

**FRIENDS of Banks Peninsula Inc.**

Akaroa's Community Environment Society since 1990

12/07/2020

**Wastewater progress report  
Robinsons Bay/Takamatua  
community meeting**

hosted jointly by

**Friends of Banks Peninsula Inc.**

and

**Robinsons Bay**

**Ratepayers and Residents Association**

**July 11 2020**

# Agenda

- Welcome
- Update since March 2019
- Process ahead
- Discussion -views from the room
- Next steps - submissions

# Position at March 2019

- April 2017 consultation
  - Halted after faulty flow meter discovered
  - Wastewater volume double design level
  - Council continues searching for a solution
  - 8 further Working Party meetings
- March 2019 Council ready to consult again
- 4 options proposed:
  - Irrigate Robinsons Bay Thacker site with wetlands and trees. Possibly some in Takamatua
  - Goughs Bay – irrigation to pasture
  - Pompeys Pillar – irrigation to pasture
  - Harbour Outfall



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# Thacker land location



# Community resolution March 2019

- Thacker proposal removed from the community consultation options because poorly worked through and without sufficient technical information available
- Beneficial re-use is what we seek, not disposing of water into the communities where it did not come from, water to be reverse osmosis treated
- More work done on the outer bay options, including residual ocean disposal
- Friends of Banks Peninsula option to be properly considered and included in consultation document
  - Highest treatment standard – potable water standard
  - purple pipe to Akaroa
  - harbour outfall from end of purple pipe
  - cheaper and highest quality water



# March 2019-July 2020

- April 2019 consultation put on hold
  - Robinsons Bay option most expensive
  - Huge storage dam cost and construction
- July 2019 Council buys Pond Site 10
  - Needed for raw sewage buffer
- August 2019 Wetland solution developed
  - Provides culturally acceptable escape valve enabling overflow to Childrens Bay in wet years
  - Reduces Robinsons Bay storage requirement
  - Reduces cost to make Inner Harbour cheapest land option again

# Position July 2020

- Consultation scheduled July 21- August 23
- 4 Options:
  - Inner Bays irrigation to native trees
  - Goughs Bay irrigation to *native trees*
  - Pompeys Pillar irrigation to *native trees*
  - Harbour Outfall

