

## Stage 1A Feasibility Report Prepared by



On behalf of



Marie Curie

SE5

Revision 6 Final

Works Brief Issued to Blakeney Leigh Ltd	Feasibility Report Issued to Engie	Checked by Engie	Checked by LBS	Amendments Required
December 2020	March 2021	March 2021	March 2021	Per comments from LBS asset management, Fire Safety Team & other design team members (CSP, Engie). Includes actions arising from receipt of Freya Fire Strategy (inclusion of this) and investigations undertaken by Phoenix Green. Inclusion of appendices up to and including "O" – Technical Appraisal.
As above	April 2021	April 2021	April/ May 2021	Following design team reviews through April and May 2021. Addition of appendix "P" – indicative programme. Includes amendments arising from further discussions with LBS Fire Safety Team, Building Control and Open Communities departments (to 06/05/21).
As above	May 2021	May 2021	May 2021	Includes clarification regarding recommendations from different specialists. Primary points of clarification are relating to queries answered by Freya Fire Engineering Solutions on 11/05/21. Inclusion of appendix "Q" – queries raised.
As above	May 2021	May 2021	May 2021	To version 3.2. To include recommendations regarding monitoring of 3 <sup>rd</sup> party fire-stopping installations and implementation of 5-yearly PPM review regarding fire-stopping. Inclusion of section 3.22 regarding PPM review.
As above	May 2021	May 2021	May/ June 2021	To include comments regarding Gas service from FRA report. Minor changes/ clarifications within section 3.17. Also includes change as revised report issued by Freya Comprehensive Fire Solutions Ltd.
As above	June 2021	June 2021	June 2021	Amendment to include statement on fire resistance requirements for fire lift doors (section 3.17 E).
As above	June 2021	June 2021		Minor amendments/ clarifications following feedback from CSP and other members of project team.

June 2021

## Contents

Section	Pages
1. Overview	3
2. Executive Summary	4-6
3. Survey Report Marie Curie 1-98	7-29
4. <b>Appendix</b>	30
a) Photographic Defects Schedules	
b) Photographic Door Schedules	
c) Internal Works Spreadsheet	
d) Asbestos Survey Reports	
e) LBS Fire Risk Assessment Report 27/01/20 and Asset Identified 07/08/17	
f) Lead Paint Test Report	
g) Phoenix Green Fire Risk Assessment Report 08/03/21	
h) Phoenix Green Compartmentation Works Report 21/12/20	
i) Freya Comprehensive Fire Solutions Fire Safety Strategy 05/21	
j) Spokemead Emergency Lighting Periodic Inspection Report 01/04/20	
k) RFI Schedule	
l) Under-window Panel Report	
m) Works Brief	
n) Langley Roof Report	
o) Technical Appraisal	
p) Indicative Programme	
q) Queries Raised	
5. Signatures	30

## 1. Overview

1. Blakeney Leigh Ltd were engaged by Engie Ltd on Behalf of the client - London Borough of Southwark - to undertake feasibility study to the Marie Curie as part of the works package for the Quality Homes Investment Programme and in relation of a number of potential works arising from Fire Risk Assessments.
2. A brief was provided which laid out the structural elements to be examined and commented upon. The repair or replacement recommendations contained within this feasibility report are required to meet the required standards of the client and to include any FRA items and essential repairs.
3. The report is separated into the sections as laid out in the brief where applicable. Additional sections have been included to adequately identify and analyse works arising from Fire Risk Assessments and other specialist survey reports.
4. This report has been written for the client, London Borough of Southwark. Any third party that obtains a copy without the express permission of Blakeney Leigh Ltd & Engie Regenerations Ltd relies on it at their own risk.
5. The inspections and subsequent findings are based primarily upon visual surveys. Works relating to Fire Risk Assessments/ associated surveys have been identified by both visual and intrusive survey.
6. We have not commented or speculated at the presence of any materials, defects or hazards that were boxed in, covered up or not readily available for view. Therein we cannot confirm the presence or absence of any hazardous materials contained within the structure that were not easily identifiable by eye during our inspections.
7. Any advice regarding repairs is not intended as a specification for repair and should not be relied upon as such. This is given as guidance and a full specification for repair should be sought prior to any works being undertaken.
8. Any timescales given are estimates and should not be treated in any other way.
9. John Ottley and Chris Orford undertook surveys and inspections between the months of December 2020 and March 2021. Specialist consultants have undertaken inspections within similar timescales, the results of which are contained herein.
10. The tenants were advised by the surveyors during their visits on an estate wide basis, regardless of what their individual requests were, the surveys were undertaken within the parameters of the Quality Homes Investment Programme and other requirements as listed within the Clients brief. It was made clear that they could not influence any decisions made by the council following their recommendations in terms of renewal of items, fixtures or fittings that were not defective on a block or estate wide basis and ultimately were not required to be reviewed in the works brief.
11. We have assumed that where works have been undertaken to the premises previously, that such works are fully compliant with Building Regulations and BS/EN standards prevalent at the time of alteration.

## 2. Executive Summary

Following the inspections undertaken we have identified a number of potential works in accordance with the brief. These are covered in more detail further on in the report, but we have compiled a table to highlight any issues component by component.

The ticks in the boxes show that there is an issue that needs addressing under that heading to that block. The issues are not necessarily limited to repairs, but rather, works (replacement / upgrade) or further investigations that may need to be undertaken.

### 2.1 Potential Works

	Roof Structure Covering	Gutters & Rainwater Goods	Concrete Repair/ Dec's	Window Panels	Windows	Walkways & Balconies	FRA Works	Tenanted Internal Works	Asbestos Removal	Planning Required	Building Control
Marie Curie	✓	✓	✓	Replace	✓	✓	✓	✓	✓	✓	✓

It is clear from the tables that there are several areas requiring works, investigations or consultations with relevant departments / authorities. The most urgent works are in relation to fire risk given the need to reduce the fire risk associated with the building where possible.

Access routes to provide safe working areas should comply with all statutory and policy requirements. Where the works and building type present alternative options such as mobile towers, platforms, abseiling, etc. as opposed to more traditional designed scaffold then these should be fully explored and the preferred access method should be supported by a robust justification. In this case, it is our belief that the required works would only be feasible if utilising mast-climbers or a traditional, full designed scaffold (if window renewal is undertaken).

Where works are required to be undertaken in the report that would require a scaffold to be erected to gain access to the element, the Client may wish to consider its value for money prior to instruction to proceed with the works.

It is difficult to put exact timescales on elements as to when they will deteriorate into a defective state. For this reason, a lot of reference to watching briefs has been made. For ease of use, below is a quick reference table giving those estimated serviceable lifespans, contained further into the report, of the elements identified within the brief. These estimates are given considering that regular maintenance is undertaken and no extraordinary events in terms of environmental damage, mechanical damage or wilful destruction occur.

The numbers represent the estimated lifespan in years.

	Element Expected Lifespan If No Works Are Carried Out			
	Walls	Roofs	Windows	Ext Doors
Marie Curie 1-98	15+yrs	0-2yrs	10-15yrs.	5-7 yrs.

	Element Expected Lifespan If Recommended Works Are Carried Out			
	Walls	Roofs	Windows	Ext Doors
Marie Curie 1-98	20+yrs	25+ yrs.	20+ yrs.	10+ yrs.

### 3. Survey Report 1-98 Marie Curie

<p><b>3.1 General</b></p>	<p>The block comprises of 98 maisonette style dwellings set over sixteen stories, the block is served by one fully enclosed stairwell giving direct access to internal access corridors and to individual properties. The TRA hall is located to the first floor of the block. The building was constructed circa 1958.</p> <p>The block is constructed of a concrete frame with a flat roof set over the building. The windows to the dwellings are double glazed units set in an aluminium frame. It is noted that the block is provided with a door entry system to the ground floor with a secondary door entry separating the access core from the internal access corridors.</p> <p>The leaseholder information provided by the client at the time of compilation of this report within the properties detailed above are noted as numbers 2, 3, 11, 19, 23, 25, 46, 53, 56, 58, 72.</p>
<p><b>3.2 Known Asbestos issues</b></p>	<p>We have been provided with an asbestos survey (management with part Refurbishment/ Demolition) to limited areas of flat number 57, dated 24<sup>th</sup> March 2016. Report reference J047078. This report does not identify any Asbestos containing materials (ACM's) requiring urgent action. Furthermore, this report does not confirm the presence of Asbestos in any of the elements of the dwelling in questions that have been subject to survey. Samples have been taken from the bathroom cistern, kitchen floor tiles, kitchen ceiling coating and kitchen sink-pad.</p> <p>We have been provided with an asbestos survey (management only) to limited areas of flat number 16, dated 11<sup>th</sup> June 2018. Report reference J105078. This report identifies one urgent item, a Chrysotile panel located to bathroom door requiring removal. No other items are highlighted within this report as suspected or requiring action.</p> <p>We have been provided with an asbestos survey (management only) to limited areas of flat number 45, dated 18<sup>th</sup> July 2018. Report reference J114202. This report does not highlight any urgent works elements. Furthermore, this does not identify instances of suspected asbestos containing materials to areas subject to inspection.</p> <p>We have been provided with an asbestos survey (management only) to limited areas of flat number 68, dated 21<sup>st</sup> November 2017. Report reference J086881. This report does not highlight any urgent works elements. However, this report does identify asbestos containing materials in the form of Chrysotile forming a bathroom door panel, though there is no action recommended within the report other than management of this item in-situ.</p> <p>We have been provided with an asbestos survey (management only) to limited areas of flat number 69, dated 18<sup>th</sup> March 2014. Report reference J010581. This report does not highlight any urgent works elements. Furthermore, this does not identify instances of suspected asbestos containing materials to areas subject to inspection.</p> <p>Further dwelling asbestos reports should be acquired prior to commencement of any works within dwellings to ensure that a full analysis of asbestos containing material risk by dwelling archetype is obtained, thereby minimising any associated risks to occupants and operatives.</p>

