

Committee(s)	Dated:
Audit and Risk Management Committee	3 November 2020
Subject: Update on Smithfield Canopies and Subsequent Remedial Work	Public
Which outcomes in the City Corporation's Corporate Plan does this proposal aim to impact directly?	1 & 12
Does this proposal require extra revenue and/or capital spending?	N
Report of: the City Surveyor	For Information
Report author: Jessica Lees	

Summary

Following the recent canopy collapse at London Central Market's East Poultry Avenue and two glass panes shattering from the glass canopy on the south elevation to the West Market a review of the current risk attached to the building condition at all three markets - London Central Market (LCM), Billingsgate and New Spitalfields has been reviewed, urgent remedial work and medium-term actions identified.

The review has found that although a number of cyclical projects both fabric and mechanical & electrical have taken place over the last 10 years, projects from the LCM's Poultry Market were removed from the forward maintenance plan in 2013/14 to form a capital project on Major Historical Repairs. There is also a percentage of projects that remain within the forward maintenance plans for all three markets which have been deferred due either being capital size projects, or have not met the short listing criteria for the Cyclical Works Programme and have therefore been deferred to allow the City to get the most out of its assets.

Recommendation

Members are asked to note the content of this report.

Main Report

1. Background

- 1.1 Recent incidents at LCM; the collapse of part of the East Poultry Market canopy and two incidents with glass shattering from the glass canopy has prompted a review of the maintenance for primarily LCM but also Billingsgate and New Spitalfields Markets.
- 1.2 This report advises on the current position of the forward cyclical maintenance plans (FMP), the background and immediate action taken to address East Poultry Avenue and the glass canopy plus any future medium-term actions.

2. Forward Maintenance Plans

2.1 Forward maintenance plans for each market set out 20-year cyclical works, covering building fabric, mechanical, electrical and plumbing (MEP) services.

2.2 Cyclical work programme (CWP) projects for London Central Market are reviewed each year, Capital sized projects are removed to be put forward in the Capital Bid process and the remaining are reviewed by the CWP Peer Group who utilise a scoring matrix to select projects within the budget allocated for that particular fund to be included in the bid for funds process.

2.3 With regards to Billingsgate and New Spitalfields, cyclical projects are financially 'ring-fenced' and recoverable from the tenants under the service charge. As a result, any cyclical projects are subject to affordability through the service charge.

2.4 The CWP position for 2020/21 is:

London Central Market (Smithfield)

- Agreed funding – 7 projects, estimated total of £430k. Main works include roof works, BMS replacement, water storage tanks, AHU replacement, and chilled water pipework replacement.
- Reserve List (to be called upon if funds allow) – 13 projects, estimated total £615k. Main works cover stone-work restoration, roller shutter replacement and luminaries replacement.
- Deferred - 12 projects, estimated total of £295k. Main works include brickwork overhaul and stone cleaning, trace heating replacement.
- Capital size – 10 projects, estimated total of £2m. Main works are ductwork clean, condenser pipework replacement, heating pipework replacement, electrical replacement and sprinkler works. Two capital bids have been submitted for 2021/22; sprinkler works and condenser pipework replacement with estimated total of £1.1m.

New Spitalfields Market

- Deferred - 37 projects, estimated total of £528k. Main works include glazing and window replacement, PA replacement, internal refurbishments.

Billingsgate Market

- Deferred – 37 projects, estimated total of £1.3m. Main works include cladding panel replacement, decoration works, car park resurfacing and replacement lighting.

3. Specifically in relation to East Poultry Avenue;

3.1 A number of cyclical works projects for the Poultry Market at LCM, including the East Poultry Avenue Canopy were due in 2012/13, however in 2013/14 they were removed from the forward maintenance plan for the LCM as a Major Repairs project was set up to address the majority of the agreed Historic Repairs. The project was suspended, and the budget transferred to Capital Buildings Committee due to the proposed strategy by the Museum of London

to annex the Poultry Market noting that further negotiation would be required with the Smithfield Market Tenant Association to avoid legal proceedings and the associated costs would likely to remain unrecoverable due to service charge caps. Only works relating to the Museum of London are being progressed.