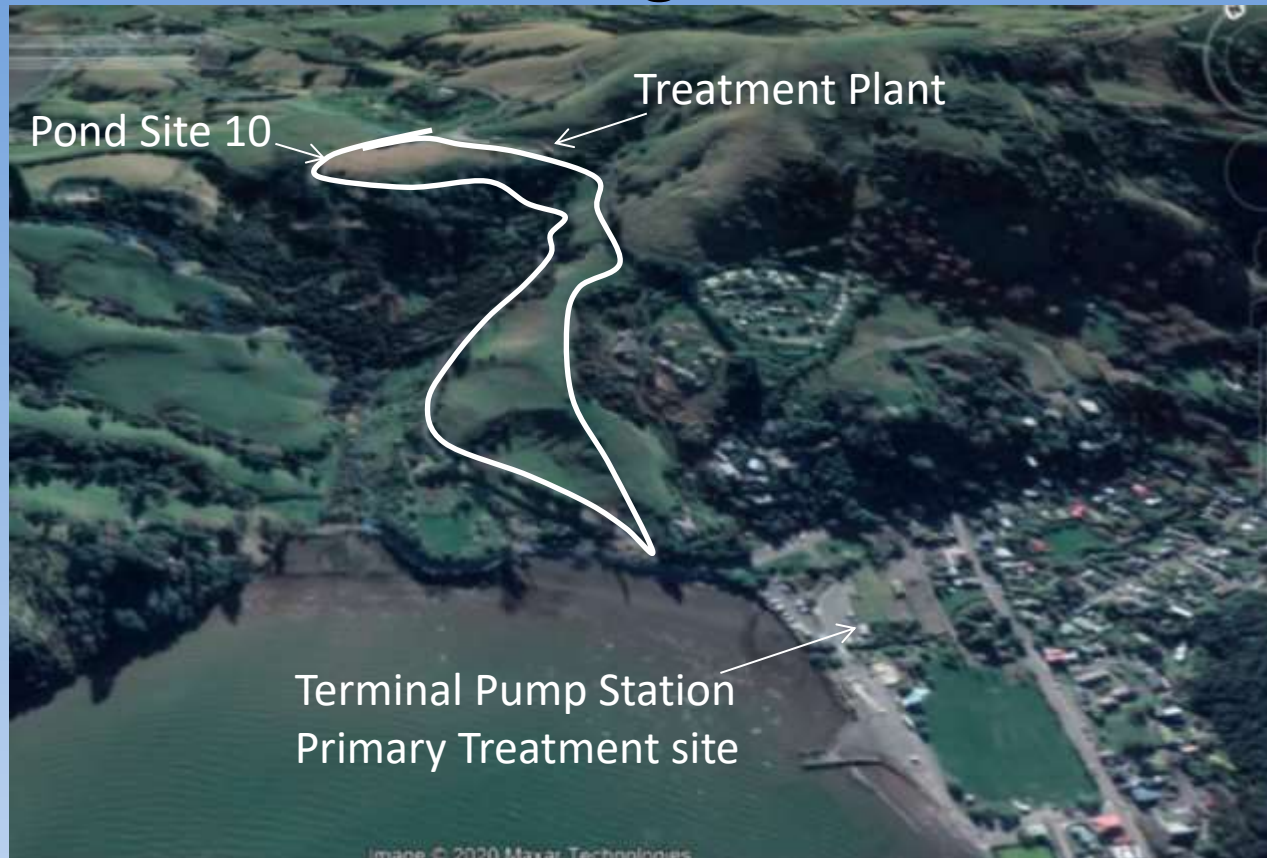
# Working Party concluded

- 26 meetings
- Council has favoured Inner Harbour irrigation throughout
- Joint statement issued
  - No option received strong support
  - Goughs Bay considered least worst option
  - Stressed need for I&I reduction
- Consultation document
  - Stresses benefits of Inner Harbour
  - Does not acknowledge social or environmental risks



# Wastewater Treatment Plant

- Resource consent granted 2015



- Cost \$30 million

# Ultrafiltration Treatment standard

Wastewater quality parameter	New plant average summer quality	Current plant (2020)	Rotorua (proposed)/ Australian recycling standard
Total suspended solids (mg/L)	2	30	?
BOD <sub>5</sub> (mg/L)	5	20	?
Total Nitrogen (mg/L)	15 (30 peak)	50	4.3
Total phosphorus (mg/L)	7	5	0.4
E. Coli (cfu/100ml)	10	50,000	0
Enterococci (cfu/100ml)	10	4,000	0
<i>Removal – viruses (log)</i>	2 - 9.5	?	5
<i>Removal – protozoa (log)</i>	4-10	?	3
<i>Removal – bacteria (log)</i>	>4 - >9.5	2	4
<i>Removal – microplastics</i>	?	?	?
<i>Removal - pharmaceuticals</i>	?	?	?

# Wastewater volumes

	Average year	Wettest year
Total Volume	238,000m <sup>3</sup>	275,000m <sup>3</sup>
Sewage component	31%	24%
Inflow and Infiltration* Storm water and Ground water	69%	76%

\* Akaroa Wastewater Summary of Disposal and Reuse options, CH2M Beca Ltd 8 May 2020. Table 2-3

- Inflow and Infiltration results from
  - Broken pipes
  - Properties connecting stormwater into sewage pipes
- Scheme would be 3-4 times smaller if no I&I

# Irrigation to Native Trees

- Irrigation of wastewater to tree happens elsewhere – mostly established pine forest
- Irrigation to native trees is an untried concept
  - Trial at Duvauchelle has not yet produced nitrogen results
  - Impact of tree canopy on rainfall is estimated
- Modelling used to determine
  - Total area needed for irrigation
  - Application rate
  - Storage for wet weather



# Storage requirements

- Wastewater stored during wet weather because it can't be irrigated fast enough
- Storage volume depends on amount of land being irrigated and I&I reduction

