

<b>CHILDREN AND EDUCATION SCRUTINY COMMITTEE</b>	<b>AGENDA ITEM No. 5</b>
<b>6 SEPTEMBER 2021</b>	<b>PUBLIC REPORT</b>

Report of:	Jonathan Lewis – Service Director (Education)	
Cabinet Member(s) responsible:	Councillor Lynne Ayres, member for Education, Skills and the University	
Contact Officer(s):	Ian Trafford, Strategic Education Capital Programme Manager	Tel. 01223 699803

<b>DESIGN FOR FIRE SAFETY IN SCHOOLS</b>
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<b>RECOMMENDATIONS</b>	
<b>FROM:</b> Jonathan Lewis – Service Director (Education)	<b>Deadline date:</b> N/A
<p>It is recommended that the Children and Education Scrutiny Committee:</p> <ol style="list-style-type: none"> <li>1. Comment on the issues being considered by the Department for Education (DfE) following its call for evidence on Building Bulletin 100 (BB100) – Design for Fire Safety – which sets the standard for the design of fire safety and protection measures in schools.</li> <li>2. Further comment on the subsequent publication of a consultation draft of the revised BB100 guidance in which DfE has reached conclusions on some of those issues previously under consideration.</li> </ol>	

**1. ORIGIN OF REPORT**

1.1 The report has been written by the Strategic Education Capital Programme Manager at the request of Councillor Lynne Ayres the Cabinet Member for Education, Skills and the University.

**2. PURPOSE AND REASON FOR REPORT**

2.1 The report is being presented to allow the Committee to consider the issues arising from the DfE review of Fire Safety in schools before it considers its policy response to the final non-statutory guidance once a new version of BB100 is adopted and published by the DfE.

2.2 This report is for the Children and Education Scrutiny Committee to consider under its Terms of Reference No. Part 3, Section 4 - Overview and Scrutiny Functions, paragraph No. 2.1 Functions determined by Council:

1. Children’s Services including
  - a) Social Care of Children;
  - b) Safeguarding; and
  - c) Children’s Health.
2. Education, including
  - a) University and Higher Education;
  - b) Careers; and
  - c) Special Needs and Inclusion;

2.4 How does this report link to the Corporate Priorities?

**Priority outcome 2: first rate futures for our children & young people, quality support for our adults and elderly**

Ensure that children and adults are safe and protected

**3. TIMESCALES**

Is this a Major Policy Item/Statutory Plan?	<b>YES</b>	If yes, date for Cabinet meeting	tbc
Date for relevant Council meeting if applicable	March 2022 or following publication of final non-statutory guidance by DfE (tbc)		

**4. BACKGROUND AND KEY ISSUES**

4.1 The Department for Education's (DfE's) Building Bulletin (BB) 100, "Design for Fire Safety in Schools", was published in 2007 and sets the standard for the design of fire safety and protection measures in new and extended school buildings.

To ensure this guidance remains fit for purpose and aligns with the Ministry of Housing, Communities and Local Government's (MHCLG's) wider review of fire safety post the Grenfell Tower disaster, the DfE launched a Call for Evidence on the Technical Review of BB 100 in March 2019.

There were 64 responses to this from a wide range of sources, including: 15 trade associations/manufacturers/commercial insurers; 10 fire and rescue service organisations; 8 local authorities and the Local Government Association; 9 fire engineers; 7 professional bodies/design professionals; and 3 building control bodies/fire safety officers. The remainder included schools, a school workforce union and an adviser to the All-Party Parliamentary Fire Safety and Rescue Group (APPG).

Dialogue with many of the above stakeholders on the material received and the wider evidence that is available has been ongoing. In addition, the DfE has appointed a multi-disciplinary technical team to give further consideration to the following areas/issues raised:

- fire suppression systems
- fire safety management
- fire safety issues with Modern Methods of Construction (MMC)
- special schools
- residential accommodation in schools

The DfE expect the technical team's conclusions to feed into an updated version of the guidance which will be the subject of a full consultation. This has now been published and responses required by 18<sup>th</sup> August.

**4.2 Response to DfE Consultation**

The questions posed in the call for evidence and the issues now under consideration as a result of the feedback received are summarised in turn below. Not all questions are covered as a number relate, for example to very technical areas around building standards.

