



WINDOW SURVEY

CRESCENT HOUSE
GOSWELL RD
GOLDEN LANE ESTATE, LONDON
EC1Y 0SL



FOR

THE MAYOR, COMMONALTY AND CITIZENS OF THE CITY OF LONDON

PREPARED BY

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1.0 Instruction

- 1.1 In accordance with the form of tender dated 28 August 2019 an inspection of Crescent House, Goswell Rd, Golden Lane Estate, London EC1Y 0SL was carried out Throughout December 2019 to the end of February 2020.
- 1.2 The purpose of the survey was to gather useful information and provide recommendations to the City of London relating to options of either repairing the windows and retro fitting double glazed sealed units or fully replace the timber windows.
- 1.3 The survey included a thorough inspection of all existing windows and external doors (where located within window sets) to determine the full condition of the existing windows. The windows are primarily made of a hardwood timber with a centre pivot steel framed casement inserted to the frame in one location.
- 1.4 This report was based upon a visual inspection, with no destructive investigation. We received plan and elevation drawings of the construction of the property.
- 1.5 The inspection was carried out in dry and light rain weather conditions.

2.0 Description

- 2.1 The properties estimated construction is 1958-62. The Golden Lane Estate is Grade 2 listed and Crescent House is Grade 2* listed. The construction is reinforced concrete, exposed and bush hammered to round-arched cornice and sill band. Mosaic cladding to pilotis and storey bands. The roofs are a series of felt covered arched roofs. The building comprises four storeys, the ground floor set back behind pilotis. Three storeys of flats, each with head-high partition to form bedroom, set over shops, with public house set apart from these at southern end of block separated by steps and archway leading into rest of estate. The block is curved to the front at Goswell Road. The back is straight. There are two rows of flats, either side of an access corridor, exposed to open air on the top floor.
- 2.2 The windows are hardwood timber windows stained dark, with pivoting centrally hung casements and some aluminium side opening lights. The timber is assumed to be Sapealer timber.

2.3 Satellite Image and Orientation



3.0 Observation and Comments

3.1 Trends in defects which are common across the building.

3.2 External

- 3.3 Wet rot is a common defect identified across the building. The below table is created from the schedule of repairs identified. The table shows the amount of rot defects identified in comparison to other defects.

TYPE OF DEFECT	NUMBER OF DEFECTS	PERCENTAGE
ROTTEN TIMBER	311	73%
OTHER DEFECT	116	27%
Total	427	100%

- 3.4 The below table is created from the schedule of all defects identified. The table shows that the bay windows are where most external defects are located. There are more external defects on the front elevation bay windows than the rear elevation bay windows.

LOCATION OF EXTERNAL DEFECTS	NUMBER OF EXTERNAL DEFECTS	PERCENTAGE
Front Elevation	29	9%
Front Bay	124	38%
Rear Elevation	23	7%
Rear Bay	77	24%
Internal Wells	44	14%
Side Elevations	26	8%
Total	323	100%

- 3.5 The wet rot is severe. In some cases, effecting window casement corners, making long lasting repairs challenging. Most of the rot was found on bottom rails, bottom frames, bottom sills, starting at corners, edges or behind perished finishes. The damage caused by the wet rot has made the public at risk from falling parts of windows including glass and timber. During the survey we raised 3 emergency repairs where window casements look like they were going to fall on to the street if moved which could have caused major injury to the public below.
- 3.6 The survey identified delaminating paint, peeling varnish and generally deteriorated finishes. Using the Building Cost Index Service (BCIS) Cost index (RICS Building maintenance price book 2019) a schedule of repairs and decorations was added as a general item. The estimate is based on repairing

all windows and doors at the next external repairs and decorations program. The costs and full breakdown of repairs are shown later in the report.

- 3.7 Another general item which was identified included replacing external sealant on ledges and horizontal joints such as between masonry and timber or between two joining timber sections. The quantity of sealant was estimated based on replacing all sections during the next external repairs and decorations program. This will ensure the lifespan and properties of the sealant is renewed.
- 3.8 The mosaic tiles were defective below windows cills. An estimate of 353 square meters of renewal was identified. A budget of £110 per square meter was calculated based on the BCIS 2019 rates.

