

<b>Committees:</b> Barbican Residents Consultation Committee Barbican Residential Committee	<b>Dates:</b> 21 May 2018 4 June 2018
<b>Subject:</b> Fire Safety Review	<b>Non-Public</b>
<b>Report of:</b> Andrew Carter Director of Community & Children's Services  <b>Report author:</b> Paul Murtagh Assistant Director Barbican and Property Services	<b>For Decision by Barbican Residential Committee</b>

### Summary

The purpose of this report is to inform Members of the work that has been done on potential improvement works to enhance the safety of the City of London Corporation's (CoLC's) Barbican Residential Estate and its residents in the event of fire. The report also seeks the views of, and guidance from Members on the strategic direction the CoLC should take in its future approach to fire safety.

### Recommendations

The Committee is asked to:

1. Note, consider and discuss the work that has been done on potential improvement works to enhance the safety of the Barbican Residential Estate and its residents in the event of fire.
2. Note the completion of the 2018 Fire Risk Assessments for the Barbican Residential Estate and the major areas of improvement identified.
3. Provide advice and guidance to officers on the strategic direction the CoLC should take in its approach to fire safety on the Barbican Residential Estate.
4. Agree the recommendation of the Director of Community and Children's Services to consider the retro-fitting of sprinklers to the three high-rise tower blocks on the Barbican Estate subject to funding and planning approval.

### Main Report

#### Background

1. An initial paper was presented to the Barbican Residential Committee (BRC) at its meeting on 11 September 2017, which outlined the actions we had taken in the immediate aftermath of the Grenfell Tower fire and set out our plans for

further action. Further update reports were brought back to this Committee in November 2017 and in March 2018.

2. The initial paper presented to the BRC in September 2017, and all subsequent update reports, informed Members of the CoLC's position, and the progress made, with matters such as:
  - fire risk assessments,
  - communication with residents,
  - estate management,
  - fire safety maintenance and improvement works,
  - inspections by the London Fire Brigade (LFB),
  - potential future improvement works.
3. Questions were raised about the potential use of sprinkler systems and the installation of fire alarms in high-rise blocks of flats. The CoLC's high-rise flats on the Barbican Estate do not currently have such systems. As part of the review of current processes and procedures relating to fire safety in its homes, research has been done into these, and other areas of improvements. The results are outlined in this report.
4. At its meeting on 11 May 2018, the Community and Children's Services Committee approved, in principle, to install sprinklers in its five social housing high-rise tower blocks at:
  - Great Arthur House, Golden Lane Estate,
  - Petticoat Tower, Middlesex Street,
  - West Point, Avondale Square Estate,
  - Central Point, Avondale Square Estate,
  - East Point, Avondale Square Estate.

## **Considerations**

5. This report has been prepared following a review of the CoLC's processes and procedures relating to fire safety in its homes to ensure that they remain robust and fit for purpose and its residents remain safe.
6. The report has been prepared and produced in conjunction with the CoLC's Fire Safety Adviser and with input and guidance from other colleagues across various departments.

## **Automatic Water Fire Suppression Systems (Sprinklers)**

7. Regulations in England mean that only buildings constructed since 2007 and which are taller than 30 metres, are required to have sprinklers fitted. This requirement was not applied retroactively. None of the CoLC's eight residential tower blocks (three on the Barbican Estate and five social housing blocks) are fitted with sprinklers.

8. It is generally well documented and accepted that a sprinkler system is one of the most effective tools available to prevent the spread of fire in high-rise blocks of flats. The installation of sprinklers in high-rise blocks of flats has significant benefits including:
  - enhancing the safety of occupants and firefighters in the event of fire in the property;
  - reducing the costs of a fire on local authorities and other property owners affected;
  - reducing the financial consequences and other burdens associated with fires;
  - reducing the demands on fire and rescue, police and ambulance/health services responding to events and the aftermath of major fires in high-rise accommodation;
  - helping address shortcomings in other fire protection measures such as compartmentation.
  
9. There have, historically, however been real issues and concerns with the retro-fitting of sprinkler systems, which is why they have not been installed in any great numbers in the past. These issues include:
  - the cost of retro fitting sprinkler systems is considered to be extremely expensive and intrusive,
  - the process is intrusive for residents and may require them to leave their home due to the nature of the works,
  - the retro fitting of sprinklers into existing buildings is very difficult to achieve in terms of structural problems, water storage, etc,
  - retro fitting sprinkler systems is very difficult to achieve in historic buildings or buildings with planning restrictions.
  
10. As part of the review of its processes and procedures, and to give Members a realistic appraisal of the potential retro-fitting of sprinkler systems, the CoLC commissioned an independent feasibility study into the fitting of sprinkler systems into its eight tower blocks. The study was carried out by Butler & Young Associates, a specialist independent firm of mechanical and electrical consulting engineers. The firm's findings are attached as Appendix 1 to this report.
  
