Fire Risk Appraisal of the External Wall (FRAEW)

Property
Aura Court, 1 Percy Street, Manchester, Old Trafford, Manchester, M15 4AB

Client
Edgerton Estates Limited

Job Nr
34254

Issue Date
27/02/2024

Revision
01

Reference
35254-BPC-XX-XX-RP-B-0001

Document Revision History

Revision	Date	Issue / Revision Details	Prepared By	Checked By	Approved By
01	27/02/2024	01	RK	KB	MM
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-

Document Validation (Latest Issue)

Revision	Date		Prepared By	Checked By	Approved By
01	27/02/2024	Name	Ryan Kong	Kenneth Birch	Max Mccarthy
		Position	Building Surveyor	Director (BS/PM)	Senior Associate Fire Engineer
		Signature			

Contents

Appendices

1. Executive Summary

1.1. Overview of Instruction

1.1.1. Following formal instructions received on 7 September 2023 from Edgerton Estates Limited, Bailey Partnership (Consultants) LLP undertook a Fire Risk Appraisal of the External Wall (FRAEW) of Aura Court, 1 Percy Street, Manchester, M15 4AB, in accordance with the methodology contained within PAS 9980:2022. In producing this FRAEW, an initial desktop study of historic information was undertaken, followed by on site intrusive investigations undertaken on 1 December 2023.

1.2. Building Risk Rating

1.2.1. Following completion of our FRAEW report, holistically considered, the collective effect of the fire safety measures present on/at the building (as opposed to each measure in isolation), is that the external wall systems present do have a detrimental impact on the overall fire safety of the building. Taking into account the impact of the timber cladding and exterior timber walkway, the risk rating in line with PAS 9980:2022 is therefore considered as **HIGH**.

1.3. Recommendations - Interim Measures

1.3.1. Interim measures are recommended to be actioned by the Responsible Person(RP) and/or the duty-holder(s) as follows:

a) Clear dialogue should be established between the responsible person and the relevant fire and rescue service to inform all parties of the current building arrangements including any risks associated with the combustible/flammable materials listed within this report;

b) A clear dialogue should be established between the responsible person and the current occupants of all apartments to notify them of the fire action and evacuation strategy;

c) A fire risk assessment should be urgently undertaken as the FRA produced by Cardinus Risk Management, dated 11th March 2019 is out of date. This review should include consideration of the current evacuation strategy to establish its suitability. If the current strategy is found to be inappropriate for the current risk, the National Fire Chiefs Council (NFCC) guidance should be considered;

d) Review and update the fire safety management procedures for the building;

e) An action plan should be developed for recommended remedial works, and these actions should be undertaken in a timely manner;

f) The RP and/or the dutyholder are advised to promptly implement policies to regulate the usage of exterior walkways. This may involve for example, prohibiting smoking, the use of naked flames and the storage of flammable or combustible materials on the exterior walkways in inner courtyard;

g) Identify any vulnerable residents who might not be able to promptly evacuate independently from the building without assistance in the event of a fire (this should also be considered within the fire risk assessment);

h) Check that all facilities provided for fire-fighters remain available at all times, and are properly maintained;

i) We would further recommend - visual checks to the compartmentation of the stairwells by a suitably qualified and experienced professional, including service risers and voids;

j) Audit the functioning / operation of the fire alarm / smoke detection system and consider the suitability of this for the fire evacuation strategy;

k) The risk of external ignition of the cladding system (e.g. taking into account the height at which the cladding starts, the proximity of vehicles in relation to the cladding) was considered to be low risk. However, consideration should be given to controlling any hot works in the vicinity of the external wall systems by instigating a Hot Works Permit System.

l) The above recommended short-term interim measures represent a minimum standard and must be properly informed by the significant findings of a suitable and sufficient, comprehensive, fire risk assessment, the findings of which must be shared with the local fire and rescue services and the residents of Aura Court. Whereas there is no legal requirement to have the works verified by a third-party accredited competent person, it is often an approach favoured by fire authorities.

1.3.2. Any requirements for interim measures may be increased if the building is occupied by vulnerable people. We have not been provided with any details in this regard and it is important for Edgerton Estates Limited to gather information and share this with the fire risk assessor as previously identified within this report.

1.4. Recommendations - Remedial Actions

1.4.1. Remedial actions recommended are as follows:

a) Wall Type 1 - Artstone

Based on the **"low"** risk outcome, it was determined that, given the circumstances:

i) the risk of external fire spread is extremely limited by the nature of the materials and wall build-up; and

ii) the potential for secondary fires in a flat resulting from a fire involving the external walls of the other flat is very limited, and it is considered highly unlikely that occupants would be harmed from secondary fires before escaping or being prevented from escaping; and

iii) there appears to be no scope for the communal means of escape to be compromised before occupants can safely use them to escape.

Accordingly, **no remedial action** was considered necessary.

b) Wall Type 2 - Timber Cladding

Based on the **"high"** risk outcome, it was concluded that, under all the circumstances:

i) the system may provide a mechanism for rapid external fire spread; and

ii) the potential for rapid secondary fires on upper levels is high and this may impact upon the ability of occupants to safely escape in the event of a fire; and

iii) it is also possible that the communal means of escape (exterior walkway in courtyard) may be compromised in a fire event because of the proximity of the wall system to the means of escape.

As a result, the most suitable approach to address this is deemed to be the **removal and replacement** of the current combustible timber cladding with an alternative system that achieves A2-s1, d0 or better rating. In addition, it is necessary to adequately implement the cavity barriers / fire breaks in accordance with the guidelines outlined in Approved Document B. By undertaking these comprehensive remedial works, the risk of external fire spread could be reduced from a "high" to a "low" risk band. Consequently, this will safeguard the building's

occupants by minimising the likelihood of ignition, restricting flame spread, and maintaining the integrity of the escape staircase in the event of a fire.

c) Wall Type 3 - Trespa HPL Cladding

Based on the **"high"** risk outcome, it was concluded that, under all the circumstances:

i) the system may provide a mechanism for rapid external fire spread; and

ii) the potential for rapid secondary fires on upper levels is high and this may impact upon the ability of occupants to safely escape in the event of a fire; and

iii) it is also possible that the communal means of escape (exterior walkway in courtyard) may be compromised in a fire event because of the proximity of the wall system to the means of escape.

As a result, the most suitable approach to address this is deemed to be the **removal and replacement** of the current HPL cladding with an alternative system that achieves A2-s1, d0 or better rating. In addition, it is necessary to adequately implement the cavity barriers / fire breaks in accordance with the guidelines outlined in Approved Document B. By undertaking these comprehensive remedial works, the risk of external fire spread could be reduced from a "high" to a "low" risk band. Consequently, this will safeguard the building's occupants by minimising the likelihood of ignition, restricting flame spread, and maintaining the integrity of the escape route in the event of a fire.

d) Wall Type 4 - Brickwork

Based on the **"low"** risk outcome, it was concluded that unduly rapid external fire spread was not anticipated, but, in any case:

i) it is unlikely that occupants would be unduly harmed from secondary fires and nor would the ability of occupants to safely escape (should they chose / need to) be affected; and

ii) it is unlikely that the communal means of escape would be compromised before occupants could safely use them to escape.

Accordingly, **no remedial action** was considered necessary.

e) Undercroft Type 2 - Composite Decking

Based on the **"low"** risk outcome, it can be concluded that **no further appraisal and remedial action** is necessary.

f) Attachments 1 - Exterior Walkway

Based on the **"high"** risk outcome, it was concluded that, under all the circumstances:

i) the timber decking may provide a mechanism for rapid external fire spread; and

ii) the potential for rapid secondary fires on upper levels was high and this may impact upon the ability of occupants to safely escape in the event of a fire; and

iii) the walkways are considered a main and only means of escape for some residents and it was possible that the means of escape may be compromised in a fire event because of the proximity of the timber cladding wall system.

As a result, the most suitable approach to address this is deemed to be the **removal and replacement** of the current combustible timber decking with an alternative system that achieves A2-s1, d0 or better rating. In addition, it is necessary to adequately implement the policies to govern the walkway usage by residents such as prohibiting smoking and the storage of flammable and combustible items. By undertaking these comprehensive remedial works, the fire risk could be reduced from a "high" to a "low" risk band. Consequently, this will safeguard the building's occupants by minimising the likelihood of ignition, restricting flame spread, and maintaining the integrity of the escape staircase in the event of a fire.

2. Introduction

2.1. Introduction & Scope

2.1.1. Following receipt of formal instructions received on 7 September 2023, from Edgerton Estates Limited, Bailey Partnership (Consultants) LLP undertook a Fire Risk Appraisal of the External Wall (FRAEW) of Aura Court, 1 Percy Street, Manchester, M15 4AB, in accordance with PAS 9980:2022.

Figure 2.1 - Aura Court, 1 Percy Street, Manchester, M15 4AB

Fire Risk Appraisal of the External Wall (FRAEW)

