

Committee(s): Barbican Residents Consultation Committee Barbican Residential Committee	Dated: 06/03/2023 20/03/2023
Subject: Fire Safety Update	Public
Which outcomes in the City Corporation's Corporate Plan does this proposal aim to impact directly?	1, 2, 12
Does this proposal require extra revenue and/or capital spending?	N
If so, how much?	N/A
What is the source of Funding?	N/A
Has this Funding Source been agreed with the Chamberlain's Department?	N/A
Report of: Clare Chamberlain Interim Executive Director of Community and Children's Services	For Information
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Summary

The purpose of this report is to provide Members of this Committee with information on how the City of London Corporation (the Corporation), through its Housing Property Services Team, is ensuring that its homes on the Barbican Residential Estate are managed in a way that meets compliance with current health and safety legislation, best practice, and regulatory standards relating to fire safety.

This report also provides an update for Members on the progress that has been made in relation to fire safety matters since the last report submitted to Committee in September 2022.

Recommendation

Members are asked to note, consider, and comment on the report.

Main Report

Background

1. In September 2017, a detailed report was brought to this Committee to update Members on the City of London Corporation's (the Corporation) approach to fire safety on the Barbican Estate. The report informed Members of the progress we had made with matters such as:

- fire risk assessments,
- communication with residents,

- estate management,
 - fire safety maintenance and improvement work,
 - inspections by the London Fire Brigade (LFB),
 - potential future improvement works.
2. Subsequently, further update reports have been brought back to Committee on a regular basis with the last one being in September 2022. This paper is intended as a further update.

Fire Risk Assessments

3. As Members are aware, Frankham Risk Management Services Limited completed FRAs for each of the residential blocks on the Barbican Estate in January/February 2018 and, as agreed by Members, these were published on the Corporation's website.
4. At its meeting on 17 September 2018, Members were first presented with the 'Specific Hazard Identification and Action Plan Template for Fire Risk Assessments', which lists the recommendations from all the FRA's on the Barbican residential blocks. Officers continue to work on the various recommendations contained within the Action Plan and good progress is being made. An updated version of the Action Plan is included at Appendix 1 to this report.
5. Carrying out FRA's under the Regulatory Reform (Fire Safety) Order 2005 (RRO), is a vital and legally required part of the CoLC's fire safety strategy for its residential portfolio. The RRO does not specify how often FRA's should be carried out or reviewed. However, the Local Government Association (LGA) has published guidance on fire safety in purpose-built blocks of flats, which recommends the following procedure for FRA's:

Low-rise blocks up to 3-storeys built in the last 20 years

- reviewed every 2 years;
- redone every 4 years.

For blocks with higher risks (such as age), or those more than 3-storeys high

- reviewed every year;
- redone every 3 years.

6. Up until 2018, the FRA's for the Barbican residential blocks had been done annually. The FRA's from January/February 2018 have again been reviewed and mandated in line with the Corporation's auditing procedures for FRA's.
7. Clearly, simply carrying out FRA's is worthless if they are not updated regularly, and the improvement work identified is not undertaken. As Members will appreciate, a considerable amount of fire safety work has been done, is being done and is scheduled to be done to maintain the Barbican residential blocks at the required standard.

8. As Members will be aware from previous reports, following a corporate procurement exercise, Turner & Townsend was appointed to undertake the next round of FRA's for both Housing and Barbican. Turner & Townsend has now submitted its completed FRA's for all blocks across the Barbican Estate and, officers are currently completing an analysis of the new FRA's in preparation for publication and the development of a subsequent Action Plan.
9. It had initially been expected that the new FRA's would have been completed and submitted by December last year but unfortunately, there have been some unexpected delays that meant that this was not possible. However, now that the FRA's are complete, we are producing a new Action Plan from the FRA's, which lists the recommendations for all blocks on the Barbican Estate. This new Action Plan will form the basis of future reports to this Committee.