**Question 1 - We would welcome views and evidence around the design opportunities, or limitations, that sprinklers can provide specifically in school building design for compliance with Building Regulations.**

The main design opportunities cited by respondents were: larger compartment sizes or individual fire zones within the building; relaxations on travel distances and numbers of means of escape; fewer fire-fighting shafts; and decreased building separation and boundary distances.

Other suggestions were that there would be less need for passive measures, that there could be greater use of glazing, and that it would be safer to use cheap, environmentally friendly materials such as wood.

Sprinklers did not imply limitations to school design, and that Automatic Water Suppression Systems (AWSS) allow much more in the way of design freedoms and can enable more innovative designs, including open plan and atria features. AWSS can also lead to cost reductions in other areas.

About one third of respondents called for the installation of sprinklers in new schools and only a few who supported this view argued against the use of sprinklers as a compensatory feature for other key fire safety measures. There was also support for continuing to use fire risk assessments to determine whether sprinklers should be installed, though some respondents said that the risk assessment tools accompanying BB 100 are either out of date or inadequate.

The majority view in this context was that whilst sprinklers can provide additional benefits in buildings, physical fire protection measures and the management regime need to stand alone without sprinklers

**Question 2 - We would welcome evidence on the technical issues associated with compartmentation, specifically related to schools, including whether the maximum compartment size should be reviewed and amended**

There were differing views around the number and size of compartmentation in school buildings. In particular, there were concerns about the ongoing integrity of compartmentation due to defects in initial construction or the result of later alterations.

**Question 3 - We welcome views and any evidence on the number and type of staircases, limits on occupation and safe escape approaches in multi-storeyed schools**

Respondents were generally content with the current situation, saying that Building Regulation compliance is adequate and that schools are generally low risk.

**Question 4 - We would welcome views on the impact of community and out of hours use by school and non-school bodies on fire safety design**

The main two issues highlighted were: the need for emergency and escape lighting (cited by 25% of respondents); and users' unfamiliarity with the building and the need to recognise a different risk from frequent occupants.

Good signage is needed and the specification for fire detection and alarm systems may need enhancing

**Question 5 - We would welcome views on whether BB 100 should recommend that all new schools over 18m, within the scope of the guidance, should not use combustible materials in the external walls, in line with the terms of MHCLG's ban**

Around 30% of respondents thought that the ban should apply to schools. A similar proportion agreed but considered that the ban should apply to the external walls of all new school buildings, of any height. Within that, there was a view that combustible materials should not be used in the external walls of any building in which vulnerable people sleep, including residential schools.

A smaller number of respondents thought that the trigger height should be different - 11m (or 3 storeys) was suggested.

Only a small number of respondents disagreed with including schools in the ban, on the basis that they typically have adequate means of escape and evacuation times.

**Question 6 - We would welcome views on whether we should provide greater guidance, through BB 100, on meeting fire safety management long-term, to support school building users to meet the requirements of the Fire Safety Order**

66% of respondents agreed that more extensive guidance on fire safety management should be included in BB 100. This could cover:

- the provision of fire safety information at the completion of a project
- the supply of a full and appropriate fire strategy to the end user of a new building covering what is needed at handover, when a building is first occupied, but also for the lifetime of the building.
- guidance on carrying out fire risk assessments.
- more practical guidance for end users, including storage of materials, displays, lockers in corridors etc.

**Question 7 - We would welcome views on whether there are any school-specific issues in relation to Modern Methods of Construction (MMC). We appreciate that there are elements of both life safety and property protection in relation to MMC and would welcome views on both.**

The main school-specific issue raised concerned certain types of MMC buildings being particularly vulnerable to arson.

Otherwise, the issues raised seem to be the more general ones that also apply to school buildings however they are constructed.

**Question 8 - What specific property protection measures should BB 100 cover in addition to the topics covered below in questions 9 to 12?**

Around 60% of respondents were in favour of including additional information on property protection over what is covered by the current guidance. Of these, the majority were in favour of including additional advice on better security design and arson reduction e.g.

- the need for effective boundary treatment
- the protection of school buildings while unoccupied
- perimeter security and motion detection, including security lighting and CCTV

**Question 9 - We would welcome views on which fire suppression systems (including sprinklers, misting systems etc) are most effective in a school environment and any supporting evidence**

Around 40% of respondents favoured sprinklers over water mist systems, saying that they have a much longer track record and are tried and tested.