11. For the purpose of this report, the focus is on the three tower blocks that form part of the Barbican Residential Estate namely:
  - Lauderdale Tower;
  - Cromwell Tower;
  - Shakespeare Tower.
  
12. The feasibility study concludes that from a practical point of view, the retro-fitting of a sprinkler system can be achieved without undue complications and without the need to decant residents. The one potential exception to this is the need to comply with planning restrictions, which is particularly pertinent to the Barbican

Estate. At this stage, this potential complication has not been explored in any great detail.

13. The feasibility study also gives indications of the total cost for both tenant and leaseholder flats, which do not include fees, VAT and on-going maintenance costs. These are summarised in the table below:

<b>Block</b>	<b>Units</b>	<b>Cost</b>
Lauderdale Tower	117	£613,818
Shakespeare Tower	116	£608,764
Cromwell Tower	111	£581,694
<b>Total:</b>	<b>344</b>	<b>£1,804,276</b>

14. It is worth noting that the cost of installing sprinklers has already increased as a result of the response to demand from the sector. There is already a concern that even with the current demand for sprinklers, there will soon be a skills shortage in this area. This, and the increase in costs, will likely become even more significant if the anticipated changes to the current regulatory system and to the Building Regulations include the retro-fitting of sprinklers.
15. As outlined previously, there is no legal obligation on the CoLC to consider the retro-fitting of sprinklers in its tower blocks on the Barbican Estate. The recently completed fire risk assessments do not support the installation of sprinklers in the Barbican tower blocks either as a suitable fire precaution or, as part of a fire evacuation strategy.
16. The CoLC's Fire Safety Adviser has provided his views and advice on the issue of installing sprinklers and his views are attached as Appendix 2 to this report.

## **Fire Doors**

17. As Members will be aware from previous reports on fire safety presented to this Committee, the vast majority of front entrance doors to individual flats in our residential blocks of flats are as originally installed. As such, it is expected that these doors will provide a notional 15 to 20 minutes fire resistance. While this does not comply with the current Building Regulations for new-build properties, this in itself does not mean that the doors must be changed. However, if a fire risk assessment carried out under the provisions of the Regulatory Reform (Fire Safety) Order 2005, determines that the doors require upgrading to maintain the required level of compartmentation, then the doors must be replaced.
18. As part of the work we have been doing in relation to fire safety, we identified a small number of front entrance doors from properties on the Barbican Estate to be sent away for destructive fire resistance testing. There are very few testing facilities in the country that offer this service and those that do, including the Building Research Establishment (BRE), have had serious capacity issues.
19. We had originally been advised that the doors could be submitted for testing at the beginning of March. Unfortunately, due to the capacity issues referred to

above, this date was put back several times. At the time this report was written, the testing is due to take place on Saturday 2 June, which means that the results are not available for incorporation into this report. However, if the testing goes ahead as scheduled, a verbal update will be given at this meeting.

20. It is only when we have the results of the destructive testing on the doors and screens that we can finalise decisions on the future fire safety strategy for the Barbican Estate.

## **Fire Alarms**

21. As has been reported on several occasions previously, the LFB continues to advise against the installation of fire alarms in communal areas. However, as part of the work we have been doing on fire safety, we have considered the potential installation of fire alarms in the common parts of our tower blocks and other blocks of flats set against the specific legislation and the guidance available at the time.
22. Early warning of a fire is an essential part of ensuring that residents can evacuate safely from their flats. The success of smoke alarms in reducing the number of casualties from fires in dwellings is well documented. The provision of appropriate smoke (and sometimes heat) alarms is now considered a basic component of fire safety in flats. Through a programme of electrical testing across all of its social housing estates, the CoLC is installing hard-wired carbon monoxide, smoke and heat detectors in all its tenanted flats.
23. Although purpose-built blocks of flats are not normally provided with communal fire detection and alarm systems, there are exceptions. The most common example is a sheltered housing scheme. However, this is a 'special case' and even then, a 'stay-put' policy is normal.
24. In blocks of flats that are designed to support a 'stay-put' policy (as is the case with all our blocks), it is accepted that a fire alarm system is unnecessary and undesirable. Such a system will inevitably lead to a proliferation of false alarms, imposing a burden on fire and rescue services and, ultimately, lead to residents ignoring warnings of what could be genuine fires. In addition, the ability to effectively manage a fire alarm system is rarely possible in a block of flats, unless it is staffed at all times.
25. The very clear advice is that fire alarms should only be fitted in existing blocks of flats where there is clear justification, and only as a last resort for example, when it is impossible to upgrade other measures to enable a 'stay-put' policy.
26. Notwithstanding the above, for the purpose of completeness in terms of the Barbican tower blocks, we have received information on the cost of installing fire alarms in the communal areas as summarised below:

<b>Block</b>	<b>Units</b>	<b>Cost</b>
Lauderdale Tower	117	£270,000

Shakespeare Tower	116	£265,000
Cromwell Tower	111	£260,000
<b>Total:</b>	<b>344</b>	<b>£795,000</b>

27. It should also be noted, that if a sprinkler system was to be fitted in the tower blocks, there is even less reason or need for a full fire alarm system to be installed.