3.9 Internal

- 3.10 The internal inspection element of the survey included accessing 15% of the properties chosen at random. The general condition of the windows varied at each property depending on the environmental conditions the residents created and external defects.
- 3.11 Common defects identified internally apart from the wet rot issues were general minor in nature. Loose fixings, binding, windows painted shut, and perished putty. These issues were consistent but easily fixed. The items were recorded and priced based on the BCIS code for minor window repairs. Most windows were operational. Most internal repairs are non-urgent.
- 3.12 Internal decorations were in varied condition. No cost has been calculated for internal redecorations as this is normally a leaseholder responsibility.
- 3.13 Generally draft strips have perished and would benefit from replacement. No cost has been allowed for this. However, if a major overhaul is to be carried out, replacing draft strips should be considered.
- 3.14 Based on the sample inspected the flat entrance doors sets are not 30-minute Fire Door Sets. The Client has a responsibility under The Regulatory Reform (Fire Safety) Order 2005 to ensure fire safety. The Client is advised to investigate the fire door issue. It is likely the door sets do not comply with current standards and replacement with an FD30 approved door set is advised.
- 3.15 Condensation was identified in several properties. This can be prevented by regular ventilation and heating. Improvements such as double-glazed units and extractor fans should be considered. As the road is subject to high traffic a filtration system would be beneficial.
- 3.16 Informing residents of how to combat condensation is also advisable.
- 3.17 Determine the cause of failure/defect and identify if there is any inherent design feature or lack of design feature that has caused the defect to occur.**

- 3.18 The main issue is a lack of regular maintenance. We would advise repairs and decorations are carried out every 5 to 7 years.
- 3.19 As there is an extensive use of timber defects progress the longer they are left. First protective coatings delaminate, then the timber is exposed, the timber holds water and begins to rot, finally the rot spreads and causes water ingress.
- 3.20 The design of the timber windows has a lack of chamfered edge, so water can pool on ledges. If the timber decorations fail, water soaks into the timber which can lead to rot. If chamfered edges were included there would be less chance of pooling water which would reduce the chance of rot reoccurring, however this does not eliminate the requirement for regular maintenance.
- 3.21 The number of previous repairs which have taken place, the location and how successful the repairs have been at each of the locations identified.**
- 3.22 The timber resin repairs which have been carried out were largely successful however in some cases the areas adjacent have rotten further. This is likely caused by a lack of regular maintenance following the repair. Without examining the previous maintenance records, it is a challenge to understand how successful existing repairs have been. If the repair has been carried out well it will be unnoticeable.
- 3.23 25 out of 403 (6%) defects recorded were described as an existing repair failure. This is a low number which shows that repairing the windows is a viable option. 18 of the 25 (72%) of existing defect failures were rot. Wet rot is generally caused by a lack of external maintenance.
- 3.24 Repairing timber windows which have rot at corners and joints is challenging. In those areas where rot has occurred adjacent to an existing wet rot repair, full casement replacement is required. In those instances, the windows were recorded and estimated based on casement and frame replacement.
- 3.25 The amount of original timber material which is thought to be present based on the size of the windows and the size of the repairs identified.**
- 3.26 The survey showed that most of the timber in place is original. An estimate is 95%
- 3.27 Due to the hidden visibility of rot it is unquantifiable without destructive investigation. The surveyors estimate of replacement timber required to repair the windows is no more than 10% Therefore it is estimated that 85% of the original timber would remain if the windows are repaired rather than replaced.
- 3.28 Full schedule of external and internal repairs to remedy the defects identified with an estimated cost put to each of the items in the schedule.**
- 3.29 A schedule of repairs was created using the Building Cost Index Service (BCIS) - RICS Building maintenance price book 2019. The BCIS cost index was used to estimate the cost of repairs. Using current building cost index to estimate

works is useful for estimation only. To understand the market value of the repairs the Client must create a specification of repairs and tender the works to several competent, local contractors.

3.30 The breakdown of repairs is detailed in the Appendix. Below is a summary of the costs identified. We have included a higher than normal contingency of 20% due to the extent of rot identified. We have increased professional fees to 20% to allow for the complexity of planning and mobilising major works, with possible upgrades to a Grade II * listed building. As a comparison we would typically estimate 10% for specification, principal design and contract administration. The additional 10% uplift includes planning drawings, stakeholder engagement, listed building liaison and consent and sampling.

3.31 The estimate below is for repairs only with no upgrades such as installing double glazing or chamfered edges. The cost allows for replacement draft strips were defective items were recorded only. It does not allow for full replacement.

Scaffold costs are included. Scaffold license fees are not included.

Estimate of Works	£ 532,549.30
Preliminary costs	£ 53,254.93
Sub Total	£ 585,804.23
Contingency @ 20%	£ 117,160.85
Contract Sum	£ 702,965.07
Professional fees @ 20%	£ 140,593.01
Grand Total Net.	£ 843,558.09
VAT	£ 168,711.62
GROSS	£ 1,012,269.71

3.32 Full photographic schedule of all internal and external defects identified.

3.33 A full photographic schedule has been recorded. The Images were recorded using 2 methods.

3.34 Photos recorded on foot

- 3.35 The first method was based on an inspection carried out by normal visual inspection. A number tracker was included in each photo from 1 -177. These images are saved in a folder issued with this report. The photos are saved in order from 1 - 177. The numbering corresponds with the detailed defects list in the Appendix.