Respondents also raised caveats or criticisms of mist systems – for example that they may be designed chiefly to aid means of escape and assist early evacuation rather than extinguishing fires; and are unsuitable within a school environment.

**Question 10 - We would welcome evidence relating to the effectiveness of compartment floors in schools**

BB 100 recommends that all floors in school buildings should be compartment floors. Most respondents favoured keeping the current recommendation.

**Question 11 - What measures, if any, should BB 100 provide guidance for around property protection for special schools? Do these measures differ for types of special school or**

## **particular pupil needs**

Nearly a half of respondents raised life safety issues they thought needed addressing in guidance. In order of citation these were:

- extended evacuation times
- evacuation lifts should be installed in multi-storey special schools
- clear guidance is needed on the fire detection and alarm systems in special schools; this includes the need for voice alarms
- review sizes of refuge spaces
- guidance is needed on Personal Emergency Evacuation Plans (PEEPS) for occupants with mobility or other special needs

In some special schools, a proportion of non-ambulant pupils may require hoisting into wheelchairs before evacuation. There is also the issue of trying to avoid the need to evacuate those with feeding tubes or severe mobility issues to external spaces if a fire breaks out. Safe internal areas could be designed to deal with this.

### **Question 12 - We would welcome views on whether guidance, in addition to what is covered in AD B, is required for residential schools and whether any specific measures are required for residential schools**

Opinion for and against including guidance on school residential/boarding accommodation within BB100 was equally divided.

### **Question 13 - We are interested in views and evidence on the effectiveness of fire engineering approaches in school building design**

Many respondents thought that fire engineering solutions were not appropriate for school design, unless the designs were complex, and that they were only being used to achieve cost savings. Others were concerned that fire engineering does not consider property protection.

The main view was that fire engineering design should be part of a balanced holistic view of all measures provided and the likely risk profile of the occupants.

## **4.3 Key Issues**

The DfE issues a range of guidance in the form of Building Bulletins relating to the design and procurement of new school buildings. Fire safety is one area of many and others include; schedules of accommodation and overall area guidelines, site area and provision of outdoor spaces and playing fields, building ventilation, acoustic performance, designing for pupils with SEND, specialist teaching areas such as science and technology. The Council uses these guidelines closely in the design of its new school buildings and expansions of existing school buildings.

The expectation is that the Council would want to reflect the requirements of an updated BB100 Design for Fire Safety once it is published/adopted. The length of time since BB100 was last reviewed and the responses received from the DfE call for evidence suggest that there will be a significant updating and an upwards revision to the current standards.

The updating of BB100 will also have implications for the existing school building stock. Norfolk Property Service (NPS0 are commissioned by the Council to undertake Fire Risk Assessments (FRA) of all maintained schools. These assessments cover the maintenance and functioning of fire protection equipment (fire alarms and extinguishers), evacuation plans and the management and training of staff in fire evacuation procedures. The assessment will also consider whether any building works or, the use made of parts of the building by the school, may have compromised fire safety. Where remedial action is required its implementation by either the school or the local authority and is monitored.

Any enhanced requirements arising from a review of BB100 will be reflected in how the annual fire risk assessment is undertaken.

#### **4.4 Fire Sprinkler or Fire Suppression Systems**

This is the one area where, following the completion of the DfE review of BB100, a significant difference of approach or policy may remain.

The Council's current approach as set out in the Briefing Note to the Group Representatives meeting of the Children and Education Scrutiny Committee in November 2019, is that all new schools would have a fire sprinkler system fitted to protect the building from damage and limit the potential for a school to have to be re-built. However, recent Free School projects in Peterborough, delivered via the DfE Contractor's Framework in accordance with the DfE Output Specification for Schools, do not have a fire sprinkler system as the DfE risk assessment did not deem them necessary or appropriate.

#### **4.5 DfE Publication of BB100 – Design for Fire Safety Consultation draft**

The DfE has subsequently published a consultation draft of BB100 – Design for Fire Safety –in which it has now reached a conclusion on some of those issues and questions raised. Local authorities and other interested bodies were invited to respond to this consultation by 18<sup>th</sup> August.

