

OPEN Briefing on Petone Wharf

Date of Briefing: 13/5/2021 – 5.20pm

1.	Project/ initiative	Petone wharf refurbishment and partial demolition
2.	LTP Activity	Community Connections Neighbourhoods and Communities Parks and Recreation
3.	Business lead	Janet Lawson
4.	Brief project description (problem/opportunity statement)	<p><u>Background</u></p> <p>There are 4 wharves in Lower Hutt which were transferred to Council ownership from the Harbour-board at the time of local body amalgamation in 1989.</p> <p>Maintenance of the wharves since then has been driven through 4 yearly asset condition and maintenance reports and until recently were not part of a formal Asset Management Plan. The Parks and Reserves Asset Management Plan updated in 2021, now includes wharves.</p> <p>Four years ago Council received a report on the continued deterioration of these Assets including structural concerns and subsequently agreed to set aside funding to address three of the wharves in the short term and set aside future funding (2032) for major refurbishment of Petone wharf.</p> <p>The following decisions were made following extensive community consultation on a range of options:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Completely refurbish Rona Bay and Days Bay Wharves. <input type="checkbox"/> Demolish most of Point Howard Wharf but maintain the stub to house the control box for Yachting events. <input type="checkbox"/> Refurbish the majority of Petone Wharf but demolish the concrete head. <p>Refurbishment of Rona Bay and Days Bay wharves has been completed.</p> <p>Unfortunately both projects have experienced significant over-runs and there is now insufficient budget to demolish Point Howard and undertake essential maintenance on Petone to ensure it is safe to use through until 2032.</p> <p><u>Petone Wharf</u></p> <p>Petone is a traditional hardwood structure that is approximately 110 years old. It has a high heritage value and is a key asset and feature of the city. Its condition is rated poor/moderate and is continually deteriorating.</p> <p>Results of the 2020 engineering assessment noted that there are significant concerns over the structural integrity of many of the piles on both the approach and head of Petone wharf, noting that the rate of deterioration since the last assessment is much higher than anticipated.</p> <p>Due to this information detailed dive surveys were commissioned in November 2020 to fully assess the extent of deterioration and to better quantify the work required to achieve the resolutions of Council.</p> <p><u>Seismic Event</u></p> <p>Petone Wharf was closed to public access on 18 January 2021 following the</p>

completion of a dive survey by contractors Undersea Construction Ltd.

Two moderate earthquakes on Thursday 31st December 2020 and Saturday 2nd January 2021 contributed to a number of piles failing causing severe slumping in the wharf deck. Calibre Engineering undertook a visual inspection of the structure on 2 January and confirmed the wharf was safe to remain open but urgent investigations needed to be completed.

To prevent further slumping, temporary support props were installed on 5 January which allowed continued public access and to mitigate the safety factors.

Specialist contracting firm G K Shaw and Undersea Construction Ltd were engaged to provide engineering advice and undertake a preliminary dive survey on the section affected by the slump to ascertain the extent of damage and possible urgent works. This was completed on 5 January 2021. The initial survey identified more damage than was initially assessed. Further timber piles were assessed as being extremely vulnerable.

Given the urgency and safety of the work, approval was sought from the Chief Executive, to engage G K Shaw to commence emergency repairs. This started on 11 January 2021. Budget for the earthquake damage is being covered by bringing forward \$450,000 from the allocated 21/22 budget of \$800,000.

Emergency works are now complete and officers have received the detailed dive survey and draft engineering condition assessment of the entire Wharf.

The wharf remains closed until this report can be fully considered by Council.

Detailed Assessment

The draft condition assessment produced by Calibre Ltd raises major concerns in relation to structural condition of the entire wharf but in particular the outer head. Some of these concerns have been alleviated in relation to the approach due to the emergency works that have been completed however the integrity of the remaining wharf continues to be a concern.

The report highlights that deterioration (mainly due to Toredo Worm) is rapidly accelerating and any delay to undertaking pile replacements will heighten the current risk.

The report presents updated costings on the options consulted on as part of the long term plan preparation and highlights the minimum works required to re-establish safe use of the wharf has increased significantly:

1. Bring forward budget for the full refurbishment of most of Petone wharf to the 2021-23 financial years, including demolition of the head - estimated costs of \$14.32M (before QRA).
2. In 2021/22, demolish part of the head of Petone Wharf and bring forward \$700,000 to undertake required maintenance. Estimate for pile repairs is \$1.73M and \$800,000 for demolition of the wharf head which is significantly higher than the figure allowed for in the LTP options – estimated cost of \$2.53M (before QRA).

Option 1 is the preferred option as it provides a complete solution with only one construction period (minimum 24 months). This is the most cost effective solution, reducing establishment and site management costs and reduces 'double handling'.