Reduction in I&I	30 ha	40 ha	60 ha
0%	463,000m <sup>3</sup>	36,000m <sup>3</sup>	21,000m <sup>3</sup>
20%	40,000m <sup>3</sup>	24,000m <sup>3</sup>	16,000m <sup>3</sup>
40%	21,000m <sup>3</sup>	14,000m <sup>3</sup>	12,000m <sup>3</sup>
60%	10,000m <sup>3</sup>	9,000m <sup>3</sup>	9,000m <sup>3</sup>

\* Akaroa Wastewater Summary of Disposal and Reuse options, CH2M Beca Ltd 8 May 2020. Table 4-4

# Irrigation rates

- Irrigation occurs regardless of soil moisture
- All year round
- Ceases if rain  $> 50\text{mm/day}$  ( $\sim 4$  days per year)
  - But still watering on days when rain running off
- Maximum application rates
  - Dec-Feb:  $2.75\text{mm/day}$
  - Mar-May:  $2.15\text{ mm/day}$
  - Jun-Aug:  $1.5\text{ mm/day}$
  - Sep-Nov:  $2.15\text{ mm/day}$
- Equates to  $595\text{mm}$  per year average
  - Rainfall in this area is about  $1000\text{mm}$  per year

# Purple Pipe reuse

- Offered in consultation with all options
- BUT**
- At high extra cost
  - For minimal reuse – public toilets and parks
  - No NZ standards for purple pipe in residential or garden use
  - Likely to be years away due to cultural issues

# Harbour outfall

- Harder to consent – cultural concerns
  - Possible only if land disposal unfeasible
- Council least preferred option
- Lowest footprint and risk
- Lowest cost \$47 million
- Pipe now laid through town which facilitates future purple pipe but has increased the upfront cost