Figure 2.2 - North East Elevation

Figure 2.3 - South Elevation

Figure 2.4 - South West Elevation

Figure 2.5 - East-Facing Rear Courtyard

Figure 2.6 - Inner Courtyard Area

Figure 2.7 - West-Facing Rear Courtyard

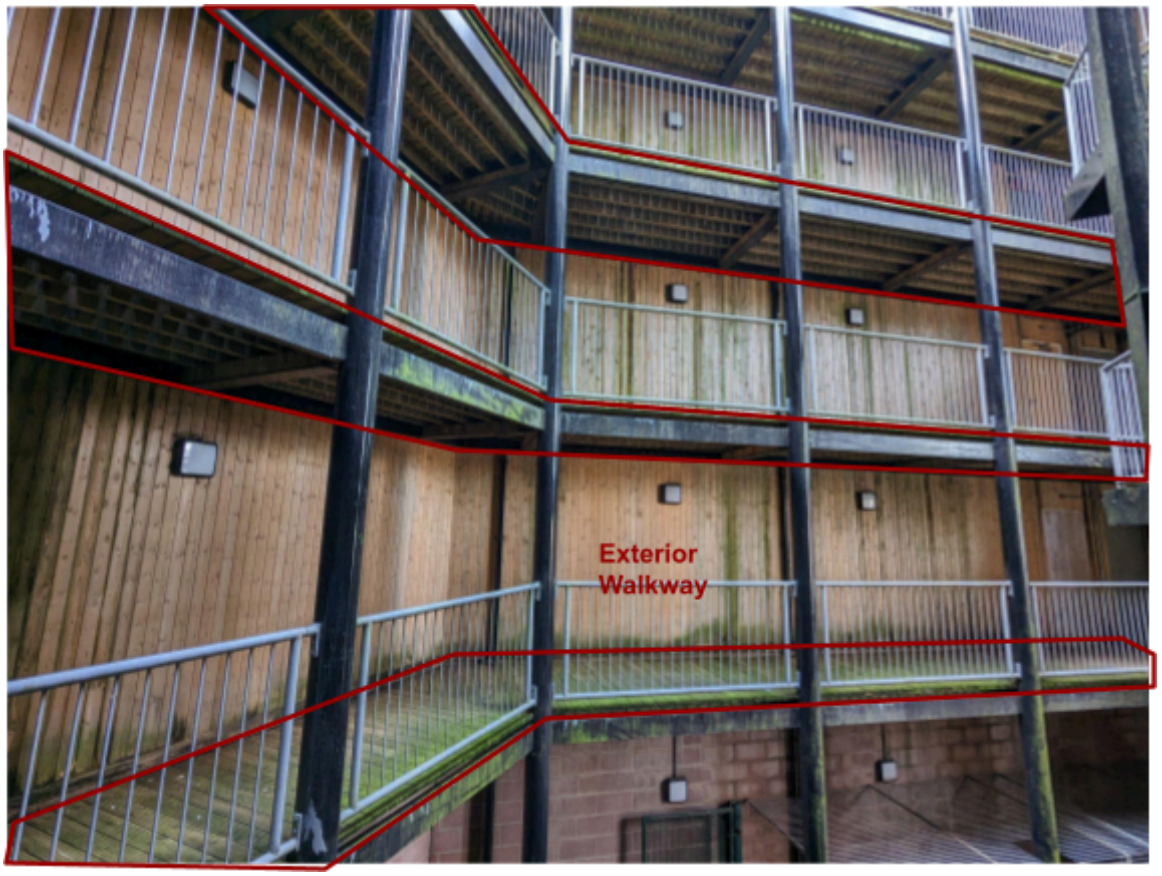

Figure 2.8 - Exterior Walkway

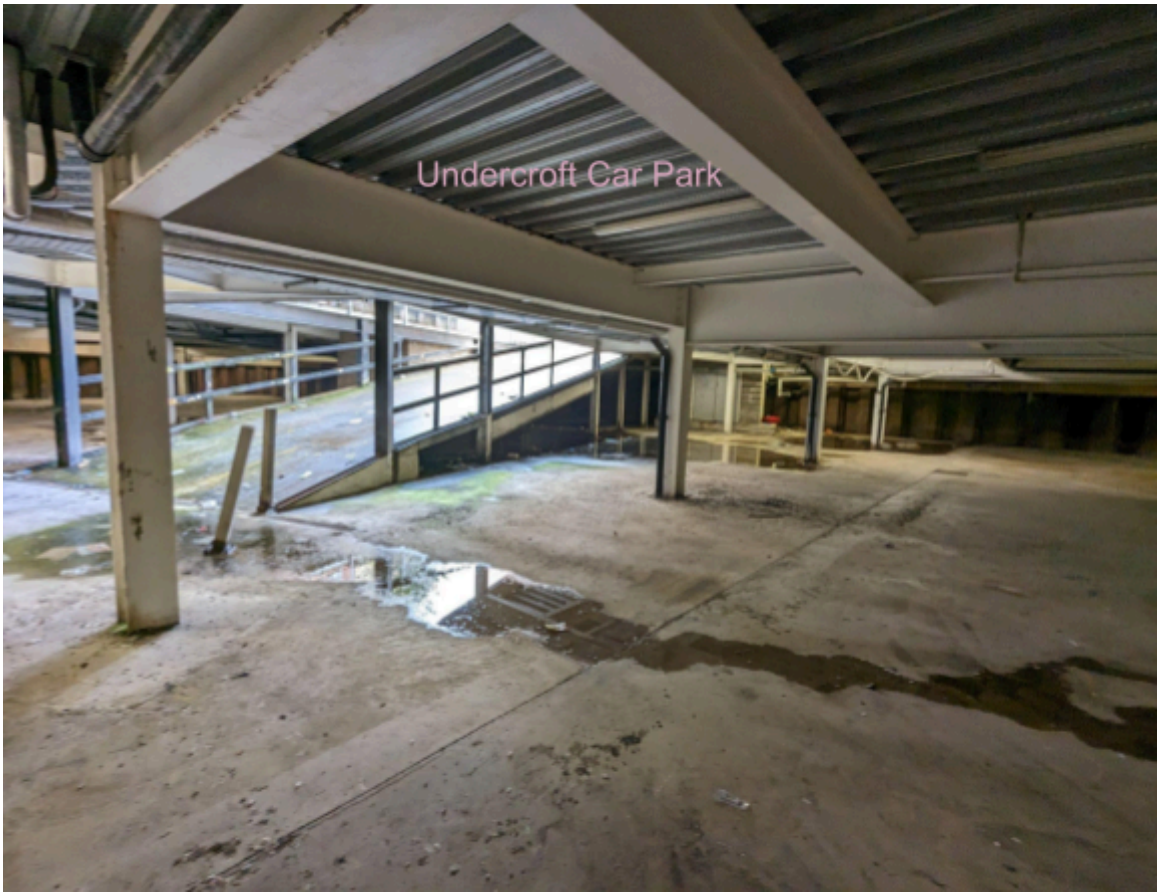

Figure 2.9 - Undercroft 1 - Car Park under Courtyard

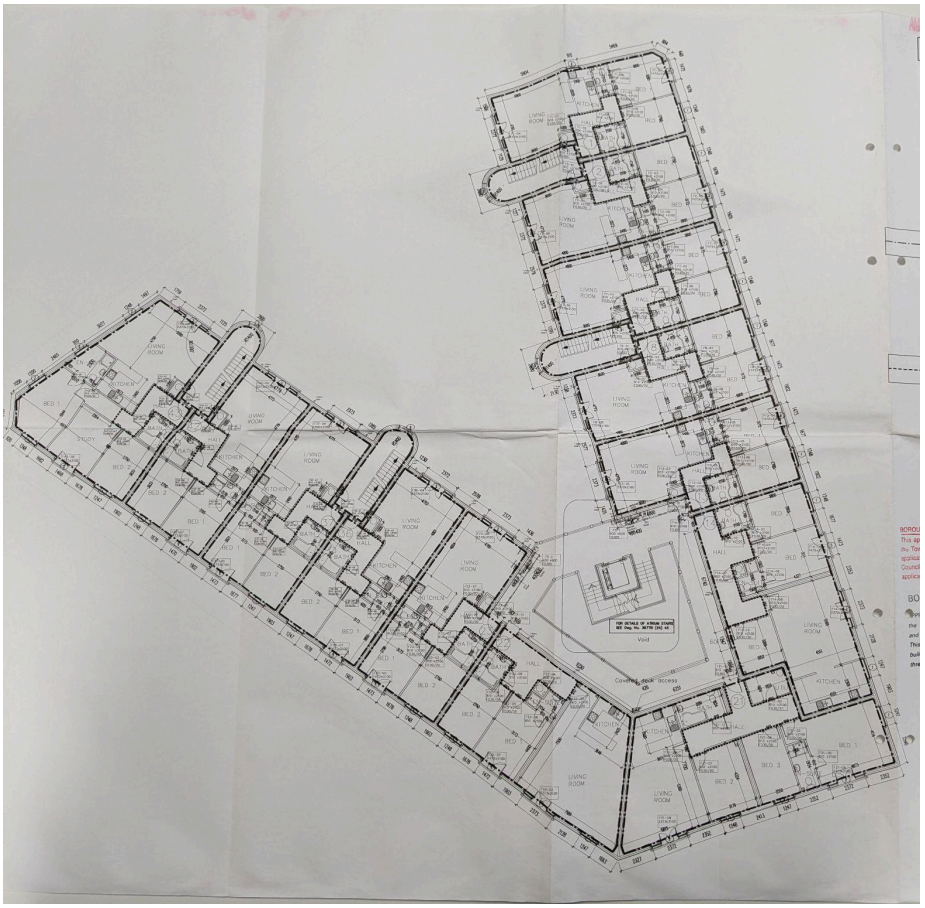

Figure 2.10 - Typical floor plan of Aura Court, 1 Percy Street

2.1.2. The Fire Risk Appraisal of External Wall (FRAEW) and initial investigations have been undertaken by suitably experienced and competent professionals. Investigations were undertaken by Ryan Kong BSc (Hons) MCABE. Using the information from these reports, this appraisal has been compiled and reviewed by Kenneth Birch BSc (Hons) FRICS, a Chartered Building Surveyor. This appraisal has subsequently received further input, evaluation and sign off by a competent and experienced Chartered Fire Engineer, Max McCarthy CEng MIFireE MCIOB MCABE, a Chartered Engineer, Chartered Building Engineer and Chartered Builder. This satisfies the requirements of Annex H of PAS 9980:2022 and EWS1 Form Note 3 (i) by holding suitable accreditations with the Institution of Fire Engineers (IFE).

2.1.3. Bailey Partnership (Consultants) LLP, is Bailey Partnership have extensive experience in the fire safety sector and have won numerous national industry awards including ‘Constructing Excellence’ for the replacement of combustible

materials within multiple high rise tower buildings and were National Finalists at the 2022 RICS Awards in the 'Outstanding' Large Firm Category. Bailey Partnership has an in-house Fire Engineering Team and provides multidisciplinary design services for complete facade remediation in house, with no requirement for subcontracting.

We maintain £10m professional indemnity insurance which includes fire engineering and cladding design, a copy of which is provided in Appendix J.

2.1.4. Aura Court, 1 Percy Street, Manchester, has been inspected using intrusive techniques in a number of targeted areas, with the inspections being undertaken on 1 December 2023. The inspections were targeted to investigate the existing primary external wall materials and any building attachments in accordance with PAS 9980:2022 requirements for inspection. We are satisfied that our inspection method represents best practice and that our records of the investigations evidence a fair representation of the quality of workmanship and standard of compliance across the property. The findings of these intrusive investigations are contained within this report.

2.1.5. This FRAEW is intended to inform the building's Fire Risk Assessment, and its findings are to be interpreted in the context of the ongoing legislative control over the building under the Regulatory Reform (Fire Safety) Order 2005. The FRAEW addresses life safety only in relation to the appraisal of the external walls of the building. In considering risk, this is only in relation to the threat to the occupants in the building and not in terms of property damage or other potential objectives. The FRAEW is not aimed at confirming compliance with building regulations, either at the time of construction or currently.

2.1.6. It is pertinent to note that the property's Fire Risk Assessment by Cardinus Risk Management, dated 11th March 2019 and External Facade Report by Facade Remedial Consultants, dated 23rd November 2018, have been reviewed as part of this FRAEW but has not been relied upon.

2.2. Key Building Information

<table>
<tr><td>Property Address</td><td>Aura Court, 1 Percy Street, Manchester, M15 4AB</td></tr>
<tr><td>Building Use</td><td>A six storey high block of flats with sixty self-contained residential apartments at first to six floors and retail at ground floor.</td></tr>
<tr><td>Number of Storeys</td><td>6</td></tr>
<tr><td>Number of flats</td><td>The Accommodations Schedule comprises:
<table>
<tr><th>Floor</th><th>No. of 1 Bedroom Flats</th><th>No. of 2 Bedroom Flats</th><th>No. of 3 Bedrooms Flats</th></tr>
<tr><td>1st</td><td>0</td><td>11</td><td>2</td></tr>
<tr><td>2nd</td><td>1</td><td>13</td><td>0</td></tr>
<tr><td>3rd</td><td>1</td><td>13</td><td>0</td></tr>
<tr><td>4th</td><td>0</td><td>2</td><td>0</td></tr>
<tr><td>Subtotal</td><td>2</td><td>39</td><td>2</td></tr>
<tr><td>5th</td><td colspan="3">4 nr of duplex units with 4 bedrooms</td></tr>
<tr><td>Total</td><td colspan="3">47</td></tr>
</table></td></tr>
<tr><td>Number of Stair Cores</td><td>5</td></tr>
<tr><td>Building Height</td><td>Circa. 15.15m to the finished floor level of the habitable top storey.</td></tr>
<tr><td>Date of Construction</td><td>Circa. 2005 (18-year-old)</td></tr>
<tr><td>Type of Construction</td><td>The building is constructed from a steel structural frame in conjunction with composite structural floor slabs formed from galvanised steel metal deck and reinforced concrete.

The building comprises various external masonry wall materials and cladding, and an exterior walkway with timber decking.

Below the courtyard, is an enclosed basement car park, which is currently mothballed.</td></tr>
</table>

External Wall Types	Wall Type 1 Outside > 100mm Artstone > 70mm cavity with 50mm phenolic insulation board > damp proof membrane > 100mm internal blockwork > 12.5mm plasterboard > inside Wall Type 2 Outside > 15mm timber cladding > 50mm timber batten > 100mm cavity > breather membrane > 10mm plywood board > 100mm timber framing infilled with glass fibre insulation > breather membrane > 10mm plywood board > 12.5mm plasterboard > Inside Wall Type 3 Outside > 8mm Trespa Meteon HPL > 120mm cavity > breather membrane > 10mm plywood board > 100mm timber framing infilled with glass fibre insulation > breather membrane > 10mm plywood board > 12.5mm plasterboard > Inside Wall Type 4 Outside > 100mm brickwork > 100mm cavity > breather membrane > 10mm plywood board > 150mm timber framing infilled with glass fibre insulation > breather membrane > 10mm plywood board > 12.5mm plasterboard > Inside
Attachments	Timber exterior walkway in the inner courtyard.
Other External Considerations	The fire escape route at the inner courtyard leading towards the open space was blocked by the metal gate.
Building Control Approval	A Certificate of Completion in respect of Building Regulations Approval was issued on 9th August 2007 and 12th September 2007, by Trafford Borough Council Local Authority Building Control, a copy of which is provided at Appendix D9.

Table 1 - Key Information for Building

3. Legislation & Guidance

3.1.1. The following section provides an outline of the regulations and guidelines on which the Fire Safety Strategy is based and has been used in the compilation of this FRAEW Report.

3.2. The Building Regulations 2010

3.2.1. The Property's construction would have been subject to control under the restrictions of the Building Regulations. The Building Regulations are concerned with the life safety of persons in and around a building.

3.2.2. In respect of fire, new buildings are to be designed and constructed to satisfy the requirements of Part B (Fire Safety) of Schedule 1 of the Building Regulations 2010 (as amended), which includes the following:

a) B1 – Means of warning and escape;

b) B2 – Internal fire spread (linings);

c) B3 – Internal fire spread (structure);

d) B4 – External fire spread;

e) B5 – Access and facilities for the Fire Service.

3.2.3. The requirements of the Building Regulations contain only the "functional requirements". A functional requirement can be regarded as an objective that must be achieved; the regulations contain no technical requirements whatsoever in respect of how the functional requirements must be satisfied.

3.2.4. The requirement relevant to the external wall assessment is primarily based upon Regulation B4. It requires that the building, specifically the external walls and roof of the building, will adequately resist the spread of fire over the walls and from one building to another, having regard to the height, use and position of the building.

