Hutton + Rostron Environmental Investigations Limited

The Pest House: Timber lintel investigation

Site note 2 for 27 November 2018, job no. 148.73

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- A Schedule of Observations and Recommendations
- **B** Plans
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Distribution:

Ray Pearson – Dandara Ltd

File: 148.73

1 INTRODUCTION

1.1 AUTHORITY AND REFERENCES

Hutton + Rostron Environmental Investigations Limited carried out a site visit to The Pest House on 27 November 2018 in accordance with instructions from Ray Pearson of Dandara by email, on 25 June 2018 (08:04). Drawings provided by Dandara, ref 150.01 – 150.06 were used for the identification of structures. For the purpose of orientation in this report, the building was taken as facing north

1.2 AIM

The aim of this survey was to investigate lintel structures supporting openings in order to determine their decay state.

1.3 LIMITATIONS

This survey was confined to the accessible structures. Concealed materials and cavities have not been investigated within this site note. The condition of concealed materials may be deduced from the general condition and moisture content of the adjacent structure. Only demolition or exposure work can enable the condition of timber to be determined with certainty, and this destroys what it is intended to preserve. Specialist investigative techniques are therefore employed as aids to the surveyor. No such technique can be 100 per cent reliable, but their use allows deductions to be made about the most probable condition of materials at the time of examination. Structures were not examined in detail except as described in this report, and no liability can be accepted for defects that may exist in other parts of the building. We have not inspected other parts of the structure which are covered, unexposed or inaccessible and we are therefore unable to report that any such part of the property is free from defect or in the event that such part of the property is not free from defect it will not contaminate and/or affect any other part of the property. Any design work carried out in conjunction with this report has taken account of available pre-construction or construction phase information to assist in the management of health and safety risks. The sample remedial details and other recommendations in this report are included to advise and inform the design team appointed by the client. The contents of this report do not imply the adoption of the role of Principal Designer by H+R for the purposes of the Construction Design and Management (CDM) Regulations 2015. No formal investigation of moisture distribution was made

2 STAFF ON SITE AND CONTACTS

2.1 H+R STAFF ON SITE

Andy Wade Andrew Ellis Isabel Mar Joe Lovelock

2.2 PERSONNEL CONTACTED

Ray Pearson – Dandara Ltd Eleanor Lakew – Principal Conservation Officer, Maidstone Borough Council

3 OBSERVATIONS AND RECOMMENDATIONS

3.1 GENERAL CONSTRUCTION

3.1.1 METHOD

Accessible lintels over window and door openings were tested by decay detection drilling and deep moisture probing, so as to determine the probable decay state of their bearing ends and their deep moisture content

3.1.2 Scope

Many of the window openings were supported by timber rails, plate and beams which formed the main timber framed wall structure. These timbers were not investigated as part of the lintel condition investigation as their decay state was included in the timber condition investigation in Site Note 3. In total three "independent" lintels were fully investigated. All lintels investigated were probed through a plaster soffit using minimally invasive techniques

3.2 LINTEL CONDITION

All three "independent" lintels were found to be decayed or partially decayed as shown in the Schedule at Attachment A and on the plans at Attachment B. For further details on condition and recommendations please see Schedule at Attachment A

4 H+R WORK ON SITE

4.1 H+R inspected all specified lintel timbers by decay detection drilling and deep moisture probing, as necessary, so as to determine their decay state and deep moisture content

5 PROPOSED ACTION BY H+R

- **5.1** H+R will advise on repair and conservation of timber elements, so as to minimise the risk of decay after refurbishment if instructed
- **5.2** H+R will advise on remedial detailing, so as to minimise the risk of damp and decay problems after refurbishment if instructed
- **5.3** H+R will advise on conservation of original fabric with regard to damp, decay and salt damage, as necessary and if instructed
- 5.4 H+R will review proposed remedial details as these become available if instructed
- 5.5 H+R will return to site to inspect sample remedial details if instructed
- **5.6** H+R will liaise with conservation and historic building authorities, if instructed, so as to ensure the cost-effective conservation of original fabric

