

Confidential Appendix 3

St David's Hall building management summary

In 2021 Cardiff Council procured WSP to undertake a property condition and engineers report of St David's Hall.

As a consequence of the findings of the survey, Cardiff Council has implemented a property management and health and safety monitoring programme to observe the high priority condition items and ensure necessary steps are in place to reasonably ensure the property remains safe to use.

The items identified are in addition to the regular day to day building management processes i.e., statutory maintenance inspections, daily/weekly/monthly checks of various building components, defect reporting to the One Front Door system etc.

The summary below details the key elements of the building management programme specific to the high priority items identified in the WSP survey.

Roof Planks

Description: St David's Hall roof structure is constructed from a combination of steel roof trusses and Reinforced Autoclaved Aerated Concrete (RAAC) planks (923 planks in total). It is generally recognised that RAAC has a serviceable life span of 30 years (under normal conditions). Recent construction safety alerts have reinforced the safety issues relating to RAAC, highlighting circumstances where they have failed and caused the collapse of a roof and/or structure without warning. Therefore, since St David's Hall was constructed between 1977 to 1982, the RAAC planks are a cause for concern, as they are outside their intended design life span.

Risks: It is highly likely that different batches of planks (with different ages) have been used in the construction of the roof with varying manufacture quality control (that is often poor) over their construction and the dispositions of the reinforcement relative to the short bearing lengths typically used which significantly increases the shear risk. Therefore, these issues along with the RAAC planks being outside their serviceable life span increases the risk of failure and collapse of the planks.

Management arrangements: Included in the property condition and engineers report from WSP (dated 9 December 2021) is a deflection survey of the RAAC planks to establish whether plank deflections are within acceptable limits. Due to obstructions and access constraints, data was captured, and deflections calculated for 618 of the 923 planks (67% of the total number of planks). No excessive deflections (exceeding span/200) were noted in the 618 planks where data had been captured. The report suggested that as the plank deflections captured were all less (better) than span/200, that the next deflection inspection be carried out in five years i.e. on or before 9th December 2026 (provided no deterioration in condition becomes apparent).

An internal visual inspection of the roof RAAC planks is carried out (by a competent structural engineer) after the roof has been exposed to severe weather conditions e.g. extremely high

temperatures, extremely low temperatures, extreme winds, snow or where water ingress has been identified.

Maintenance staff regularly carry out inspection and unblocking of roof drainage/water outlets to ensure they are clear and allow free drainage of water from roof areas.

Regular inspection of all roof waterproof membranes to ensure they are maintained in good condition.

Regular inspections will continue to be undertaken by WSP (The Institution of Structural Engineers (IStructE) have created a list of professionally registered structural engineers who have experience of providing solutions for managing RAAC planks, which WSP are represented on) and following extreme weather events and recorded on the Council's electronic database (RAMIS).

Urgency / Timescales: ASAP

WSP in their report propose (as a medium-term solution) that remedial works be undertaken to install steel supplementary purlins to overcome the risk of failure of the RAAC planks. However, this work would be hampered by acoustic and air conditioning ducting within the roof space that may be problematic. These works would require a significant amount of scaffolding to be erected to work from, and would require the venue to be closed for the period that the scaffolding were erected, and the works carried out (likely to take in excess of 9 months).

Based on costs calculated in December 2021 WSP estimated these works to cost in the region of ■■■ plus the associated services alteration costs.

Ceiling

Description: Throughout the publicly accessible areas of the building (and also some of the non-publicly accessible areas), a grid shaped wood based suspended ceiling is present. All lighting is also in need of review and ideally upgraded as there is low-voltage spotlighting with no firehoods currently fitted in the ceiling tile area.

Risks: The ceiling structure has suffered degradation with the fixings that suspend the ceiling from the above structural floors starting to fail. Some sections have fallen down. Local repairs have been undertaken where this has happened however a health and safety risk remains from falling tiles.

Management arrangements:

Regular monitoring is in place undertaken by the building manager.

Going forward, all inspection records will be recorded on the Council's electronic database (RAMIS).

Urgency / Timescales: ASAP

It is advised the wood based suspended ceiling system be renewed including the lighting elements.

Mansard Roof

Description: St David's Hall features a Mansard roof with lead coverings. The lead covering has deteriorated resulting in some panels falling off.

Risks: The potential for further deterioration and additional panels becoming loose or falling off carries an associated public safety risk.

Management arrangements: Some urgent repairs have been completed within the last 12 months. Regular monitoring is in place undertaken by the building manager.

Going forward, all inspection records will be recorded on the Council's electronic database (RAMIS).

Urgency / Timescales: ASAP

It is advised the lead covering be renewed at the same time as the roof planks are replaced. Cost estimate circa ████████

Lift

Description: There is only one lift in St David's Hall and it is not DDA compliant. The WSP report also confirms it is end of life and requires replacement. Making the lift DDA compliant will involve increasing its size and as a consequence, the size of the lift shaft. This work is challenging to undertake due to the constraints of working within an existing concrete structured building. The cost of full lift remediation is therefore likely to be significant.

Risks: The lack of DDA compliance prevents full public use of the property. If the lift is operated past its recommended operational life it will be more likely to fail.

Management arrangements: N/A. The lift will remain as is until an appropriate scheme is agreed that will implement a DDA compliant solution. Any operational issues will be assessed on a case by case basis with repairs evaluated against operational need and affordability. Regular monitoring is in place undertaken by the building manager.

Urgency / Timescales: ASAP

Water testing and Legionella Risk

Description: Site have a potential source of contamination in the form of 2 cold water storage tanks in poor condition which are running overcapacity and showing signs of stagnation and heat gain providing ideal conditions for bacterial growth. These conditions are further amplified by additional system defects in the form of dead legs and blind ends throughout site.

Risks: Potential exists for members of the public to be exposed to infections which occur within the water systems, which contain showers which increase the risk of transmission of infection.

Furthermore, the potential source of contamination also supplies a cooling tower which is naturally considered a high inherent risk which if it were to become infected, would potentially expose members of the public within the effected area.

Management arrangements:

Temporary Controls:

Phase 1 Controls Implemented

- Initial round of extensive water sampling undertaken across all systems to test for the presence of legionella bacteria (Completed September 2022)
- Cold water storage tanks (1 and 2) in the upper floor tank room and distribution systems cleaned and sterilised.
- Cold water storage tank 2 isolated and outlet sealed to prevent tank filling via outlet and stagnation occurring within the tank
- Cold water storage 1 to remain the only tank online, serving the entire distribution system to prevent storing water over capacity and prevent stagnation

Phase 2 Controls Ongoing

- Undertake weekly legionella sampling procedure across the water distribution system
- Depending on results undertake sterilisation and further testing as required
- Review Sample results in December 2022 and decide on any further control measures required to improve operational control parameters within the water storage tanks

Permanent Solution:

To progress a permanent solution a new 24,000 litre GRP pre-insulated storage tank must be installed, complete with all furniture including internal and external access ladders and new foundation supports.

This must include the de-commissioning of the current CWST 01 & CWST 02 ensuring the removal of all waste including panelling and insulation.

Re-engineering system pipework from the new tank to supply the domestic cold water services, domestic hot water services and cooling tower supply. Finally, the disinfection and commissioning of new water storage tank in accordance with HSG 274 pt2.