	<p>We have been provided with an Asbestos survey report specific to this building dated 21<sup>st</sup> September 2011, report reference SV50027. This report identifies a single urgent item; redundant corrugated roof sheets (chrysotile) stored within ground floor storeroom and requiring removal by a licensed contractor.</p> <p>A number of other areas have been subject to test, and all areas returning positive results for asbestos are now known to possess Chrysotile. These areas include: Fuse box components (tank room), ceiling panels (within risers), pipework string (corridors, lift lobby), components of electrical fixtures/ fittings within electrical intake &amp; water tank room and gaskets to pipework in water tank room. These materials are confirmed as asbestos containing materials (ACM's) and should be subject to removal by licensed contractors should they conflict with working areas. A number of areas could not be accessed and as such could possess ACM's as yet unconfirmed. Areas include: Lift shafts, Tank room (03) &amp; external void areas (3no. cited). All such areas should be subject to asbestos survey if they are to be subject to works of any kind.</p> <p>Finally, we have received a document identifying asbestos by location titled "Asset asbestos detail by location" dated 16/09/2020. This document identifies or strongly presumes the presence of asbestos containing materials in a number of locations including ground floor storeroom (electrical equipment), MMF pipe insulation within ceiling voids, Lift motor room (fusebox by access hatch), within the plant roof (fuse box) &amp; Pipework gaskets to water tank rooms.</p> <p>Records may be available relating to asbestos presence arising from a full asbestos strip undertaken previously to the sister building, Lakanal. Any such records would be indicative in nature and should not be relied upon as an accurate representation of the presence of Asbestos.</p> <p><b>It is recommended that full asbestos R &amp; D Surveys are undertaken where not currently sufficient to identify all asbestos containing materials. Any asbestos containing materials found to be within the proposed work areas will require removal by a licensed contractor prior to work commencing if they are likely to be disturbed. Any asbestos containing materials that are to remain in-situ should be encapsulated and labelled.</b></p>
<p><b>3.3 State of Repair</b></p>	<p>The block appears into be in a reasonable state of repair being subject to its cyclical repair and redecoration requirements and the items highlighted in the report below. We have not been informed of any recurring defects/ maintenance callouts associated with this building as a result of the repairs histories provided to date. <b>No recommendations are made as a result of information provided to us regarding the state of repair of the block.</b></p>
<p><b>3.4 Structure</b></p>	<p>The block is formed of a concrete frame with tiling installed to limited areas of the flank walls. The front and rear elevations are largely made up of window units, under panels and solid balcony panels. The visible areas of the main structure were found to be in good general condition. It is noted that inspection to the high-level external areas was restricted to accessible areas only.</p> <p>In their current condition the structure will generally be in good order for the foreseeable future (20 years+), but it would be prudent to keep a watching brief on them which could form part of any maintenance schedule to identify initial stages of defect or deterioration caused by environmental or unexpected/unforeseen events or conditions. <b>Regarding the concrete frame forming the primary structure of the building, it is apparent that no major defects are visible or reported at present.</b></p>

<p><b>3.5 Brickwork</b></p>	<p>Brickwork is present to the ground floor, enclosing the 'undercroft' area of this building of which a part is currently in the possession of the tenants and resident's association (TRA). A disused pram shed area is accessed via a store area held by the TRA. While brickwork is generally in fair condition to these locations, repairs are required to approximately 2.5% of the face area arising as the result of general wear and tear, weathering, etc. This brickwork is painted white.</p> <p>In addition, a structure referred to as "Community cycle hub" is located below the building. Should this form part of the demise of Marie Curie, it should be subject to brick and pointing repairs. This area is not painted. Two refuse enclosures are present at ground floor, one of which incorporates an electrical intake cupboard. Also at ground floor are the main building lift lobby. These areas should also be subject to brick and pointing repairs.</p> <p><b>The spread of flame rating to decorative finishes is assumed to be a Class 0 material when applied to a bare, non-flammable surface. It is assumed that no decorations have occurred between 2013 and 2021, however if the area is to be redecorated the existing decorations will need to be stripped in full in order to confirm that they are installed to a bare non-combustible substrate.</b></p> <p><b>We recommend undertaking brick and pointing repairs in line with the above-mentioned defects. The brickwork should be redecorated in full following repairs where decorative finishes exist currently.</b></p>
<p><b>3.6 External wall finish</b></p>	<p>The external finishes of the concrete areas of the building, including the large undercroft area, are provided with a smooth render finish. These were noted to be in good visual condition with no areas of significant defect identified. The majority of the front and rear elevations are made up of the window units with under window panel and the secondary emergency escape external balcony panels and frames. An inspection has taken place within number 8 Marie Curie House regarding below-window panels. With the subsequent report dated 21/03/19. The report confirms as follows: The block is over 18M in height. Aluminium cladding panels are in-situ and said cladding panels form approximately 40% of the elevation. There are 4No. materials identified within the panel. These are as follows: Aluminium (1.3mm), cement particle board (5.8mm), insulation (phenolic type foam) (20.3mm) &amp; Aluminium (1.6mm). The sample was taken from a bedroom within the property. Please refer to section I of the appendix for full details of this report.</p> <p>Based on this inspection, it is now apparent that the panels in-situ are non-compliant with modern Building Regulations and are believed to be a fire risk to the block if left unaddressed. Under Building Regulations Part B, the external wall construction of buildings of storey height of 18 Metres or more must be constructed of Euroclass A1 or A2 fire rated materials. The panel in-situ has not been demonstrated to meet this standard. We note that these panels are believed to have been approved by the LABC at the time of installation, suggesting that they were deemed to be compliant with Building Regulations at the time of installation. As such, a burn-test of the panel in-situ is not required as performance has already been demonstrated as insufficient.</p> <p>The TRA hall is located at 1<sup>st</sup> floor level and extends beyond the original building. The extension of the TRA hall is of concrete frame and decorative finish. The lift to the TRA hall is present at ground to 1<sup>st</sup> floor level principally for wheelchair use. The lift shaft is concrete with render and paint finish.</p> <p><b>We recommend that the below-window panels highlighted above are renewed complete in suitable, non-combustible systems to meet current Building Regulations. External concrete finishes, where previously decorated, should be stripped to ensure compliance for spread of flame requirements. Note: External escape routes will require a Class O finish.</b></p>

<p><b>3.7 Roof Structure(s) – Covering(s)</b></p>	<p>The roof is of flat construction and is provided with a mineral felt covering. We are advised that this roof was previously renewed in 2001/02, with the most recent works undertaken to this roof being general maintenance in 2012/13.</p> <p>A condition report has been undertaken by Langley Waterproofing Systems Limited to analyse the main roof and tank room roof condition. As part of this survey, intrusive samples have been taken to confirm the existing material build-up.</p> <p>The main roof is confirmed as being of the following general build-up (from base to top): Screeded Concrete, Asphalt (20mm), Rigid PUR insulation (60mm), build-up felt capping. This is seen at both low and high-points. Langley have estimated the current roof U-value to be approx. 0.45m<sup>2</sup>K, which is below the threshold for roofs (stated as 0.35m<sup>2</sup>K). The roof is stated as being at the end of its serviceable lifespan with defects seen to the roof including moisture within core samples (indicating water penetration), trapped water beneath historic repairs and UV damage which will cause delamination and further water ingress over time.</p> <p>The tank room is provided with the same capping material as the main roof and should be considered to be at the end of its serviceable lifespan.</p> <p><b>It is recommended that the roof covering is renewed to achieve a minimum U-value of 0.18m<sup>2</sup>K and to achieve a 30-year guarantee on completion.</b></p> <p><b>The following items require consideration alongside roof renewal:</b></p> <ul style="list-style-type: none"> <li>• <b>Replacement of tank room and other roof-level doors is considered likely to be required as the thresholds for these elements are required to be 150mm above finished roof level.</b></li> <li>• <b>Services to/ from tank room are to be raised to 150mm above proposed finished roof level.</b></li> <li>• <b>Cables/ cable trays require temporary removal to facilitate works.</b></li> <li>• <b>The recommendation includes stripping of existing capping and insulation materials (back to asphalt), as such consideration should be given regarding increased waste.</b></li> <li>• <b>All works should be undertaken in line with the London Borough of Southwark roofing requirements. As such, timber provisions within the recommended system may be required to be undertaken in alternative materials.</b></li> <li>• <b>Allowance should be made to install non-combustible insulation products at party wall lines so as to continue compartmentation through the roof build-up.</b></li> </ul>
---	--