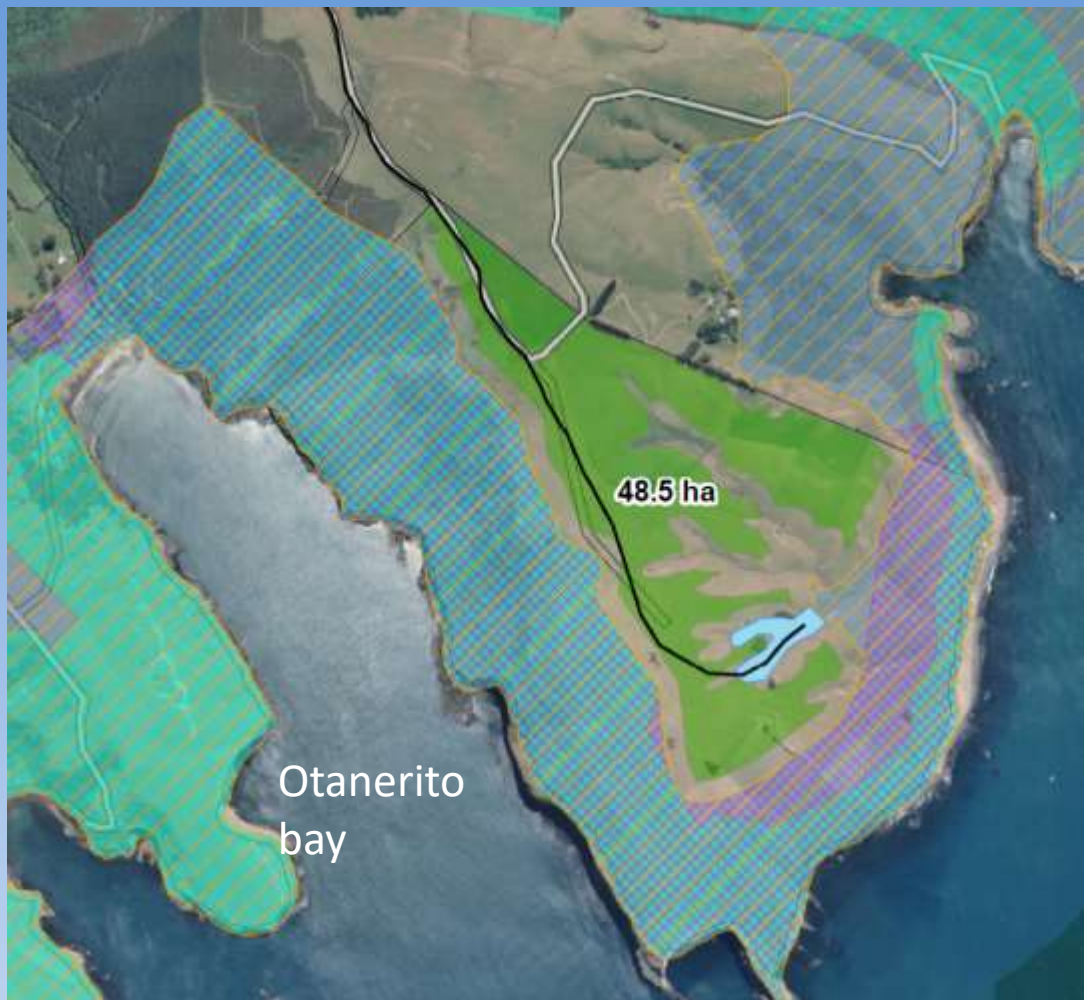


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# Pompeys Pillar Irrigation to trees



- Remote site
- Not willing seller
- Pumping over hill
- \$69 million