3.3. The Regulatory Reform (Fire Safety) Order 2005

3.3.1. The Regulatory Reform (Fire Safety) Order 2005 (RRO) also applies to this building, Aura Court, 1 Percy Street, and it is the Landlord's responsibility to ensure compliance.

3.3.2. The RRO applies to all workplaces and other non-domestic areas and premises, requiring the 'Responsible Person' to undertake an assessment of the fire risk in their premises and to keep this assessment under review.

3.3.3. In conjunction with the RRO, Regulation 38 of the Building Regulations (2010) requires that information relating to the fire safety provisions within a building is provided to the 'Responsible Person' so that they (or an appointed 'Competent *Person'*) can undertake the Fire Risk Assessment required under the RRO. It is therefore important that the fire safety information for the building that falls under the requirements of Building Regulations is kept up to date, preferably in a digital format to reflect any changes that have been made over its lifetime.

3.3.4. This report does not form the Risk Assessment required under the RRO, nor does it absolve the client from exercising their duties under Regulation 38.

3.3.5. The Fire Safety Act 2021 (published on 29.04.2021) amended the applicability of the Regulatory Reform Fire Safety Order (RRFSO) 2005, to residential buildings as follows:

a) 'Where a building contains two or more sets of domestic premises, the things to which this order applies include—
   i) *the building's structure and external walls and any common parts;*
   ii) *all doors between the domestic premises and common parts (so far as not falling within sub- paragraph (a))*;

b) The reference to external walls includes—
   i) *doors or windows in those walls, and*
   ii) *anything attached to the exterior of those walls (including balconies).*

3.3.6. This clarification empowered fire and rescue services to take enforcement action and hold building owners to account if they are not compliant.

3.4. Fire Safety (England) Regulation 2022

3.4.1. These Regulations are made under article 24(1) of the Regulatory Reform (Fire Safety) Order 2005 ("the Fire Safety Order"), which enables the making of regulations regarding precautions to be taken or observed in relation to the risk to safety of persons from fire in premises to which that Order applies.

3.4.2. The objectives of Fire Safety (England) Regulation 2022 are:

a) To impose obligations upon the responsible person (defined in article 3 of the Fire Safety Order) in relation to such buildings. These obligations require wayfinding signage, a secure information box to be installed in the building and for various plans and information to be placed within the box and also for fire-fighting equipment to be regularly inspected;

b) To impose obligations upon responsible persons regarding information including fire safety instructions and fire door information, to be provided to residents in all residential buildings with communal areas; and

c) To require certain information to be supplied to fire and rescue authorities.

3.5. PAS 9980:2022

3.5.1. As described in section 3.3, The Fire Safety Act 2021, amended the applicability of the Regulatory Reform (Fire Safety) Order (RRO) to include external wall construction as part of required periodic Fire Risk Assessments (FRA). Qualified assessors are subsequently required to give consideration to the potential spread of fire via the external walls of a building. Where a risk to life safety is identified, or where the risk to life safety is unclear, a Fire Risk Appraisal of External Walls (FRAEW) should be recommended as part of the FRA action plan. The FRAEW is intended specifically to inform the FRA of the risks associated with the external wall construction and to present, if any, the remedial action that is required.

3.5.2. On 10 January 2022, the DLUHC withdrew their publication entitled 'Building safety advice for building owners, including fire doors' (also known as the Consolidated Advice Note) and replaced it with the Publicly Available Specification known as, ***PAS 9980:2022, Fire risk appraisal of external wall construction and cladding of existing blocks of flats – Code of practice,*** with the intention of addressing inconsistencies in the appraisal of risks associated with external wall systems when undertaking a FRAEW.

3.5.3. The objectives of PAS 9980:2022 are:

a) To provide competent fire engineers and other competent building professionals with a methodology for appraising and assessing the scope for, and risk from, fire spread via external wall construction and cladding, such that the outcome can be used to inform a building's Fire Risk Assessment ('FRA').

b) To assist external wall assessors in clearly communicating the results of a FRAEW, such that recipients can understand the process and methodology applied, and to understand the findings.

c) To assist other professionals in reviewing a FRAEW and in understanding the risk of external fire spread in the context of the building's fire strategy and fire safety arrangements.

d) To promote better understanding of fire risks associated with external walls and the limitations of what can, and cannot, be achieved in any FRAEW.

e) To enable common relevant terminology to be adopted by those who carry out a FRAEW.

f) To promote consistency in FRAEWs, and to provide a pragmatic and risk-proportionate approach when conducting a FRAEW; to enable consistent training in carrying out a FRAEW and thus facilitate more entrants into the profession of carrying out FRAEWs.

g) To establish a satisfactory basis for documentation of FRAEWs;

h) To enable consistent training in carrying out a FRAEW and thus facilitate more entrants into the profession of carrying out FRAEWs; and

i) To satisfy professional indemnity (PI) insurers that there is a national standard that underpins consistency in carrying out FRAEWs.

3.5.4. The risk-based methodology outlined in PAS 9980 is intended to provide a structured approach to the FRAEW.

3.5.5. The FRAEW is not solely influenced by the benchmarks given in regulations and guidance, both current and that were applicable at the time of construction. Instead, the FRAEW considers the external wall construction in relation to Building Regulations Functional Requirement B4. Hence, the PAS 9980:2022 presents a risk-based methodology which is intended to provide consistency to the appraisal of risks associated with fire spread over the external walls in the FRAEW process. The tool considers three factors:

a) **Fire performance:** The likely speed and extent of fire spread as a result of fundamental material properties and their installation;

b) **Façade configuration:** The likely speed and extent of fire spread as a result of the quantity, location and arrangement of combustible material; the presence of extensive cavities, and the potential routes for fire re-entry to the inside of the building;

c) **Fire strategy:** All factors influencing the means of escape for occupants and the accessibility of the site and external walls for the fire and rescue service.

3.5.6. The outcome of the FRAEW is a determination of whether the external wall construction is acceptable or whether remedial action is necessary to replace some or all of the components in the external wall build-up, or to address shortcomings, such as the absence of cavity barriers. The outcome of the completed FRAEW should be presented as part of the FRA (required under the RRO) to routinely consider the matters relating to fire safety.

3.5.7. It is pertinent to note that PAS 9980:2022 guidance utilises a system of risk factors, each of which can be identified as positive, negative or neutral. Within this report, the risk factor we have allocated for each relevant area is identified throughout. We have used our professional judgement of the overall balance of risk factors to determine the overall risk rating for the property.

4. Limitations & Assumptions

4.1.1. This report and its assessments are strictly limited to matters set out in Section 2. This report is formulated on the basis of record information, intrusive investigations, the fire risk assessment and appraisal in accordance with PAS 9980:2022 along with the industry experience of the assessor at the time of preparation.

4.1.2. This report has been prepared by Bailey Partnership (Consultants) LLP and is for the sole and exclusive use of Edgerton Estates Limited for action. Copies should be considered uncontrolled when printed unless authorised in writing by the author prior to copying. Copies should not be reproduced or circulated without the prior written authority of the Partners of Bailey Partnership (Consultants) LLP.

4.1.3. Bailey Partnership takes no responsibility for the design, materials and workmanship of individual systems installed as part of the existing building and its assessment is restricted to areas of the external wall system(s) sampled as part of the intrusive investigations and information provided in connection. The fire risk evaluation in accordance with PAS 9980:2022 “Fire risk appraisal of external wall construction and cladding of existing blocks of flats - Code of Practice” may call for further intrusive investigative works to be carried out as a consequence of this evaluation.

4.1.4. This report is not a certificate of statutory compliance for the building, nor should it be used as a life safety certification scheme. The assessment takes into account the regulations and design guidance published at the time of construction, as well as those which are current, at the time of this assessment. It cannot be guaranteed that it would address guidance and regulations which may be introduced beyond this date.

4.1.5. Following our intrusive investigations at Aura Court, 1 Percy Street, Manchester, M15 4AB, and a review of record information made available to us, we would note the following specific assumptions in connection with our appraisal:

a) Our appraisal assumes internal fire compartmentation to the building has been installed to a correct statutory standard at the time of its construction and adequately maintained. This is not within the FRAEW inspection scope and Bailey Partnership has not undertaken any investigations in this regard to confirm otherwise;

b) Bailey Partnership has not undertaken any audits of the existing fire alarm, AOVs, and detection systems to confirm adequacy, nor seen any service and maintenance records which were unable to be provided by Edgerton Estates Limited;

c) Bailey Partnership have not tested the functionality of any emergency lighting devices or their suitability, nor seen any service and maintenance records;

d) Bailey Partnership have not seen nor tested any firefighters facilities;

e) Bailey Partnership has been provided with a fire risk assessment dated 11th March 2019, that has been carried out for Aura Court, 1 Percy Street, Manchester by Cardinus Risk Management Limited.

4.1.6. As set out within Clause 4.1 of PAS 9980:2022, the following inherent limitations are applicable to the FRAEW:

a) it is intended primarily to inform the building's FRA;

b) it cannot warrant absolute safety, as it will be risk-based and therefore reliant on professional judgement by competent persons;

c) it might not be possible to identify the full scope of work needed as part of the FRAEW from the outset, as the conclusion might be that a further inspection or in-depth technical assessment is needed (which might necessitate the involvement of other professionals);

d) it is not specifically intended to address the protection of firefighters;

e) it is not intended to address property protection;

f) it can only be based on available industry knowledge at the time of the FRAEW and, more definitive information on the fire performance of external wall construction may come to light subsequently;

5. Competence

5.1. Statement of Compliance with PAS 9980:2022

5.1.1. We confirm that this report has been prepared in accordance with the requirements of PAS 9980:2022. We have acknowledged the guidance within Sections 1 to 15 of the document and in particular confirm that the external wall assessors used to compile this report have the expected level of competence as set out in Section 8, the desktop study undertaken complies with Section 9 and our methodology for assessment complies with either Sections 13 or 14. We further note that the content of this report strictly follows guidance set out in Section 15.

5.2. Assessor Competence

5.2.1. The Fire Risk Appraisal of External Wall (FRAEW) and initial investigations have been undertaken by suitably experienced and competent professionals. Investigations were undertaken by Ryan Kong BSc (Hons) MCABE. Using the information from these reports, this appraisal has been compiled and reviewed by Kenneth Birch BSc (Hons) FRICS, a Chartered Building Surveyor. This appraisal has subsequently received further input, evaluation and sign off by a competent and experienced Chartered Fire Engineer - Max McCarthy CEng MIFireE MCIOB MCABE, a Chartered Engineer, Chartered Builder and Chartered Building Engineer. This satisfies the requirements of Annex H of PAS 9980:2022 and EWS1 Form Note 3 (i) by holding suitable accreditations with the Institution of Fire Engineers (IFE).

5.2.2. The pertinent Professional Registrations are as follows:

Name of Surveyor	RICS Member Number	IFE Member Number
Kenneth Birch	0843623	-
Max McCarthy	-	00069621

6. Desktop Study

6.1. Desktop Study Documentation

6.1.1. The following Documentation was either provided by the client or gathered by other means and has been reviewed and considered prior to our inspection and during our analysis:

Document	Dated
Drawings	
Floor Plans	29th June 2006
Fire Strategy Plans	29th June 2006
Elevation Drawings	29th June 2006
Section Drawings	22nd September 2006
Reports	
Fire Risk Assessment	11th March 2019
External Facade Report	30th November 2018

Table 2 - Desktop Study Documentation

6.2. FRAEW Requirement Decision Process

6.2.1. The requirement for a FRAEW to be undertaken to the property was determined by the following decision making process in accordance with Figure 4 of PAS 9980:2022:

a) *Is the building such that the risk of external fire spread over the walls is sufficiently low that a FRAEW is not required?* - **No**;

b) *Is there sufficient fire load in the wall build-up or in attachments (e.g. balconies) to require further consideration?* - **Yes**;

c) *Is it confirmed that the same wall build-up has been classified to BR135?* - **No**;

d) *Conclusion* - **FRAEW required.**

6.3. Building Profile

6.3.1. The building is a 6-storey purpose built residential complex, and comprises self-contained apartments (1st floor to fifth floor) above commercial ground floor units and an abandoned basement car park. It is understood that the property was constructed in circa 2005. It is located off 1 Percy Street, Manchester, M15 4AB. The building does not carry a listed status nor is it located within a conservation area. A location plan has been appended to this report as reference, please see Appendix A.

6.3.2. The building is constructed with a steel structural frame in conjunction with composite structural floor slabs formed from galvanised steel metal deck and reinforced concrete. The building comprises various external wall materials and cladding, and exterior walkway with timber decking in the inner courtyard area. The main roof is flat, topped with a waterproof membrane. There is an enclosed basement car park situated below the courtyard.

