

Akaroa Wastewater hearings October 2020

Friends of Banks Peninsula response to panel questions

<p>While your submissions states that it doesn't support any of the four proposed options, I see that for the Harbour Outfall, Goughs Bay and Pompeys Pillar you have described possible mitigations should we chose those options. What mitigations could be used to lessen the impacts on the community should the Inner Bays option be chosen? I note that several submitters, including Heritage New Zealand have put forward potential mitigations for this option.</p>	<p>#34115 FOBP response:</p> <ul style="list-style-type: none"> • FOBP is opposed to directing wastewater away from Akaroa and incurring sunk cost in infrastructure that does not contribute to the eventual goal of reusing the water in Akaroa where the need is greatest. • Should the Council continue to pursue the Inner Bays option, then as per our observations regarding Goughs Bay and Pompeys Pillar, FOBP recommends that the Council work with the affected communities to identify a solution that would cause them to embrace rather than reject the water. • Our work with the community would suggest key mitigations are : <ul style="list-style-type: none"> ○ Reduce the volume of water so that the harmful impacts can be avoided including excessive storage ponds, over-watering and unacceptable proximity to streams, neighbours and impacting on heritage areas. ○ Treat the water to a potable standard so that it becomes a valuable commodity
<p>A wetland area to treat all of the wastewater from Akaroa may be much larger than you had indicated in your proposal. (We have asked for information about size, but it may be 5, 10 or even 20ha.) If the wetland area was this large, what would the implications be for your proposal? if so, what was their feedback?</p>	<p>#34115 FOBP response:</p> <p>The wetland size is dependent on a combination of the required retention time and the depth of the wetland. The wetland size we proposed is based on the 2-3 day retention time and with the construction depth and sites as per the Beca 2016 report (Akaroa Wastewater - Concept Design Report for Alternatives to Harbour Outfall, CH2M Beca, 12th May 2016). The retention time is a matter for Council to decide in consultation with Ngāi Tahu. Clearly if the area goes up substantially it will make it more difficult and less cost-effective to adopt this approach. The Council would need to negotiate an acceptable compromise.</p>
<p>Have you talked to the local Rūnanga about your proposal, whether the wetland approach would be appropriate and their views on potable/non-potable reuse of water? [If so, what was their feedback?]</p>	<p>#34115 FOBP response:</p> <ol style="list-style-type: none"> 1. Re wetland approach, we have not had any formal discussions about this, but in an informal conversation, Debbie Tikao suggested that greater use of wetlands could be part of a solution. Note that we were essentially prevented from discussing similar

	<p>options at the Working Party by the staff taking an extremely narrow view of the terms of reference.</p> <ol style="list-style-type: none"> 2. Regarding potable/non-potable use, this depends on how the water is to be used: <ol style="list-style-type: none"> a. Water used to flush toilets should not be an issue as people do not come into contact with it, and it is fully contained within the system b. Water used to water gardens makes land contact c. At public meeting at Ōnuku marae, a spokesperson for Ngāi Tahu indicated drinking recycled potable water was a personal choice. d. We further note that Ngāi Tahu voiced support for re-use in their submission 3. We appreciate that the cultural issues around water create potential conflicts with water recycling, but submit that this is a much bigger issue than just Akaroa. With predicted decreases in rainfall from climate change, New Zealand is highly likely to need to start recycling water (e.g. in Auckland), so these issues need to be addressed at a national level.
<p>What has been the feedback from Akaroa residents on a fully recycled system where the highly treated wastewater is reused in the water supply as would be needed to stop using the harbour outfall completely?</p>	<p>#34115 FOBP response:</p> <ol style="list-style-type: none"> 1. This issue has been in the public domain over the entire consultation period: our position has been made publically known via the Akaroa Mail (letters and advertising), and our submission was in the public domain for the entire submission period while it was being developed. The submission has received over 340 endorsements, including from many people in Akaroa and, as you heard in the hearings, many submitters endorsed this approach. No-one has contacted FOBP to raise objections to this or raised objections at the hearings. Other members of the Working Party, including those representing Akaroa, have also put forward similar suggestions including MAR and have endorsed our submission. 2. We have not stated that potable-reuse would be required to stop using the harbour outfall completely. Both stream replenishment and potable re-use assume the water is returned to one or more Akaroa streams; the only difference is whether the water is returned above or below the potable supply intake. There is no requirement for potable re-use to be achieved; rather it is desirable if it further reduces water shortages in Akaroa. 3. We note that the practice of taking water for potable use from sources where treated wastewater is discharged upstream already occurs in New Zealand. <i>"Water taken for Auckland from the Waikato already includes treated water from outfalls from storm</i>