<b>3.8 Windows</b>	<p>The existing windows to dwellings within the building are of an aluminium frame, double glazed design. The windows to the upper floors of the maisonettes are provided with an under-window panel formed of aluminium composite materials.</p> <p>The doors provided to the emergency escape balcony areas have been replaced and the panel contained within this unit is a non-combustible material.</p> <p>The windows, in their current condition and with maintenance would be expected to last for another 20 years. A watching brief should form part of any maintenance schedule to identify initial stages of perishing to the seals or distortion to the frames of the windows so the serviceable life expectancy is not reduced.</p> <p>The communal glazing to the landings at each level is provided by aluminium frames. Some units are operable casements whilst others are fitted with a fixed ventilation grille. All were noted to be in fair visual condition with only items of ironmongery missing. This may be intentional to prevent the opening of the communal windows at high-level.</p> <p>Isolated defects were identified to windows during internal inspections. These defects typically include poor operability of windows, defective/ missing mastic seals (internal &amp; external), loose/ damaged handles &amp; locking mechanisms and damaged/ missing trickle vents. It is usually required that existing windows are eased and adjusted to ensure they remain in fully operational condition. It would be prudent to carry out any repairs to windows as part of a major works programme, utilising access provisions to complete any external repairs where necessary.</p> <p>Windows to the kitchens and living rooms are located to escape routes. Where these are installed with masonry construction in lieu of a panel, these can remain in place. Located adjacent to the escape door is a full height panel which is not fire rated and should be renewed.</p> <p>To all locations the juncture between the windows where extending across the compartment has not been extended to the outer face with a fire break. This includes areas adjacent kitchen door and between bedrooms.</p> <p><b>Of the 22no. dwelling inspected, 6no. required minor repairs such as replacement handles, blown glazing unit replacement, ease and adjustment or other repair at the time of our inspection. We recommend a minimum allowance for overhaul to 27% of units on the basis of these internal inspections.</b></p> <p><b>It appears that the compartment wall line does not extend to the inner face of window junctures with a fire break. This will require alteration to the fenestration to enable completion of the compartmentation.</b></p> <p><b>We recommend replacement of the fixed panel adjacent kitchen doors and any other full-height panels located to escape routes in fire rated alternatives.</b></p>
--------------------	--

<p><b>3.9 Front Entrance Doors</b></p>	<p>The front entrance doors to the flats are of a single type. All dwellings are accessed from communal staircases leading to fully enclosed communal access corridors.</p> <p>As these dwellings are accessed from an enclosed corridor, these doors are required to provide a minimum of 30 minutes fire protection and are required to be self-closing to conform with fire safety regulations. In terms of longevity, the replacement doors would be expected to last for 15+ years with appropriate maintenance.</p> <p>It should be noted that, as there are common parts to the property, the requirements of the Regulatory Reform (Fire Safety) Order 2005 (RRO) need to be fulfilled. The requirement is to carry out a Fire Risk Assessment on the property. We have been passed an FRA report relevant to the block which makes mention of the front entrance doors. Specifically, that the Perko closers installed be changed to overhead closers.</p> <p>In addition, the escape door under the stairs is required to be installed with a thumb turn from within the property. However, this element may be contradicted by newly provided fire engineering solutions, in which case the recommendations made by fire engineers may superseded those within the fire risk assessment.</p> <p><b>Inspections have identified non-compliance of front entrance doors and the existing overhead panel. Full reports can be found within the appendices.</b></p>
<p><b>3.10 Internal Components (Kitchens/ bathrooms, etc.)</b></p>	<p>Internal elements of dwellings were inspected in line with the QHIP brief in 2018 &amp; 2019. Of the 98 properties, access was permitted into 22Nr. flats in total. 21Nr. of the 22Nr. inspected were 'tenanted' properties. Inspections have identified works required to kitchens/ bathrooms. 86% of bathrooms require replacement or upgrade, and 73% of kitchens require replacement or upgrade.</p> <p><b>However, the extent of expected internal refurbishment relating to fire risk assessment and fire protection works would likely require the full strip of existing bathrooms and kitchens, thereby requiring 100% replacement of these provisions.</b></p>
<p><b>3.11 Concrete / Stone Repair including lintels</b></p>	<p>There are exposed areas of concrete to the emergency escape balcony soffits. These are only accessible from the dwellings and from a locked and secured fire door. Concrete to communal staircases was found to be in good condition with no areas of major defect identified. It is likely that thermal movement has contributed to localised fractures within the structure in the time since the last cyclical works phase. Such localised fractures are not identifiable from visual surveys alone but are considered as part of the recommendation below.</p> <p>Decorations of external and internal elements to common parts are now approximately 7 years old and due for redecoration as part of the cyclical redecoration element of the QHIP brief. Decorations to areas that act as a means of escape should be in a Class 0 material to meet fire safety regulations.</p> <p><b>No significant concrete repair requirements are visible at the time of inspection. Repairs were undertaken during previous major works cycle. Defects may become apparent closer to the time the works are scheduled to be undertaken.</b></p> <p><b>It is further required that any exposed concrete be decorated and provided with protective coatings. We recommend an allowance is made for 20% concrete face repairs and 100% redecoration until such a time as full hammer/ cover-meter testing can be undertaken. It may be necessary to strip all existing decorations to achieve a Class 0 finish.</b></p>

<p><b>3.12 Rainwater goods – Gutters, downpipes, etc.</b></p>	<p>The rainwater goods to the block are run internally and were therefore not readily available for inspection. The rainwater goods were believed to be generally clear at the time of our inspection with no evidence of blockages/ defects visible to accessible areas. It would be prudent for these goods to be routinely cleared and rodded to prevent any build ups of detritus and subsequent blockages. Blockages to drainage channels could force debris into the outlets and subsequently into the downpipes causing a reduced girth and flow.</p> <p>It is usually the case that the residents will not raise any concerns until such times as the water from failed goods starts to manifest internally and by then what was a simple fix in terms of joints, lengths of pipes or making good joints will have become much more labour intensive, costly and intrusive to remedy. <b>It is recommended that the rainwater goods be surveyed (CCTV survey), cored out, cleaned and repaired as necessary.</b></p>
<p><b>3.13 Private/ Communal balconies Structure &amp; coverings.</b></p>	<p>There are no private balconies present to this building. The communal escape balconies are provided with an asphalt deck. These are housed within the main curtilage of the building. Access for further inspection of these areas was limited to viewing in conjunction with internal validation surveys of dwellings as these areas could be accessed/ viewed from within kitchens/ living rooms. While no ponding was visible at the time of our inspection, staining was visible which is indicative of standing water being present in the past. It appears that run-off of rainwater from these areas is liable to overload existing goods during heavy downpours, this may be the result of overflow pipes and box chutes extending through the outer walkway detail becoming blocked by silt and debris. <b>Regular clearance of these details is required to maintain adequate rainwater drainage.</b></p> <p>The escape balconies are provided with a metal railing balustrade with a solid infill panel. The solid infill panel is not a Class 0 material presently. These railings are noted to be in sound structural condition where visible and in fair decorative condition, with minor chipping to decorative finishes observed in places. The balustrade possesses a timber sub-frame and beading detail which are considered to be combustible materials. As these are present to an escape route these materials should be removed and suitably fire resisting materials installed in their place. The primary metal frame for the balustrade can remain.</p> <p>At 1<sup>st</sup> floor to the periphery of the TRA hall a metal balustrade is provided to the balcony area which comprises metal wired mesh fixed to timber framework and supported by metal framing. This area possesses a metal security barrier. This may be deemed to be a hazard as it would obstruct escape via the balcony in the event of a fire.</p> <p>It is apparent that these areas are due for redecoration under the cyclical maintenance element of the QHIP brief given that they are approx. 7 years in age. These appear to be painted steel and given their position on escape routes it is noted that these elements should be redecorated with a Class 0 material finish. <b>Sub-frame and panel to balustrades require replacement. Metal primary frame to the balustrade requires redecoration in Class 0 materials. The balcony covering should be subject to an allowance for asphalt repairs only, predominantly where door frames and panels are to be removed.</b></p> <p><b>1<sup>st</sup> floor security barriers should be removed to ensure there is no obstruction of escape routes.</b></p>