### **Fire Risk Assessments (FRAs)**

28. As Members will be aware, Frankham Risk Management Services Limited was commissioned to carry out new FRAs for all residential blocks on the Barbican Estate. These new FRAs are very detailed and cover not only those areas previously inspected, but also any further areas of concern raised since the Grenfell Tower fire.

29. Previous FRAs carried out on the CoLC's residential blocks have been a Type 1 as required by legislation. The new FRAs are Type 3, which go beyond the requirements of the Regulatory Reform (Fire Safety) Order 2005. Type 3 FRA's cover everything required for a Type 1 FRA but also provide for an assessment of the arrangements for means of escape and fire detection (smoke alarms, heat detectors, etc.) within a sample of the flats (typically around 10%). A Type 3 FRA is non-destructive but the fire resistance of doors to rooms and compartmentation within the flat is considered.

30. Frankhams has very recently submitted the new FRAs for the Barbican Residential Estate. Officers are now working on developing detailed action plans for each of the residential blocks to ensure that the works required are completed in a timely manner in line with the FRA's recommendations. It is hoped that at the time of this meeting, we will produce for Members consideration a 'Specific Hazard Identification and Action Plan Template for Fire Risk Assessments', which lists the recommendations from all the FRA's on our Barbican residential blocks. This is intended as an overview of all the recommendations on all the residential blocks.

31. In general terms, the new FRA's have not identified any major areas of concern at this stage with the main areas of improvement or further work identified summarised as:

- further work to identify the integrity of front entrance doors and screens in terms of fire resistance;
- implementation of an appropriate programme of periodic electrical testing of fixed wiring installation;
- further work to establish levels of compartmentation/fire stopping within false ceilings between individual dwellings and communal areas;
- improved signage;
- overhaul of doors to communal areas and lobby doors to ensure they close properly to maintain compartmentation;
- periodic testing of mechanical extraction in kitchen areas;

- further work to identify integrity of vertical ducting particularly in relation to potential alterations carried out by residents that may have compromised levels of compartmentation.

32. It should be noted however, that the final action plans for each block will, possibly to a significant extent, be affected by decisions taken by this Committee as a result of this report. It is intended, subject to the approval of this Committee, that the FRA's and resulting action plans should be available for publishing by the first week in July.

### **Leaseholder Recharges for Fire Safety Improvement Works**

33. The issue of recharging leaseholders for fire safety improvement works is a key consideration for the CoLC particularly on the Barbican Estate. We have approximately 2030 long leaseholders in our residential blocks on the Barbican Estate. Whether or not they can be recharged for potential improvement works such as the installation of sprinklers, replacement of fire doors and so on will have a significant bearing on the affordability of such measures and the financial burden for the CoLC and the leaseholders themselves.

34. Given the importance of this matter, Counsel's opinion has been sought on the ability of the CoLC to recharge leaseholders for fire safety works. A report will be presented to this Committee in due course.

### **Collaborative Working**

35. Since the Grenfell Tower tragedy, several opportunities have arisen for representatives of the London Councils to get together to discuss the various approaches they are taking to ensure processes and procedures relating to fire safety in their homes remain robust and fit for purpose.

36. One such opportunity is the London Housing Directors' Fire Safety Sub-Group, which the CoLC is a member of. Through its membership, the CoLC has, for example, had the opportunity to contribute to a response to the interim report on the Grenfell Tower tragedy issued by Dame Judith Hackitt. We have also been able to discuss with other London Councils topics such as ACM cladding (the type installed at Grenfell Tower), fire safety improvement measures such as fire doors and sprinklers and leaseholder recharges.

37. In general terms, most of the other London Councils face the same issues as the CoLC and are embarking on similar courses of action. Many of the other London Councils do have problems with ACM cladding on their residential blocks and are at various stages of removing and replacing it.

