

**REPORT 4**  
(1215/52/IM)

## **TEMPORARY REPLACEMENT VENUE FOR POSITIVELY WELLINGTON VENUES LIMITED**

### **1. Purpose of report**

This report presents the results of earthquake resilience testing on the TSB Bank Arena, Shed 6 and the Shed 6 wharf piles with respect to the proposed temporary replacement venue for Positively Wellington Venues Limited (PWV) and responds to the Council's resolution from 27 June 2012.

### **2. Executive summary**

Detailed seismic assessments have been undertaken on TSB Bank Arena, Shed 6 and the Shed 6 wharf under an Importance Level 3 (IL3) criteria. The IL3 definition (in part) describes:

*“structures that as a whole may contain people in crowds or pose risk to people in crowds.” i.e. where more than 300 people congregate, public assembly buildings, theatres and cinemas of greater than 1000m<sup>2</sup>.*

TSB Bank Arena is compliant with the current building code at 38%NBS (New Build Standard). The report on the TSB Bank Arena contains several solutions to improve the performance of the building. These will be fully evaluated by officers and brought forward as part of Draft Annual Plan deliberations in 2013.

However, Shed 6 and the wharf on which it sits are earthquake prone (below 33% of code). Several remedial options have been considered, but only one option is available that will bring Shed 6 and the Shed 6 wharf beyond earthquake prone status. This involves a seismic separation cut and improvements to the structural performance of the Shed 6 wharf. The estimated cost for this remedial work is \$2.9 million.

A 2007 study of public use of the Waterfront around the Queen's wharf area found that at its weekend peak rate over 800 pedestrians and cyclists per hour were using the Shed 6 wharf area. Given the widespread promotion of the Wellington's Waterfront to locals and visitors, a case can be made that a higher level of care is required in advising users and managing this risk. Officers consider, therefore, that undertaking remedial work on this structure should be a priority. Accordingly, strengthening options that do not bring the structure beyond the status of earthquake prone are considered inappropriate.

This report also considers the economic impact of not undertaking earthquake strengthening work on the TSB Bank Arena, Shed 6 and the Shed 6 wharf that was addressed initially in a paper to SPC on 21 June 2012 on a temporary replacement venue for PWV. The GDP loss to Wellington during the period when the Town Hall is unavailable to host medium and large conferences and events has been calculated at \$9m per annum. In addition, World of Wearable Arts (WOW) generates \$15m per annum in economic value to the city. Negotiations are being progressed to extend the current hosting rights to WOW. Not undertaking strengthening work, therefore, could jeopardise the city's ability to stage this important event. As such, the total impact to Wellington's GDP could be as high as \$24m per annum for the next 2 years, and \$15m per annum for any extended WOW agreement.

Officers have reviewed the seismic assessments and other supporting documentation and are of the view that undertaking the recommended strengthening work on Shed 6 and the Shed 6 wharf would ensure public access to these areas is maintained and provide the best economic outcome for the city. Furthermore, resolving the strengthening issues would enable Council to agree the commencement of PWV's temporary replacement venue for which funding has already been approved.

### **3. Recommendations**

Officers recommend that the Strategy and Policy Committee:

1. *Receive the information.*
2. *Note that the Council agreed on 27 June 2012 that \$4 million of capital expenditure for the modification of the TSB Bank Arena/Shed 6 be included in the Long Term Plan in 2012/13 and that this funding be contingent on formal confirmation that no earthquake issues arise with respect to TSB Bank Arena and Shed 6 from the proposed works.*
3.
  - (a) *Note that the earthquake resilience of the TSB Bank Arena has been subjected to an independent assessment by Aurecon;*
  - (b) *Note that the earthquake resilience of Shed 6 and the associated wharf piles has now been subjected to an independent assessment by Holmes Consulting Group;*
  - (c) *Note that seismic weakness has been identified, with Shed 6 and the wharf piles classified as Earthquake Prone.*
4. *Agree to recommend to Council that \$2.9 million be committed to strengthening the Shed 6 wharf, and that this will be funded through an increase in Council borrowings.*
5. *Agree to recommend to Council that it allocate capital expenditure funding of \$2.9 million to Wellington Waterfront Limited for the purpose of upgrading the Shed 6 wharf piles, with the work to begin by December 2012.*