6.3.3. The property is considered to have three principal forms of external wall construction:

a) Wall Type 1 - Artstone system with cavity wall ties fixed to inner blockwork. Wall Type 1 equates to approximately 20% of the total external wall area and is directly linked to Wall Type 4. The positioning of this wall type spans among all elevations covering the ground floor. This external wall system is adjacent to both final exits comprising the means of escape leading to the courtyard level.

b) Wall Type 2 - Timber cladding system comprising 15mm timber cladding and fixed to the timber frame with plywood sheathing board and breather membrane. Wall Type 2 equates to approximately 15% of the total external wall area and is directly linked to Wall Type 1, Wall Type 3, Wall Type 4 and the exterior walkway. The positioning of this wall type spans mainly amongst the inner courtyard covering first to fifth floors and adjoining to the exterior walkways which are considered a main and only means of escape of some residents.

c) Wall Type 3 - Trespa Meteon High Pressure Compact Laminate affixed to a timber frame. Type 3 equates to approximately 20% of the total external wall area and is directly linked to Wall Type 2 and Wall Type 4. This wall type is limited to the 3rd to 5th floors. The positioning of this wall type spans mainly among all elevations covering third floors to fifth floors.

d) Wall Type 4 - Brickwork system with cavity wall ties fixed to a timber frame. Wall Type 4 equates to approximately 45% of the total external wall area and is directly linked to Wall Type 1, Wall Type 2, and Wall Type 3. The positioning of this wall type spans among all elevations covering the first floor to second floors.

6.3.4. The various elevations of the building consist of Juliette balconies with stainless steel handrails located at the outer edge of a pair of French doors.

6.3.5. The property comprises an undercroft car park located at the basement floor, the car park has been mothballed and there is no vehicle parking in the car park.

6.3.6. The windows throughout the property are double glazed sealed units in an aluminium frame with a factory polyester powder coated finish.

6.3.7. The building has four communal stair cores and one exterior walkway providing means of escape to some residents. The main entrances of the residential unit are from the stair cores, whilst the main entrance of the commercial units is from the front elevation at ground level. The primary exits lead directly towards the rear courtyard.

6.3.8. Pedestrian access to the courtyard entrance is provided from Percy Street via an electronic controlled access gate. Vehicle access down to the basement car park is provided from the courtyard of Aura Court. The basement car park has been locked by a metal gate permanently.

6.3.9. As-built drawings have been provided by Edgerton Estates Limited consisting of section drawings, elevations, floor layouts, fire strategy drawings and general construction details. All record drawings and relevant information is contained within Appendix D.

6.4. Building Fire Strategy & Fire Safety Design

6.4.1. As part of this report's assessment we have reviewed the original External Facade Report dated 23rd November 2018, and produced by FR Consultants Ltd. (FRC) with key aspects summarised below:

a) Trespa cladded areas along with the timber walkways and cladding would neither pass a BS8414 or a BR135 test due to the existence of combustible materials in the construction of both facades. Remedial works were therefore recommended in the report by FRC.

b) The passive fire protection (fire barriers) are also not of a sufficient effective standard to be deemed acceptable for the building's compartmentation requirements.

6.4.2. We have been provided with a copy of the existing Fire Risk Assessment (FRA) for Aura Court, 1 Percy Street, dated 11th March 2019, and found it to be comprehensive in its conclusions on the fire precautions and measures that might be used to keep the occupants safe in the event of a fire, albeit with concerns identified in respect of compliance matters which we refer to later in this report. We note that a 'simultaneous'

evacuation procedure has been adopted in the event of an emergency and the FRA recommended to provide the tenants with general fire safety advice for the high rise flats. We have summarised the Fire Risk Assessment (FRA) in items a - i below:

a) Checking the fire detection system and smoke alarms is recommended to confirm that as a minimum, the fire detection system and fire alarm is designed, installed and maintained in proper function in accordance with BS5839.

b) Carrying out periodic inspection of external escape stairs and walkway by a competent person and obtaining a certificate regarding their statutory condition.

c) Six monthly inspections and annual tests of the dry rising mains to be carried out.

d) Carrying out periodic checks on all fire doors and maintaining a register with a record of defects and corrective maintenance.

e) Removal of external cladding applies to all areas of Trespa Meteon cladding on floors 3 to 5 and the softwood cladding to the building around the central courtyard core on floors 2 to 5.

f) Recommended that Portable Appliance Testing (PAT) of relevant electrical equipment is carried out by a competent electrical contractor.

g) Managing agents are recommended to supply tenants with general fire safety advice for high rise flats and establish clear policies informing residents about permissible activities. Excessive storage and participation in high fire risk activities, such as barbecues and the storage of flammable cylinders, are strictly prohibited on timber walkway in the inner courtyard;

h) Additional emergency lighting should be installed in the courtyard area exterior stairwell and arrange monthly and annual tests for the emergency lighting.

i) Managing agents are recommended to have a Fire Risk Assessment for the commercial units at ground floor and the fire strategy should be shared with all stakeholders.

6.4.3. No O&M document is available for review.

6.4.4. No BBA test certificate or test data was provided for the cladding.

6.4.5. The Following Fire Safety Systems are noted to be in place:
(Reference from Fire Risk Assessment date 11th March 2019)

Fire Safety System	
Means of Escape	Four escape stairways serving each floor were provided with final discharge at the rear courtyard. Stair cores at flat 1-6, 7-12, 36-41 and 42-47. External timber walkway in inner courtyard with stairwell structure, serving flat 13-35 to final discharge at the rear courtyard.
Sprinklers	None present.
Lifts	There is one passenger lift in the inner courtyard.
Fire Alarm & Detection	There is no common area AFD/fire alarm system installed.
Fire Information	No fire information was noted on site.
Fire Service Location / Response Time	Moss Side Community Fire Station, Denhill Road, Moss Side, Manchester M15 5NR. Estimated Response Time: 6 - 10 minutes.
Parking	Basement car park comprises 123 nr. parking spaces located underneath the ground floor courtyard. The car park has been mothballed and locked permanently.
On site Management	There is no 24 hours on site management operation.

6.5. Test & Commissioning Certification

6.5.1. No testing and commissioning certificates, or associated information relating to the mechanical and electrical services have been provided to Bailey Partnership (Consultants) LLP.

6.5.2. An assessment of the condition, capacity, and the like relating to the mechanical & electrical services is outside this FRAEW survey scope however, a recommendation has

been made for the Client to review and check that all fire safety systems have been regularly tested and maintained in accordance with statutory requirements.

6.6. Building Height

6.6.1. For the purpose of this report, our investigations, and using guidance under Appendix D of Building Regulations Approved Document B, and Diagram D6 in particular, an assessment was undertaken to confirm the building's height. The height of the top storey measured from the upper floor surface of the top floor to ground level on the lowest side of the building Aura Court, 1 Percy Street is circa. 15.15 metres (See Appendix C). This height measurement is taken from Drawing Number: (2-) 08, by deducting the highest finished floor level (FFL) from the lowest FFL; hence 15.30 minus 0.15 = 15.15 metres, and occurs on the elevation facing Lucy Street (North East).

6.7. Accessibility for Fire Fighting Services

6.7.1. The property is located within 1.1 miles of Moss Side Community Fire Station. The building is noted to be generally accessible for fire tender access to all elevations except the North West elevation from the ground floor courtyard via Percy Street.

6.8. Occupancy Characteristics

6.8.1. We have been informed that the number of occupants in the building is 102 (One hundred and two). The occupation of the property is advised as being 'general needs housing' in accordance with Occupancy Characteristics specified in PAS 9980:2022, therefore, we have reasonably assumed that the occupants are a typical cross-section of the general public. It has not been reported to us by Edgerton Estates Limited that any residents are especially vulnerable, have any disabilities requiring special consideration or have any visual or hearing impairment that would place them at risk when escaping from the building in the event of a fire. In general, the building is designed as long-term residential premises. When referring to the table 3 below, the occupancy characteristic for these premises would be occupants who are asleep and familiar with the building and would be allocated to the occupancy characteristic of (Ci) in accordance with BS 9999:2017.

Occupancy Characteristic	Description	Examples
A	Occupants who are awake and familiar with the building	Office and industrial premises
B	Occupants who are awake and unfamiliar with the building	Shops, exhibitions, museums, leisure centres, other assembly buildings etc.
C	Occupants who are likely to be asleep:	
Ci	**Long-term individual occupancy**	**Individual flats without 24h maintenance and management control on site**
Cii	Long-term managed occupancy	Services flats, halls of residence, sleeping areas of boarding schools
Ciii	Short-term occupancy	Hotels
D	Occupants receiving medical care	Hospitals, residential care facilities

Table 3 - Occupancy Characteristics within BS 9999:2017

7. Intrusive Survey

7.1. Inspection Process

7.1.1. Aura Court, 1 Percy Street, Manchester, M15 4AB was inspected using intrusive investigation techniques by cutting and drilling holes into the external facade materials in targeted areas to obtain evidence through sample testing. These inspections were undertaken on Friday, 1st December 2023. The weather during these inspections was dry and sunny. The inspections were targeted to investigate the existing primary external wall materials and any building attachments as specified in PAS 9980:2022.

7.1.2. In connection with our inspections and as per our FRAEW scope of works, Bailey Partnership (Consultants) LLP prepared a plan of the proposed areas to be opened up as part of intrusive investigations, a copy of which is provided at Appendix E.

7.1.3. The areas identified for intrusive investigations were planned to incorporate unit-to-unit junctions, floor junctions and window-to-wall aperture junctions to confirm the presence of any cavity barriers. To ensure the findings demonstrated a true representation of the condition and materials used within each wall system, it was confirmed that multiple areas per wall type would be inspected as part of our investigations, unless site conditions and investigations dictated otherwise as the survey work progressed. The strategy utilised to plan the investigations and the method of investigation undertaken is that of “representative sampling” which represents industry best practice and is considered to provide a reasonable representation of the external wall composition, condition, workmanship and level of compliance across the building and its various wall types.

Note: whilst commentary may be provided regarding the apparent overall quality and/or condition of the external wall system(s)/building, these are not intended to act as a substitute for a formal condition survey and where comments are provided these are purely to provide context.

7.1.4. All inspections undertaken by Bailey Partnership are subject to our survey limitation clauses, which can be found at Appendix B. Bailey Partnership (Consultants) LLP cannot be held responsible for property insurance issues, the quality of making good works by the appointed contractor or property blight due to the contents of this report.

7.1.5. For the purpose of the inspection, we have assumed that the front elevation of Aura Court, 1 Percy Street, faces South on to Stretford Road. All orientation references are given on this basis.

7.1.6. Our investigations required an intrusive inspection to be carried out to establish the complete through-wall construction from the external covering surface finish to the internal decorative linings/coverings.

7.1.7. For all locations, sections of wall were cut and taken out to create openings through the external wall materials in order to obtain visual identification of the material build up. Openings were formed from the outside of the building working inward, then reinstated after inspection with cement mortar pointing.

7.1.8. The location of the areas sampled, and their numbered references, are contained within Appendix E. Where the location of cavity barriers has been targeted, we have based these on relevant fire safety design guidance in accordance with the Approved Document B.

7.1.9. A photographic schedule collating a sample of key photographs is contained within Appendix F.

7.1.10. The areas sampled, as shown in Appendix E, can be summarised as follows:

Table 4 - Summary of Areas Sampled

Sample No.	Location	Intrusive Survey Scope
1	South West (Side) Elevation Wall Type 3 - Trespa HPL	To expose the cavity barrier at the wall/floor junction.
2	South West (Side) Elevation Wall Type 4 - Brickwork	To expose the cavity closer at the window junction.
3	South West (Side) Elevation Wall Type 1 - Artstone	To expose the cavity barrier at the wall/floor junction.
4	South West (Side) Elevation Wall Type 3 - Trespa HPL	To expose the cavity barrier at the wall/floor junction.
5	South West (Side) Elevation Wall Type 3 - Trespa HPL	To expose the cavity closer at the window junction.
6	South West (Side) Elevation Wall Type 4 - Brickwork	To expose the cavity barrier at the wall/floor junction and cavity closer at door junction.
7	South West (Side) Elevation Wall Type 3 - Trespa HPL	To expose the cavity barrier at the wall/floor junction.
8	South (Front) Elevation Wall Type 3 - Trespa HPL	To expose the cavity barrier at the floor junction and cavity closer at the door junction.
9	South (Front) Elevation Wall Type 4 - Brickwork	To expose the cavity barrier at the floor junction and cavity closer at the door junction.
10	South (Front) Elevation Wall Type 2 - Timber cladding	To expose the cavity barrier at the floor junction.

