Roof Survey **Report**

Clevedon Mansions
Lissenden Gardens, LONDON
NW5 1QN, England

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Project Reference: B214651/1

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1 Introduction

Further to our site inspection we have prepared the following survey report based on the current condition of the existing roof/s. This survey report is based on our visual inspection of the roof/s together with our exploratory core test samples. It should be noted that core test samples are taken to identify the existing roof construction to deck level and to provide an indication of the roof condition. Due to the limited number of core samples that can be practically taken on a roof, Bauder Ltd cannot be held responsible for any changes in roof build-up in areas where core samples have not been taken.

1.1 Description of Building and Weather Conditions

Building use – Residential
Height in Storeys: 5

The weather conditions at the time of our survey inspection were cloudy but dry.
The Roof surface at the time of our survey was dry.

1.2 Roof Access

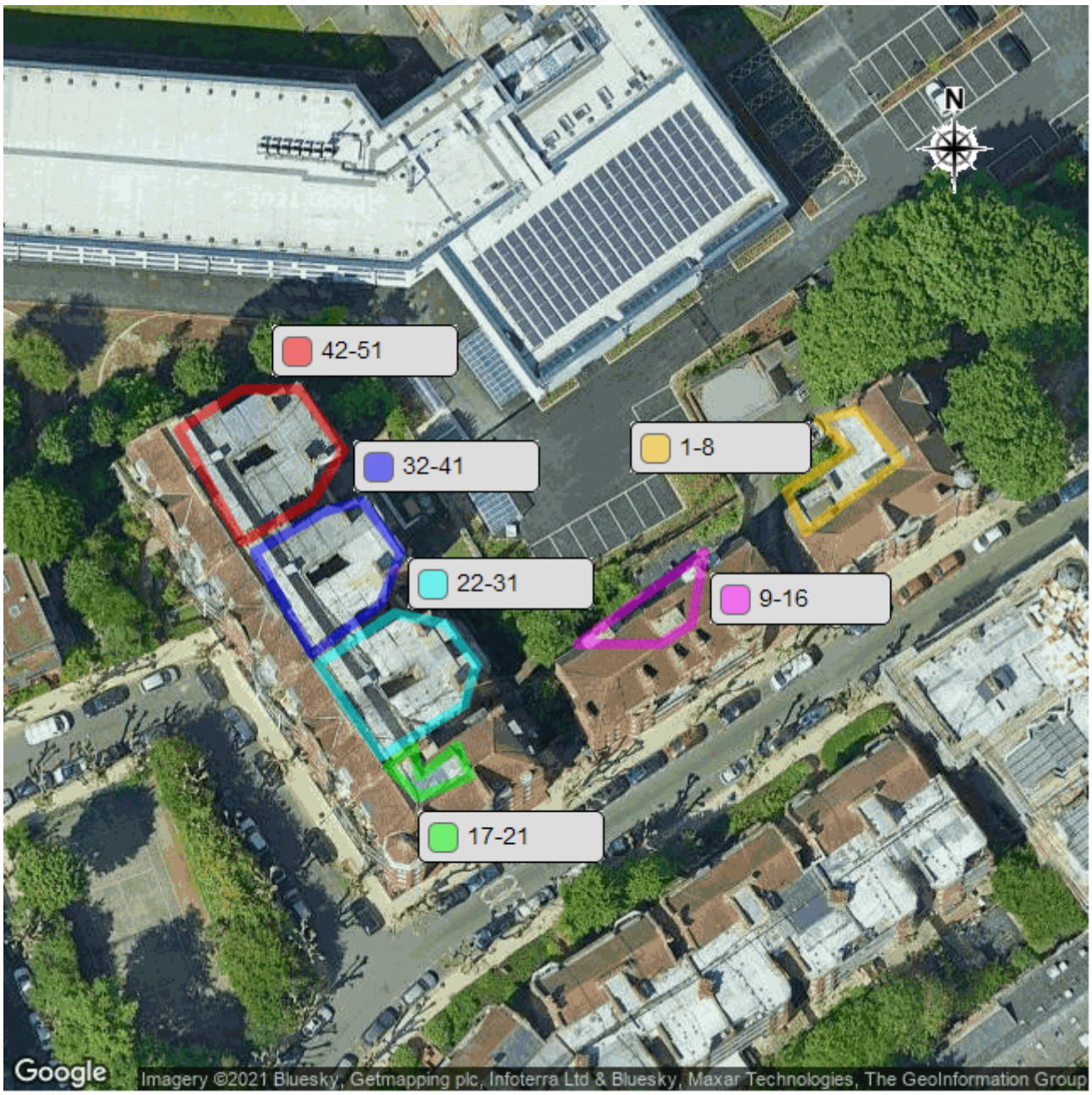
Roof access was gained internally, with a door access to the roof.

