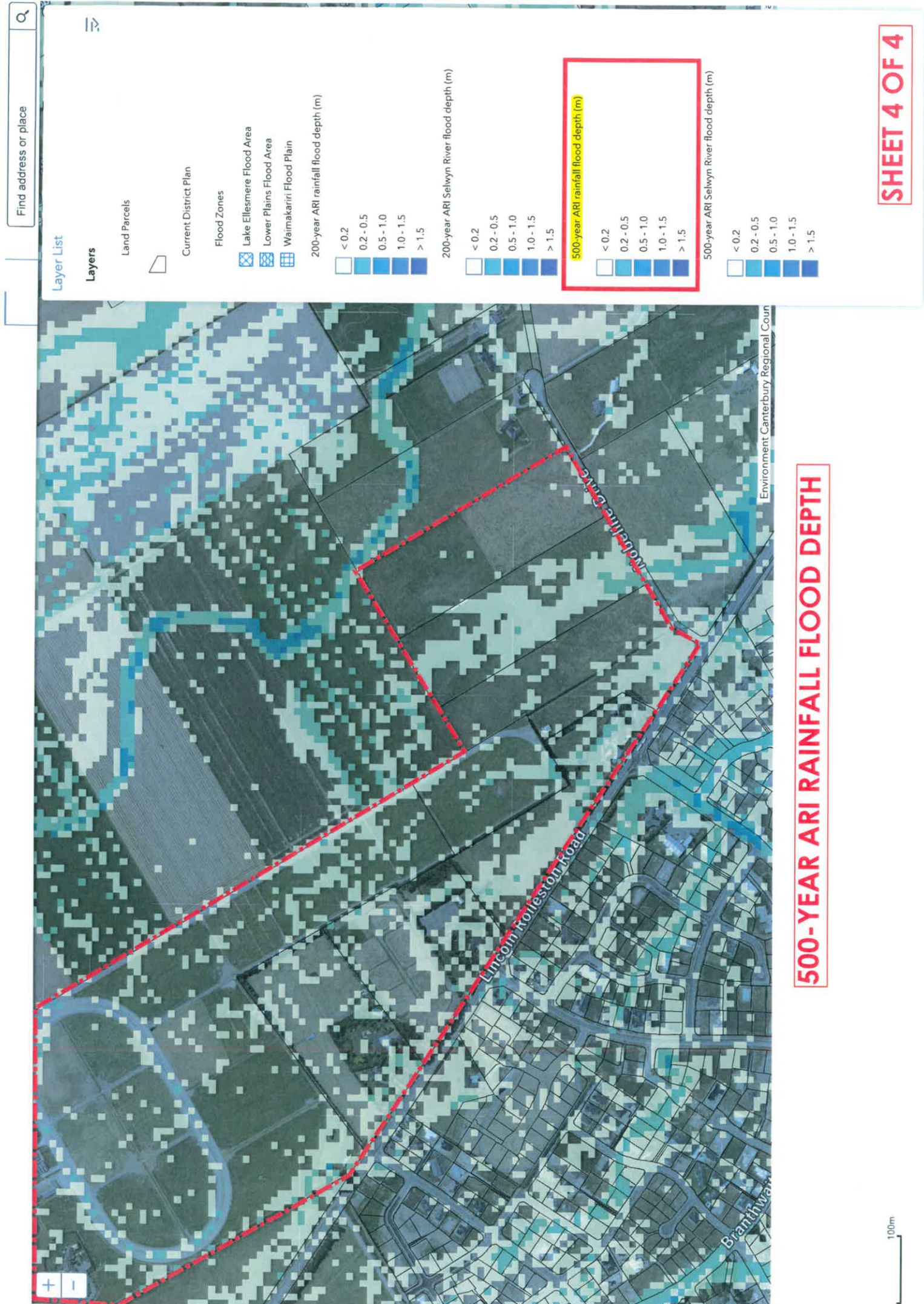


**ATTACHMENT 7 – 500 YEAR FLOOD MAP**



500-YEAR ARI RAINFALL FLOOD DEPTH





500-YEAR ARI RAINFALL FLOOD DEPTH