11	East (Side) Elevation Wall Type 4 - Brickwork	To expose the cavity closer at the door junction.
12	East (Side) Elevation Wall Type 3 - Trespa HPL	To expose the cavity barrier at the floor/wall junction.
13	East (Side) Elevation Wall Type 3 - Trespa HPL	To expose the cavity barrier at the floor/wall junction.
14	East (Side) Elevation Wall Type 4 - Brickwork	To expose the cavity closer at the window junction.
15	East (Side) Elevation Wall Type 4 - Brickwork	To expose the cavity barrier at the wall/floor junction.
16	East (Side) Elevation Wall Type 3 - Trespa HPL	To expose the cavity barrier at the floor/wall junction.
17	North (Rear) Elevation Wall Type 3 - Trespa HPL	To expose the cavity barrier at the floor junction.
18	North West (Courtyard) Elevation Wall Type 4 - Brickwork	To expose the cavity barrier at the wall/floor junction.
19	North West (Courtyard) Elevation Wall Type 4 - Brickwork	To expose the cavity barrier at the wall junction.
20	North West (Courtyard) Elevation Wall Type 4 - Brickwork	To expose the cavity barrier at the wall junction.
21	Inner Courtyard Elevation Wall Type 2 - Timber Cladding	To expose the cavity barrier at the wall junction and cavity closer at door junction.
22	Inner Courtyard Elevation Wall Type 2 - Timber Cladding	To expose the cavity barrier at the floor junction.
23	Inner Courtyard Elevation Wall Type 2 - Timber Cladding	To expose the cavity closer at the window junction.
24	Inner Courtyard Elevation Wall Type 2 - Timber Cladding	To expose the cavity barrier at the wall/floor junction.
25	Inner Courtyard Elevation Wall Type 2 - Timber Cladding	To expose the cavity barrier at the floor junction.
26	Inner Courtyard Elevation Wall Type 2 - Timber Cladding	To expose the cavity closer at the door junction.
27	North East (Courtyard) Elevation Wall Type 1 - Artstone	To expose the cavity closer at the door junction.

28	North East (Courtyard) Elevation Wall Type 4 - Brickwork	To expose the cavity barrier at the floor/wall junction.
29	North East (Courtyard) Elevation Wall Type 4 - Brickwork	To expose the cavity barrier at floor/wall junction.
30	North East (Courtyard) Elevation Wall Type 4 - Brickwork	To expose the cavity barrier at the floor/wall junction.

7.2. Findings & Observations

7.2.1. Our investigations revealed that the external walls to the building comprise a steel framed structure with four types of external cladding. Each external wall type has been assessed independently with our findings and observations outlined within the tables below, and commentary made in respect of the reaction to fire classification and combustibility of each element.

7.2.2. We have interpreted record drawings, including those provided to us and those procured during independent research in order to produce material specifications where possible. Where there are limited specification materials provided or the observations made on site that cannot identify the product or system, we have made our assessment based on similar products and assumed the worst-case rating for the material's calorific energy content and its corresponding combustibility rating.

7.2.3. We have gathered product data sheets to identify specified products or other similar products that can provide the Euroclass ratings as per BS EN 13501-1, which are contained within Appendix K.

7.2.4. Please refer to the External Facade Report dated 23rd November 2018 for additional information relating to the intrusive investigations. The individual external wall system(s) elements are considered in order of survey, which is from the external outermost material progressing towards the internal wall lining(s).

Colour Code	Classification
	Class E, F
	Class B, C, D
	Class A1, A2

Table 5 - Key for findings summary

8. Wall Type 1

WALL TYPE 1 - Artstone			
Element	**Materials**	**Combustibility**	**Classification**
Artstone	Masonry blockwork	No product identifiers or markers found during on-site inspection. Generally considered to be **Non-combustible.**	
Wall Ties (Cavity - 70mm)	Stainless Steel	No product identifiers or markers found during on-site inspection. Generally considered to be **Non-combustible.**	
Cavity Barriers (Vertical)	Sample tests did not indicate the presence of a suitable vertical cavity barrier in line with compartment walls.		
Cavity Barriers (Horizontal)	Sample tests did not indicate the presence of a suitable horizontal cavity barrier in line with compartment floors.		
Cavity Barriers (Openings)	Sample tests did not indicate the presence of a suitable cavity closer at window/door openings.		
Insulation	50mm Polyisocyanurate (PIR) Insulation	It is considered to be **Combustible** (Euroclass E).	
Concrete block	Masonry blockwork	Generally considered to be **Non-combustible.**	
Internal Lining	12.5mm Gyproc Wallboard	Has a declared reaction to fire classification of Euroclass A2 according to its product specification.	

Table 6 - Wall Type 1 findings summary

8.1. Wall Type 1 - Artstone - Summary

8.1.1. Wall Type 1 is a traditional 100mm Artstone fixed with steel cavity wall ties and masonry support positioned in front of a 70mm wide cavity. There is no vertical and horizontal cavity barrier and cavity closer to window openings. Within the cavity, there is a layer of 50mm PIR insulation fixed to blockwork. Behind the blockwork is two layers of 12.5mm plasterboard.

8.1.2. Considering the fire risk factors outlined above, the negative risks associated with this wall type are limited, primarily linked to the presence of combustible materials (e.g. PIR insulation) within the system and the absence of cavity barrier and cavity closer. Therefore, it requires consideration as part of the risk appraisal for this wall type.

9. Wall Type 2

WALL TYPE 2 - Timber Cladding			
Element	**Materials**	**Combustibility**	**Classification**
Timber cladding	10mm softwood timber panels	Timber is combustible and generally considered as D-s2, d0 or worse	
Cavity Barriers (Vertical)	No vertical cavity barrier was identified.		
Cavity Barriers (Horizontal)	Horizontal cavity barrier/ fire break of compacted stone wool insulation at the compartment floor slab junction.		
Cavity Barriers (Openings)	Sample tests did not indicate the presence of a suitable cavity barrier at window openings.		
Timber Battens	50x70mm lightweight timber battens.	Timber is combustible and generally considered as D-s2, d0 or worse	
Breather Membrane	Thermoplastic or Fabric	No product identifiers or markers found during on-site inspection. Generally considered to be **Combustible** (Euroclass B-D).	
Sheathing Board	10mm plywood board.	No product identifiers or markers found during on-site inspection. Generally considered to be **Combustible** (Euroclass D).	
Timber Frame	Lightweight timber	Timber is combustible and generally considered as D-s2, d0 or worse.	
Insulation	**30mm Glass fibre-based wool	A1 without Test (2000/147/EC)	
Internal Lining	'British Gypsum' 12.5mm Gyproc Wallboard	Has a declared reaction to fire classification of Euroclass A2 according to its product specification.	

***Note: Materials are consistent in characteristic in appearance with the name materials and the reaction to fire classification is therefore indicative based upon EC classification of Product Technical Data*

Table 7 - Wall Type 2 findings summary

9.1. Wall Type 2 - Timber Cladding - Summary

9.1.1. Wall Type 2 is situated at the 1st to 5th floor in the inner courtyard area. The claddings were screw fixed to softwood battens and these are fixed through a sterling board sheathing to the timber frame structure with infilled fibreglass mineral wool insulation. There is a standard breather membrane laid to the face of the sheathing board.

9.1.2. The cladding panels are mechanically fixed to timber battens. The panels were flat, and gaps that were present between panels were found to be less than 10mm.

9.1.3. Horizontal and vertical cavity barriers were found between different floor levels and compartmentation walls. The cavity closers at window openings and door openings were also found.. Despite the presence of the fire barriers, the omissions or inadequacies observed within the system of cavity barriers mean that they are ineffective.

9.1.4. There is electrical wiring with thermoplastic insulation which is considered combustible and may provide an ignition source.

9.1.5. Based upon the fire risk factors above, there are limited negative risks associated with Wall Type 3. The negative risks associated with this Wall Type 3 primarily relate to the presence of combustible material (e.g. timber panel, standard HPL panel, timber frame and batten, and breather membrane) within the system and the absence of vertical cavity barriers in line with compartment walls. Therefore, it requires consideration as part of the risk appraisal for this wall type.

9.1.6. Based upon the fire risk factors, there are significant negative risk factors for this wall type. The negative risks associated with this wall type are primarily due to the presence of combustible materials (e.g. breather membrane, thermoplastic insulation of the wiring, fixing track, breather membrane and plywood backing). The poor installation of the cavity barriers and closers increase the likelihood of fire spreading beyond the compartment of origin. Therefore, it requires consideration as part of the risk appraisal for this wall type.

10. Wall Type 3

WALL TYPE 3 - Trespa HPL			
Element	**Materials**	**Combustibility**	**Classification**
Rainscreen Cladding	8mm Trespa Meteon High Pressure Laminate (Standard)	Has a declared reaction to fire classification of Euroclass D-s2, d0, according to its product specification.	
Cavity Barriers (Vertical)	Sample tests did not indicate the presence of a suitable vertical cavity barrier in line with compartment walls.		
Cavity Barriers (Horizontal)	'Rockwool TCB' horizontal cavity barriers with a fire resistance of 60 minutes were identified in line with the compartment floors.		
Cavity Barriers (Openings)	'Rockwool TCB' cavity barriers with a fire resistance of 60 minutes were identified at the windows and vent ducts openings.		
Timber Battens	50x70mm lightweight timber battens.	Timber is combustible and generally considered as D-s2, d0 or worse	
Breather Membrane	Thermoplastic or Fabric	No product identifiers or markers found during on-site inspection. Generally considered to be **Combustible** (Euroclass B-D).	
Sheathing Board	10mm plywood board.	No product identifiers or markers found during on-site inspection. Generally considered to be **Combustible** (Euroclass B-D).	
Lightweight Timber Frame (LTF)	Softwood timber	Timber is combustible and generally considered as D-s2, d0 or worse	
Insulation	**Glass fibre-based wool	A1 without Test (2000/147/EC)	
Internal Lining	'British Gypsum' 12.5mm Gyproc Wallboard	Has a declared reaction to fire classification of Euroclass A2 according to its product specification.	

Table 8 - Wall Type 3 findings summary

***Note: Materials are consistent in characteristic in appearance with the name materials and the reaction to fire classification is therefore indicative based upon EC classification of Product Technical Data*

10.1. Wall Type 3 - Trespa HPL - Summary

10.1.1. Wall Type 3 is situated at the 4th to 6th floor, and consists of 8mm Trespa Meteon High Pressure Laminate, which was found to be standard cladding as opposed to fire resistant cladding. The cladding panels were screw fixed to softwood battens. These are fixed through a sterling board sheathing to the timber frame structure with infilled fibreglass mineral wool insulation. There is a standard breather membrane laid to the face of the sheathing board.

10.1.2. The cladding panels are mechanically fixed to timber battens. The panels were flat, and gaps that were present between panels were found to be less than 10mm.

10.1.3. Horizontal cavity barriers were found between different floor levels but vertical cavity barriers were not found on this system at compartmentation walls. The cavity closers at the window openings and vent duct openings were found.

10.1.4. Based upon the fire risk factors above, there are limited negative risks associated with Wall Type 3. The negative risks associated with this Wall Type 3 primarily relate to the presence of combustible material (e.g. standard HPL panel, timber frame and batten, and breather membrane) within the system and the absence of vertical cavity barriers in line with compartment walls. Therefore, it requires consideration as part of the risk appraisal for this wall type.

11. Wall Type 4

WALL TYPE 4 - Brickwork			
Element	**Materials**	**Combustibility**	**Classification**
Brickwork	100mm brickwork	A1 without Test (2000/147/EC)	
Wall Ties (Cavity - 100mm)	Stainless Steel Wall Ties.	A1 without Test (2000/147/EC)	
Cavity Tray	Thermoplastic or Fabric	No product identifiers or markers found during on-site inspection. Generally considered to be **Combustible.** There would have been no requirement at the time of construction for these elements in regards to reaction to fire classification.	
Cavity Barriers (Vertical)	'Rockwool TCB' cavity barriers with a fire resistance of 60 minutes were identified in line with compartment walls.		
Cavity Barriers (Horizontal)	Sample tests did not indicate the presence of a suitable vertical cavity barrier in line with compartment floors.		
Cavity Barriers (Openings)	'Rockwool TCB' cavity barriers with a fire resistance of 60 minutes were identified at the junction of window and door openings.		
Breather Membrane	Thermoplastic or Fabric	No product identifiers or markers found during on-site inspection. Generally considered to be **Combustible** (Euroclass B-D).	
Sheathing Board	10mm plywood board.	No product identifiers or markers found during on-site inspection. Generally considered to be **Combustible** (Euroclass B-D).	
Lightweight Timber Frame (LTF)	Softwood timber	Timber is combustible and generally considered as D-s2, d0 or worse.	
Insulation	** Glass fibre-based wool	A1 without Test (2000/147/EC)	
Internal Lining	'British Gypsum' 12.5mm Gyproc Wallboard	Has a declared reaction to fire classification of Euroclass A2 according to its product specification.	

***Note: Materials are consistent in characteristic in appearance with the name materials and the reaction to fire classification is therefore indicative based upon EC classification of Product Technical Data*

Table 9 - Wall Type 4 findings summary

11.1. Wall Type 4 - Brickwork - Summary

11.2. Wall Type 4 is a traditional 100mm brickwork fixed with steel cavity wall ties and timber structural frame positioned in front of a 100mm wide cavity. The cavity includes cavity trays, vertical and horizontal cavity barriers and cavity closers to window openings. There is no insulation within the cavity. There is standard breather membrane laid on the timber frame with 100mm glass fibre insulation within the studs. Behind the timber framing is two layers of 12.5mm plasterboard.

