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London - Burgess Hill - Hastings

Condition Report and Roof covering Proposal
On
Original Roof Tiles and Proposed Roof Recovering
At
Wykehurst Place
Bolney
RH15 5QQ



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Building Surveying - Party Wall Surveyors - Project Administration – Architectural Design – CDM Regulations

Office: Unit A6 Chaucer Business Park, Ditton Road, Polegate, East Sussex, BN26 6QH
Registered in England – Company Reg. No. 08820572
Royal Institute of Chartered Surveyors Reference Number: 037197

1. Introduction

- 1.1 This condition report has been prepared for the proposed removal of the existing roof coverings and replacement with new.
- 1.2 The purpose of the condition report is to demonstrate that the existing roof tiles are beyond repair, they cannot be re-used, patch repair is not possible and that complete recovering of the roof in new tiles and slates is required.
- 1.3 Previous applications ND/25/2654 & 2655 have been submitted for the repair of sections of the roof where tiles are missing and the roof is open to the elements. This application incorporated the previous application but will take precedence over the specification and tile samples previously provided. This is to ensure the same tile and roofing specification covers the entire roof.
- 1.4 Following scaffold erection, a full survey of the roof condition has been carried out. Patch repair of the roof and re-use of the existing tiles was found to not be possible as detailed below. Complete replacement with new tiles is proposed.

2. Existing roof coverings

- 2.1 The tile coverings are 170mm x 270 clay flat plain tiles. The internal roof elevations are covered with natural slate
- 2.2 The original tiles are machine made tiles from the date of construction of about 1875. There are sections of tile covering from different later dates which are predominantly nonmatching repairs
- 2.3 Machine made tiles became popular from around the 1870's with tile making machines being patented at this time. Transportation of tiles became easier with the increase in railway transportation in the third quarter of the 19th century
- 2.4 The original tiles are flat faced, uniform in shape and size. They are generally dark in colour with some variation. The tiles do not have the vernacular style of earlier hand made and double camber tiles.
- 2.5 Wykehurst Place adopted new methods of construction including concrete floors and Portland cement, and this included the use of machine-made tiles and they are in keeping with the building design.
- 2.6 Portland cement has been used to bed the tiles during the laying process to fill gaps and give additional support to steep slopes. Galvanised nails have been used to fix the tile to the timber sarking boards

3. Tile condition

- 3.1 The tiles are about 150 years old. They are suffering from delamination, nail fatigue, frost damage, breakage, damage due to low pitches at the eaves, slipped tiles and timber decay to sarking boards. Clay tiles are assumed to have a life of some 60 - 100 years, these tiles have lasted 2½ time longer than would be expected but have now reached their end of life.

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- 3.2 The location of the property below the Gatwick airport flightpath, subsequent pollution and the failure or former owners to carry out regular maintenance is likely to have accelerated the decay to the tiles
- 3.3 Large areas of tile have been lost leading to damage to the interior of the building and timber decay to sarking boards and rafters.
- 3.4 The use of Portland cement for bedding and laying has resulted in large areas of tile being bonded together and failing simultaneously. The Portland cement cannot be removed from the tile without breaking as the aged clay tile is much softer and weaker than the cement.



Original tiles with galvanised nails and Portland cement bonding tile together



Original tiles cannot be saved due to cement mortar used for bedding

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- 3.5 It would normally be expected to salvage over 50% of the tiles on a re-covered roof. However, due to the number of damaged tiles, their age and the use of Portland cement, none of the tiles have been found to be salvageable.
- 3.6 SPAB Recommends that a roof can generally be re-covered with new if more than 20% of the coverings have failed. This property has a much higher failure with almost complete failure of the roof covering.
4. Condition survey
- 4.1 The condition of the roof when purchased by the current owner was demonstrated in the listed building applications DM/25/2654 and 2655
- 4.2 The previous applications showed the total failure of large areas of roof coverings and tiles as detailed in the images below