1.3 Confirmation of Client brief

To carry out an evaluation and produce a condition report for the roof areas concerned, together with specification proposals for renewing the waterproofing system.

1.4 Roof Plan

1.4.1 All Roofs



Any measurements displayed on the map above are approximated and are therefore not to be used in tenders.

2 Existing Roof Construction

2.1 Core Sample Analysis

Core samples are taken as a method of confirming the existing deck and waterproofing system construction and provide indicative feedback regarding general condition. Please note that the findings are representative only of the particular location tested and this is used to give general guidance as to the likely overall condition and deck construction.

2.1.1 32-41

No. of core samples taken: 1

Construction Type: Cold Roof

Waterproofing: Mastic Asphalt
Roof Deck: Timber boarding
Internal inspection: No internal access available at the time of our inspection

Condition of core sample: The deck is dry at the location of the sample.

Asphalt on close boarded timber.

3 Issues and Considerations

3.1 All Roofs

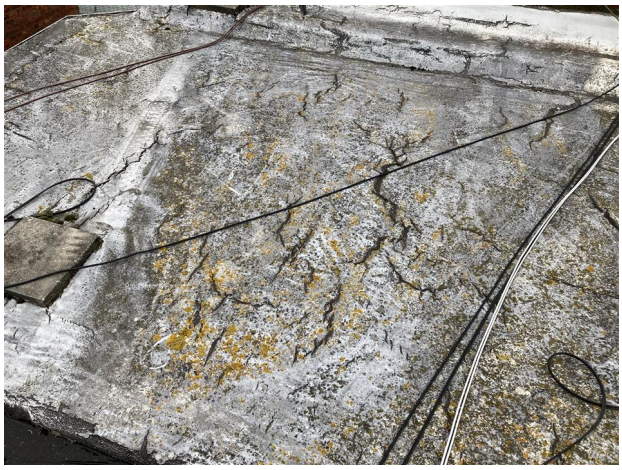
3.1.1 Existing Waterproofing

The existing waterproofing system is constructed as a cold roof, comprising of mastic asphalt, on a loose laid sheathing applied directly to the close boarded timber deck.

Overview of typical main roof area.

Large area of liquid applied remedial coating indicating previous issues with water ingress and repairs history.

The asphalt is showing all the typical defects consistent with a covering of this age including; surface oxidisation, cracks, splits, blows, slumping and signs of repair.



The asphalt covering is badly degraded with splits and cracks.

Splits and cracks in the asphalt material will let water by, it has reached the end of its life.

The waterproofing upstand has failed.

The asphalt has completely deteriorated, it has reached the end of its life.

Due to the extent of the poor condition of the asphalt, further repairs are not a viable option.

The asphalt material is failing consistently.

Further evidence of liquid applied remedial coating indicating previous issues and repair history.

Asphalt has failed.

In accordance with BS6229:2018, Building regulations and Energy Conservation Standards for England and Wales roofs should be "designed and constructed so that thermal transmittance does not exceed 0.35W/m2K at any point." The thermal performance of the existing roof build-up is poor and falls below the above standards.

One of the risks associated with inadequate levels of insulation is the potential for condensation to form within the structure or waterproofing system during periods of climatic extreme. This roof would therefore benefit from being thermally upgraded in line with current standards.

Observation - timber fascias are rotting.

Observation - fixed balustrade is rusting.

From our observations, the existing waterproofing has come to the end of its serviceable life. The system is suffering from numerous defects.

The asphalt on close boarded timber is considered a suitable substrate to overlay. Overlaying benefits from retaining the existing waterproofing integrity during the works and reducing disruption compared to stripping up.

At the time our inspection there was no evidence to suggest the timber decking was degraded or compromised. Moisture Mapping is not typically required for a timber, asphalt cold roof build up. The moisture mapping gauge reads density, for example, when reading PIR there is a large

difference in the density of wet insulation and dry insulation, similarly with screed/degraded screed. Whereas dry timber and wet timber will read the same/similarly as the density does not change much.

If the objective is to ascertain that the underlying timber is dry and sound, visual observation such as undulations and deflection are good tell-tales, of which there was no evidence. This would then be supported during the works with a simple hammer and screwdriver test through the substrate at intervals. This would need to be undertaken during the works to avoid compromising the waterproofing significantly in the interim.