Fire Doors

10. As Members will be aware from previous update reports, officers made a successful Capital Bid for £20million for the replacement of front entrance door sets to all residential properties on the Barbican Estate with new modern replacements that comply with Approved Document B – Fire Safety of the Building Regulations.
11. Guardian Consultancy Services Limited has carried out a full audit and survey of all the doors across the Barbican Estate and, all fire doors have now been identified to enable officers to group the doors into a structured programme based on priority in terms of perceived fire risk. Broadly, this priority is ranked as follows:
 - high-rise blocks (the towers),
 - blocks with limited cores and most complicated internal arrangements (Ben Johnson, Bunyan Court, Willoughby House),
 - blocks with limited cores and simple internal arrangements (Gilbert House, Mountjoy House, Seddon House, Bryer Court),
 - blocks with numerous cores and numerous flats per core (Breton House, John Trundle Court),
 - buildings with multiple cores and limited flats per core (Andrewes House, Defoe House, Speed House, Thomas More House).
12. Working with our colleagues in City Procurement, it has become clear that this project is better served as a 'design and build' contract with warranties, design responsibility, testing facilities, sample manufacturing etc, all covered under one contract, with an independent Fire Consultant acting as a third-party consultant.
13. To achieve this, it has been agreed that the works could be procured through the same framework that has been used successfully (so far) for the HRA Door Replacement Programme. However, this framework expires on 7 March 2023, with a new framework commencing in April 2023. As such, we are currently engaging with the framework (new and old) and, in addition, exploring the option of tendering the work ourselves. The framework is however, likely to be the quickest route to market. We are also currently seeking to recruit a dedicated Project Manager to administer and manage this contract.

Fire signage

14. This project has taken much longer than we anticipated however, we have now prepared the specification and tender documents and will be seeking competitive tenders in the near future. We are manufacturing some sample signs for residents and/or their representatives to choose from and, these should be available in the next two or three weeks. These sample signs will be kept in the Barbican Estate Office, along with a hard copy of the agreed Fire Signage Strategy.
15. The Fire Signage Strategy was developed to be as accessible to as many residents as possible and this has taken time. The document was shared twice with members of the Asset Maintenance Working Party and subsequently, with the respective House Groups. There has been very little feedback on the Strategy.

Communication with residents

16. We continue to communicate with the Barbican residents on fire safety matters as appropriate. We have recently, sent out further reminders to residents encouraging them to let us know if they regard themselves as Persons with Restricted Mobility (PRM) so that we can discuss with them any specific needs that they may have in the event of a fire in their home or block.
17. There have been no new significant fire safety issues raised by residents since the last update report in September 2022. Detailed information on fire safety remains available on the Corporation's website.

Estate Management

18. Barbican Estate Office (BEO) staff continue their work to ensure that balconies, walkways, and exits are kept clear from hazards. This includes the removal of combustible material from outside properties, along with any items which might cause a trip hazard for residents or firefighting crews in the event of an emergency.

Fire Related Incidents on the Barbican Estate

19. There have been no fire related incidents on the Barbican Estate since those reported in the last fire safety update in September 2022.

London Fire Brigade (LFB)

20. Members will be aware from previous reports that the LFB was carrying out more frequent ad-hoc inspections on residential flat blocks across the City to ensure that they comply with the requirements of the Regulatory Reform (Fire Safety) Order 2005 and to ensure that appropriate FRAs are being carried out.
21. The LFB attends the Barbican Estate on a regular basis to carry out routine safety inspections, provide advice to residents and, to discuss fire safety related matters with officers. The LFB has expressed an interest in following up on its 'Six-Pump' exercise in 2018, to test out its new access equipment. Discussions are ongoing between the LFB and the Corporation's Fire Safety Advisor and, if there is an

agreement to proceed with the training, we will liaise with residents and the appropriate House Groups on how and when this may progress.