Option 2 carries a number of risks. In order to replace the piles, the deck

		<p>requires propping to enable works then lowering back onto the replaced pile. This is difficult and the establishment and enabling costs are high and reasonably unpredictable. The risks increase as you go further from the shore with increasing exposure and sea depth. With this option, there will also be a requirement to fund on-going maintenance in the interim period prior to refurbishment. The cost for this option is significantly higher than previously estimated (\$1.5M) and requires continued closure of the wharf for a minimum of 12 months.</p> <p><u>Quantitative Risk Analysis (QRA)</u></p> <p>We are awaiting the peer review of the QS costs and completion of a QRA which quantifies the possible project costs if individual risks materialized. If this is received before Thursday we will provide an update at the briefing otherwise we will provide an update at the next Committee meeting.</p> <p>At this stage the cost estimate for the preferred option is well within the consulted figure of \$15M - \$20M.</p> <p><u>Long Term Plan (LTP) Consultation</u></p> <p>The results of the LTP consultation show a relatively even split with 48% preferring option 1 and 52% choosing option 2. Analysis indicates that this is primarily related to people's desire to reduce a rates increase, rather than lack of support for the project. (final results)</p> <p>At the Dec 2020 LTP committee meeting the Petone Community Board (PCB) made a verbal submission stating their full support for prioritising the refurbishment of Petone Wharf over other Parks projects in Petone. Their absolute preference was to maintain the full length of the wharf, however they were willing to accept the partial demolition if the project could be brought forward.</p>
5.	Strategic alignment and desired outcomes sought	<p>Leisure and Wellbeing Strategy – This project represents wellbeing opportunities through recreation and mental wellbeing. It is also a key representation of the identity of Lower Hutt residents and our connection to place.</p> <p>Infrastructure – The Petone wharf contributes to infrastructure as a key feature along the Remutaka Cycle Trail and cycling connections to Te Ara Tupua and the wider cycling network.</p>
6.	Community engagement	<p>In 2017, as part of the annual plan consultation, Council engaged with the community over the future of all four wharves. Additionally public meetings were held in Petone and Eastbourne and wider consultation was carried out.</p> <p>Additional consultation is being carried out currently as part of the LTP process.</p>
7.	Overview of project costs and funding source (refer tables below)	<p>Cost estimates for these options are now available:</p> <ul style="list-style-type: none"> • Immediate partial refurbishment, with outer end demolished – \$14,317,000. • Pile repairs with delayed full refurbishment – \$2,325,000. <p>A quantitative risk analysis exercise is currently being carried out.</p>
8.	Risks and mitigation plans	<p>For Petone wharf, given the deterioration of the structure, costs for maintenance will continue to rise unless structural work is completed soon. The outer end of the wharf is due for demolition and an immediate decision is required on whether this area should continue to be maintained or not.</p>

		<p>The top risks apart from costs associated with this project are:</p> <ul style="list-style-type: none"> • Health and Safety – Given the structural uncertainties associated with the wharf there is the risk of further loss of piles and localised structural failure. This risk is low and managed through closure of the wharf. Contractors completing the repairs will set up procedures to keep staff safe during works, which will be approved by a qualified engineer. • Weather – Petone is subject to strong southerly and north-westerly winds which make conditions unsafe to work in. This could affect programming and is difficult to plan for. An assessment of non-work days will be made based on previous year’s weather information. • Supply – The work is reliant on supply of large hardwood timbers, generally from South America. These are becoming more difficult to source and questions are being raised about the ethics and sustainability of this practice. This will be managed by investigating alternative wood sources, such as Australia and alternative products including concrete or composite materials. • Heritage – Petone Wharf is a heritage structure under the District Plan and has been nominated for Heritage status with Heritage New Zealand. This could add a level of complexity to the project increasing time and costs. • Communications - Previous communication stated a completion date for re-opening. This commitment cannot now be met and could lead to loss of trust. This is being managed through a communications plan supported by evidence and information. This includes early communication to the Chair of the Petone Community Board and other key stakeholders and signage on-site.
9.	Annual Plan/LTP key assumptions	<p>There is \$800,000 scheduled for Petone Wharf in 21/22, but this is insufficient.</p> <p>Alternative options and actions are currently being consulted on.</p>
10.	Other relevant information	<p>Engineers report – Recommendations for inspection and maintenance of Petone Wharf 2020/2022. Ref. 709066 ME 20200825 Petone.</p> <p>Engineers report – Point Howard Wharf: Recommendations for ongoing inspection and maintenance. 709066 ME 20200828 Point Howard.</p> <p>Officers Report to CLT – September 2020 with options and high level cost estimates.</p> <p>Engineers report – 2021 Wharf condition report – draft.</p>

Further budget information

The following tables set out the current changes to budget (pre. QRA) for the preferred option for the Petone Wharf Project which is currently being consulted on.

Table 1: Operational budgets

Petone Wharf	<u>2020/21</u>	<u>2021/22</u>	<u>2022/23</u>	<u>2023/24</u>	<u>2024/25</u>	<u>2025-2031</u>	<u>Total</u>
Draft LTP	0.45	\$0.5M					\$0.95M
Final LTP	0.45	\$0.8M					\$1.25M
Variance	-	\$0.3M					(\$0.3M)

Table 2: Capital budgets

Petone Wharf	<u>2020/21</u>	<u>2021/22</u>	<u>2022/23</u>	<u>2023/24</u>	<u>2024/25</u>	<u>2025-2031</u>	<u>Total</u>
Draft LTP	-	\$7.05M	\$12M				\$19.05M
Final LTP	-	\$7.05M	\$6.47M				\$13.52M
Variance			\$5.53				\$5.53M

Notes:

- \$0.45M in 2020/21 is the cost of emergency works completed this year.
- Project cost of \$14.32M is split with 0.8M demolition included in operating and \$13.52M strengthening and refurbishment included as capital.
- Figures have not been adjusted for inflation.