- 4.3 The condition of the tiles is demonstrated in the attached photo montage. The montage schedules all the areas of the roof, it shows how there is not a single section of roof that is not affected and does not have damaged or missing tiles. This has resulted in continued water ingress and damage to structural timbers and finishings throughout the building. The worst affected areas are currently covered with plastic sheeting, but this is a short-term covering and rainwater is still entering the building.
- 4.4 The photos in the montage relate to the areas on the roof identified by the 'Wykehurst Roof Plan' which shows where the photos were recorded. Some examples of the damage shown in the photos are listed below:
- 4.5 Roof view one photos 3 & 4 of the montage show Portland cement bonded to the rear of the tile which cannot be removed without breaking the tile
- 4.6 Roof view one photos 5 & 6 on page 5 show how large sections of tile have been bonded together with Portland cement and cannot be separated

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- 4.7 Central spire two photo 5, page 8 shows how tiles have spalled and broke where the base of the roof changes to a very shallow pitch from a steep pitch. This causes water retention and likelihood of frost damage and delamination
- 4.8 Central spire two photo 6, page 9 shows moss growth on the north elevation that can advance delamination
- 4.9 North spire one photo 7, page 11 shows the very steep tower. This is very prone to tile failure due to its near vertical angle
- 4.10 North spire two, photo 3, page 14 shows how the lower eaves courses have disappeared due to failure
- 4.11 Inside south four, photo 2, page 20 shows the slate covered roof to the centre of the building
5. Proposal
- 5.1 It is proposed to recover the entire roof, where covered with plain tiles, with new machine-made flat plain tiles to match the existing. Where slate covered the pitches will be recovered using the existing and new Wesh slates.
- 5.2 The use of a machine-made tile will match the existing tile, replacement with a handmade tile or a double camber tile would not be appropriate
- 5.3 Treated timber battens with a 6mm counter batten are to be used. Battens are to be fixed to the sarking boards with treated nails.
- 5.4 Tiles will be double nailed with galvanised clout nails. The installation will be in accordance with current recommendations and the British Standards to ensure a long lasting, watertight and functioning roof.
- 5.5 The location of the tiles directly above the entrance and steepness of the pitches requires double nailing of all tiles
- 5.6 A modern breathable under-slating membrane will laid over the timber sarking board to protect the board from further damage due to windblown rain.
- 5.7 Wykehurst Place is located on a ridge in an exposed location and the sue of under slating membrane and double nailing will help to prevent uplift and tile damage.
- 5.8 The membrane will not be visible and will protect the sarking board and finishes from potential windblown rain.
- 5.9 Tiles will be mitred to all corners and valley as seen on existing parts of the building
- 5.10 The tile detailing will match the existing. The photo montage will be used as a record to ensure detailing remains the same

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- 5.11 Finials and ridge tiles will be retained where possible and re-fixed. Many ridge tiles are decayed and cannot be retained. Where re-use is not possible new ridge tiles to match the existing will be manufactured by 'traditional Roof Tiles Ltd' and installed as existing.
- 5.12 All flashings, soakers and lead replacement will be as existing in milled lead to match.
- 5.13 The slates covering will be removed and retained. It is likely that 50% of slates will be re-useable
- 5.14 New slates will be chosen to exactly match the existing. Slates are likely to be Welsh slate. Samples will be provided and confirmed when access is possible
- 5.15 Installation specification – Plain tiles
- Tiles to be laid in accordance with BS5534 Part 1 and 11 code of practice for slating and tiling
 - Tiles to be laid to a maximum 100mm gauge
 - Head-lap minimum 65mm
 - Tiles to be laid on broken bond
 - Tiles to be double nailed with 45mm x 3.35mm galvanised clout nails
 - 38 x 6mm counter battens to be laid directly onto sarking board
 - Permavent Graphite 130 Gram breathable membrane will be laid over counter battens and beneath tiles and slates
 - Softwood treated 38 x 25mm tile batten to be fixed on rafter centres
 - All angles and valleys to be mitred with lead soaker below
 - No tile to be less than one tile wide, 1½ tiles to be used

6. Proposed roof tile

- 6.1 The proposed tile is a Edilians Phalempin Weathered Plain Tile (170 x 270mm) shown below <https://edilians.co.uk/plain-tile-17x27-phalempin.html>



- 6.2 The proposed tile closely matches the existing tiles in size, colour, texture and appearance and camber (being a flat tile). The Edilians range of tiles can be used on low pitches and are durable enough to reduce the effects of delamination and frost damage at the low-pitched eaves.