<p><b>3.14 External &amp; Communal decorations</b></p>	<p>External decorations to this block were last completed in 2012/13 and are therefore due for redecoration under the cyclical redecoration element of the QHIP brief. Previous decorations would have achieved Class 0 rating where applied to a bare substrate. Re-application to comply with the Class 0 test currently available would require existing decorations to be removed or a specialist paint system utilised.</p> <p>Lead tests have been undertaken to all painted surfaces externally. The full results of this lead paint survey are contained within the appendices of this report. Of 11Nr. samples take, 8Nr samples contained lead content greater than 1.0Mg/cm<sup>2</sup>.</p> <p>Vinyl floor tiles are provided to common parts to cross-corridors. These are in fair condition generally but are noted to be defective and stained in isolated locations, including extensive staining seen to one communal corridor area. These are likely to be impacted by the proposed works and may require renewal.</p> <p><b>We recommend that all decorations to escape routes internally and externally are renewed using Class 0 materials. In addition, all areas of concrete above 18m high are required to be Class 0 compliant when subject to redecoration.</b></p> <p><b>All previously painted external components require redecoration in line with the QHIP brief.</b></p> <p><b>Allow to renew vinyl floor tiles in full.</b></p>
<p><b>3.15 Other External/ Communal Components</b></p>	<p><u>Communal stair and lift lobby balustrades</u></p> <p>Balustrades to communal stairs are formed of metal posts and top rail forming the primary structure. The infill of the balustrade is a timber sub-frame and Plasiac wired sheet held in place with timber beading details.</p> <p>The stairwell is a designated escape route. Timber construction should be removed from the escape route to ensure that this area is protected in the event of a fire. The removal of timber sub-frame and bead details will result in a larger opening, to which the existing Plasiac wired panels will no longer fit. As such, these should be renewed also. Replacement construction should be suitably fire rated. This balustrade construction is also seen to lift lobby areas with Plasiac type panels affixed to balustrades in these areas.</p> <p>The external escape staircase is of concrete construction and is provided with a metal frame with timber posts and panels installed. Timber elements to this balustrade will require replacement as they form part of a means of escape.</p> <p>A metal secondary escape staircase has been provided to the TRA hall. <b>This will require general overhaul and redecoration only.</b></p> <p><b>We recommend replacement of timber and Plasiac wired sheet elements of the communal stair, lift lobby and external escape balustrades in suitably fire rated materials.</b></p> <p>The existing communal stairwell doesn't meet current requirements for a single communal escape staircase (e.g. 1100mm width). It falls short of this by approx. 60mm. Without substantial reconfiguration undertaken, it is considered for the purposes of this report that this cannot be improved upon.</p>

### Bin Stores

The bin stores are housed with the undercroft of the building. Each was noted to be provided with a full-height metal door. These doors were found to be in good visual condition at the time of inspection.

### Communal service ducting/ voids

The block is provided with communal heating as part of a combined system supplying the entirety of the Sceaux Gardens Estate. Service pipes for this heating are run within the false ceiling within the communal access corridors. The ducting containing heating services is seen to be in fair visual condition generally, though it is noted that damaged/ missing areas of ducting were identified, with a particular concern being raised regarding the fixtures/ fittings supporting this ducting. These fixtures/ fittings appear to be loose or missing in multiple areas and it is subsequently required that ducting is repaired/ replaced as appropriate. Other communal services are known to run within the communal ceiling void which is believed to include communal water supply services.

Some isolated areas of ducting/riser cupboards were identified independent of heating services to ground floor, which are believed to be formed of timber. These materials should be identified in full and replaced with appropriate fire resisting materials should these materials be found to provide inadequate fire resistance.

Limited available inspections of service ducts/ voids have identified potential concerns regarding fire stopping to these areas. As such it is provisionally assumed that fire stopping is not adequate. All risers should be non-combustible construction. While we have not identified timber riser panels from visual only inspection, there may be timber riser panels/ construction present and as yet unidentified. Any such material should be removed.

**All risers and ducts should be renewed and fully fire-stopped. This recommend is extended to the ceiling to common parts which forms a duct in its own right.**

**Any ducts formed of non-fire-resisting materials are required to be removed, with fire resisting materials to be installed to achieve the minimum standard of fire resistance. Fire stopping to service punctures should be installed where not currently present. All installation will require a detailed photographic asset-registered record of installation undertaken by third-party certified designers/ installers. We would suggest in addition to this basic requirement a regime of independent quality review is undertaken in an agreed format.**

**We would suggest that LBS develop a PPM review for fire-stopping every 5 years.**

### Heating services

Marie Curie forms part of the district heating system to Sceaux Gardens. However, there is currently a temporary facility in place in the form of a temporary plant room with heat exchanger aiding the system at Marie Curie. At present, it is our understanding that Marie Curie is experiencing reduced water pressure to upper floors. It is our understanding that the heat exchangers notes above will be moved into a dedicated enclosure by the end of 2021. **Due to the substantial nature of the works being proposed to this building we would recommend that the heating system be renewed to a modern, efficient standard. This would be facilitated by the extent of strip-out works to be undertaken to communal and internal areas.**

**Consideration is required with regard to whether said heating system replacement is viable in line with a partial re-occupation strategy, should such strategy be selected.**

<p><b>3.16 Electrics</b></p>	<p>Communal electrical systems do not form a part of the QHIP brief. These systems are commented upon where necessary in the FRA and other associated sections of this report. Smoke detection is within the parameters of the QHIP brief and has been assessed as part of internal dwelling surveys. Communal and emergency lighting is addressed within section 3.17 of this report.</p> <p>A programme to install LD1 systems is in progress currently. It is our understanding that all properties have now had LD1 smoke &amp; head detectors installed (with exception of 1Nr dwelling). In addition, an L5 system has been installed to common parts.</p> <p><b>With regards to future works these internal alarm systems will need to be disconnected during the full property rewire.</b></p>
<p><b>3.17 Fire Risk Assessment Works</b></p> <p><b>A. LBS FRA</b></p>	<p>A fire risk assessment has been undertaken dated 27<sup>th</sup> January 2020.</p> <p>This report identifies the risk rating of this building as “Substantial” (see page 4/56). This suggests that substantial efforts are required to reduce the risk. Further within this report, it is noted that this risk rating could be reduced to “High-moderate” if all passive and external infill panel actions are completed.</p> <p>There is a single entrance to the block to which this FRA report is relevant along with associated lift lobbies and security-door protected hallways leading to front entrance doors. The report notes that common parts are vented and that lift lobbies at odd numbered floors contain dry riser outlets. All dwellings possess a secondary means of escape in the form of a balcony which leads to a lobby through a fire door. These lobbies lead on to the common stairwell and thereafter to ground floor.</p> <p>The FRA originally stated that there is no gas supply provided to any individual dwellings, with hot water and heating being provided as part of a district heating system. <b>There is a gas supply that has been installed recently. This is seen running vertically on flank wall and onwards to flats along the soffit of escape balconies. We are advised as of 19/05/21 that amendments regarding Gas service comments have been made to the Fire Risk Assessment.</b></p> <p>The standard of housekeeping is inadequate as highlighted within the report. Such inadequacies result in a higher risk rating and require management action to mitigate resident behaviours/practices that are not permitted. A zero-tolerance housekeeping regime is currently adopted. In line with such a regime, any items stored within common parts (such as bicycles, furniture, etc) should be removed.</p> <p>Compartmentation is noted to be unsuitable currently. A number of items are cited as contributing to this statement which are summarised below (See page 17 of the FRA report for further details):</p> <ul style="list-style-type: none"> <li>• Damage to fire batt at ground floor electrical intake.</li> <li>• Suspended ceilings damage in multiple places (outside Maisonette No.86. Also cited at 11<sup>th</sup> floor, 3<sup>rd</sup> floor, 1<sup>st</sup> floor, etc.).</li> <li>• Water damage potentially impacting ceiling panel fire resistance.</li> <li>• Full passive fire survey/ type 4 survey required.</li> <li>• Metal and timber panel between ground floor lift lobby and upper-ground stairwell doesn't appear to be 60-minute fire-rated.</li> <li>• Blockages to the bin chute are also stated but are expected to be cleared by reactive maintenance.</li> </ul>

Within the fire protection measures section there is a statement that pigeon netting and other pest control measures (such as pigeon spikes) will be fire retardant on all housing stock, in this case subject to assessment and a decision at a future date. Pigeon netting is fitted to the communal escape balcony, with pigeon spikes also fitted along the ledges. The fire rating of these items requires assessment, but should these be found to be lacking in fire resistance they should be replaced in full. Furthermore, the proposed works are expected to impact these provisions and will require at least their temporary removal to facilitate works. **We therefore recommend allowing to install fire-retardant pigeon netting and pigeon spikes as part of the next major works scheme.**

Means of escape are noted as inadequate with doors located to these escape routes cited as requiring easing and adjusting, with a possible defective locking mechanism in one area requiring urgent action. Push-pads are noted as requiring replacement at the next major works cycle.