6. *Agree to recommend to Council that the funding for the wharf work be provided to Wellington Waterfront Limited through an increase in the loan to Wellington Waterfront Limited.*
7. *Recommend to the Council that \$4 million of capital expenditure for the modification of TSB/Shed 6 as a temporary replacement venue for the Wellington Town Hall allocated in the 2012-22 Long Term Plan is confirmed.*

#### **4. Background**

The Council is undertaking significant earthquake strengthening work on the Wellington Town Hall in 2013 that will see it closed to all conferences and events. The project is expected to run for 2 years to mid 2015.

Positively Wellington Venues (PWV) is the city's major provider of venue space to host medium to large-scale conference activity. To address the impact to the PWV business and the economic loss to the City, in 2011 PWV identified and assessed a full range of options to maintain the business or mitigate the loss of the Town Hall as a venue. In February 2012, PWV presented a business case as part of the Council Long Term Plan process to modify the TSB Bank Arena and Shed 6 at a cost of \$5 million to provide a suitable alternative venue during the period that the Town Hall is closed for strengthening.

The proposal was considered by Council in March 2012, and \$4m of capital expenditure was included in the draft LTP for the project. Council also amended the Revenue and Financing Policy in the draft LTP for the Convention Centre to move 40% of the funding from General Rates to the Downtown Levy. This change was to reflect the fact that the primary beneficiary of the \$4m investment would be the businesses in the CBD as they would directly benefit from the economic activity that the medium to large conferences/exhibitions generate for the City.

The PWV proposal to modify the TSB Bank Arena and Shed 6 to provide a replacement venue for the Town Hall was consulted on as part of the 2012-22 Long Term Plan, with 95 submissions received. Feedback from submissions, including the possibility of relocating PWV business to other venues in the city was considered. In assessing the potential for utilising alternative space, Stephen Hamilton of Horwath HTL was engaged to assess PWV's business case. Hamilton's analysis of various options showed that the TSB/Shed 6 option had the best chance of minimising the loss of economic benefit to the city during the closure of the Town Hall.

Council considered the report on Replacement Venue Options as part of the LTP deliberations and approved \$4 million of capital expenditure for the modification of the TSB/Shed 6 to be included in the Long Term Plan in 2012/13. However, this funding was contingent on formal confirmation that no earthquake issues arise with respect to TSB and Shed 6 from the proposed works.

In July 2012, Holmes Consulting Engineering Ltd and Aurecon were commissioned to undertake detailed seismic assessments of the TSB Bank Arena, Shed 6 and associated wharf piles. The results and implications of this analysis are covered in this report.

## **5. Discussion**

### **5.1 The Seismic Assessment of TSB Bank Arena, Shed 6 and the Shed 6 wharf**

In July 2012, two seismic assessment reports were commissioned for structures on Queen's wharf.

1. Wellington Waterfront Ltd (WWL) engaged Aurecon to assess the seismic capacity of the TSB Bank Arena building; and
2. PWV commissioned Holmes Consulting Group (HCG) to carry out a seismic assessment of Shed 6 and the supporting wharf structure in order to confirm the suitability of the building as a temporary venue for PWV while the Town Hall is closed for earthquake strengthening.

The TSB Bank Arena, Shed 6 and the Shed 6 wharf are all IL3 structures and were assessed on this basis. The IL3 definition (in part) describes:

*“structures that as a whole may contain people in crowds or pose risk to people in crowds.” i.e. where more than 300 people congregate, public assembly buildings, theatres and cinemas of greater than 1000m<sup>2</sup>.*

Consideration has been given as to whether the designation as IL3 is correct as a designation of IL2 might result in different outcomes. More information on the designation of Shed 6 as an IL3 structure is contained in Appendix 1.