	<p><i>water and treated wastewater upstream of its take."</i></p> <p>https://www.nzherald.co.nz/nz/agreement-reached-tamaki-makaurau-to-take-more-water-from-the-waikato-river/OJTDOB375ZYCP45B26OPRLYPBI/</p>
<p>What is the total cost (and breakdown of cost) of the proposal that you have put forward?</p>	<p>#34115 FOBP response:</p> <p>We do not consider it reasonable or practical for a community organisation to provide these detailed costings, however we have performed a preliminary estimate (see attached after this table for further details):</p> <ol style="list-style-type: none"> 1. Stage 1 (reduce I&I): \$6.2m 2. Stage 1-2: new plant including wetlands: \$49m 3. Stages 1-3 (includes reverse osmosis and stream replenishment): \$57m 4. Stages 1-4 (complete recycling: assumes minimal cost as infrastructure already in place): \$57m
<p>Can you request an update from Tectus on the MOH progress on regulation changes re non use potable water?</p>	<p>#34115 FOBP response:</p> <p>See Tektus memo 15 October 2020 in FOBP submission compendium.</p>
<p>You claim that over the years the costings for the Harbour outfall option has increased while the costings for the Inner Bays has increased. Please explain?</p>	<p>#34115 FOBP response:</p> <p>As members of the Working Party we have received numerous drafts of the estimated costs of the various proposals. As noted in both our submission and hearing presentation, the land-based-disposal options all increased substantially in cost (excluding the cost of the WWTP and network upgrades) after the flow meter fault was discovered, because their size increased so dramatically, but the harbour outfall option remained much the same because it wasn't affected in the same way. However, after the costs were reviewed internally by a Council staff member, the cost of the harbour outfall (excluding treatment plant) more than doubled, while all of the land-based options reduced in cost by up to \$6 million, with the Inner Bays option decreasing by \$5 million despite no changes to the design. The reasons main for the cost changes are:</p> <ol style="list-style-type: none"> 1. The methodology for calculating overheads was changed, and the harbour outfall attracted a substantially larger design and contingency overhead, despite having already been designed to the consenting stage in 2015, and substantial design and risk factors already being incorporated into the raw build cost 2. The cost of laying pipelines increased dramatically, particularly for laying pipes in Akaroa; some of these are now more expensive per km than the (purportedly more challenging) pipeline over to the outer bays 3. The cost of planting the irrigation areas fell substantially; it is unclear how this is being

	<p>achieved since the latest costings no longer include the number of stems to be planted per hectare.</p> <p>The combination of the increase in the cost of the harbour outfall and decrease in cost of the other options has substantially narrowed the difference and is surprising given how stable the harbour outfall cost had been until the review. We also note that the previous costings (by Beca) were carried out by their team of professional quantity surveyors.</p>
<p>If the size and scale of the Inner Bays storage ponds were reduced, what would be the point where this would become acceptable?</p>	<p>This is a question to be answered by the affected communities, not by FOBP. We would suggest that the size and scale of acceptability will depend on factors such as the downstream risk, proximity to houses, visibility and impact on heritage.</p>

Appendix: estimated costings

Stage 1+2	Estimated cost	Notes
I&I reduction	\$6,100,000	From Tektus
WWTP + network changes	\$29,650,549	From Council costing
Wetland for all flows	\$3,561,464	Inner bays wetland * 2 (assumes 2-3 days retention time)
Pipeline to Glen bay	\$8,237,993	Option 4 cost of overland pipe + contingency
Extend pipeline to existing outfall	\$905,112	Pro-rated from above
Municipal purple pipe	\$229,319	From Option 4
Total stages 1-2	\$48,684,438	
<i>Achieved: new plant; land contact for all flows; purple pipe initiates reuse</i>		
Stage 3: add recycling (mandatory components)		Notes
Reverse Osmosis system	\$5,000,000	Assume double cost of membrane tanks + 80% contingency
Pipeline to Grehan Stream	\$3,620,449	Pro-rated from Glen Bay pipeline (2000m) including contingency
Total stage 3	\$8,620,449	
Total stages 1-3	\$57,304,887	
<i>Achieved: 100% of flows recycled into stream</i>		
Stage 4: full recycling		Notes
Extend pipeline to above intake	\$0	Minimal: pipeline already extends to intake
Total stages 1-4	\$57,304,887	