38. For comparison purposes, the work other London Councils are doing in relation to fire safety improvements includes:

- Hammersmith and Fulham - installing sprinklers in all its high-rise blocks with no charge to leaseholders,

- Wandsworth - installing sprinklers in 99 high-rise blocks with the intention of recharging leaseholders,
- Croydon - fitting sprinklers in 25 high-rise blocks,
- Westminster - fitting sprinklers in high-rise blocks,
- Waltham Forest - fitting sprinklers in high-rise blocks,
- Enfield - fitting sprinklers in high-rise blocks,
- Haringay – not fitting sprinklers,
- Lewisham – not fitting sprinklers.

### **Financial Implications**

39. As outlined earlier in this report under the heading “Leaseholder Recharges for Fire Safety Improvement Works”, the issue of recharging leaseholders for fire safety improvement works is a key consideration for the CoLC. With approximately 2030 long leaseholders in our residential blocks on the Barbican, whether they can be recharged for potential improvement works such as the installation of sprinklers, replacement of fire doors and so on will have a significant bearing on the affordability of such measures and the financial burden for the CoLC.

### **Legislation**

40. All the CoLC’s residential blocks on the Barbican Estate complied fully with the requirements of the Building Regulations at the time of their construction. Given that the Building Regulations are not retrospective, they remain compliant.

41. Issues do arise however where, as a result of a FRA carried out under the provisions of the Regulatory Reform (Fire Safety) Order 2005, deficiencies are highlighted in the structure of the building undermining the required level of compartmentation in relation to fire safety. In such cases, these deficiencies must be addressed and remedied, and it is no defence to argue that the building complied with the Building Regulations at the time it was built.

42. In the aftermath of the Grenfell Tower tragedy, further concerns were again raised with the adequacy of the building regulations with particular regard to fire safety. In response, Dame Judith Hackitt was asked by the Secretary of State for the Department for Communities and Local Government (DCLG) and the Home Secretary to conduct an Independent Review of Building Regulations and Fire Safety with a particular focus on their application to high-rise residential buildings.

43. Although her final report is not due until the Spring this year, in December last year, Dame Judith produced an Interim Report and presented to parliament. In the foreword to her report, she states that:

“As the review has progressed, it has become clear that the whole system of regulation, covering what is written down and the way in which it is enacted in practice, is not fit for purpose, leaving room for those who want to take shortcuts to do so”.

44. It does appear that there will be significant changes to the current regulatory system and to the Building Regulations regarding fire safety and in particular to

high-rise residential buildings. Some of these changes are likely to be retrospective. The retro-fitting of sprinklers, for example, which has been debated for many years, particularly more so since the Lakanal House fire on 3 July 2009, is believed to be one such area of improvement under consideration.

45. With this in mind, Members may take the view that the CoLC, like several others are doing, should wait until the final report is published before deciding on its future strategic approach to fire safety in relation to the Barbican Estate.

## **Conclusions**

46. Members will be aware from the several Fire Safety Update Reports presented to this, and other Committees that the CoLC has responded very positively and efficiently to the demands placed on it by the Grenfell Tower tragedy. We have done considerable work in the following areas:

- fire risk assessments,
- communication with residents,
- estate management,
- fire safety maintenance and improvement work,
- inspections by the London Fire Brigade,
- potential future improvement works.

47. This report informs Members of the work done in relation to potential improvement works to enhance the safety of the residential blocks on the Barbican Estate and its residents in the event of fire. The report also seeks Members views and guidance on the strategic direction the CoLC should take in its approach to fire safety with particular regards to our genuine high-rise residential blocks in relation to:

- retro-fitting sprinklers,
- installation of fire alarms,
- upgrading front entrance doors.

48. As outlined previously, the retro-fitting of sprinklers in CoLC tower blocks is not currently required by law and is not supported by the recently completed FRA's. However, there are clearly reasons why Members may want to positively consider retro-fitting sprinklers in the three high-rise residential tower blocks on the Barbican Estate. This includes the obvious benefits that sprinklers provide (as outlined within this report), the potential cost implications if retro-fitting does become a legal requirement, the avoidance of a divergence within the CoLC's high-rise flats and, in light of the decision to install sprinklers in the CoLC's five social housing high-rise tower blocks, the benefits and savings from 'economies of scale' in packaging the works.

49. Members will recognise the potential comparisons that may be drawn from the 'in principle' decision taken by the Community and Children's Services Committee at its meeting on 11 May 2018 to install sprinklers in its five social housing high-rise tower blocks. The Director of Community and Children's Services is therefore recommending that Members positively consider the retro-fitting of Automatic

Water Suppression Systems (sprinklers) in the three high-rise residential tower blocks on the Barbican Estate. Clearly, any decision by the Committee will be subject to the appropriate funding arrangements and compliance with the relevant planning requirements.

## **Appendices**

Appendix 1: Feasibility study into the retro-fitting of sprinklers in our high-rise residential blocks.

Appendix 2: CoLC's Fire Safety Adviser's Report

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