11.3. Considering the fire risk factors outlined above, the negative risks associated with this wall type are limited, primarily linked to the presence of combustible materials (e.g. cavity trays and breather membrane) within the system. Whilst there are penetrations to the wall system noted (air bricks), given the presence of cavity barriers their effect is considered as limited. Therefore, it requires consideration as part of the risk appraisal for this wall type.

12. Undercroft Type 1 - Car Park at Basement

UNDERCROFT - Basement Car Park			
Element	**Materials**	**Combustibility**	**Classification**
Composite structural floor slabs	Formed from galvanised steel metal deck and reinforced concrete.	A1 without Test (2000/147/EC) Considered to be **Non-Combustible.**	

Table 10 - Undercroft 1 findings summary

12.1. Undercroft 1 - Summary

12.1.1. The Undercroft Type 1 is located within the entire basement floor underneath the ground floor. The ceiling soffit of the car parking is exposed with composite galvanised steel decking with reinforced concrete on top and supported by structural steel beams, without covering materials.

12.1.2. Structural steel beams with what appears to be a fire protective coating applied were situated underneath the metal composite decking and along the junction of vertical external wall materials. In addition, cavity barriers could be found at this junction. *(Note: this coating material has not been identified or tested).*

12.1.3. Galvanised steel metal and reinforced concrete is generally considered to be non-combustible.

13. Attachments - External Timber Walkway

ATTACHMENTS			
Element	**Materials**	**Combustibility**	**Classification**
Structure	Load Bearing Structural Steel Frame	A1 without Test (2000/147/EC)	
Balustrade	Stainless Steel Handrails	A1 without Test (2000/147/EC)	
Decking	Timber Decking	Timber is combustible and generally considered as D-s2, d0 or worse (2003/43/EC).	

Table 11 - Attachments findings summary

13.1. Attachments - Summary

13.1.1. The walkways are supported by structural steel beams, bolted back to the building structure. The balustrading is formed by non-combustible stainless steel handrails.

13.1.2. Timber decking is affixed to the structural steel beams. Timber joists are adopted as the secondary support system of the timber decking.

13.1.3. The walkways are attached to Wall Type 2 - Timber Cladding from 1st to 4th floor and to Wall Type 3 - Trespa HPL at 5th floor.

13.1.4. Based upon the fire risk factors above, there are limited negative risks associated with these specified attachments, which is the timber decking. Therefore, it requires consideration as part of the risk appraisal for this wall type.

14. General Site Observations

14.1.1. The building is generally accessible for Fire and Rescue Service (FRS) appliances and fire fighting means to the North elevations from the ground floor courtyard and car park entrance.

14.1.2. The building does not contain a firefighting lift (and would not have required one owing to the height of the uppermost storey level). There is a passenger lift situated at the central point of the inner courtyard atrium which should not be used in the event of a fire.

14.1.3. The flats throughout the building generally consist of FD30s fire doors. Nonetheless, our inspection noted several damaged fire doors, which may pose a risk of smoke and fire spreading during evacuation through the corridors or exterior walkway in the event of a fire.

14.1.4. Waste bins were stored at the designated location in the entrance of the basement car park but the waste bins were not securely locked within a fenced-off area. This practice may pose a risk of waste ignition by trespassers from accidental or deliberate ignition.

15. Fire Risk Appraisal

15.1. Approach Summary

15.1.1. The aim of this report is to provide a holistic fire safety review of the property with an emphasis on the external walls and specified attachments having regard for RICS EWS1 External Wall Fire Review system, in line with the PAS 9980:2022 “Fire Risk appraisal of external wall construction and cladding of existing blocks of flats - Code of Practice”. The PAS 9980:2022 guidance resulted in the previous consolidated advice note guidance “Advice for Building Owners of Multi-Storey, Multi-occupied Residential Buildings” and the RICS Guidance Note, 1st Edition, March 2021 to become superseded. Additionally, a review of the England and Wales National Fire Safety guidance (Approved Document B Vol,1 Dwellings) was issued under the Building Act 2022, together with the Fire Engineer’s prerogative to view any other deemed relevant guidance to their assessment such as British Standards, IFE/NFCC guidance or Public Accessible Specifications (PAS) relating to Fire Safety elements applicable to the area of assessment.

15.1.2. As detailed within Section 4.0, the FRAEW has been evaluated by a competent and experienced Chartered Fire Engineer. This satisfies the requirements of EWS1 Form Note 3 (i) and Annex F by holding suitable accreditations with the Institution of Fire Engineers (IFE) and also the competency requirements within Section 8 of PAS 9980:2022.

15.1.3. The PAS 9980:2022 guidance utilises a system of risk factors, each of which can be positive, negative or neutral. The risk factor we have allocated for each relevant area is identified throughout the report. We have used our professional judgement to establish the overall balance of risk factors to determine the overall risk rating for the property.

15.1.4. The Fire Engineer has then taken a risk proportionate approach to such matters and holistically reviewed the building in conjunction with the record information provided. This appraisal has taken into account a number of factors, including, but not limited to:

a) The height of the building;

b) The construction of the external walls, including any cladding and its method of fixing;

c) The presence, and appropriate specification, of cavity barriers;

d) Apparent quality of construction, or presence of building defects;

e) Exposure of external walls or cladding to an external fire;

f) The vulnerability of residents;

g) The complexity of the building;

h) The location of escape routes;

i) The type of evacuation strategy used in the building, i.e. simultaneous, staged, phased or ‘stay put’ and the anticipated evacuation time should evacuation become necessary;

j) Fire protection measures within the building (e.g. compartmentation, automatic fire suppression, automatic fire detection);

k) The premises’ emergency evacuation plan including an assessment of the adequacy of any staffing levels for the type of evacuation method employed;

l) Access and facilities for firefighting;

m) The fire and rescue service attendance time.

15.1.5. For this section key (not exhaustive) fire vocabulary will apply where relevant, to BS 4422 “ Fire - Vocabulary”/ BS EN ISO 13943, please refer to Appendix H.

15.2. Risk Factors - Fire Strategy / Fire Hazards

Risk Factors Arising from Fire Strategy / Fire Hazards - PAS 9980:2022 TABLE F			
Risk Factor	**Positive**	**Neutral**	**Negative**
Occupancy	-	*General needs housing.*	-
Evacuation Strategy	*Simultaneous evacuation*	-	-
Escape Route Design	-	-	*Single staircase for escape, with staircase rather than lobby approach.*
Compartmentation	-	*Adequate compartmentation in line with the expectations for a block of flats*	-
Smoke Control	-	-	*Openable windows which are in close proximity to combustible cladding material.*
Fire Detection & Fire Alarm System	-	*Domestic smoke and heat alarms within flats.*	-
Fire Suppression	-	*None Identified.*	-
Firefighting Facilities	-	*Adequate access for firefighting vehicles.*	-
Rising Mains	-	*None Identified.*	-
Lifts for Use by Firefighters	-	*None Identified.*	-
Specific Fire Hazards	-	*-Vehicle parking under overhangs Car parking directly underneath but currently not in use*	-

Summary Appraisal of Risk Factors Arising from Fire Strategy/Fire Hazards

15.2.1. In accordance with Annex F under PAS 9980:2022, the appraisal should take into account the risk factors arising from the fire strategy / fire hazards of the properties, which influence the ability of occupants to escape in case of fire, fire spread over the external wall construction and the ability of the fire and rescue service to intervene effectively.

15.2.2. According to information from the Fire Risk Assessment dated 11th March 2019, there are no notable negative risk factors present. On the presumption that all issues raised within the latest FRA and compartmentation survey have been rectified, compartmentation appears to be adequate, allowing occupants to access the staircase in case of fire. Sufficient fire services are provided on site such as fire detection and fire alarm system.

15.2.3. Access was observed as being possible for firefighting by the fire and rescue, in line with normal expectations for a building of this height and size. As such, it would be expected that most firefighting operations would be carried out internally.

15.2.4. Therefore, the overall analysis of fire strategy / hazards risk factor of this property is considered to be neutral.

15.3. Risk Factors - Wall Type 1 - Artstone

Fire Performance Risk Factors

Fire Performance Risk Factors - Wall Type 1 - PAS 9980:2022 TABLE K			
Risk Factor	**Positive**	**Neutral**	**Negative**
General	-	*External wall materials, components/systems and configurations that are combustible, but with the potential to provide adequate fire performance in certain circumstances. Artstone is non-combustible and classed as A1 under the European classification system for reaction to fire set out in BS EN 13501-1*	-
External Surfaces: Reaction to fire classes.	*Masonry classified as A1 (without test)*	-	-
Facings / Cladding Panels	*Rigid non-combustible facings: 100mm stone*	-	-
Panel Construction	*N/A*	*N/A*	*N/A*
Cavities		-	*Facings into the cavity at least Class A2 which includes blockworks.* *Cavity barriers were not identified in line with the compartmentation walls, floors and openings.*
Insulation	-	-	*Polyisocyanurate (PIR) Foam Insulation*
Substrate	*Masonry*	-	-
Sheathing Boards	*N/A*	*N/A*	*N/A*
Insulated Core Panels	*N/A*	*N/A*	*N/A*
External Thermal Insulation Composite System (ETICS)	*N/A*	*N/A*	*N/A*
Infill / Spandrel Panels	*N/A*	*N/A*	*N/A*
Internal Finishes	-	*Two layers of standard gypsum plasterboard with painted plaster finish.*	-

Façade Configuration Risk Factors

Facade Configuration Risk Factors - Wall Type 1 - PAS 9980:2022 TABLE N			
Risk Factor	**Positive**	**Neutral**	**Negative**
Building Height	*-*	*<18m*	*-*
Height of Base of Cladding Above Ground	*-*	*-*	*<2m*
Extent of Cladding	*-*	*Limited in extent such as to delay fire spread over the external walls. The brickwork is separated by different external wall types.*	*-*
Cavities	*-*	*-*	*Continuous vertically running cavity without cavity barriers or fire stops.*
Infill / Spandrel Panels	*N/A*	*N/A*	*N/A*
Setbacks	*N/A*	*N/A*	*N/A*
Overhangs and Projections	*N/A*	*N/A*	*N/A*
Proximity to Windows and Other Openings to the Accommodation	*-*	*-*	*Horizontally adjacent to windows and openings, and vertically in line with such openings, such that fire and smoke spread into the buildings, causing secondary fires, as a result of direct impingement, is highly likely.*
Presence of Vents or Other Openings for Services in the Façade	*-*	*Air bricks pass through a cavity which is faced on side by blocks and combustible insulation in the cavity is not thermoplastic.*	*-*
Proximity of Combustible Elements of a Façade to Escape Route Windows and Other Openings	*-*	*-*	*Adjacent to windows and openings, such that fire and smoke spread into the escape routes to give rise to untenable conditions is likely and there is only one escape for some or all occupants.*
Attachments	*N/A*	*N/A*	*N/A*
Proximity of Combustible Elements of a Façade to a Neighbouring Building	*N/A*	*N/A*	*N/A*

Summary Appraisal of Wall Type 1

15.3.1. Fire Performance Risk Factors

A combination of positive and negative risk factors were identified during the assessment, including:

i) the outer skin of facing brickwork is 100mm thick and is regarded as a non-combustible material and achieves at least 30 min fire-resisting standard;

ii) the inner blockwork is 100mm and considered non-combustible;

iii) there is an 100mm wide cavity with polyisocyanurate foam insulation and is combustible ;

iv) there is no cavity barrier located in line with compartment floors and walls, and around the openings.

The combustible PIR insulation's positioning behind non-combustible brickwork in the external wall construction initially shields it from direct involvement in a fire. The likelihood of ignition and sustained combustion is limited by the external facing brickwork. Consequently, the risk assessment categorised it within the "low" risk band, positioned toward the lower end of the scale due to a perceived absence of potential for extremely rapid fire spread and extent of burning.

15.3.2. Façade Configuration Risk Factors

Our on-site intrusive investigations did not indicate the presence of horizontal and vertical cavity barriers and cavity barriers at the junction of the door openings. The extent to which fire could spread horizontally and vertically is limited and fire could not involve more than half the building.

Given these considerations, the risk rating is considered to remain in the "low" risk band.

15.3.3. Risk Factors Arising from Fire Strategy/Fire Hazards

The various factors contributing to the overall assessment of fire strategy/fire hazard are collectively classified as "Neutral". In this regard, the overall risk rating associated with Wall Type 1 is not anticipated to rise or fall any further. As a result, the risk level for Wall Type 1 will remain in its position within the "low" risk band.

