

a number have failed over time. A long-term solution to the forgoing will need to be sought and until such time as detailed investigation can be undertaken to prove otherwise a complete replacement should be considered.

7. FIRE RISK ASSESSMENT SUMMARY

7.1. Fire Risk Assessment

The Fire Risk Assessment prepared by Delco Safety Compliance dated the 6th November 2020 has been reviewed. The report appears to be a Type 1 – Common parts only (non-destructive) type. Please see Appendix 5 for the full content of the report.

Allowance will be made for all the recommendations. We believe a number of the elements may have been addressed since the report was produced.

We have noted the Fire Risk Assessment doesn't pick up on elements noted within the Ridge and Partners Type 4 [Type 4 – Common parts and flats (destructive)] - Fire Risk Assessment dated the 27th March 2020 (generated), which is generally summarised below:

Battery powered or no smoke/heat detectors within properties, expanded foam used to seal service penetrations, services passing through compartments, false sealing to be checked within dwellings, Ridge and Partners have concerns around the front entrance doors 'Masterdor', front doors not fully self-closing, damaged door frames, inadequate front entrance doors, original vent to communal system present, the effectiveness of flue fire stopping to be confirmed, service duct panels have been upgraded but may not provide the correct level of fire resistance, redundant gas risers not stopped, extract fans ducted through cladding system, damaged electrical fittings, non-PAT tested appliances, evidence of testing of lightning protections, surface coating to confirm they are class '0', storage within electrical cupboards, stored materials in communal area, refuse areas not secure and recycle bins not stored in place, gas bottles in basement area, missing and damaged seals to refuse chute hoppers, refuse externally of block, smoke vents do not appear to have sufficient free area to lobbies, The current smoke ventilation has been installed since the building was constructed. There are railings adjacent to the window suggesting that the flat lobby area may have been completely open. The original provision may have been permanent ventilation which would have provided a greater free area. smoke vent at top of the stairs dirty and blocked with no significant air movement, AOV on stairs are centre pivoting and may partially obscure the stairwell means of escape, fault noted on the smoke vent panel, the front entrance door fire rating needs to be substantiated, lock all electrical meter cupboard doors, divert cables which run through door openings, excessive gaps to meter/electrical cupboard doors, renew cupboard doors with appropriate fire rating, upgrade fire stopping to service risers, locks with removeable keys on communal doors, woodwool slab to lift plant room, improve security to roof hatch, check roof ventilation/extract fan systems terminated at roof level, inadequate fire stopping, timber floors to be checked for construction, redundant gas pipes still in situ, regular inspection of sprinkler system, not all flats have sprinkler systems installed, fire detection unsatisfactory at time of inspection, confirm all final existing fail open, emergency fitting inspections out of date, fire exit signage update, open up cladding and inspect, The numbering of the flats to the block is not logical and the signs showing the flat locations to the ground floor entrance area are in different areas of the lobby making flat floor level identification difficult,

As part of the Ridge and Partners surveys the communal MEP services were inspected and the following elements recommended:

Confirm the operation mode and interconnection between the fire alarm panel and AOV panel. Interlink panels. Note. Review the colour of the LV cabling and replace the fire alarm cabling with red cable to distinguish it from the LV cabling in accordance with BS5839, review proximity of detectors to lift shafts and relocate if necessary, identify purpose of alarm beacon and affix sign identifying meaning and action and the lift, ensure that the zoning corresponds for both the Fire Alarm panel and AOV control panel, confirm which panel is recorded the fire alarm or AOV, in the maintenance log. Note add electrical intake room extinguisher to the maintenance log. Note review the coloured dots on the emergency lighting maintenance record and replace if needed. Allowance for replacement of 3Nr fitting, replace end caps on AOVs to protect exposed cables, review why 10th floor AOV is screwed close and reinstate in line with fire risk assessment, confirm why AOV on 6th floor was open, rectify any faults and reinstate, fix several fire doors throughout the building, check the installation records for the sprinkler pump to ensure that the cable provides 120min protection. Allowance for replacement of 60m of cable, provide metal clips for the fire alarm cabling and fire rated cabling, provide mechanical protection to low level cabling serving the sprinkler pump review the effect of the sprinkler boxing dividing the ceiling and requiring additional smoke detectors, install signs on sprinkler riser cupboard, dry riser inlet is located in the ground floor lobby and outlets are not provided at every level. We recommend that this is reviewed and brought in line with BS9990, installation of the Inlet is impractical and special dispensation may be sought, provide signage for dry risers to indicate presence on the floor and labels to the dry riser outlet, service 1Nr CO₂ fire extinguishers and replace 1Nr CO₂ extinguisher, the level of emergency lighting on the stair treads should be checked to confirm sufficient light on stairs. Allowance for the installation of 4Nr fittings through stairwell and landings, check level of emergency lighting in the roof space and provide additional fittings as needed, provide directional escape signage where missing, replace locks on door entry control martialling panels.

Allowance should also be made for all of the above items.

Ridge and Partners have been provided with an Electrical certificate for the common parts, dated 24th June 2020. The report identifies a number of recommendations predominantly C3 'Improvement recommended', with one C2 'Potentially dangerous' Urgent remedial action required elements, which appears to have been rectified at the date of inspection.

Please note a Croydon Council have confirmed a number of the recommendations within the FRA's have been completed and this information is contained within the Appendix 5, however, we have not been provided with a schedule of the works executed or certificates of compliance for the works completed. Until such time as this information is provided, we will retain the foregoing within the report.

7.2. Cladding Report

A EWS1 cladding inspection was undertaken by BB7, and the results are contained within Appendix 5.

The key findings are summarised below:

1. Fire breaks missing or incorrectly fitted.
2. Ground floor insulation noted to be flammable
3. Window infill panels noted not to provide the required level of fire resistance

Note: We understand that item 2 above has raised a number of concerns. It should be noted that BB7 have stated the following within their report under Section 9.1.1 of the BB7 report - short term recommendations *'Although the building has a B2 rating due to the recommendations made, it does not necessarily mean that the buildings evacuation strategy needs to change, it just means*

that we consider remedial works are necessary to bring the external walls up to a point where they need to be for the purposes of the form and government advice. We have identified high-risk materials at low level in the block with EPS insulation noted at low level, which is defined as high risk within the government guidance. This material should be removed and replaced with a non-combustible alternative.....The EPS system is confined to the ground floor level only and does not span the full height of the building. Whilst lateral fire spread is a consideration, it is not the critical direction for fire spread and will likely occur at a lower rate.....'

Please note the above is an extract from the BB7 report and the whole statement should be read in the context it was made.

Allowance will be made for replacing the existing systems with an insulated render-based system (Please also see Section 6.2). This should be subject to full feasibility appraisal by suitable specialists.

8. NOT USED

9. STRUCTURAL INSPECTION

Please refer to Appendix 2 for the details in respects of the Structural Report.

It is understood that the building was constructed using a precast reinforced concrete large panel system (LPS) constructed by Wates. However, no record information for the original construction appears to exist.

The building had subsequently been overclad, for which record drawings have been provided. From the dates on the drawings this took place c1998-2002. This included construction of an additional small tower on the north-western side containing a waste-chute serving all levels. From the record drawings it was possible to identify that the refuse tower was formed using steelwork and tied to the original tower for stability. The record drawings show the cladding system comprised brackets fixed to the concrete structure supporting a system of vertical rails to which aluminium cladding panels have been fixed. This had been applied from first floor level up to the roof. The ground floor level had been clad in render and insulation. The render had an exposed aggregate finish and was set back from the line of the aluminium cladding above.

The building was subjected to a visual inspection both externally and internally. The internal inspection was restricted to examination of the common areas (the main staircase and lift lobby at each level) and a sample of occupied units. External examination was from the perimeter of the building at ground level.