3.2 Historically various condition surveys were undertaken in 2012, 2016 and 2017;

- A facade survey to stonework above each of the vehicle bays (below the canopies) was carried out in 2012 by stone restoration specialists Szeremely. The report categorised three types of works – type 1 which were serious/essential defects which require immediate remedial works, type 2 – non urgent works and then type 3 which were basic and just cosmetic. Type 1 were few and far between and urgent remedial works were carried out and completed.
- A structural survey, including BIM modelling was carried out by Plowman Craven in 2016 to the Poultry Market building only. The report noted that condition was poor relating to lack of maintenance There was evidence of movement but no substantial remedials raised within the report. Work was approved to be carried out to the dome structure and the remainder of the works was included in the Major Historical Works programme which was suspended due to the Museum of London project.
- A facade survey was carried out in 2017 by Chamberlains Consulting to all three buildings at LCM, the outline findings was that there were no visual substantial defects.

3.3 Following the collapse of three sections of gutter and canopy on the north east side of East Poultry Avenue on 15 August 2020, the remaining structures were inspected by AKT II (structural engineers) which identified that the remaining concrete gutters and canopy needed to be deconstructed and removed before East Poultry Avenue was to re-open.

3.4 Demolition specialists Keltbray were appointed by the City to carry out this deconstruction exercise.

3.5 Following completion of the deconstruction works, AKT II are now carrying out further investigation and surveys of the remaining roof structures and coverings in both East Poultry Avenue and West Poultry Avenue to assess their structural stability and to identify any further remedial works.

4. In relation to London Central Market Glass Canopy;

4.1 The glass canopy around West and East Markets was installed in the 1990's. There have been reported failures of the glass panels since construction, specifically in 2016 and 2017 with recent failures occurring on 5 October, 19 October and 24 October 2020.

4.2 Following the two failures in 2016 and 2017 a working group was created by Markets internal operations team. The group's aim was to try and identify a

reason as to why these sudden failures occurred in toughened panes of the glass canopies and find solution options. The following list of possible causes were examined:

- **Thermal stress/ Fixing related breakage** - dates of incidents were mapped with weather conditions and ambient outdoor temperatures and no pattern could be found. The planar bolts grommets on the pane that broke were in place and felt adequate to allow for seasonal expansion and contraction.
- **Physical Damage** - Birds dropping stones, etc - there was no evidence of nesting around the market at the time of the 2017 incident and market representatives did not feel that this was the most likely cause.
- **Vibration** - The 2017 and previous canopy incidents, occurred near the junction of East Poultry Avenue/ Charterhouse Street. At the time there was a lot of Crossrail work taking place and increased traffic in the area. A vibration survey was commissioned but the results indicated that this was not the cause.
- **Nickel sulphite impurities** - Nickel sulphite impurities were considered to be the most likely reason for the sudden uncontrolled failure of the panes. However, all the glass had been swept up and removed from site so could not be sent to a lab for analysis. It was decided that should another break the Market's staff would bag the squares of glass and send for analysis.

4.3 As there is a legal requirement to provide a canopy the option of removal without replacement is not possible. Replacement of the canopy was investigated, the planning department was consulted and advised that any replacement canopy would have to be sympathetic to the listed historic market and therefore, it was considered that any replacement was likely to be an expensive option. With draft proposals for the Culture Mile that placed a question mark on LCM's future, it was felt unlikely that funding would be provided for a complete replacement solution so attention turned to what could be done to control the risks from any future pane failures.

4.4 The working group identified two control measures:

- **Protective film** - the Markets team approached the Glass and Glazing Federation who offered a new technique of filming the panes which involved securing the film within the fixings, so it would act as a bag should a pane break.
- **Wire mesh** - as the panes shattered into small squares of glass the risk of serious injury to someone standing below was considered low. However, shock, cuts and possible bruising were anticipated outcomes and considered poor PR. Thought was given to fine mesh netting of the canopy.

4.5 On 5 October 2020 the Markets maintenance team reported that a pane of glass unexpectedly shattered and fell from the glass canopy on the south elevation of West Market. Based upon likelihood of a recurrence in the future and the view that the market remains operational for another 8 to 10 years it was advised that safety measures should be implemented to mitigate the risk.