# Goughs Bay irrigation to trees

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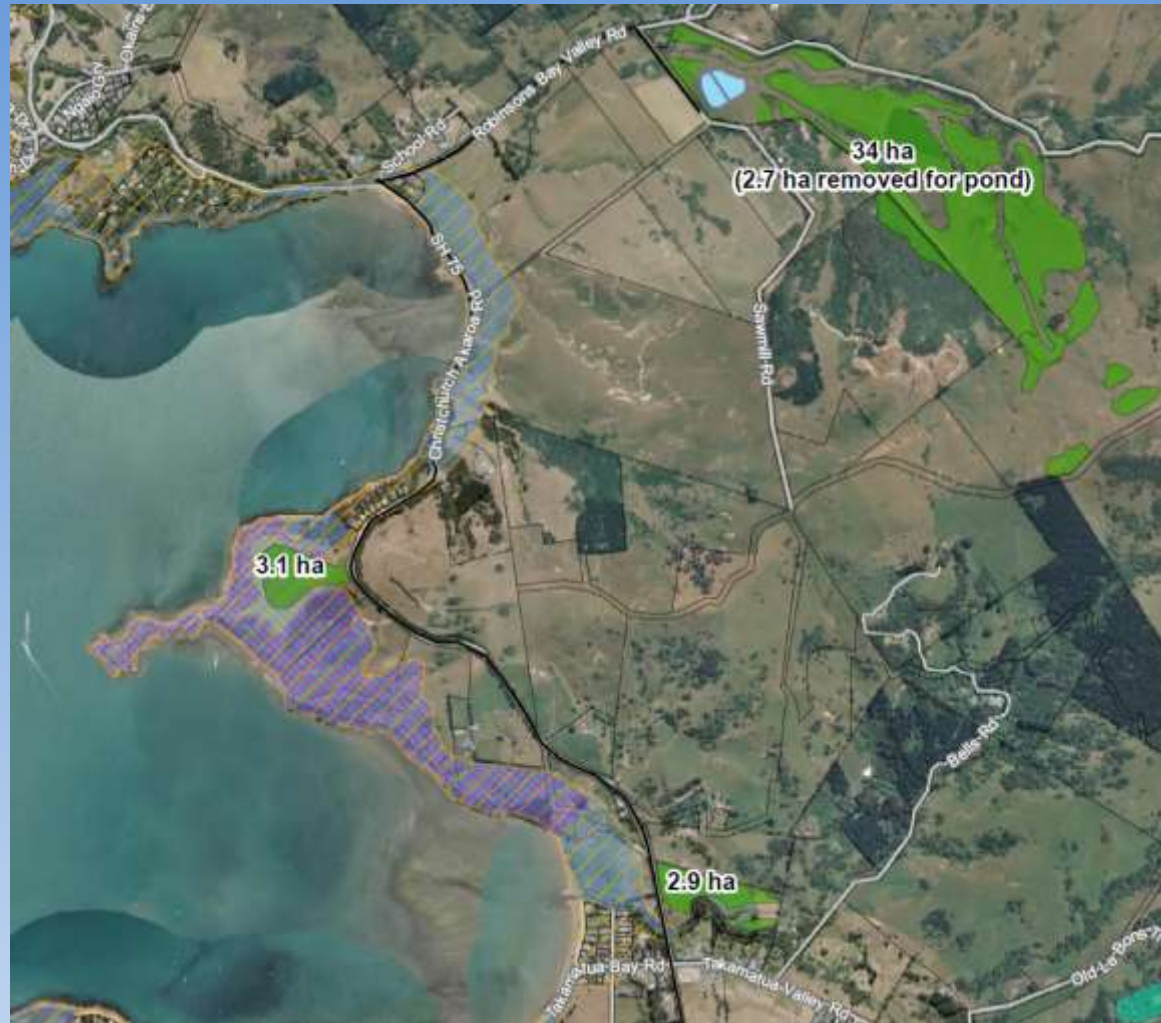
- Remote site
- Not willing seller
- Pumping over hill
- \$64 million