The key issues/conclusions in the consultation draft are set out below:

- Sprinklers to be installed in all new special schools
- Sprinklers to be included in all new schools with 3 or more stories
- No single staircase access in multi-storey schools
- Multi-storey schools to have both evacuation and passenger lifts to protect the dignity of those with mobility issues
- Higher standards for all cladding post Grenfell
- More and stronger guidance on building management, maintenance and evacuation procedures for existing stock

By implication, the first two bullet points above confirm that the current DfE policy approach will apply to most new schools; sprinklers will continue to be provided based upon the outcome of a risk assessment.

### **5. CONSULTATION**

5.1 The consultation on the guidance contained in BB100 is managed by the DfE and the approach taken is set out in paragraph 4.1 above

5.2 The Council could seek the views of head teacher representative groups on this issue.

### **6. ANTICIPATED OUTCOMES OR IMPACT**

6.1 The Council will adopt the new standards for the design of school buildings set out in BB103.

### **7. REASON FOR THE RECOMMENDATION**

7.1 When an updated version of the guidance is published there will be a need for the Council to consider the implications for its current design standards for school buildings.

The current approach as set out in a briefing note to the Group Representatives meeting of the Children and Education Scrutiny Committee in November 2019 is to install sprinklers in new and significantly expanded schools. The DfE currently provides them based upon the outcome of a

risk assessment and the consultation draft of BB100 is only suggesting a change to this approach by making the provision of sprinklers mandatory in special schools or those with residential accommodation.

It should be noted that the most recent Free School projects in Peterborough, such as Hampton Lakes Primary School and Hampton Gardens, have not included the provision of sprinkler systems. The Briefing Note to the Group Representatives meeting in November 2019 recommended the following for consideration:

*‘Subject to a cost versus risk evaluation using the risk management methodology being required by the DfE, to not install sprinklers into new build schools or schools which are being expanded and undergoing refurbishment.’*

No decision was taken following this recommendation, pending the review of the DfE guidance.

The recommendation will need to be reconsidered by the Council once the final non-statutory guidance is published in an updated version of BB103 – Design for Fire Safety in Schools.

## **8. ALTERNATIVE OPTIONS CONSIDERED**

- 8.1 Options presented by the final approved guidance will be considered in due course

## **9. IMPLICATIONS**

### **Financial Implications**

- 9.1 The provision of sprinklers in new or significantly expanded schools adds approximately 2% to the overall capital cost of the project.

The review of BB100 is anticipated to raise current standards of design but also enhance the requirements for the existing school building stock in terms of management and operation. There could be a resource implication arising from this, but it is hoped that DfE capital allocations to local authorities would reflect any changes arising from the DfE’s own guidance.

There has been a rise in cost for both the installation and on-going maintenance of fire sprinkler systems which schools must carry. This has been a particular issue for some schools given the general pressures on individual school budgets. In addition, some of the benefits in terms of insurance costs and corresponding construction savings that might be expected to arise from the provision of sprinklers have not materialised (e.g. guarantees about continued maintenance of water pressure cannot be given by the utility companies). The provision of fire sprinklers does, therefore, come at an additional construction cost in new builds but without any significant offsetting savings.

It should also be noted that the investment in sprinklers/suppression systems is about the protection of the building and not the lives or safety of the occupants. The latter relies on the ongoing management of the building, testing of alarm systems, effective evacuation plans and the training of staff and occupants.

The incidence of major fires in Peterborough schools is also low and the investment required in sprinklers needs to be considered alongside the risk

### **Legal Implications**

- 9.2 The guidance contained in BB100– Design for Fire Safety in Schools – will be non-statutory. However, there is already extensive legislation on fire safety regarding the maintenance and occupation of buildings which is compulsory. In addition, there are already statutory requirements relating to the design of schools which are enforced through the building regulation and control process.

### **Equalities Implications**

- 9.3 The revised BB100 guidance proposes a different approach to special schools recognising the range of needs of individuals within these schools in terms of building evacuation.

### **Rural Implications**

- 9.4 NA

### **Carbon Impact Assessment**

- 9.5 The impact is neutral. In the event of a fire requiring the provision of new accommodation there is a carbon footprint associated with construction and this can be measured using an agreed industry approach/method. However, the incidence of significant fire damage requiring the provision of new accommodation on a large scale in Peterborough schools is very low.

## **10. BACKGROUND DOCUMENTS**

- 10.1
- BB100 – Design for Fire Safety in Schools – consultation draft
  - DfE Call for Evidence – May 2021
  - Briefing Note to the Group Representatives meeting of the Children and Education Scrutiny Committee in November 2019