Escape routes do not currently possess adequate protection with concern raised regarding PVC panels which will require renewal if the required 60-minute fire resistance cannot be evidenced.

Signage provisions are noted to be generally inadequate.

Means of detection is noted as adequate. However, means of smoke ventilation is inadequate, with a recommendation to consider installing automatic opening ventilation (AOV's) to prevent smoke from lower levels spreading to the upper levels of the building. This recommendation is given alongside a recommendation to have a full smoke strategy survey undertaken with a view to potentially changing the smoke strategy of the building to one of smoke containment in line with current best practice. This would be achieved by:

- Retaining existing end wall vents.
- Replace existing security doors in common parts in 60-minute fire resisting (FD60s SC) door and frame sets.

A number of issues are identified with regard to communal fire doors, with a number presenting defects such as not closing correctly, missing intumescent smoke seals/ strips and over-sized frame gaps seen. Improvements required within the FRA report include:

- Replacing perkomatic closers with overhead door closers (to BS EN 1154).
- Adjust 1no. fire door to 4<sup>th</sup>, 9<sup>th</sup> and 11<sup>th</sup> floors to ensure suitable closure.
- Reinstate intumescent smoke seals to 1no. fire door on both the 11<sup>th</sup> & 13<sup>th</sup> floors.
- Excessive door-to-frame gaps at 1no. fire door to staircase from 1<sup>st</sup> floor. This may require renewal to achieve compliance.
- All stair doors are believed to present excessive gaps from door-to-frame.
- Where gaps are excessive or doors are warped in their frames, replacement of doorsets is likely required. This includes those noted above.

See page 33 of the FRA report for full details.

The report notes that up to 50% of the façade is formed of infill panels. The panels are noted as an item of concern, with these stated as originally achieving compliance via "Desktop study exercises" accepted by Building Control when installed. The report goes on to state that a burn test should be undertaken along with opening up works to assess the presence of cavity barriers and other fire protection. **However, it is confirmed that the panel, although potentially providing a Class 0 surface spread of flame rating, does contain combustible materials and is therefore recommended to be replaced in non-combustible construction.**

**B. Works within dwellings**

The action plan for this building contains a total of 32No. actions (See pages 39-56 of FRA). All non-management related actions should be addressed as part of the next major works scheme. Actions relating to compartmentation, ventilation, escape routes and external walls (panels) are “Critical” and therefore require urgent action. All other non-management items should also be subject to action as part of any upcoming major works scheme.

The FRA report also requires that a smoke test be carried out within the bathroom extract duct to ensure the void cannot fill with smoke. At this time it is anticipated that the communal bathroom extract system will be removed. An alternative design solution would be to provide bathroom extract direct to open air, enabling removal of the common vent system completely. Ventilation to kitchens is a standalone system.

Further to the Fire Risk Assessment, a report has been provided by Phoenix Green UK Limited in relation to compartmentation, dated 21<sup>st</sup> December 2020, it is reported that the inspection took place on property number 76 and it is expected that the findings will be typical across all dwelling types. This report identifies a number of deficiencies including which are relayed below:

Doors:

- Non-compliant front entrance doors (FED) identified. Panels above FED’s are not fire rated. These panels are of original construction and did not form part of the FED installation works carried out in 2009/10.
- Dwellings possess non-compliant doors to bathrooms, bedrooms and kitchens.
- Alternative escape means through below-staircase route possesses non-compliant doors to corridor and bedroom.

**Doors are recommended for replacement in fire rated doorsets (to current regulations).**

Fire walls:

- Existing partition construction is not compliant with current regulations given the presence of cardboard core and the fact that they are based upon raised timber floors which are not sealed at the level of the concrete slab. Therefore, fire compartments are breached.

**Walls are recommended to be rebuilt in metal stud partitions with plasterboard finish. Any services running through these should be adequately sealed using a pre-approved standard fire-stopping detail.**

**BS9991 would allow the configuration of the plasterboard walls to be non-fire-rated on the basis that the internal travel distances are below minimum requirements (9M). However, as these are to be removed and reconstructed, as good practice they will be rebuilt as a robust partition which would also have the performance of a 60-minute fire-rated partition. Section 6.2 of the Freya Fire Strategy Report provides further detail.**

Raised timber floors:

- Current floor is of timber construction affixed to the concrete structure of the building. Paper-faced fibreglass insulation is present within the void. The paper face of this insulation is flammable.

**Floors should be removed and replaced with timber battens and 18mm chipboard flooring utilising mineral wool insulation between joists. This is to be done in conjunction with wall replacement to ensure that flooring is laid within the bounds of each compartment (within the “footprint” of the walls) allowing for independent fire breaks to be installed under the flooring at the threshold with fire door sets.**



Service risers:

- Services within risers generally not fire-stopped at point of penetration through concrete slab.
- These are also not fire stopped where penetrating compartment walls.
- Riser construction generally non-compliant and unsealed from surrounding substrate.

**All redundant services should be removed from the service riser and dwellings. All installation will require a detailed photographic asset-registered record of installation undertaken by third-party certified designers/ installers. We would suggest in addition to this basic requirement a regime of independent quality review is undertaken in an agreed format.**

**Services should be sealed/ protected utilising ablative batts, intumescent mastics and closing devices around any combustible services. Existing riser should be removed and replaced in new shaft wall construction formed of metal stud and plasterboard. To be single, open construction covering both levels of a maisonette with all services sealed through walls/ floors.**

**We would suggest that LBS develop a PPM review for fire-stopping every 5 years.**

Under-stair escape:

- Not fire resisting construction as existing.
- Risk of access into unsealed riser.
- Non-compliant doorsets in-situ.

**Remove construction and create 4-sided protected compartment using metal stud and plasterboard construction. All perimeters are to be sealed to substrate.**

Maisonette stairwell:

- Surface-mounted plastic trunking is a potential hazard. This is due to the specific location of the fuseboard being positioned on the adjacent external wall and cabled being carried across to the upper floor kitchen, these should be relocated.

**Relocate services to avoid these running over/ across stairwell.**

Services through floor slab:

- Metal conduit runs loose on floor slab.
- Conduit also runs through concrete to compartments below and lack of adequate sealing of penetration observed.

**Services to be removed/ re-run where possible and openings/ penetrations to be sealed using intumescent mastic.**

Pipework penetrating compartment walls:

- Seen to run from water cylinders on lower levels of dwellings into adjacent properties living room through floor, thereafter, running back through party wall into kitchen of the originating dwelling. Service punctures currently not sealed.

**Install ablative batt and intumescent mastic to seal openings in compartment walls, thereby eliminating compartment breaches. Allow to seal all penetrations through concrete walls also where forming compartment wall.**

<p><b>C. Emergency Lighting Works</b></p>	<p><u>Kitchen to living room fire wall:</u></p> <ul style="list-style-type: none"> <li>• Non-fire rated construction as existing.</li> <li>• Georgian-wired glass and timber panels observed in construction.</li> <li>• Numerous service breaches identified.</li> <li>• Non-fire-rated doors in-situ.</li> </ul> <p><b>Demolish existing wall and install metal stud and plasterboard partition. Install fire-rated door sets. Seal any subsequent compartment breaches using approved systems (intumescent mastic, fire collar, etc).</b></p> <p><u>Panel between kitchen and escape balcony:</u></p> <ul style="list-style-type: none"> <li>• Not fire rated construction as existing.</li> <li>• Risk of blocking escape route in event of fire.</li> </ul> <p><b>Replace in metal stud and plasterboard (inner leaf)/ fire resisting panel (outer leaf) construction. Alternatively, Isoclad fire rated panel could be fixed within substrate.</b></p> <p>Note: Works undertaken in 2012/13 included fitting Enviroboard panel, 50mm rockwool and 25mm phenolic foam to inside of panel, believed to be in line with Building Regulations (and so approved) at time of install.</p> <p><u>Under window panels within bedroom:</u></p> <ul style="list-style-type: none"> <li>• Concrete wall terminates short of window section. In-situ construction of fire-foam and PVC capping trim.</li> </ul> <p><b>Remove trim and foam, apply ablative batt and intumescent mastic to end of wall and seal.</b></p> <p><u>Party walls between maisonettes:</u></p> <p><b>Undertake works identical to those to bedroom window panels. Remove trim and foam, apply ablative batt and intumescent mastic to end of wall and seal accordingly.</b></p> <p><u>Cross-corridor stair detail:</u></p> <ul style="list-style-type: none"> <li>• Viewing of common area ceiling void shows that underside of staircase of maisonettes breaches communal ceiling.</li> <li>• Level of protection to timber staircase structure not known, assumed to be inadequate.</li> <li>• White board-type products fixed to stair timbers and sealed with tape. Possible asbestos containing materials.</li> </ul> <p><b>Remove existing protection. Install shaft wall bulkhead boxing formed of metal stud and plasterboard to be fixed to soffit, slab and walls only.</b></p> <p><b>This report finally notes that all penetrations through compartments require sealing utilising ablative batts, intumescent mastics, intumescent closing devices, etc. This includes compartment breaches between dwellings &amp; common parts.</b></p> <hr/> <p>In addition to those reports included above, we have been provided with an Emergency lighting periodic inspection report, reference M81, undertaken by Spokemead Maintenance Ltd and dated 01/04/2020.</p> <p>This report includes assessment of landlords emergency lighting to stairwell, landings, corridors, lift lobbies, tank rooms, fan rooms and the lift motor room.</p> <p>A large number of variations from current regulations are noted including:</p> <ul style="list-style-type: none"> <li>• No accurate design plans available on-site</li> <li>• No lighting to final exit door.</li> <li>• No key switch to lift motor, tank or fan rooms.</li> <li>• Insufficient illumination to all enclosed corridors due to incorrect spacing and ceiling height restrictions.</li> </ul>
---	---