## **The Results**

### *TSB Bank Arena:*

The Aurecon analysis found the TSB Bank Arena has an overall capacity of 38% which means the building is not earthquake prone.<sup>1</sup>

### *Shed 6 and Shed 6 wharf:*

The results of the HCG analysis on Shed 6 and the Shed 6 wharf found a number of seismic issues that render the structures as earthquake prone. Although Shed 6 has a rating in the transverse direction of 50%NBS, in the longitudinal direction the rating is only 25%NBS. The Shed 6 piles, on the other hand, failed at 20% NBS and the report notes that once this occurred the remaining wharf does not have sufficient strength to resist any further load.

During the investigation, the assessors found that the foundation slab on the western side of the TSB Bank Arena is connected directly to the Shed 6 wharf.

---

<sup>1</sup> A building is considered 'earthquake prone' if its capacity is less than 33%NBS

Both reports consider this a considerable structural weakness that during a seismic event would impose substantial negative forces on both buildings.

The results can be summarised as follows:

	Current rating (%NBS)
TSB Bank Arena	38%
Shed 6	50% side ways; 25% lateral
Shed 6 wharf piles	20%

### **Remedial Options:**

There are three options available to the Council at this time with respect to the seismic issues identified in the Shed 6 and the Shed 6 wharf:

- do nothing;
- undertake strengthening work on the wharf piles with no temporary venue for PWV; and
- undertake strengthening work on the wharf piles and proceed with PWV's temporary replacement venue.

These options are discussed below:

#### **1. Do nothing:**

The 'do nothing' option would leave the structures in their current state at no additional cost to the Council. Given that Shed 6 and the Shed 6 wharf have an IL3 rating, officers consider that 'do nothing' is not a tenable option for the following reasons:

- (a) It is known that these structures are earthquake prone and are in areas of high public usage. In 2007, the Traffic Design Group undertook a traffic/pedestrian study around Shed 6. This study found that at a weekend peak, over 800 pedestrians and cyclists per hour travelled on the Shed 6 wharf;
- (b) The potential economic impact of not undertaking this remedial work is significant as it would prevent the development of a temporary replacement venue for the Town Hall; and
- (c) There is a strong likelihood that the contract for World of Wearable Arts (WOW) will be renewed. Guaranteeing that Shed 6 and the Shed 6 wharf are compliant with the building code will ensure that WOW is able proceed once an agreement is reached.

#### **2. Strengthen the wharf piles:**

The HSG report identifies 3 strengthening options for the buildings and wharf structures:

- (a) A seismic separation cut to separate TSB Bank Arena and Shed 6 wharf

Undertaking a seismic separation cut (SSC) to separate the structures would raise the Shed 6 wharf piles to 31%NBS and therefore remain earthquake prone. There would be no change to the overall NBS rating of the TSB

Bank Arena or Shed 6, but would alleviate risk to the building's foundations.

The cost of undertaking the seismic separation cut is \$875k.<sup>2</sup>

(b) Improve the structural performance of the Shed 6 wharf

The HSG report recommends first separating the Shed 6 wharf from the TSB Bank Arena with a SSC, then stiffening and strengthening the wharf with the addition of new concrete piles. This option would involve the installation of 16 new reinforced piles together with caps within the Shed 6 wharf deck. As a result, the capacity of the wharf would be raised to 50%NBS and out of earthquake-prone status.

The cost of undertaking the seismic separation cut and piling work is \$2.9m.<sup>2</sup> This option could be funded from the \$4m allocated currently to the temporary replacement venue, but would then prevent the PWV project from going ahead.

In summary, the improvement in the earthquake ratings would be as follows:

	Current rating	Rating after cut	Rating after cut and piling work
Shed 6 wharf piles	20%	31%	50%

Officers have considered the potential to strengthen the wharf to 67%NBS, but HSG have advised that 50%NBS at IL3 is the highest possible strength that can be achieved with the existing wharf structure. The most significant impact on this decision is the presence of very soft material on the seabed under the wharf. To achieve any higher strength would require consideration of an entirely new pile system and wharf structure, an option that is not feasible at this time.