Since the building had been overclad, the primary structure was hidden from view. Nevertheless, it was possible to see the brickwork enclosing the space below ground floor level, which remained exposed. This appeared to be in satisfactory condition.

Internally the walls in the common areas had a plastered finish. There was little evidence of any significant structural issues.

Within the flats that were examined, the internal partition walls were of solid construction, with the main structural walls appearing to be of reinforced concrete large panels.

There was no evidence of any structural defects in the flats examined.

9.1. Record Review

The record drawings provided did not reveal any useful information concerning the construction of the original building. However, it is understood that the building was constructed using the Wates LPS system. Reference to BRE publications indicates that the Wates system was generally not widely used compared with other LPS systems. It apparently comprises precast floors and solid precast internal walls, with precast sandwich panels forming the outer envelope. The inner leaf of the sandwich panels supports the floors at the loadbearing peripheral walls of the building.

A common problem with LPS systems is the detailing and workmanship at the panel joints. At least three Wates blocks have been subject to opening up to examine these joints. Typical of the issues encountered on Wates blocks were:

1. The in-situ concrete surrounding the levelling bolt was in place and complete but was friable in nature.
2. No bedding mortar had been used at one location, resulting in the upper panel bearing unevenly on high spots at the top of the lower panel.
3. Vertical cracking between panels occurred frequently at the higher levels in the building but less often with reducing height. No cracks were present below fourth-floor level.
4. A strengthening bar exposed was not properly embedded in the concrete and was considered to be ineffective.
5. Chloride contents in all samples were in the low.
6. Inadequate concrete cover to the reinforcement leading to carbonation and spalling of the concrete cover.
7. Water penetration at some joints
8. Chloride contents in the panels were in the low category but where repairs had been made, chloride contents in the repair materials were often high.
9. Poor-quality concrete in the cladding panels due to an excessive amount of sand in the mix resulting in a poorly graded porous concrete, with excessive shrinkage leading to cracking in the panels.

Taking the foregoing points into account, it is recommended that some sample areas are opened up in the voided units to allow visual examination of the joint details and to assess whether the construction detailing, and workmanship is of a satisfactory standard, and also sufficient to provide the degree of robustness required to resist disproportionate collapse.

10. ASBESTOS REGISTER

We have not been provided with a copy of the Asbestos Register for the block.

A provisional allowance will be made for removals.

11. SPECIALIST REPORTS

11.1. Thermographic survey

Due to the time of year that the survey was procured, we were unable to arrange for a thermographic survey to be undertaken during the heating season.

Croydon Council have advised that they will undertake the thermographic survey during the heating period, outside of this project.

12. PROGRAMME

A draft outline programme is included within Appendix 7 of this report. It is expected that the construction period will vary per option. We have presumed that all the works will be delivered in a single programme and not piecemeal.

When the contractors return their tenders a detailed programme and method statement should be requested showing how they will complete the works.

The programme can be further developed after agreement of the work package and to form part of the sign off process.

13. BUDGET COSTS

The project budget estimates are contained within Appendix 8 for the options below:

Refurbishment with residents insitu
 Refurbishment once blocks decanted
 Full site regeneration with new build option

14. HIGH LEVEL OPTIONS APPRAISAL

We consider that the viable options available to this block should be considered as follows:

Refurbishment with residents insitu

Pros	Cons
Improved facilities for residents	Working with residents insitu
Retaining and refurbishing an existing asset	Increased programme length
Providing a safer block for residents	Increased costs
Addressing fire risk concerns	
Improving perception of the blocks	
Reducing long term maintenance costs	

Refurbishment once blocks decanted

Pros	Cons
Improved facilities for residents	Decanting residents
Retaining and refurbishing an existing asset	
Providing a safer block for residents	
Addressing fire risk concerns	
Improving perception of the blocks	
Reducing long term maintenance costs	
Shorter programme	

Full site regeneration with new build option

Pros	Cons
Modern facilities	Decanting residents
Reducing long term maintenance costs	Programme length
Inspiring design	
Significantly reducing CO2 usage of the block	

15. STATUTORY CONSENTS

The proposed works will require Full Plans Planning Submissions. We would envisage planning approval being provided within 15 -20 weeks of submission, depending on consultation.