**D. Full  
intrusive fire  
risk  
assessment**

- Emergency lighting over 2M from dry risers in lift lobbies.
- Insufficient lighting to pram sheds and all fan/ tank rooms.
- Lighting is not present at each change of direction to common stairs but does provide sufficient illumination to stair treads.
- No test to lift car emergency lighting due to access/ conflict of contract.

Though the tested elements return “satisfactory” results where applicable, it is clear that the system in-situ is not to current standards.

Given that works are required to the emergency lighting to meet current standards and considering the fact that extensive refurbishment is required to common parts which is likely to require at least partial removal of communal ceilings. Light fittings are Generally wall-mounted but it is our expectation that service runs will be present within the communal ceiling void. **We recommend replacement of the emergency lighting system in full to meet current regulations.**

**As part of proposed renewal of communal/ emergency lighting a Thornlux Smartscan system has been requested by the London Borough of Southwark mechanical and electrical department.**

We have been provided with an intrusive fire risk assessment report, compiled by Phoenix Green Group, dated 08/03/2021. This report assesses the common parts and a single sample dwelling (number 76) including elements of destructive sampling to complete the assessment.

The purpose of the report is to identify hazards, reduce the risk of hazards causing harm and to analyse the existing fire precautions/ policies to identify areas for improvement. Operational tests were not carried out to mechanical or electrical systems as part of this survey.

The report prioritises the recommended works into categories, allocating target timescales to undertake actions. These timescales range from “at the next refurbishment” to “within 24 Hours”. As part of this exercise, the report has identified areas of non-compliance within relevant sections.

The report allocates a fire risk rating to the building of “Substantial”. This is the second-highest possible rating and considerable action is required to reduce this risk allocation. A full breakdown of required actions can be found within section 6 of this report, spanning pages 14 to 27 of the report. These recommendations include some management related items such as the imposition of regular testing/ maintenance schedules. However, the majority of the actions relate to building fabric works required to reduce fire risk. We have summarised the remaining sections of this report below:

Section 7 – Arson

This section contains one “non-compliant” item, to ensure that the fob-controlled maglock entry door is working to upper ground floor.

Section 8 – Automatic fire extinguishing systems

This section contains one “non-compliant” item, being to ensure/ evidence that sprinkler head within the ground floor bin store is operational. ***(This is superseded by comments in section 3.17F).***

Section 9 – Balconies/ terraces

This section contains two “non-compliant” items. The first recommends replacement of “green” infill panels deemed non-compliant under BS8414. The second is a management item requiring tenants to be informed of policies regarding storage of belongings to secondary escape balconies.

Section 10 - Cladding

This section contains one “non-compliant” item, being to ensure that infill panels are of sufficient fire rating and to replace these in suitable alternatives where they do not achieve this standard.

Section 11 – Dangerous substances

No non-compliant items are identified within this section.

Section 12 – Electrical ignition sources

This section contains three “Non-compliant” items. These include missing trunking, unsatisfactory wiring/ cable runs & lack of locking of electrical cupboards in places.

Section 13 – Emergency escape lighting

This section contains no non-compliances. However, this should be superseded by the works identified above in section 3.17C regarding emergency lighting on the basis that this FRA includes no operational test of electrical systems, whereas the above-referenced Spokemead assessment of communal/ emergency lighting does consider full system operability and the requirements to achieve modern standards of compliance.

Section 14 – Fire doors

This section contains 8 “non-compliant” items, some of which are noted as being applicable to the whole building. These include but are not limited to: Non-compliant doorsets where required to be FD30 standard (e.g. in places between lift lobbies and corridors), recommendations to install FD60 standards doorsets in places such as to bin store and recommendation to upgrade self-closing devices to dwelling FED’s. This section also contains management related actions such as ensuring that audits/ periodic inspection and maintenance schemes are in place specific to fire doors. Discussion regarding renewal of FED’s is required as this has previously been recommended by Phoenix Green. **The recommendation to renew FED’s supersedes overhead closer installation recommendations.**

Section 15 – Fire safety signs and notices

This section contain two “non-compliant” items, these include missing direction of travel signage to 14<sup>th</sup> floor stairwell and missing fire doors signage to 13<sup>th</sup> floor stairwell.

Section 16 – Fixed systems and equipment

This section contains no non-compliant items.

Section 17 - Housekeeping

This section contains three “non-compliant” items, all of which relate to management of the building.

Section 18 – Lightning

This section contains no non-compliant items.

Section 19 – Means of escape from fire

This section contains seven “non-compliant” items. These include but aren’t limited to: Lack of push-bar fittings to fire exit doors, ease and adjustment required to some fire doors where difficult to operate & to install FD30 doorsets at mid-point of enclosed landings. **Please note, actions to install doorsets to communal landings contradict recommendations from fire engineer. In such circumstances, recommendations from the fire engineer are likely to be undertaken, but items such as this should be subject to discussion with the Clients fire safety team.**

Section 20 – Means of giving warning in case of fire

This section contains one “non-compliant” item. This is a recommendation to extend fire detection system to a 3<sup>rd</sup> party receiving centre. **We believe this to be an advisory point as opposed to a non-compliant element of the building.** Please note fire detection upgrades are in progress.

Section 21 – Measures to limit fire spread and development

This section contains thirty-nine “non-compliant” items including, but not limited to: general requirement to improve compartmentation as compartment breaches are identified in multiple locations across the building, riser panels are identified as requiring replacement, over-panels to dwelling internal doors noted as non-compliant, etc. in 2009/10 internal doors were replaced and the frames upgraded only (overhead panels did not form part of these works). As part of the proposals, it is recommended that all internal doors and frames be renewed with a fire rated and certified door and frame set in order to achieve full compliance with current standards.

A number of these items relate to management of the building such as ensuring maintenance/ testing regimes for bin chute fire shutters.

**This report suggests that additional doors are required to sub-divide corridors to reduce travel distances between compartments. However, this has been discussed with the LBS Fire Safety Team and they have confirmed that this approach is not their desired option.**

**Please note: We have identified woodwool and permanent shuttering within “photo 44” found within section 21. This is located to the service riser for soil stack and represents a continual breach of compartments. It is likely that the soil stack will need to be stripped in full to facilitate remediation of this.**

Section 22 – Outside contractors

This section contain no non-compliant items.

Section 23 – Portable Heaters and heating installations

This section contains no non-compliant items.

Section 24 – Procedures & arrangements

This section contains two “non-compliant” items. Both items are relevant to management of the building and include keeping of records on site & managing routine inspections of the building.

Section 25 – Records

This section contains three “non-compliant” items. All are relevant to management of the building and all relate to organising and managing routine testing maintenance and record-keeping.

Section 26 – Smoking

This section contain one “non-compliant” item. This is an action to ensure that utility/ storerooms remain locked (management item) and to ensure that “no-smoking” signage is displayed on every floor.

Section 27 – Testing and Maintenance

This section contains seven “non-compliant” items. All items are related to management of the building with all being either to put in place maintenance/ routine testing regimes or to ensure adequate record-keeping.