4.6 The two main control measures identified in 2017 have been reviewed by the Markets team, H&S and FM. A film coating was ruled out as this had only been tested on vertical not horizontal glass, could put unnecessary pressure on the

design/ fixtures and likely that further panes would fail whilst installing; as a result it was agreed that the best solution is to proceed with the wire mesh as the most effective and quickest measure.

- 4.7** Unfortunately, whilst arranging the wire mesh solution, another two panels have shattered on the 19 and 24 October 2020. This has called for an urgent mitigation of this risk and therefore the City Surveyor has instructed Engie who are currently onsite completing work to the Dome at the Poultry Market to design and install a wire mesh/netting to the underside of the canopy. The brief is to ensure safe attachment, loading and a clear methodology on future inspections and clearance measures if another panel were to fail.
- 4.8** Following the third failure, the footpath to the south elevation of the West Market, the location of the three recent failures, has been cordoned off as a safety precaution pending installation of the wire mesh. This closure has resulted in a 25% reduction in operational space for the Market. Engie has reported a three week lead time for the manufacture of the wire mesh, therefore the City Surveyor has submitted a proposal for Market consideration to install a crash deck to run the length of this elevation so that the footpath and vehicle bays can safely be reopened in the interim.
- 4.9** BRE have been approached to assist with the glass analysis of the most recent failure to determine whether nickel sulphite impurities are present within the glass; we will be receiving a cost proposal for this shortly.

5. Future (medium term) approach

- 5.1** Based upon the recent incidents and a review of the current position of the forward maintenance plans a future medium-term (8 to 10 years) approach is required to be implemented. To achieve this the following measures are to be put in place;
- **Poultry Market Condition Survey** - Arup have been instructed to carry out an updated condition survey of the Poultry Market only. The draft scope which is currently being reviewed by the City covers both the building structure and services provided to this building.
 - **Full condition surveys (all sites, excluding Poultry Market at LCM)** - In addition to the Arup survey for the Poultry Market, all 3 markets require a full condition survey. There is opportunity to create a synergy with the Poultry Market survey which will be explored.
 - **Mechanical and Electrical review** – The Technical Advisory team within the City Surveyors Operations Group have been instructed to carry out a review of all M&E across the 3 market sites with the objective to review and draw up a 10 year forward maintenance plan for mechanical and electrical assets.. This work will be in conjunction with the full condition surveys to provide a complete a comprehensive forward maintenance plan in the context of a 8 to 10 year shelf life for the current Markets operation.

- **Smithfield Commercial Units** – The FM team are assisting the Asset Management team to review and formulate a focussed forward maintenance plan for the Smithfield Commercial units to assist with service charge recovery.

6. Corporate & Strategic Implications

6.1 Strategic asset management: We will develop asset management strategies that align Corporate Property Strategy, Investment Property Strategy and risks. We will ensure that we unlock the potential of our property assets in a way that supports the efficient delivery of the Corporate Plan and Service Departments' objectives.

6.2 Property assets and facilities management: We will ensure buildings are fit for purpose, sustainable, safe and secure, providing access for all, meeting service needs and community expectations and delivering value for money through enhancing our efficiencies; this includes asset management plans, facilities management including hard (planned and reactive maintenance) and soft services (cleaning, security, etc), cyclical projects and minor improvements and delivery of major capital projects for refurbishments and new builds.

7. Conclusion

7.1 From the review it is paramount that a clear strategy is required for the medium-term maintenance and upkeep of the markets. The condition surveys with associated cost estimates for each Market will create a 10-year planned and forward maintenance schedule for each market. This will provide key information with regards to service charge contributions and for the City to make an informed decisions with regard to funding levels required to keep sites operational until completion of the Market Consolidation Project.

7.2 The recent canopy failure on East Poultry Avenue has also identified the urgency to review and progress the immediate/ urgent repairs/ remedial works identified by the Major Historical Project at Poultry Market to ensure safety and business as usual.

Appendices:

- Appendix 1 – Smithfield Market Canopies – Remedial Works
- Appendix 2 – Members Briefing

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