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Edilans Phalempin Weathered Plain eves tile showing colour match
Mitred tile to external corner



Edilans Phalempin Weathered Plain tile laid on existing
The original tiles are a closer match when clean

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Edilans Phalempin Weathered Plain tile laid on low pitch section of roof



Edilans Phalempin Weathered Plain tile laid between two original removed tiles

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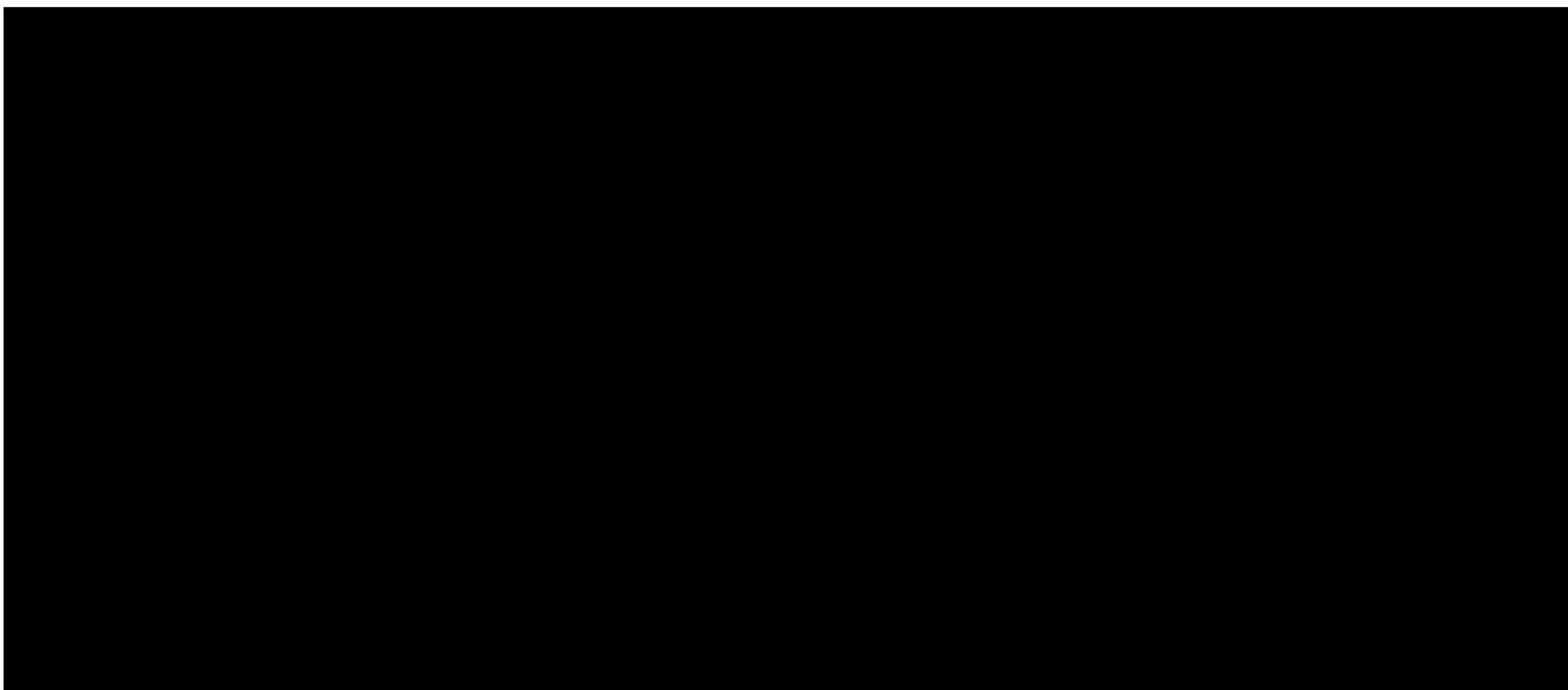
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Damaged ridge tiles will be replaced where broken and cannot be saved



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