<p><b>E. Fire strategy report</b></p>	<p><u>Section 28 – Training and drills</u>  This section contains two “non-compliant” items, both of which relate to management of the building and management of contractors undertaking works to the building.</p> <p><u>Section 29 - Windows</u>  This section contains no “non-compliant” items. This section does not mention spandrel panels that are known to require renewal and would be considered to be a part of the window installation.</p> <p>The remaining sections do not contain building-specific data or recommendations. A number of “excluded areas” are noted. These include locked doors to floors 2, 6, 8 &amp; 10, locked refuse doors, locked door to community cycle hub (external ground floor) and a locked door to the boiler room.</p>
	<p>We have been provided with a report compiled by Freya comprehensive fire solutions limited, report reference: FSS/311336-01, dated May 2021. This report analyses Marie Curie to create a fire strategy for the building specific to proposed refurbishment, taking into account fire regulations and controls at the time of construction and at various stages through the lifespan of the building. This then forms the basis of recommendations to improve fire safety of the whole building.</p> <p>The report describes the building and analyses the existing construction/ systems in-situ, in consideration of existing arrangements regarding escape, to offer recommendations on fire-engineered solutions to mitigate the risks currently posed to the building. Recommendations are contained within page 25 of the document. Below is a summary of each relevant section including recommendations arising.</p> <p><u>Section 5 – Means of warning</u>  Herein, it is acknowledged that the alarm system in-situ exceeds the minimum statutory requirement for dwellings. This also acknowledges the existing simultaneous evacuation strategy temporarily adopted and that the building is provided with a fire engineered category L5 alarm system. The building is intended to be returned to a ‘defend in place’ strategy upon completion of future refurbishment. <b>Recommendation is to install Fire alarm control panel at ground level.</b></p> <p><u>Section 6 – Means of escape</u>  This notes a “high degree of compartmentation within dwellings”. However, this section notes that the possibility of smoke and fire spread cannot be overlooked. Analysis is given to the existing layout of maisonettes and the original criteria for maisonette design at the time of construction, CP3. It is noted that the lack of separation of living space by fire resisting construction is likely the driving factor behind provision of alternative means of escape via pass doors in bedrooms and dwarf-doors leading to common parts. Furthermore, it is noted that such “dwarf doors” are no longer an acceptable solution under current guidance.</p> <p>Within common parts, the introduction of security doors is believed to compromise the smoke dispersal measures of the original CP3 design criteria and brings the building closer to smoke containment design. This follows that the originally intended travel distances are no longer achieved, but with three means of escape a 30-metre travel distance within the corridor is permissible. The report then analyses horizontal evacuation via balconies and states that “there is some risk that the part of the balcony that adjoins a dwelling which is on fire may become impassable”.</p>

**Acknowledging that the construction of doors/ walls facing onto the balconies will be replaced, the recommendation is to ensure that designs meet current BS9991. This includes minimum 30-minute fire resisting construction up to a minimum height of 1100mm with doors opening onto balconies being of minimum FD30 standard with self-closing provision.**

**As a minimum, one elevation should be protected.**

Section 7 – Emergency lighting and exit signage

Emergency lighting is required to the whole building to meet BS5266-1:2016<sup>7</sup>. Escape signage should be provided to BS 5499-4:2013<sup>8</sup> or BS ISO 3864-4:2011<sup>9</sup>.

Section 8 – Bathroom ventilation ducting

Currently vented by vertical steel ducts extending the height of the building. The system is in constant operation. The report does not recommend decommission of this system. It is recommended that intumescent vents are provided between each bathroom and the extract ducting and the condition of the duct is fair presently. **This has been superseded by previous recommendations.**

Section 9 – Smoke Hazard Management

Smoke ventilation system in situ intended to limit smoke as far as possible to levels affected by fire/ restrict re-entry of smoke on other levels/ assist smoke clearance from stairwell.

**It is recommended that all protected lobbies leading into fire-fighting stairs & all protected corridors serving maisonettes be provided with an AOV achieving minimum 1.5M<sup>2</sup> open area, to be bottom or side-hung. This should be linked with alarm system and should only open on the level(s) affected by fire/smoke.**

It is noted that east-elevation doors leading to fire-fighting stairs from balconies can function as an automatic openable vent with 1M<sup>2</sup> open area provided security devices can be overridden in event of fire. To the west elevation, a new partition and door capable of achieving 1M<sup>2</sup> is recommended to replace the existing open-plan area. An AOV should be provided at the head of the stairwell to achieve minimum 1M<sup>2</sup> free venting area.

Finally, refuse chutes should be provided with ventilation of minimum 0.2M<sup>2</sup> free venting area (which is achieved through the open vent within the area of the refuse chute).

Section 10 – Manual operation of smoke vents and AOV's

Override controls for AOV's should be installed near ground floor fire alarm control panel to permit fire service use. Further override controls should be installed at storey levels to permit activation before entry to smoke-logged sections of the building. All override/ other controls should be provided with adequate signage unless a "break-glass" system is utilised in which case the operational instructions are not required (control instruction is on switch). Protective casing should be installed to dissuade misuse/ vandalism of controls.

Section 11 – Internal fire spread (linings)

Internal fire spread is a risk and build-up of decorations can be a contributing factor to fire spread in older buildings. It is recommended that all decorations are stripped prior to redecoration. Floor finishes are not considered to be major contributory factor. Classification guides for wall and ceiling linings are explained in table 1 of the fire engineers report. The general recommendation is to avoid "Class 3" products where possible.

### Section 12 – Internal fire spread (structures)

Reference is made to BS 9991 regarding fire resistance and structural integrity. It is noted that the design of buildings should protect from progressive collapse after failure of one element of construction. In short, fire-resistance period for structural elements should be not less than 90-minutes. It is accepted that in this case it may not be possible to determine exact fire resistance of existing construction, however all fire stopping works to structural elements should be undertaken in line with this standard.

**All installation will require a detailed photographic asset-registered record of installation undertaken by third-party certified designers/ installers. We would suggest in addition to this basic requirement a regime of independent quality review is undertaken in an agreed format.**

**We would suggest that LBS develop a PPM review for fire-stopping every 5 years.**

### Fire separation and compartmentation

Protected corridors should provide 60-minutes fire resistance as minimum standard. In addition, vertical compartments between maisonettes should achieve this standard. Horizontal compartmentation between dwellings (typically between lounges and bedrooms of different flats) should achieve minimum 90-minute fire resistance. Horizontal compartmentation between internal corridors and flats above should achieve a minimum 90-minute fire resisting standard also. In addition, all service risers including cover/ inspection panels should achieve minimum 90-minute fire resistance.

The firefighting lobbies, firefighting stairs and firefighting lift should be minimum 120-minute fire resisting.

### Fire doors

Dwelling entrance doors, doors to protected corridors/ lobbies & doors from east balconies to fire-fighting stair should all be minimum FD30S standard including self-closing.

Doors leading into firefighting stair should be minimum FD60S standard including self-closing.

Hatches and covers to service risers should be minimum 60-minute fire resisting.

All common area fire doors should be minimum 30-minute fire resisting and self-closing. Magnetic “hold-open” devices could be utilised in common parts if such doors are expected to be over-used/ rendered defective by building users. These should then be linked to the alarm system with the “hold-open” function to disengage upon alarm. Requirements under British standards are listed within the fire engineers report.

### Glazing

Where smoke separation involves glazing, this should perform to the same fire resisting standards as the surrounding/ accompanying construction.

### Lift doors

Should be tested to appropriate level of fire resistance under BS EN 81-58:2018<sup>20</sup>. BLL: In this instance the lift doors would be expected to achieve 120 minutes fire resistance.



### Cavity barriers

Figures 11 & 12 within the engineers report show performance criteria for existing and new cavities. This includes surround of openings such as windows/ doors and at the junction of external walls/ compartment floors and junction internal cavity walls & compartment floor/ wall/ door where these for a fire resisting barrier.

Compartment walls should be continued through ceiling/ roof cavities (full storey height). This includes at top of roofs also. It is noted that the fitting of cavity barriers above compartment walls to complete the compartment line is not appropriate.

In view of preventing extensive cavities, any cavities such as suspended floors/ ceilings require cavity barriers to observe maximum 20M linear dimension. Partitions between rooms should be fitted with cavity barriers or enclosed by fire resisting ceiling extending throughout the building/ compartment.

All services and other penetrations through compartments should be sealed with appropriate fire resisting systems/ materials. All such items are required to be supported by test data and should be installed in line with manufacturers and test/ certification requirements.

Fire/ smoke control assemblies should be supported by test data and third-party certification. Test evidence should be held on-site available for inspection.

### Section 13 – External fire spread

Table 2 within the report defines performance regarding surface spread of flame. As Marie Curie is over 18M in storey height, all insulation, products and other materials used in construction of external wall (excluding gaskets, sealants and similar) should be minimum A2-S1, d0 or better standard. This limits areas of external construction with reduced or no protection & reduces the risk of spread of fire between buildings. In this instance, with refurbishment not to change use of the building, external fire spread risk (between buildings) is not expected to increase.

### Section 14 – Access and facilities for fire service

A dry rising main is in-situ and was installed as it not possible to reach all residential areas within 45M. This permits fire-fighting appliances within 18M of dry rising main at each core. Outlets are located at each odd-numbered floor. It is recommended that the protected lobby leading to fire-fighting stairs is upgraded to form part of the fire-fighting shaft (Upgrade compartment performance).

External/ access doors should be easily accessible to emergency services. As such, fire-fighters override switches are required to any secured doors. Signage is required to each core denoting floor number, maisonettes within. This should also extend to corridors/ lobbies showing approach direction. Smoke control strategies are contained within section 9.