We have not undertaken any informal or formal pre planning discussions to date and would recommend, informal discussion be sought in order to ensure the appropriate reports are obtained and submitted with the relevant applications.

The proposed works will require a Full Plan Building Regulation submission, each block will require a separate application. We would envisage approval being granted within 5 weeks of submission via the local authority. It should be noted that the Regulatory Reform Order Risk Assessment will require updating following the works and may require any of the FRA deficiencies to be addressed as part of the works.

16. BLOCK RATING

HHSRS

The Housing Health and Safety Rating Scheme (HHSRS) is a risk- based evaluation tool to help local authorities and housing associations identify and protect against potential risks and hazards to health and safety from any deficiencies identified in dwellings. It was introduced under the Housing Act 2004 and applies to residential properties in England and Wales.

HHSRS assesses 29 categories of housing hazard. Each hazard has a weighting which will help to determine whether the property is rated as having a typical, slight, moderate or a severe risk to the health and safety of its occupants. The underlying principle of the HHSRS is that any residential premises should provide a safe and healthy environment for any potential occupier or visitor.

Ridge and Partner assessments uses the values as noted below and has been based on the whole blocks.

Typical (Class IV)

No risks to health and safety within the property and no further action is needed.

Slight (Class III)

A particular hazard which was unlikely to cause harm, but there is a small element of risk.

Moderate (Class II)

A risk which is likely to, but not immediately cause moderate harm. In this instance you would take photographs of the risk and inform the fieldwork manager immediately.

Severe (Class I)

Immediate threat to life. In this instance you would take photographs of the risk and inform the fieldwork manager immediately to action.

We have undertaken an assessment, and as noted previously excluded the categories below:

Biocides, Carbon monoxide and fuel combustion products, Lead, Radiation, Uncombusted fuel gas, Volatile organic compounds, Crowding and space, Domestic hygiene, Pests and refuse, Food safety, Personal hygiene, Sanitation and drainage, Water supply, Flames, hot surfaces etc, Collision and entrapment, Explosions, Position and operability of amenities etc

The ratings per element are noted below in green.

1) Damp and Mould Growth 2 Typical 3 Slight 4 Moderate 5 Severe	2) Excess Cold 2 Typical 3 Slight 4 Moderate 5 Severe
3) Biocides 2 Typical 3 Slight 4 Moderate 5 Severe	4) Excess Heat 2 Typical 3 Slight 4 Moderate 5 Severe
5) Asbestos (and MMF) 2 Typical 3 Slight 4 Moderate 5 Severe	6) Carbon Monoxide (Fuel Combustion) 2 Typical 3 Slight 4 Moderate 5 Severe
7) Lead 2 Typical 3 Slight 4 Moderate 5 Severe	8) Radon 2 Typical 3 Slight 4 Moderate 5 Severe
9) Uncombusted Fuel Gas 2 Typical 3 Slight 4 Moderate 5 Severe	10) Volatile Organic Compounds 2 Typical 3 Slight 4 Moderate 5 Severe
11) Crowding and Space 2 Typical 3 Slight 4 Moderate 5 Severe	12) Entry by Intruders 2 Typical 3 Slight 4 Moderate 5 Severe
13) Lighting 2 Typical 3 Slight 4 Moderate 5 Severe	14) Noise 2 Typical 3 Slight 4 Moderate 5 Severe
15) Domestic Hygiene Pests & Refuse 2 Typical 3 Slight 4 Moderate 5 Severe	16) Food Safety 2 Typical 3 Slight 4 Moderate 5 Severe
17) Sanitation and drainage problems 2 Typical 3 Slight	18) Water supply 2 Typical 3 Slight