15.4. Risk Factors - Wall Type 2 - Timber Cladding

Fire Performance Risk Factors

Fire Performance Risk Factors - Wall Type 2 - PAS 9980:2022 TABLE K			
Risk Factor	**Positive**	**Neutral**	**Negative**
General	-	-	*External wall materials, components/systems and configurations that are combustible, but with no knowledge of fire behaviour*
External Surfaces: Reaction to Fire Classes	-	-	*Timber is combustible and generally considered as D-s2, d0 or worse*
Facings / Cladding Panels	-	-	*Timber, in combination with combustible insulation*
Panel Construction	-	*Limited size of gaps between panels (Typically <10 mm)*	-
Cavities	-	-	*Cavities closed at least at compartment floors and walls but the cavity barriers were ineffective through poor installation/maintenance.*
Insulation	*No insulation in the cavity*	-	-
Substrate		-	*Timber frame infilled with mineral wool insulation having Euroclass A1 and plywood outer sheathing.*
Sheathing Boards	-	-	*Plywood*
Insulated Core Panels	*N/A*	*N/A*	*N/A*
External Thermal Insulation Composite System (ETICS)	*N/A*	*N/A*	*N/A*
Infill / Spandrel Panels	*N/A*	*N/A*	*N/A*
Internal Finishes	-	*Two layers of standard gypsum plasterboard with painted plaster finish.*	-

Façade Configuration Risk Factors

Facade Configuration Risk Factors - Wall Type 2 - PAS 9980:2022 TABLE N			
Risk Factor	**Positive**	**Neutral**	**Negative**
Building Height	-	*<18m*	-
Height of Base of Cladding Above Ground	-	*2m to 5m*	
Extent of Cladding	-	-	*Covered the entire inner courtyard area*
Cavities	-	-	*Continuous vertically running cavity with poor installed cavity barriers or fire stops.*
	-	-	*Windows and other openings in line with vertical cavity*
Infill / Spandrel Panels	*N/A*	*N/A*	*N/A*
Setbacks	*N/A*	*N/A*	*N/A*
Overhangs and Projections	*N/A*	*N/A*	*N/A*
Proximity to Windows and Other Openings to the Accommodation	-	-	*Horizontally adjacent to windows and openings, and vertically in line with such openings, such that fire and smoke spread into the buildings, causing secondary fires, as a result of direct impingement, is highly likely.*
Presence of Vents or Other Openings for Services in the Façade	-	-	*Electrical wiring with thermoplastic insulation in the cavity.*
Proximity of Combustible Elements of a Façade to Escape Route Windows and Other Openings	-	-	*Adjacent to windows and door openings, such that fire and smoke spread into the escape routes to give rise to untenable conditions is likely and there is only one escape for some occupants.*
Attachments	-	-	*Steel-framed exterior walkway having timber decking without protection from the underside.*
Proximity of Combustible Elements of a Façade to a Neighbouring Building	-	-	-

Summary Appraisal of Wall Type 2

15.4.1. Fire Performance Risk Factors

The timber claddings were mechanically fixed to timber battens in a 100mm wide cavity. The timber battens are fixed through sheathing boards and timber frame with infilled mineral wool insulation, leading to the building's internal plasterboard. The panels were flat, and no gaps exceeding 10mm were present between panels.

Cavity barriers and cavity closers were observed during the intrusive inspection but they may be ineffective due to the way in which it has been installed. In addition, there was electrical wiring with thermoplastic insulation, which is considered combustible, running within the cavity.

Taking into account the information above, the cavity of Wall Type 2 contains electrical wiring with thermoplastic insulation. Despite the presence of cavity barriers and closers, the poor installation of the barriers may pose risk of fire spread from a compartment in a fire event. As a result, the risk appraisal of Wall Type 2 is categorised in the **“high”** risk band.

15.4.2. Façade Configuration Risk Factors

The Wall Type 2 is situated adjacent to the exterior walkways, which are considered a main and only escape route for some residents, in the event of a fire involving this wall type, there is a significant risk of a secondary fire spreading to the escape routes with the full vertical extent of the building. This is likely to compromise the means of escape in the event of a fire, and poses a threat, potentially preventing occupants throughout the entire building from safely evacuating (should they wish or need to do so).

Even though the timber cladding system constitutes only 15% of the external wall area, making it a non-dominant external wall type. The absence of positive facade risk factors to mitigate the risk implies that Wall Type 2 will persist in the **"high"** risk band.

15.4.3. Risk Factors Arising from Fire Strategy/Fire Hazards

The various factors contributing to the overall assessment of fire strategy / fire hazard are collectively classified as "Neutral." In this regard, the overall risk rating associated for Wall Type 2 is not anticipated to rise or fall any further. As a result, the risk level for Wall Type 2 will remain in its position within the **“high"** risk band.

15.5. Risk Factors - Wall Type 3 - Trespa HPL

Fire Performance Risk Factors

Fire Performance Risk Factors - Wall Type 3 - PAS 9980:2022 TABLE K			
Risk Factor	**Positive**	**Neutral**	**Negative**
General	-	-	*High Pressure Laminate and configurations that are combustible, but with no knowledge of fire behaviour.*
External Surfaces: Reaction to Fire Classes	-	-	*Class D*
Facings / Cladding Panels	-	*HPL (Class C or lower), when used in combination with non-combustible insulation*	-
Panel Construction	-	*Limited size of gaps between panels (Typically <10 mm)*	-
Cavities	-	-	*Cavities closed at least at compartment floors and walls but not across the full cavity.*
Insulation	*No insulation in the cavity*	-	-
Substrate	-	-	*Timber frame infilled with mineral wool insulation having Euroclass A1 and Plywood outer sheathing.*
Sheathing Boards	*N/A*	*N/A*	*Plywood*
Insulated Core Panels	*N/A*	*N/A*	*N/A*
External Thermal Insulation Composite System (ETICS)	*N/A*	*N/A*	*N/A*
Infill / Spandrel Panels	*N/A*	*N/A*	*N/A*
Internal Finishes	-	*Two layers of standard gypsum plasterboard with painted plaster finish.*	-

Façade Configuration Risk Factors

Facade Configuration Risk Factors - Wall Type 3 - PAS 9980:2022 TABLE N			
Risk Factor	**Positive**	**Neutral**	**Negative**
Building Height	-	*<18m*	-
Height of Base of Cladding Above Ground	*>5m - Cladding panels at 3rd to 5th floor*	-	-
Extent of Cladding		*Limited in extent such as to delay fire spread over the external walls.*	-
Cavities	-	*Cavity limited in vertical extent, ventilated rainscreen that spans more than one floor level but not all floor levels.*	-
Infill / Spandrel Panels	*N/A*	*N/A*	*N/A*
Setbacks	*N/A*	*N/A*	*N/A*
Overhangs and Projections	*N/A*	*N/A*	*N/A*
Proximity to Windows and Other Openings to the Accommodation	-	-	*Horizontally adjacent to windows and openings, and vertically in line with such openings, such that fire and smoke spread into the buildings, causing secondary fires, as a result of direct flame impingement, is highly likely.*
Presence of Vents or Other Openings for Services in the Façade	*Ventilation ducts pass through a cavity which are protected by cavity barriers.*	-	-
Proximity of Combustible Elements of a Façade to Escape Route Windows and Other Openings	-	-	*System at the topmost floor - Adjacent to escape route in inner courtyard, such that fire and smoke spread into the escape routes to give rise to untenable conditions is likely and there is only one escape for some or all occupants.*
Attachments	*N/A*	*N/A*	*N/A*
Proximity of Combustible Elements of a Façade to a Neighbouring Building	*N/A*	*N/A*	*N/A*

Summary Appraisal of Wall Type 3

15.5.1. Fire Performance Risk Factors

The rainscreen cladding system comprises a 8mm Trespa HPL mechanically fixed to timber battens. Behind the panel, there is a 120mm wide cavity containing 50mm and 70mm timber battens. The timber battens are fixed through sheathing boards and timber frame with infilled mineral wool insulation, leading to the building's internal plasterboard. The panels were flat, and no gaps exceeding 10mm were present between panels.

Horizontal barriers were observed during the intrusive inspection but not across the full cavity. Cavity closers at the window and vent openings were observed. However, sample investigations did not indicate the presence of suitable vertical cavity barriers in line with compartment walls.

Taking into account the information above, the cavity of Wall Type 3 contains non-combustible materials in the form of mineral wool and the internal linings are plasterboard, which may serve to limit any fire spread from a compartment in a fire event. In summary, the protective linings reduce the ignition risk, but do not completely eliminate it. As a result, the risk appraisal of Wall Type 3 is categorised in the **"medium"** risk band.

15.5.2. Façade Configuration Risk Factors

Our on-site intrusive investigations did not indicate the presence of vertical cavity barriers across the full cavity. Additionally, given that Wall Type 3 is situated adjacent to the escape route in the inner courtyard, which is the only one escape for some occupants, in the event of a fire involving this wall type, there is a significant risk of a secondary fire spreading to the staircase. This is likely to compromise the means of escape in the event of a fire, and poses a threat, potentially preventing occupants throughout the entire building from safely evacuating. (should they wish or need to do so).

Even though the cladding was observed on the upper floors only, which reduces the risk of external ignition from low level and the fact that the panels lack vertical continuity, means that the risk of external fire spread is deemed to be minimal. The proximity of the combustible elements of the cladding to escape routes that will lead the means of escape being compromised in the event of fire and there is only one escape route for some occupants. As a result, the risk appraisal of Wall Type 3 is categorised in the **"high"** risk band.

15.5.3. **Risk Factors Arising from Fire Strategy/Fire Hazards**

The various factors contributing to the overall assessment of fire strategy / fire hazard are collectively classified as "Neutral". In this regard, the overall risk rating associated with Wall Type 3 is not anticipated to rise or fall any further. As a result, the risk level for Wall Type 3 will remain in its position within the **"high"** risk band.

15.6. Risk Factors - Wall Type 4 - Brickwork

Fire Performance Risk Factors

Fire Performance Risk Factors - Wall Type 4 - PAS 9980:2022 TABLE K			
Risk Factor	**Positive**	**Neutral**	**Negative**
General	-	*External wall materials, components/systems and configurations that are combustible, but with the potential to provide adequate fire performance in certain circumstances. Clay brick is non-combustible and classed as A1 under the European classification system for reaction to fire set out in BS EN 13501-1*	
External Surfaces: Reaction to Fire Classes	*Masonry Brick classified as A1 (without test)*	-	-
Facings / Cladding Panels	*Rigid non-combustible facings: 100mm Burnt Clay Brick*	-	-
Panel Construction	*N/A*	*N/A*	*N/A*
Cavities	-	-	*Unknown timber frame facing into the cavity.*
Insulation	*No insulation in cavity*	-	-
Substrate	-	-	*Timber frame with Plywood sheathing.*
Sheathing Boards	*N/A*	*N/A*	*Plywood*
Insulated Core Panels	*N/A*	*N/A*	*N/A*
External Thermal Insulation Composite System (ETICS)	*N/A*	*N/A*	*N/A*
Infill / Spandrel Panels	*N/A*	*N/A*	*N/A*
Internal Finishes	*N/A*	*Two layers of standard gypsum plasterboard with painted plaster finish.*	*N/A*

Façade Configuration Risk Factors

Facade Configuration Risk Factors - Wall Type 4 - PAS 9980:2022 TABLE N			
Risk Factor	**Positive**	**Neutral**	**Negative**
Building Height	-	*<18m*	-
Height of Base of Cladding Above Ground	-	*2m to 5m*	-
Extent of Cladding	-	*Limited in extent such as to delay fire spread over the external walls*	-
Cavities	-	*Cavity limited in vertical extent, spans more than one floor level but not all floor levels*	-
	-	-	*Windows and other openings in line with vertical cavity*
Infill / Spandrel Panels	*N/A*	*N/A*	*N/A*
Setbacks	*N/A*	*N/A*	*N/A*
Overhangs and Projections	*N/A*	*N/A*	*N/A*
Proximity to Windows and Other Openings to the Accommodation	-	-	*Horizontally adjacent to windows and openings, and vertically in line with such openings, such that fire and smoke spread into the buildings, causing secondary fires, as a result of direct flame impingement, is highly likely.*
Presence of Vents or Other Openings for Services in the Façade	-	*The vents pass through a cavity and the cavity is faced on side by brick at least 100mm thick and any combustible insulation in the cavity is not thermoplastic.*	-
Proximity of Combustible Elements of a Façade to Escape Route Windows and Other Openings	*Remote from windows and openings, such that fire and smoke spread into the escape routes to give rise to untenable conditions is not possible*	-	-
Attachments	*Non-combustible juliet balconies*	*N/A*	*N/A*
Proximity of Combustible Elements of a Façade to a Neighbouring Building	*N/A*	*N/A*	*N/A*

Summary Appraisal of Wall Type 4

15.6.1. Fire Performance Risk Factors

A combination of positive and negative risk factors were identified during the assessment, including:

i) the outer skin of facing brickwork is 103mm thick and is regarded as a non-combustible material and achieves at least 30 min fire-resisting standard;

ii) the timber frame behind the cavity is considered non-combustible;

iii) there is an 80mm wide cavity with no insulation, but breather membrane and timber studs, which are combustible, were identified in the cavity.

iv) cavity barriers were located in line with compartment walls, but not in the compartment floor and around openings.