Frobisher Crescent

22. Members will be aware from previous reports of the issues with the level and efficiency of the fire stopping carried out as part of the redevelopment of the top three floors of Frobisher Crescent to create new residential apartments. Guardian Consultancy Services Limited (Guardian) was appointed to carry out the remedial compartmentation/fire stopping works and, the substantive works began in January 2022.
23. This project has proven to be extremely complex and challenging and, since the last update in September 2022, further significant issues have been identified including, the inadequate fixings to the fire doors frames (some were not fixed at all), that has resulted in many of the fire door sets having to be removed to enable the construction and installation of suitable structural support for the door sets to be secured to. In addition, further inadequate fire stopping has been identified in the flats on the 8th floor that require potentially extensive and intrusive remedial works.
24. As a result of these further 'defects' in the fire stopping, the project has been delayed by at least a further three months. We are heavily reliant on residents on the 8th floor giving us access to their homes and, this is proving to be challenging. It is now expected that the substantive works to the three residential corridors will be completed by the end of March however, there will still be work to be done in some flats on the 8th floor as and when access can be arranged.
25. As part of the due diligence and quality control aspect of this project, BM Trada continues to carry out regular inspections of the works as part of Guardian's accreditation and, has confirmed that the work done and the solutions installed are of good quality and, comply fully with the third-party accreditation scheme required for this project.
26. The success of this project is heavily reliant on the co-operation of Frobisher Crescent residents, as well as the collaboration and support of the Corporation's Planning and Building Control Teams. We have been grateful for the assistance we have been given by the nominated representatives of Frobisher Crescent residents, who we meet with on a regular basis and, who provide us with valuable advice, guidance, and information to help move the project forward. In addition, we continue to work very closely with our colleagues in the Barbican Arts Centre to ensure that all future fire safety works commissioned by the Estate Office for Frobisher Crescent and the Arts Centre are aligned.

Arup Fire Strategy Reports

27. Due to the unique nature of the Barbican Estate, it was agreed that further detailed specialist fire safety surveys should be undertaken on a representative sample of flat blocks on the Barbican Estate. The purpose of these specialist surveys would be to review and assess specific fire safety precautions such as:

- Communal fire doors;
- Smoke control measures;
- Fire alarm and fire detection measures;
- Escape routes;
- Ventilation provisions
- Compartmentation/fire stopping.

28. Arup, a specialist firm of engineering consultants, was subsequently appointed to carry out a detailed fire safety audit on a representative sample of residential blocks on the Barbican Estate. Arup has completed its commission to provide Fire Strategy Reports at Cromwell Tower, Andrewes House and Mountjoy House and, these were presented to this Committee at its meeting on 30 September 2022.

29. The Arup Fire Strategy Reports identify several 'gaps' in the existing, 'as-built' fire safety precautions for the three blocks surveyed and, set out its recommendations for remedial actions to address those gaps. These remedial actions were set out and addressed in turn as part of the Action Plan that was also presented to this Committee at its meeting on 30 September 2022.

30. As Members will recall, several of the recommendations made by Arup for remedial actions to address the identified 'gaps' in the 'as-built' fire safety precautions were already included in current workstreams including:

- identifying persons with restricted mobility across the Barbican Estate.
- upgrading/replacing existing fire safety signage.
- survey of existing emergency lighting and necessary remedial works to ensure compliance with current regulations and British Standards.
- replacement of flat entrance doors and fire doors to service cupboards with new fire doors that comply with current regulations and British Standards.
- regular inspection and testing of fire doors to ensure that they remain in good working order.
- further specific targeted compartmentation surveys.
- regular estate inspections to ensure fire safety measures are maintained to the required standard.

31. Members noted however, that these reports are 'live' working documents and, as we continue to carry out further investigative works such as, for example, site specific compartmentation surveys, we will provide such information to Arup to enable the relevant Fire Strategy Report to be reviewed, revised, and updated.

32. Since the publication of the Arup Fire Strategy Reports, we have had lots of interest from residents especially, in relation to the recommendation to install sprinklers in the three tower blocks. On 5 December 2022, members of the BRC and the RCC were invited to a webinar where, Arup presented its findings and recommendations from the Fire Strategy Reports, with a 'Q&A' session held at the end. The webinar was very well attended and there were over 30 questions raised (and answered) during the webinar.

33. Following on from the webinar, there have been further meetings with Arup to talk through some of the matters raised at the webinar, to discuss alternative solutions to the problems identified and, to review and update the Action Plan for the remedial works that was previously presented to this Committee. The revised updated Action Plan is included at Appendix 2 to this report.
34. The current key workstreams that have developed from the Arup Fire Strategy Reports and subsequent meetings, discussions and matters arising from the webinar include:

Find and Fix Programme of remedial works

35. One of the main consistent defects identified by the Arup Fire Strategy Reports and, subsequent additional fire compartmentation surveys, is the lack of fire stopping to penetration through floors, walls, and ceilings in the communal areas especially, in locations such as plant rooms and riser cupboards.
36. To some extent, given that this problem is likely common to all residential blocks on the Barbican Estate, there is no real reason or need to carry out further compartmentation surveys to the communal areas that will, in all probability, tell us what we already know. It would be much more economical and quicker to procure a specialist contractor on a 'find and fix' basis where, the inadequate fire stopping is identified and remedied at the same or almost the same time.
37. We are currently looking to procure a contractor to carry out the fire stopping works at Brandon Mews, Defoe House, and Shakespeare Tower where, specific compartmentation/fire stopping surveys of the communal areas have previously been undertaken. Simultaneously, we will look to procure a specialist contractor to carry out a 'pilot' project on the 'find and fix' approach outlined above. If this proves to be successful, we will consider rolling out this approach to the remaining residential blocks across the Barbican Estate.

Specialist M&E survey of shunt ducts

38. Arup recognises that its recommendations for dealing with concerns around the kitchen shunt ducts may not be achievable due to the constraints on the buildings including their construction and listed status. It has therefore been agreed that Arup will carry out a further detailed specialist M&E survey of the shunt ducts to assess the issue in more detail and, to explore alternative options to deal with the identified risks posed.

Installation of detection systems within the apartments

39. The installation of early warning detection systems (alarms) in the individual apartments needs to be explored and prioritised especially, in situations where there are no external balconies and, where internal doors have been removed (from kitchens for example).

Further work to be done around PEEP's

40. There is no legal requirement for personal emergency evacuation plans (PEEP's) in high-rise housing (the government rejected this proposal last year). However, given the issues highlighted in the Arup Fire Strategy Reports, we need to consider doing further work with those residents who may need help evacuating in an emergency or, who may benefit from further help and advice on fire safety issues in their homes.
41. In such cases, we will need to consider matters such as:
- evacuation plans,
 - means of escape for wheelchair users,
 - detectors in lifts,
 - communicating with residents identified as needing help (mobile phones etc).
42. The BEO continues to work with residents on this matter as, we do believe that there are more households on the Barbican Estate who would benefit from this service than the 67 that have come forward so far to date. We continue to include quarterly reminders in the Weekly Bulletin, as well as a specific focused estate-wide mailout every year.

Futureproofing our buildings

43. The buildings that make up the Barbican Residential Estate are likely to be around for some considerable time to come. In order to ensure that they do last and remain safe, as custodians, we need to look at how we can 'futureproof' the buildings. Legislation is changing at pace, especially in relation to fire safety, as evidenced in the announcement made by the mayor's office that with immediate effect (from 10 February this year) all new residential buildings in London over 30 metres tall, will now need two staircases.
44. Under current Building Regulations in England and Wales, new residential blocks over 30 metres high must be fitted with sprinklers to meet the requirements of Approved Document B.
45. New residential blocks over 30 metres high will not only have to be built to the highest standards of fire safety but, they must also, by law, have a second staircase and, a sprinkler system installed. It is not unreasonable to expect that legislation will, in due course, be applied retrospectively to buildings that were not built to the current high standards of fire safety, do not have a second staircase and, do not have sprinkler systems installed.
46. Officers are carrying out further work to look at water mist sprinkler systems as an alternative to conventional sprinkler systems. The two systems work in the same way when it comes to activation when there is a fire. Both systems wet the surface of the fuel, and the surrounding area, to cool and suppress the fire like a blanket of water. However, only the water mist system works in all three ways below at the same time, using minimal water to extinguish a fire.

47. Upon activation of a water mist nozzle, the system will begin to discharge high pressure water mist, which will travel around the room, dampen all surfaces it can get to and thus, restrict fire spreading. When the water is discharged at a high pressure, the room temperature is reduced dramatically due to a reaction between the fast-moving colder air molecules and water molecules against the heat from the fire, much like cold air displacing hot air. As the water mist has direct contact with the flame, it turns into steam. The steam particles then displace the oxygen particles around the fire and thus, suffocates the fire.

48. It may be the case that a water mist system is more suited to the Barbican towers than a conventional sprinkler system however, it remains the recommendation of officers and Arup that a water suppression system is installed in the Barbican towers. Members have previously deferred a decision on this matter pending further research, consultation, and analysis. Ultimately, members will need to take a decision on this matter.

Appendices

Appendix 1 – Fire Safety Action Plan

Appendix 2 – Arup Fire Strategy Report Action Plan

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