The 50% strength recommended in this option 2(b) is in line with the intent of section 112 of Building Act 2004 and Council's Earthquake Prone Policy.

If the Council agrees to proceed with seismic strengthening work on the Shed 6 wharf piles, it is proposed that Wellington Waterfront Limited will manage the project in conjunction with the ongoing programme of wharf maintenance approved in the Waterfront Development Plan agreed by Council as part of the LTP.

(c) Strengthen Shed 6

Strengthening the lateral deficiency of Shed 6 is a relatively simple process and would bring the building to 50%NBS. However, if the corresponding wharf strengthening work is not undertaken then the building would remain on an earthquake prone structure.

---

<sup>2</sup> These figures are derived from Rider Levett Bucknall's Quantity Surveyor (QS) report on the cost of seismic strengthening work for the Shed 6 wharf prepared in October 2012.

The cost of strengthening only Shed 6 is \$30k. The strengthening of Shed 6 to 50%NBS is factored in to the installation and cost of PWV's temporary venue proposal for TSB/Shed6 so would require no additional funding.

### **3. Strengthen the wharf piles and undertake the PWV temporary replacement venue:**

This option proposes that Council agree to new funding for the strengthening of the Shed 6 wharf and approve the construction of PWV's temporary replacement venue within the existing Shed 6 structure.

There are several strong reasons to continue with this project:

- The economic impact on Wellington's GDP is significant. The impact is discussed below in more detail, but the retention of conference and events benefits to the city has been assessed independently at \$9m per annum, while WOW is expected to bring in \$15m per annum to Wellington;
- The project will increase the range of activities that can be hosted in Shed 6 and improve the utilisation of the building; and
- Improving the utilisation of Shed 6 will increase activity in the precinct and bring more people on to the Waterfront which is an important strategic asset for the city and add to the vibrancy of the area.

The \$4.0m capital cost for PWV's temporary replacement venue is already factored in to the LTP.

It is recommended that option 3 is preferred. It will ensure Shed 6 and the Shed 6 wharf are not earthquake prone and enable the economic benefits from PWV's large (300+ people) conferences and events to be retained and the significant economic benefits from hosting WOW to be retained.

## **5.2 Economic Impact on Wellington GDP**

### **Temporary Venue Replacement for PWV:**

In June 2012, Horwath HTL assessed the economic impact of a temporary venue for PWV in TSB/Shed 6, estimating the GDP loss to the city at \$9m per annum through the period when the Town Hall is unavailable. The results of the Horwath report were presented as part of the LTP deliberations along with the recommendation that a temporary venue in TSB/Shed 6 was the best option for mitigating the economic impact to the city. It is noted that this option received support from the downtown business sector as it would be directly affected by the loss of this business to the city.<sup>3</sup>

---

<sup>3</sup> Other options considered were 'Do not replace the capacity' and 'No venue replacement but cooperative arrangement with other venues'. Under these options there is a significant negative impact on the Wellington economy as measured by the reduction in GDP. This was assessed as the direct impact of the loss of conference business as a result of the reduced overall venue capacity in the city and the lack of a suitable venue(s) to competitively retain the medium to large conferences.

### **World of Wearable Arts (WOW):**

WOW is a major event in Wellington's events calendar, with significant economic and cultural benefits to the city. The economic benefit to the city has been estimated at \$15 million per annum.<sup>4</sup> The Council is currently in negotiation with WOW to secure a longer term relationship for the event in Wellington.

The TSB Bank Arena is Wellington's only suitable venue for hosting WOW, with Shed 6 used throughout the season as an essential space for WOW rehearsals and as a 'backstage' area during performances. If the status of Shed 6 remains earthquake prone, then there is a risk of losing the hosting rights to WOW.