4 Moderate 5 Severe	4 Moderate 5 Severe
19) Falls associated with baths 2 Typical 3 Slight 4 Moderate 5 Severe	20) Falls on level surfaces 2 Typical 3 Slight 4 Moderate 5 Severe
21) Falls associated with stairs and ramps 2 Typical 3 Slight 4 Moderate 5 Severe	22) Falls between levels 2 Typical 3 Slight 4 Moderate 5 Severe
23) Electrical hazards 2 Typical 3 Slight 4 Moderate 5 Severe	24) Uncontrolled fire 2 Typical 3 Slight 4 Moderate 5 Severe
25) Flames, hot surfaces and materials 2 Typical 3 Slight 4 Moderate 5 Severe	26) Collision and entrapment 2 Typical 3 Slight 4 Moderate 5 Severe
27) Explosions 2 Typical 3 Slight 4 Moderate 5 Severe	28) Poor ergonomics 2 Typical 3 Slight 4 Moderate 5 Severe
29) Structural collapse and falling elements 2 Typical 3 Slight 4 Moderate 5 Severe	

Decent Homes

The definition of what is a decent home has been updated to reflect the Housing Health and Safety Rating System (HHSRS) which replaced the Housing Fitness Standard on 6 April 2006. Landlords will find it helpful to refer to the two volumes of statutory guidance on HHSRS1.

A Decent Home meets the following four criteria:

a) It meets the current statutory minimum standard for housing

Dwellings which fail to meet this criterion are those containing one or more hazards assessed as serious ('Class I/Category 1') under the HHSRS.

Result: A number of dwellings would fail this assessment based on the water ingress to the 10th floor properties, which in some instance manifests itself at ground floor level, as well as the persistent cold water service failures. However, as an overall we do not to believe this to be representative of the whole block.

b) It is in a reasonable state of repair

Dwellings which fail to meet this criterion are those where either:

one or more of the key building components are old and, because of their condition, need replacing or major repair; or two or more of the other building components are old and, because of their condition, need replacing or major repair.

external walls.
roof structure and covering.
windows/doors.
chimneys.
central heating boilers.
gas fires.
storage heaters.
plumbing.
and electrics.

Result: The block as an overall would fail this assessment based on the condition of the windows and heating within the dwellings.

c) It has reasonably modern facilities and services

Dwellings which fail to meet this criterion are those which lack three or more of the following:
a reasonably modern kitchen (20 years old or less).
a kitchen with adequate space and layout.
a reasonably modern bathroom (30 years old or less).
an appropriately located bathroom and WC.
adequate insulation against external noise (where external noise is a problem); and
adequate size and layout of common areas for blocks of flats.

A home lacking two or fewer of the above is still classed as decent, therefore it is not necessary to modernise kitchens and bathrooms if a home meets the remaining criteria.

Result: Of the dwellings accessed some dwellings would fail based on their condition, but the majority of the facilities to the dwellings inspected were in a serviceable condition.

d) It provides a reasonable degree of thermal comfort

This criterion requires dwellings to have both effective insulation and efficient heating. It should be noted that, whilst dwellings meeting criteria b, c and d are likely also to meet criterion a, some Category 1 hazards may remain to be addressed. For example, a dwelling meeting criterion d may still contain a Category 1 damp or cold hazard.

Result: Further investigations in respects of the SAP ratings and an assessment of the effectiveness of the heating systems will be required in order to determine if this factor has been satisfied, however it is noted the dwellings inspected have heating to two or more rooms.

17. INVESTMENT STRATEGY

The works proposed are as follows:

- Roof Renewal - Remove the existing profile sheeting, insulation and support structure etc. Strip the original flat roof covering. Supply and install new high performance felt to modern day standards