### Summary recommendations

- **Remove “Dwarf doors” between flats and internal corridors.**
- **Stair should be separated at all levels with fire doors.**
- **Lift lobbies separating stair from corridor on odd numbered floors should be fitted with automatically opening vents on the left-side opening to the floor below.**
- **Lift lobbies should be separated from corridors by fire doors.**
- **Openings at ends of communal corridors should be fitted with automatically opening vents.**
- **Space between fire-fighting lobby and balcony on even-numbered floors should be enclosed with fire door and screen.**

<p><b>F. Automatic Fire Suppression System (AFSS) Provision</b></p>	<ul style="list-style-type: none"> <li>• The stair should be provided with an automatically opening vent at highest level, linked to corridor AOV system with fire-fighter override at each level.</li> </ul> <p>There appear to be two differing routes to compliance which have some elements of conflict between them, the building refurbishment could be carried out following the basic as built design or following the Fire Engineered solution. The client will need to provide direction on the preferred solution prior to undertaking full design.</p> <hr/> <p>In addition to the above, the installation of an Automatic Fire Suppression System (AFSS) system has been considered alongside the extensive refurbishment works proposed. In May 2020, amendments to part B of the Building Regulations were published and these amendments included a reduction in the “trigger height” (height at which something is required) from 30M to 11M. While this is primarily applicable to new buildings, this item should be considered due to the extent of refurbishment to be undertaken.</p> <p>It should be noted that in this regulation Automatic Fire Suppression Systems are not required to common areas where these areas are “fire sterile”.</p> <p>Should a full system be installed it is unlikely that currently decommissioned ground-floor refuse AFSS would require reinstating.</p> <p><b>We recommend installation of an Automatic Fire Suppression System to Marie Curie. However, this is not required as part of the engineered fire solution to the building.</b></p> <hr/> <p><b>G. Additional comments</b></p> <p>Consultation with the Local Authority Building Control (LABC) and the London Fire Brigade (LFB) will be required, along with consultation between the LBS Fire Safety Team and these relevant parties with regard to the proposed scope of works and regulatory requirements. In particular, elements such as Automatic Fire Suppression System provision and ventilation strategies may be impacted by the view of the LABC and LFB.</p>
<p><b>3.18 Lightning Protection</b></p>	<p>An assessment of the building has been undertaken to determine the condition of the existing installation if any and to assess its compliance with BSEN62305, the inspection covers the existing systems condition, Main earth terminal bond (MET) and presence of surge protection.</p> <p>Where systems are not installed additional design work will be required to determine the level and extent of any protection required to meet with the requirements of BSEN62305. This system has been installed to BS EN62305 but is complete with the MET, the system appears to be without visible damage and requires, at the time of inspection, no repair works.</p> <p><b>The system in-situ requires the installation of surge protection.</b></p>

<p><b>3.19 Works in Occupation</b></p>	<p>Because of the extent of the works proposed, the dwellings will need to be vacated during the entire duration of the works due to:</p> <p><u>Lack of welfare.</u></p> <ul style="list-style-type: none"> <li>• No furniture or furnishings: all furniture and furnishings will need to be removed to facilitate the works</li> <li>• No sanitation: bathrooms will need to be removed and services disconnected</li> <li>• No drinking water: services will be isolated/removed</li> <li>• No cooking facilities: kitchen and associated services will be removed.</li> <li>• Exposure to weather as a portion of the external walls are reconstructed.</li> <li>• No active heating service for duration of works.</li> <li>• Potential lack of security as doors are renewed.</li> </ul> <p><u>Health and safety</u></p> <ul style="list-style-type: none"> <li>• Residents may be exposed to asbestos fibres during removal as they will not be wearing the correct PPE.</li> <li>• During strip out works, residents may be exposed to slips trips and falls, falls from height when bannister rails and staircases are removed, cuts and abrasions from demolition and building materials</li> <li>• Exposed to excessive levels of noise.</li> <li>• Potential to be hit by falling objects.</li> <li>• Exposure to machinery and hand tools.</li> <li>• Lack of space, due to the number of operatives and integration of trades.</li> <li>• Potential risks as a result of Covid-19.</li> </ul> <p>The scope of refurbishment recommended includes near full reconstruction of internal dwelling elements including kitchens, bathrooms, floors, walls, ducts, rewiring, external-wall panels, etc. This taken alongside the extensive refurbishment proposed to common parts, which would see key safety provisions such as emergency lighting impacted, suggests that undertaking the recommended scope of works in occupation will not be feasible.</p> <p><b>An assessment of level of decant should be undertaken and a decant strategy agreed as to whether to decant vertically to allow for works to stack pipes and rising services or horizontally to allow for works to communal walkways and associated services or the full decant of the building, such strategy will depend upon the local availability of housing stock, leaseholder engagement and budgets.</b></p>
--	---

<p><b>3.20 Potential Consequential works</b></p>	<p>Construction works within the dwelling are likely to lead to full rewire, this will require the relocation of the fuse board and renewal of lateral mains. <b>The relocation of the fuseboard needs to be carried out in conjunction with the provision of an appropriate location which will be dependent on the chosen fire strategy and design solution.</b></p> <p>Water mains run between compartments, removal of these and alteration are likely to require reconfiguration and it will be beneficial to renew the whole system, which will be designed to consider the low water pressure currently experienced on-site.</p> <p>Soil services are copper with braised joints these are likely to have a reduced life expectancy, whilst ducts are open and major works are being undertaken and connections for kitchen and bathrooms are being made to these, if even possible, consideration for wholesale renewal is advised.</p> <p>Heating systems will be fully exposed when internal walls and external panels are removed, much of the primary pipework is likely to be supported from these structures, and risks will become evident when these are adapted and temporarily supported, as such their wholesale renewal is advised.</p> <p>Primary supply services heating and cold water are contained within ducts, primary heating services are circa 40 years old having been installed following the removal of air heating, if the building is to be decanted renewal of the system with a more modern system with greater efficiency is advised.</p> <p>Primary water supplies, the existing system is likely to be of steel barrel which is likely corroded due to its age. The system feeds storage tanks at high level, renewal of the rising mains with a simpler mains supply to each dwelling with PRVs and removal of the high-level tanks would provide a system with less potential maintenance obligation.</p> <p>As a consequence of providing direct-to-air ventilation to the bathrooms, there is no longer a requirement to have the bathroom and communal extract system protected by a second lobby within flats. In many instances this has already been removed by residents to improve internal space. As such flats can be reconstructed following this revised layout principle.</p> <p><b>The above items fall outside the current QHIP brief but are provided only due to the anticipated level of works anticipated and should be considered if the building is to be decanted.</b></p>
<p><b>3.21 Technical Appraisal and Programme</b></p>	<p>Given the extensive scope of works being proposed and considering the impact that this would have upon residents/ building users, a technical appraisal has been produced illustrating the nature of these works and the impact that they will have. This appraisal looks into possible works processes, the impact upon building services and safety and possible methods for facilitating and undertaking the required works. This technical appraisal is available in report format in appendix "O" of this report.</p> <p>In conjunction with the above appraisal, an indicative programme has been created with a view to illustrating the anticipated timescales associated with the required works. This programme is compiled in line with the principles illustrated within the abovementioned technical appraisal and can be found within appendix "P" of this report.</p>

<b>3.22 PPM Review</b>	<p>Due to the extent of works being proposed within the dwellings, with specific reference to fire-stopping, it would be prudent to establish a review process which seeks to ensure that the installed compartmentation and fire-stopping has not been damaged due to water ingress, other operations/ maintenance, resident activity, or other activity outside of the direct control of LBS. Such reviews could occur on a 5-yearly basis (as previously referenced within this report.</p> <p><b>We recommend that a 5-yearly PPM schedule is implemented following completion of works.</b></p>
------------------------	--

## 4. Appendix

- a) Photographic Defects Schedules
- b) Photographic Door Schedules
- c) Internal Works Spreadsheet
- d) Asbestos Survey Reports
- e) LBS Fire Risk Assessment Report 27/01/20 and Asset Identified 07/08/17
- f) Lead Paint Test Report
- g) Phoenix Green Fire Risk Assessment Report 08/03/21
- h) Phoenix Green Compartmentation Works Report 21/12/20
- i) Freya Comprehensive Fire Solutions Fire Safety Strategy 05/21
- j) Spokemead Emergency Lighting Periodic Inspection Report 01/04/20
- k) RFI Schedule
- l) Under-window Panel Report
- m) Works Brief
- n) Langley Roof Report
- o) Technical Appraisal
- p) Indicative Programme
- q) Queries Raised

## 5. Signatures

**Signed:**

**Date:**

**Print Name: Christopher Orford**

**Position: Blakeney Leigh Surveyor**

**Signed:**



**Date:**

**Print Name: John Ottley**

**Position: Blakeney Leigh Senior Surveyor**