# Inner Bays irrigation

- Involves five Inner Bay sites
- Sellers willing to negotiate
- Closer to treatment plant
- Favoured by Council staff and Ngāi Tahu parties
- \$57 million
- Problem – squeezed in close to communities exacerbating risks



# Upper Robinsons Bay site



- 2ha Storage pond  
4m deep  
earthworks
- Irrigation to native  
trees
- Thacker site
- Reid site
- Lower area is  
heritage site
- Adjacent to  
several houses



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# Robinsons Bay context





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# Proximity of storage to houses





# Heritage Site

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**ARCHAEOLOGICAL ASSESSMENT OF  
LOT 1, DP 82749, ROBINSONS BAY, CANTERBURY  
FOR THE PAVITT FAMILY TRUST**



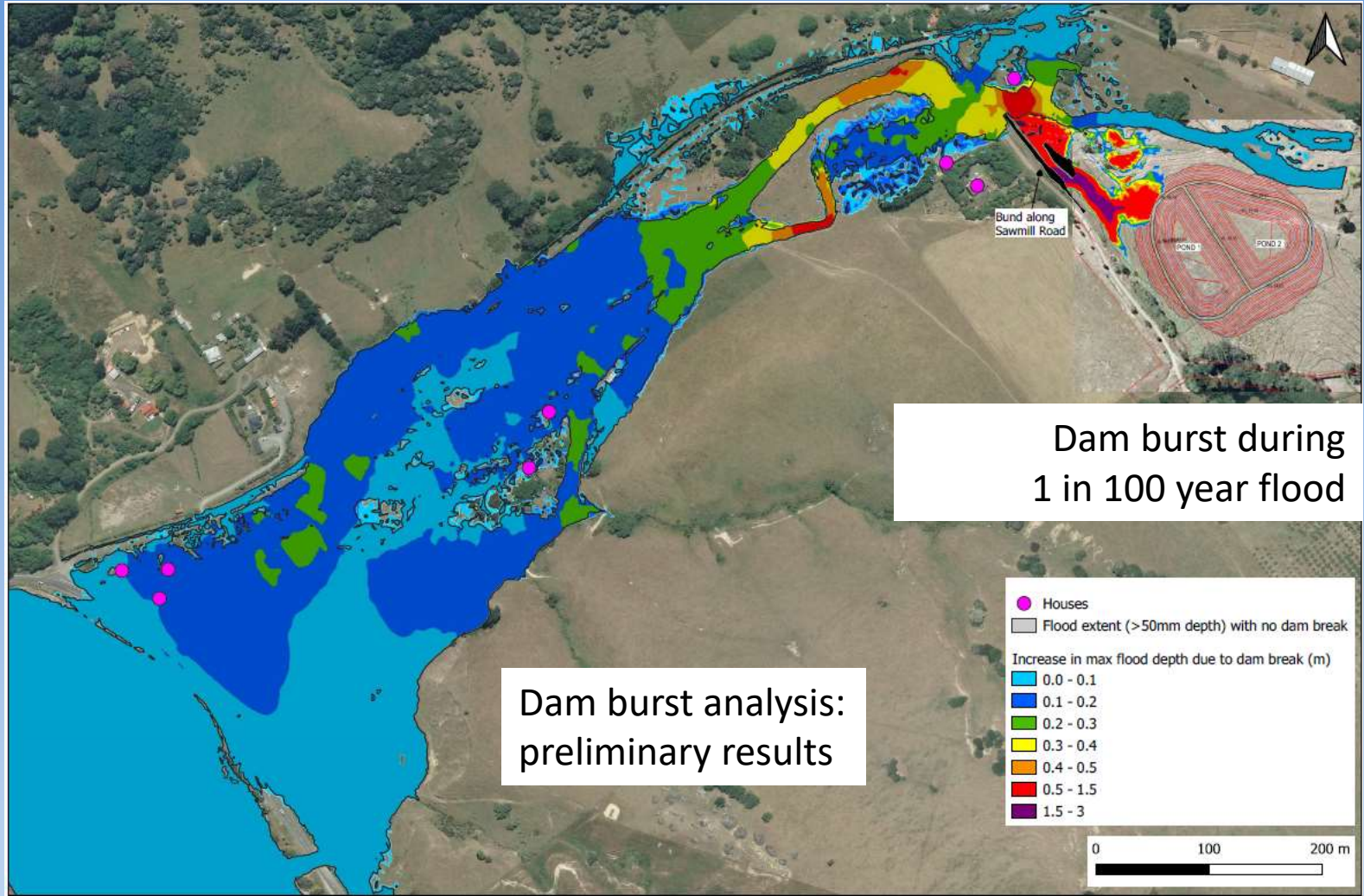
**JUSTIN MAXWELL AND JENNIFER HUEBERT  
SUNRISE ARCHAEOLOGY REPORT NO. 2020-3**



- Site of first sawmill in Canterbury
- Registered archaeological site
- Pavitt cottage just below storage dam



# Downstream houses flood risk



Dam burst during 1 in 100 year flood

Dam burst analysis: preliminary results

Up to 20cm extra depth under houses in lower valley and under Pavitt Cottage



# Hammond Point site



- Additional irrigation area
- Close to baches

# Takamatua site



- Additional irrigation area
- Flat land by SH75
- Also earmarked for Duvauchelle Show relocation