### **Summary of economic impact:**

The cost and economic impact of each option can be summarised as follows:

	Code achieved?	Cost	Impact to Wellington GDP
Do nothing	No	\$0	Loss of \$24m p.a. <sup>5</sup> <ul style="list-style-type: none"><li>• \$9m from conferences/events</li><li>• \$15m from WOW</li></ul>
Seismic Separation Cut only	No	\$875k	Loss of \$24m p.a. <sup>5</sup> <ul style="list-style-type: none"><li>• \$9m from conferences/events</li><li>• \$15m from WOW</li></ul>
Seismic Separation Cut and Piling work	Yes	\$2.9m	<ul style="list-style-type: none"><li>• Benefit of \$15m p.a. from WOW</li></ul>
Full strengthening work and PWV replacement venue	Yes	\$6.9m (\$4m already approved)	<ul style="list-style-type: none"><li>• Retention of conference and events benefits to the city of \$9m</li><li>• Benefit of \$15m p.a. from WOW</li></ul>

The estimated impact to the Wellington GDP of not lifting the Shed 6 wharf above earthquake prone status is significant, comprising the \$9m loss from not proceeding with the PWV temporary venue and \$15m from the potential loss of WOW to the city.

### **5.3 Financial considerations**

As noted above, the Rider Levett Bucknall QS report has estimated the cost of repair work to bring the Shed 6 wharf up to 50%NBS at \$2.9m with the following implications:

- The cost of \$2.9m would be capital expenditure and is not provided for in the Council's LTP, and would require funding from an increase in Council's borrowings;
  - An increase in borrowings of \$2.9m does not result in any breach of the Council's borrowing targets in 2013/13, but the target was already planned to be breached in subsequent years and these would be compounded with the additional borrowings;

<sup>4</sup> Montana World of Wearable Art Show Market and Economic Impact Assessment Report. McDermott Miller Limited. Commissioned by Wellington City Council, 3 December 2009.

<sup>5</sup> Note that in this scenario PWV would also incur a trading loss of approximately \$1m per annum as a result of lost conference and events business as a result of the Town Hall closure.



- The additional capex of \$2.9m can be accommodated within Council's new capex limits and does not result in any breach of the targets;
- The increase in opex costs for 2012/13 will be managed through existing budgets.

(\$000's)	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
Interest <sup>6</sup>	87	177	185	195	207	219	232	245	259	275
Capex	2,900									

#### 5.4 Other issues

##### Timing:

Advice to Council is that construction of PWV's temporary replacement venue could proceed at the same time as structural work on the Shed 6 wharf piles is undertaken. Provided a decision to proceed is made urgently, the construction programme for both projects would be completed by July 2013 just ahead of the closure of the Town Hall and in time for 2013 WOW.

#### 5.5 Climate change impacts and considerations

There are no climate change impacts to consider in this report

#### 5.6 Long-term plan considerations

The PWV proposal for a temporary replacement venue while the Town Hall is closed for earthquake strengthening was consulted on and approved as part of the 2012-22 LTP. However, the impact and cost of strengthening the wharf piles was unknown at the time and therefore not factored in to the budget.

## 6. Conclusion

This paper has reported back on the results of earthquake resilience testing on the TSB Bank Arena, Shed 6 and the Shed 6 wharf piles with respect to the proposed temporary replacement venue for PWV, as requested by Council.

The earthquake testing found that while the TSB Bank Arena is at 38%NBS, both Shed 6 and the Shed 6 wharf are below 33%NBS and therefore earthquake prone. The cost of repairs to bring the structures above earthquake prone status is estimated at \$2.9m. Shed 6 is an important venue space in Wellington and is used in conjunction with the TSB Bank Arena for events like WOW. Not undertaking the wharf repairs, therefore, would compromise the city's ability to host WOW and other large-scale events.

TSB Bank Arena and the Shed 6 temporary replacement venue are projected to contribute over \$24 million per annum in economic benefits to the city through the development of the space for the retention of medium and large conference events, and the potential hosting rights of WOW to continue.

<sup>6</sup> This assumes that the wharf works will be done through the Waterfront Project.