- Lift motor/Tank roof. Remove the woodwool slab and supply and fit a new covering.
- CCTV survey of the existing rainwater goods.
- Re-line the existing rainwater down pipes and provide conservation outlets.
- Elevations Option A - Remove the existing cladding system including insulation and supply and fit new insulated render system.
- Elevation Option B - Remedial works to the existing cladding system including review and repairs to the fire breaks, upgrading the insulation, renew mastic joints and renew the render and insulation at ground level.
- Windows - Renew the window to the dwellings with side hung casement windows to comply with the current building regulations.
- Renew the common parts windows to comply with the current building regulations including AOV and window infill panels with fire rated units.
- Clean and overhaul the existing AOV at the top of the stairs.
- External entrance doors overhaul and decorate the rear entrance door.
- Common Part Doors - The lift lobby doors and screens should be renewed with certified fire rated doorsets
- The meter cupboard doors and frames should be renewed with certified fire rated doorsets
- The internal refuse store doors and frames should be renewed with certified fire rated doorsets
- The electrical riser doors and frames should be renewed with certified fire rated doorsets
- Front Entrance Doors - Renew all existing front entrance doors with certified FD30 doorsets
- Common Part Flooring - Renew common part flooring.
- FRA Works – Should be implemented (Please see FRA & Cladding Report)
- Flats Works - Provision of MVHR to all dwellings
- Heating replacement and resizing to suit dwellings.
- Provision of mains wired fire detection.
- Renew rising and falling cold water services buried within the slabs.
- Renew hot water services with new unvented system.
- Provision of new fire doorsets to all kitchens.
- Electrical rewire to all flats and mount consumer units at the correct heights.
- Asbestos Removal – Provisional sum
- Chute and Hoppers - Survey and repair chute hoppers
- Investigations - Structural investigations
- CCTV Above RWP and Below Ground Drainage Survey.
- Renew SVP risers.

The following points will be included below the line as cost options:

- Aluminium double-glazed windows replacement
- Aluminium triple glazed window replacement
- Cladding replacement with brick slips
- Heat pump heating system
- Lightning protection
- Open up the lifts shafts to service each floor & reprogramme

18. CONCLUSION/RECOMMENDATIONS

We have undertaken an assessment of the visible structure and the available record information. We believe the at the building integrity subject to detailed investigations at present is not a cause for concern.

We have assessed the key components Roof, External Walls, Windows and Doors etc, all of these key components require major works, subject to further investigations and would fail the majority of the criterion under Decent Homes.

As noted within the report we have been unable to undertake a full HHSRS assessment and would recommend that the foregoing is undertaken, in order to understand the rating per dwelling including interaction with the residents. Although looking at the whole block and not specific dwellings none were classed as Severe (Class I).

We believe that building would fail Decent Homes Standards, as noted above due to the four criteria not being met.

The Fire Safety works have been identified within Section 7 and all works should be implemented. We have acknowledged that a number of items have been addressed, however, a significant number appear outstanding, Croydon council have confirmed the works which have been completed (Appendix 5), however we are yet to have sight of any certification to confirm, the works have been addressed satisfactorily. The Type 4 FRA's have also previously recommended a significant amount of investigation, which should be undertaken in order to inform the scope of works going forward.

Where available we have reviewed the relevant statutory documents made available to Ridge and Partners and commented on the adequacy or required remedial works.

We believe the works summarised under section 17 are required as to the building, however in the short term all FRA fire actions should be addresses and all investigation works should be undertaken to clarify the elements which require opening up, which will inform the scheme going forward.

Budget costs have been prepared based on the three scenarios agreed with Croydon Council and they are summarised with Appendix 8.

Once you have had an opportunity to read the report, we would be pleased to go through any aspects you would like clarification.

We also look forward to your further instruction in this regard.

19. APPENDIX 1 – CLIENTS BRIEF

20. APPENDIX 2 - STRUCTURAL REPORT

21. APPENDIX 3 – MEP FLAT ONLY INTERNAL REPORT

22. APPENDIX 4 –ROOFING INSPECTION

23. APPENDIX 5 - BB7 CLADDING REPORT & FIRE RISK ASSESSMENTS

24. APPENDIX 6 – PHOTOGRAPHIC SCHEDULE

25. APPENDIX 7 – PROGRAMME

26. APPENDIX 8 – BUDGET COSTS