3.36 Photos recorded by Rope Access

- 3.37 The elevation images were recorded using video cameras attached to the surveyor's helmet whilst descending each drop. The rope access method mainly included 2 drops per column of flats to provide a comprehensive inspection. The inspection relied on using general layout drawings of the flats and using landmarks such as arches and roofs to determine the surveyor's position.
- 3.38 The hours of video were played back and analysed using a large screen. Each defect recorded was then screen shot and pasted into a digital document. The photo was then given a reference which corresponds to the estimated position of the flat.
- 3.39 The reference includes the flat number followed by the defect number for example of 351-1. (Flat 351 defect 1)

4.0 Conclusion & Recommendations

- 4.1 The purpose of the report is to understand the extent and cost of repairing the existing windows to assist the Client in their decision to renew complete or repair and upgrade.
- 4.2 The inspection identified most defects are wet rot located on the bay window corners. The required repairs are a major undertaking that require specialists Contractors. The project is urgent for two reasons. The first issue is safety as severely rotten sections can destabilise the structure enabling glass panes, or timber to fall on to the street below. Three emergency repairs were called for by the surveyors during the inspection due to concerns for public safety.
- 4.3 The second reason the project requires urgent repair is that the wet rot is severe and is progressive. Each defect was categories in to urgent and non-urgent as can be seen in the defect breakdown. However due to the sheer quantity of repairs required at the building it is cost effective and sensible to categorise the whole project as urgent.
- 4.4 The survey identified that repairs and redecorations are required. The report and cost estimate include general repairs and decorations costs to all timber windows and doors.
- 4.5 The inspection highlighted the requirement to renew perished sealants, the costs of this are included in the estimate.
- 4.6 The internal condition of windows varied depending on the resident's environmental standards, and the condition of external defects effecting the flat.

- 4.7 Overall the defects identified internally were minor and could be easily repaired by easing and adjusting or replacing handles for example.
- 4.8 The survey identified concerns regarding fire safety with regards to the main entrance flat doors. The Client should consider replacing the doors with Fire door sets. It should also be noted that the original design of the kitchen windows has gaps between glass and frame for ventilation. Whilst good for ventilation the holes compromise compartmentation between the flats and the corridors which can lead to fire compartmentation issues.
- 4.9 The Client should consider educating residents about how to prevent condensation through good ventilation, heat and avoiding activities such as drying clothes in the flats.
- 4.10 The client enquired about upgrading glass so double-glazed units are installed. Whilst this is likely to improve the thermal properties of the flats it will also increase condensation issues if the residents are not educated on how to reduce condensation. It is important to respect the Grade II * Listing the building has earned through its design but more importantly the influence this listing has on restricting modernising and upgrading to modern standards. To satisfy the urgency of the repairs it will be a simpler process to reinstate the existing to a good standard as opposed to upgrading due to the complexity and rigidity of obtaining Listed Building Consent for such works.
- 4.11 There is no evidence to suggest that the design of the windows has led them to become defective. Whilst improvements such as sloping edges could be installed this will not negate the requirement of regular maintenance and obtaining permission for the changes may delay the project further.
- 4.12 The total estimated Net Project Value including fees is £843,558.09 (excluding VAT). This cost includes repairing the external defects identified, replacing external sealants, redecorating the windows and doors which are attached. The cost includes scaffolding, no licenses. The cost includes the internal repairs identified in the 15% of flats inspected.
- 4.13 Based on the information obtained during the inspection the Client is advised to appoint a Chartered Surveyor to prepare a specification of works for Crescent House external repairs and redecorations. The specification should be agreed with the Conservation Officer at City of London. It will be faster to mobilise the project if the repairs are like for like.
- 4.14 Alternatively upgrades will need to be agreed with City of London Conservation Officer to obtain Listed Building Consent prior to specification. This is likely to involve stakeholder engagement, design, sampling and will generally delay the immediate repairs which are required.

5.0 Limitations

- 5.1 This report is for the use of you and your professional advisors only. We cannot accept or permit its use by a third party unless expressly authorised by us in writing.



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6.0 Appendix 1 – Record of Defects Identified and Cost Estimates.

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7.0 Appendix 2 – Photo schedules – (RECORDED ON FOOT)