Moreover, the Waterfront is widely used by pedestrians and cyclists. Given the widespread promotion of the Wellington's Waterfront to locals and visitors, a case can be made that a higher level of care is required in managing this risk.

Based on the information presented in this report, officers recommend improving the structural performance of the Shed 6 wharf at a cost of \$2.9m, thereby enabling work to proceed on constructing PWV's temporary replacement venue budgeted at \$4 million, and ensuring that WOW has the best chance of remaining in Wellington.

Officers note that this is the preferred option as it will bring Shed 6 and the public wharf above the status of earthquake prone and enable the potential economic benefits for the city from PWV's large (300+ people) conferences and events such as WOW to be realised.

Contact Officers: *Peter Garty - Chief Financial Officer, Neville Brown - Manager Earthquake Resilience and Richard Hardie, Portfolio Manager CCO unit*

## SUPPORTING INFORMATION

### 1) Strategic fit / Strategic outcome

*The paper supports Council's overall vision of Towards 2040 – Smart Capital. In particular, the report highlights the potential for a significant economic impact on Wellington's GDP if the proposed strengthening work does not proceed, and on our goals for the city, particularly People-Centred City and Dynamic Central City.*

### 2) LTP/Annual Plan reference and long term financial impact

*This project is contained in the Council's 2012/22 Long Term Plan as part of Positively Wellington Venues' proposal to modify TSB/Shed 6 while the Town Hall is closed for earthquake strengthening.*

### 3) Treaty of Waitangi considerations

*This report raises no new treaty considerations.*

### 4) Decision-making

*This is not a significant decision.*

### 5) Consultation

#### a) General consultation

*This report has not been sent out for general consultation*

#### b) Consultation with Maori

*See section 3 above.*

### 6) Legal implications

*There are no new legal issues raised in this report.*

### 7) Consistency with existing policy

*This report is consistent with WCC policy.*



## Importance Level – Shed 6

Shed 6 was built in the late 1950's and as such was built under WCC's Building Bylaws.

The bylaws refer to this building as a “place of assembly” and in describing its use, it says, “this means [ in part], in addition to theatre, cinema or public hall as herein defined a building or part of a building used as a place of assembly for more that 100 persons, seated or unseated”

This in turn was classified as a type A , level 3 building, as described in Council 2009 Earthquake prone Policy.

Importance levels were introduced with the Building Act 1991 and cited in NZS4203 and rated as Level 2. This was further updated with the 2004 Building Act and the introduction of NZS1170.5. The direct correlation from the original Type A building and Level 2 under NZS4203 is what we know today as IL3.

Officers therefore reasonably conclude that this building, if constructed today, has to all intents and purposes be considered as what we now understand to be an IL3 structure.

Further supporting information:

- The Building Warrant of Fitness for Shed 6, issued by BCLS in May 2012 clearly states that the rating for the building is CL (Crowd Large) capacity 1500.
- We are also in receipt of the Fire Evacuation and Egress report completed in 2009, and the subsequent NZ Fire Service approval for a capacity of 1500 persons.
- The regulatory advice received by Venues in planning the Temporary venue has been on the basis that this is within existing use rights.
- We have a substantial list of events staged by Venues since 1 January 2011 which details a large number of events with numbers as high as several thousand.

Given the implications that this has on the strengthening options being considered, Officers have also investigated the implications of considering both the wharf and Shed 6 as IL2. In effect, this would require the maximum occupancy of Shed 6 to be no greater than 299 persons at any one time. This position would be contrary to the original request of Venues articulated in the paper to this Committee on 21 June, which stated as the required criteria, “the venue must provide 4 minimum functional elements: a small plenary space; trade/exhibition and catering (large plenary and performance) space; flexible breakout space; and commercial kitchen facilities”. The spaces must be contained within the same location in order to accommodate a ‘typical’ conference of 350+ delegates.

Venues are of the view that to take this position would invalidate the proposition and accordingly should not go ahead and the \$9m loss to Wellington GDP would become a factor and put at risk the retention of the WOW contract assuming that the current negotiations are successful.