The combustible timber stud and breather membrane positioning behind non-combustible brickwork in the external wall construction initially shields them from direct involvement in a fire. The likelihood of ignition and sustained combustion is limited by the external facing brickwork. Consequently, the risk assessment categorised it within the **"low"** risk band.

15.6.2. Façade Configuration Risk Factors

The Wall Type 4 is situated 3.5m above ground floor level horizontally and has a limited extent. These factors reduce the risk of sustained combustion and rapid flame spread causing secondary fire. All facade risk factors are either positive or neutral, contributing to lowering the risk classification down to **"low"**.

15.6.3. Risk Factors Arising from Fire Strategy/Fire Hazards

The various factors contributing to the overall assessment of fire strategy / fire hazard are collectively classified as "Neutral". In this regard, the overall risk rating associated with Wall Type 4 is not anticipated to rise or fall any further. As a result, the risk level for Wall Type 4 will remain in its position within the **“low"** risk band.

15.7. Risk Factors - Undercroft Type 1 - Composite Decking

Summary Appraisal of Undercroft Type 1

15.7.1. Undercroft Type 1 is built with galvanised steel composite decking topped with reinforced concrete. This composite decking is supported by structural steel beams and columns.

15.7.2. The decking does not have any additional surface material covering and is connected to the steel beams at the building edge without directly adjoining any vertical external wall material. Given the low risk associated with this undercroft construction, it can be concluded that no further appraisal is necessary.

15.7.3. **Risk Factors Arising from Fire Strategy/Fire Hazards**

As stated above, given the low risk associated with this undercroft construction, it can be concluded that no further appraisal is necessary.

15.8. Risk Factors - Attachments

Summary Appraisal of Attachments - Exterior Walkway in Inner Courtyard

15.8.1. Timber decking covered the area around the flat entrances and stair of the inner courtyard. The timber material showed no sign of being treated with fire retardant products. In addition, the combustible timber materials that were present in this area occupy the only escape route for the residents in the event of fire.

15.8.2. The elevation of this area is constructed of timber cladding, which is combustible.The decking and the vertically stacked arrangement of the walkway pose a significant fire risk in relation to the vertical spread of fire.

15.8.3. It is suggested in the Fire Risk Assessment dated 11th March 2019 that the managing agent implement policies to govern balcony usage by residents. This may encompass restrictions, such as prohibiting smoking and the storage of flammable and combustible items. The adoption of such measures is anticipated to significantly reduce the risk of ignition.

Taking into account the size and extent of the walkway along with the management control measures, our assessment indicates that the risk of external fire spread in this area is significant. Consequently, the risk level is deemed to be at the **‘high’**.

16. Conclusion

16.1. Assessment Conclusion

16.1.1. This FRAEW report has been developed to provide an assessment of the external walls and specified attachments to identify fire risk profiles and subsequently advise on any necessary remedial works. Where possible, the FRAEW report establishes proportionate risk reduction based upon positive contributions to Aura Court, 1 Percy Street, Manchester, M15 4AB.

16.1.2. The property's existing external wall construction contains four primary wall types, one undercroft and one specified attachment, these are: Artstone, timber cladding, Trespa HPL and brickwork.

16.1.3. Inspections and differences recorded within the primary wall types, undercroft and attachment have been noted and each of the systems have been assessed independently to ascertain both the materials used within the external walls and whether they have been designed, installed, and maintained appropriately in accordance with current government guidance.

16.1.4. A holistic evaluation of the combustible materials has been undertaken, taking due consideration of the situations found at the building, using PAS 9980:2022 "Fire risk appraisal of external wall construction and cladding of existing blocks of flats - Code of practice". Other influencing factors have been taken into consideration including;

a) The fire risk assessment undertaken and produced 11th March 2019 by Cardinus Risk Management Limited (not relied upon) and the External Facade Report dated 30th November 2018 produced by Facade Remedial Consultants Ltd;

b) The external wall systems;

c) Height of the building and location;

d) Means of fire detection and smoke extraction;

e) Means of escape;

f) Occupancy characteristics;

g) Fixed fire fighting services;

h) Age of construction and standards at that time along with current standards and guidance.

16.1.5. Our overall view is that the collective effect of the fire safety measures at Aura Court, 1 Percy Street, Manchester, M15 4AB, when considered holistically, as opposed to each measure in isolation, is that the external wall systems that are present do have a detrimental impact on the overall fire safety of the building. Taking into account the impact of the timber cladding and exterior timber walkway, the risk rating in accordance with PAS 9980:2022 is positioned towards the **'High'** risk band.

16.1.6. This report has confirmed the necessity of remedial actions that are to be undertaken relating to the external fabric of the property for all wall types, attachments and soffits of undercrofts.

16.1.7. An action plan should now be developed for the remedial works, and these actions should be undertaken in a timely manner. We have considered the need for interim measures and provided a detailed list of such requirements.

16.1.8. If remedial works cannot be planned to be implemented within a short duration from this report, then interim measures will be necessary to maintain the safety of the residents. It is advised that the local fire and rescue services (Moss Side Community Fire Station) should be made aware of any such temporary changes in management until all areas of remediation measures have been undertaken and reached practical completion.

16.1.9. All remediation works need to be carefully designed, planned and monitored such that accurate information can be provided with respect to the Health and Safety File on completion. A copy of important EWS1 works documentation should be provided to the firefighting services together with any common door access codes if not done so already.

16.1.10. This assessment will need to be reviewed if, as a result of remedial works and/or interim measures, any significant changes occur to the external walls or attachments of the building.

16.1.11. It is advised that all building regulations certification, services testing should be recorded with a copy held on the Health and Safety File for the building along with the retention of all drawings and specifications which are produced to record any future alterations to the building including any material alterations to any specified attachment.

17. Remedial Works

17.1. Overview

17.1.1. This remedial works section uses a best practice “risk-proportionate” fire safety measures approach rather than a “prescriptive” approach. In our professional opinion, **we consider there to be a requirement for remediation works to be undertaken.**

17.1.2. Following the FRAEW, the resulting remedial works are advised to be undertaken in order to reduce the buildings risk to a tolerable level:

17.2. Wall Type 1 - Artstone

17.2.1. Based on the **“low”** risk outcome, it was determined that, given the circumstances:

i) the risk of rapid external fire spread is extremely limited by the nature of the materials and wall build-up; and

ii) the potential for secondary fires in a flat resulting from a fire involving the external walls of the other flat was very limited, and it was considered highly unlikely that occupants would be harmed from secondary fires before escaping or being prevented from escaping; and

iii) there appeared to be no scope for the communal means of escape to be affected by fire spread on / over this wall type.

17.2.2. Accordingly, **no remedial action** was considered necessary.

17.3. Wall Type 2 - Timber Cladding

17.3.1. Based on the **“high”** risk outcome, it was concluded that, under all the circumstances:

i) this wall system may provide a mechanism for rapid external fire spread; and

ii) the potential for rapid secondary fires on upper levels was high and this may impact upon the ability of occupants to safely escape in the event of a fire; and

iii) it was also possible that the communal means of escape (exterior timber walkway) may be compromised in a fire event because of the proximity of the wall system to the means of escape.

17.3.2. As a result, the most suitable approach to address this is deemed to be the **removal and replacement** of the current combustible materials, with an alternative system that achieves A2-s1, d0 or better rating. In addition, it is necessary to adequately implement the cavity barriers / fire breaks in accordance with the guidelines outlined in Approved Document B. By undertaking these comprehensive remedial works, the fire risk could be reduced from a "high" to a "low" risk band. Consequently, this will safeguard the building's occupants by minimising the likelihood of ignition, restricting flame spread, and

maintaining the integrity of the escape staircase in the event of a fire.

17.4. Wall Type 3 - Trespa HPL

17.4.1. Based on the **"high"** risk outcome, it was concluded that, under the circumstances:

i) this wall system may provide a mechanism for rapid external fire spread; and

ii) the potential for rapid secondary fires on upper levels was high and this may impact upon the ability of occupants to safely escape in the event of a fire; and

iii) it was also possible that the communal means of escape (exterior timber walkway) may be compromised in a fire event because of the proximity of the wall system to the means of escape.

As a result, the most suitable approach to address this is deemed to be the **removal and replacement** of the current combustible materials, with an alternative system that achieves A2-s1, d0 or better rating. In addition, it is necessary to adequately implement the cavity barriers / fire breaks in accordance with the guidelines outlined in Approved Document B. By undertaking these comprehensive remedial works, the fire risk could be reduced from a "high" to a "low" risk band. Consequently, this will safeguard the building's occupants by minimising the likelihood of ignition, restricting flame spread, and maintaining the integrity of the escape route in the event of a fire

17.5. Wall Type 4 - Brickwork

17.5.1. Based on the **"low"** risk outcome, it was concluded that unduly rapid external fire spread was not anticipated, but, in any case:

i) it was unlikely that occupants would be unduly harmed from secondary fires before escaping or prevented from escaping; and

ii) it was unlikely that the communal means of escape would be compromised before occupants could safely use them to escape.

17.5.2. Accordingly, **no remedial action** was considered necessary.

17.6. Undercroft Type 1 - Composite Decking

17.6.1. Based on the **extremely low** risk outcome, it can be concluded that **no further appraisal and remedial action** is necessary.

17.7. Attachment - Exterior Walkway

17.7.1. Based on the **'high'** risk outcome, it was concluded that, under all the circumstances:

i) the timber decking may provide a mechanism for rapid external fire spread; and

ii) the potential for rapid secondary fires on upper levels was high and this may impact upon the ability of occupants to safely escape in the event of a fire; and

iii) the walkways are considered a main and only means of escape for some residents and it was possible that the means of escape may be compromised in a fire event because of the proximity of the timber cladding wall system.

17.7.2. As a result, the most suitable approach to address this is deemed to be the **removal and replacement** of the current combustible timber decking with an alternative system that achieves A2-s1, d0 or better rating. In addition, it is necessary to adequately implement the policies to govern the walkway usage by residents such as prohibiting smoking and the storage of flammable and combustible items. By undertaking these comprehensive remedial works, the fire risk could be reduced from a "high" to a "low" risk band. Consequently, this will safeguard the building's occupants by minimising the likelihood of ignition, restricting flame spread, and maintaining the integrity of the escape staircase in the event of a fire.

18. Interim Measures

18.1. Urgent Interim Measures for Implementation

18.1.1. The following interim measures should be urgently implemented:

a) Clear dialogue should be established between the responsible person and the relevant fire and rescue service to inform all parties of the current building arrangements including any risks associated with the combustible/flammable materials listed within this building;

b) A clear dialogue should be established between the responsible person and the current occupants of all apartments to notify them of fire action and evacuation strategy;

c) A fire risk assessment should be urgently undertaken as the FRA produced by Cardinus Risk Management, dated 11th March 2019 is out of date. This review should include consideration of the current evacuation strategy to establish its suitability. If the current strategy is found to be inappropriate for the current risk, the National Fire Chiefs Council (NFCC) guidance should be considered;

d) Review and update the fire safety management procedures for the building;

e) An action plan should be developed for recommended remedial works, and these actions should be undertaken in a timely manner;

f) The managing agent will be required to promptly implement policies to regulate walkway usage. This may involve prohibiting smoking and the storage of flammable or combustible materials on balconies;

g) Identify any vulnerable residents who might not be able to promptly evacuate independently from the building without assistance in the event of a fire;

h) Check that all facilities provided for fire-fighters remain available at all times, and are properly maintained;

i) We would further recommend as an interim measure, visual checks to the compartmentation of the stairwells by a suitably qualified and experienced professional, including service risers and voids, and to also audit the efficacy and audibility of the fire detection and alarm installations;

j) The risk of external ignition of the cladding system (e.g. taking into account the height at which the cladding starts, the proximity of vehicles in relation to the cladding) was considered to be low risk. However, consideration should be given to controlling any hot works in the vicinity of the external wall systems by instigating a Hot Works Permit System.

k) The above short-term interim measures represent a minimum standard and must be properly informed by the significant findings of a suitable and sufficient, comprehensive, fire risk assessment, the findings of which must be shared with the

local fire and rescue services and the residents of Aura Court. Whereas there is no legal requirement to have the works verified by a third-party accredited competent person, it is often an approach favoured by fire authorities.

We trust that you will find the contents of this report acceptable. We shall be pleased to attend a further meeting to review the FREAW in collaboration with Edgerton Estates Limited if there is an opportunity to do so.

In the meantime. if we can offer any further assistance please do not hesitate to contact

Kenneth Birch BSc (Hons) FRICS Director

1 Balloon Street, Manchester, M4 4BE

T: 0161 5530555 **M:** 07860 854907

E: ken.birch@baileyp.co.uk **W:** baileypartnership.co.uk