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## Pond Site 10 wetland



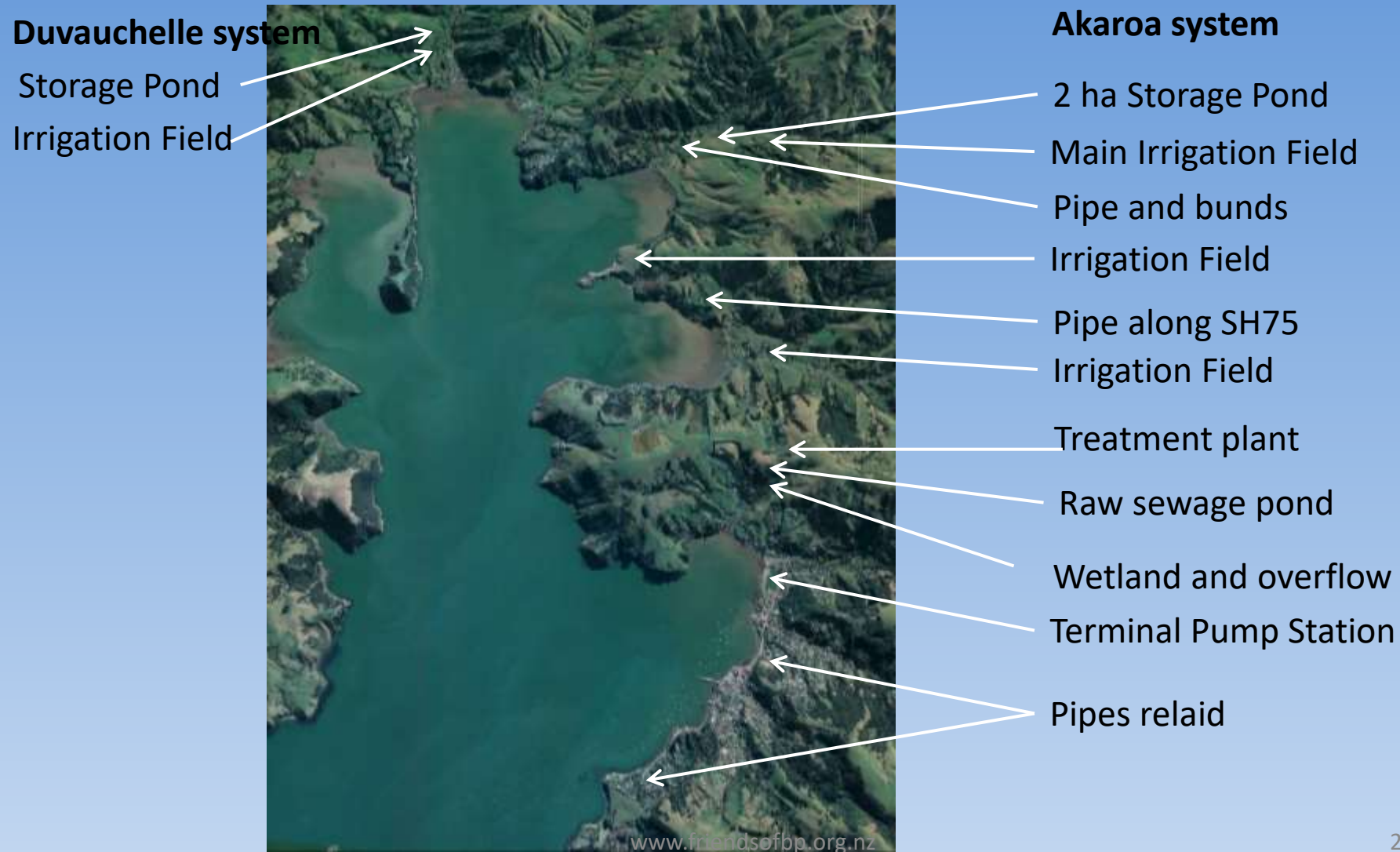


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# Pond site 10 lower slopes



# Cumulative Footprint





# Process ahead

- Council meeting Robinsons Bay
  - Monday 13 July Gaiety 5:30-7:00
- Consultation July 21 – August 23
  - Booklet will state Council staff support Inner Bays
  - Important to make submissions
- Hearings Panel recommendation
- Councillors choose option September
- Allocate revised budget 2021 LTP
  - Current budget is \$35 million
- Prepare Resource Consent

# Discussion

- Hard problem to solve
- Community letter lists concerns with Option 1
  - Thank you to the 227 who signed it
  - Will feed through to the concerns in the Friends and Ratepayers submission
- What are your views on options?
- Comments/questions/ideas going forward?
- Resolutions?

# Group submissions

- Drafting Friends of Banks Peninsula submission
  - Currently taking legal and engineering advice
  - Won't necessarily choose one of the options
  - Posted on FOBP website asap after July 21
  - Sue will email when available
- Drafting Robinsons Bay Ratepayers submission
- We will be saying

**FIX THE PIPES FIRST**

**OPTION 1 is too risky - don't go there**

# Making your personal submission

- Please make a personal submission
- Suggest you read the group submissions first
- State if you support FOBP or RBRRA position
- Make it a personal submission – add your view
- No obligation to tick a box or rank options
- **ASK TO BE HEARD**
- See notes on Making a Submission

# Fundraising

- Funds needed for expert advice to guide submission
  - Engineering
  - Legal
- Now is the time to donate
- Donate to 02 0832 0034836 000
- Code WW for Wastewater campaign
- Include your name for receipt
- Questions?



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Akaroa's Community Environment Society since 1990

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# Prints for Sale - \$65



Robyns Bay Sawmill circa 1870 – place an order with Sue