4 Proposals

4.1 All Roofs

- The existing deck is to be re-used.
- The condition of the existing waterproofing is considered suitable for receiving an overlay system.
- The waterproofing upstand is to be raised to achieve the minimum required height of 150mm. Counter-flashings are to be positioned to suit.
- Once the new waterproofing upstands have been formed against the abutment wall a 25mm deep chase is to be cut into the wall and new counter flashings are to be fixed and sealed into the chase.
- The existing door and frame are to be removed to allow access to raise the upstand kerb in preparation for re-waterproofing. The door and frame are to be either modified or replaced, these works need to be included within the main client specification/ schedule of works.
- An additional depth of fascia board is to be installed to cover the new perimeter kerb. Alternatively the existing perimeter fascia boards could be renewed in their entirety. Any new fascia system to be installed to cover the perimeter kerb should be manufactured from a maintenance free material to offer a life expectancy that is at least comparable to the guarantee of the new waterproofing system. This avoids the risk of disturbing the waterproofing system or affecting the roof guarantee, should the existing fascia require replacing whilst the roof remains in-situ. Full details of the system and scope of works to the facia boards is to be included within the main client specification/ schedule of works.

4.2 Proposed Waterproofing System

All Roofs

Bauder Total Roof System (BTRS)

The Bauder Total Roof System (BTRS) includes the most advanced bitumen membranes currently available. The system offers the highest levels of performance supported by the most comprehensive guarantee in the market. For maximum flexibility our membranes are manufactured using highly modified SBS elastomeric bitumen and very high tensile reinforcing layers that means this sophisticated waterproofing system offers the ultimate flat roof solution.

Where required the system will include Bauder PIR insulation with a choice of either glass tissue or aluminium facing offering versatility in installation methods for both the insulation and the membranes. Bauder insulation provides excellent thermal performance and has outstanding dimensional stability and compressive strength, achieving an "A" rating in the BRE Green Guide. BTRS is suited to both new build projects and the refurbishment of existing buildings.

Guarantee Information

This system is supplied with a 20 year guarantee that covers products, workmanship, design, consequential damage and financial loss. Full terms and conditions are available by request.

Key Features

- Insulation and waterproofing products are all manufactured by Bauder resulting in complete system compatibility and single source responsibility.
- Robust and extremely durable waterproofing that minimises the risk of physical damage and is capable of withstanding foot traffic.
- This BBA certified system with FAA fire rating has been extensively used in the UK for over 30 years with proven durability in service. This provides complete peace of mind to specifiers past and present.
- 5mm cap sheet with high tensile strength and choice of 3 colours.
- Bauder site technicians monitor and sign off each installation and provide up-to-date inspection reports directly to our clients via email.
- Bauder provides installation training for our approved company operatives ensuring the highest quality of workmanship is maintained.
- Reliable application in both high and low ambient temperatures – enables all year round installation.
- Reduced rain noise to gain an extra credit under point 5 of section Hea of BREEAM education 2008 for most projects.

5 Health & Safety and Construction Design Management

Bauder believes in promoting a strong safety culture at all times. Our Staff will adhere to the appropriate risk assessments and method statements as required under the Health and Safety at Work Act 1974 and Work at Height Regulations 2005. It is the client's duty of care to advise of any specific health and safety issues pertaining to the project as required under the Work at Height Regulations 2005.

As part of our duty of care we would like to draw attention to the following information:

The HSE Guide H&S in Roof Work (HSG33) states that **all** roofs should be treated as fragile unless declared otherwise by a competent person. Please refer to the Work at Height Regulations 2005 provision 9 for information on working with fragile/suspected fragile roof areas. Under the Health and Safety at Work Act 1974 Sections 3 and 4, it is the responsibility of employers and anyone who controls the work of others to ensure so far as it is reasonably practicable that persons are not exposed to risks that impact on their health and safety. Appropriate control measures must be in place before any work or contact with a fragile/suspected fragile roof area commences.

Safe access and egress to a roof is a major risk and requires careful planning. In particular, the following are likely to be fragile:

- Non reinforced fibre cement sheets e.g. asbestos
- Corroded metal decking
- Woodwool slabs
- Rotten chipboard or similar
- Stramit
- Slates or tiles
- Old roof lights
- Glass (including wired)

Specifying non fragile rooflights will help reduce the risk of falls from height. A non-fragility rating is required by the HSE (Health and Safety Executive) in order to comply with CDM (Construction Design and Management) Regulations 2015.

We draw your attention to your duties under the Construction (Design and Management) Regulations 2015. Regulation 4, Client's duties in relation to managing projects states that the client must make suitable arrangements for managing a project, including the allocation of sufficient time and other resources. Regulation 5, Appointment of the Principal Designer and the Principal Contractor states that where more than one contractor will be working on a project at any time, the client must appoint a Principal Designer and a Principal Contractor.

Please note that although Bauder will assist with the roof waterproofing system design, we will

not undertake the role of Principal Designer.

It is always the responsibility of the contractor to carry out a risk assessment on all aspects of the contract. The 'Safe2Torch' checklist is solely for guidance for the safe installation of torch-on reinforced bitumen membranes and use of gas torches in the workplace.