6 INFORMATION REQUIRED BY H+R

- 6.1 H+R require up-to-date copies of project programmes, as these become available
- **6.2** H+R require copies of up-to-date lists of project personnel and contact lists as these become available
- **6.3** H+R require copies of proposed remedial details for comment as these become available
- 6.4 H+R should be informed as a matter of urgency if further significant water penetration occurs onto site; so that advice can be given on cost-effective remedial measures, to minimise the risk of cost or programme overruns and so as to minimise the risk of damp or decay problems during the latent defect period

7 ADMINISTRATION REQUIREMENTS

- **7.1** H+R require formal instructions for further investigations and consultancy on this project
- **7.2** H+R require confirmation of distribution of digital and printed copies of reports and site notes

Attachment A

148.73 THE PEST HOUSE – SITE NOTE 2

SCHEDULE OF OBSERVATIONS AND RECOMMENDATIONS

Note: The Unique Identification Numbering system was devised by H+R. (e.g. G.L1 refers to the Ground floor, Lintel 1)

REFERENCE	ITEM	OBSERVATIONS	RECOMMENDATIONS	CLIENT COMMENTS			
GROUND FLOOR							
G.L1	Timber	The lintel was found to be decayed throughout its whole length. The lintel had a heightened deep moisture content of 18.5 per cent, just below the threshold at which decay may occur which is 22 per cent. Suspected failure to the rainwater downpipe may be cause of structural decay in the past. On the north elevation plant growth covered the entire window opening and stopped it from closing properly, the plant may also be blocking the rainwater downpipe causing water ingress problems	Lintel should be replaced with concrete or steel as directed by the Structural Engineer, but, it is likely that as a listed building, the Conservation Officer will specify timber of a similar species to match the original. All roof drainage systems should be checked, cleared and repaired or replaced if necessary. Remove plant growth from window opening, drainage system and surrounding area				
G.L2	Timber (wall plate)	The timber element was found to be decayed throughout its length. The timber element had a deep moisture content of 15.7 per cent, below the threshold at which decay may occur which is 22 per cent. Lack of adequate roof drainage from missing the gutter around the lintel is likely the cause for decay	Timber element should be replaced with concrete or steel as directed by the Structural Engineer, but, it is likely that as a listed building, the Conservation Officer will specify timber of a similar species to match the original. An appropriate roof drainage system should be re-instated during refurbishment				
G.L3	Timber (above door)	The lintel was found to be decayed at its west bearing end. The lintel had a deep moisture content of 15.5 per cent, below the threshold at which decay may occur which is 22 per cent. Decay may be	Lintel should be replaced with concrete or steel as directed by the Structural Engineer, but, it is likely that as a listed building, the Conservation Officer will specify timber of a similar species to match the original. Care				

REFERENCE	ITEM	OBSERVATIONS	RECOMMENDATIONS	CLIENT COMMENTS
		caused by a suspected faulty roof water course at the roof joint between the section to be retained and the old extension	should be taken during demolition to fully prevent further water ingress into the building at this point. H+R can advise further if directed	

Attachment B





The Pest House, First Floor Timber lintel investigation 27 November 2018

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 Structurally decayed timber element — Timber beam element acting as lintel **—** To be demolished <10% Level of moisture content • Approximate location of rainwater downpipe ψ Approximate location of plant growth Approximate location of photograph

Ν



H&R

The Pest House, Ground Floor Timber lintel investigation 27 November 2018

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Attachment C



Fig 1:

First floor; showing an example of the timber plate/top rail structure above the windows. These elements were not investigated as they were surveyed as part of the timber condition survey (see site note 3)



Fig 2:

G.L1; showing location of lintel. This lintel was found to be decayed. Decay detection drilling and deep moisture probing resulted in a reading of 18.5 per cent

Allowance should be made for the replacement of the lintel



The Pest House Photographs 27 November 2018 Not to scale

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Fig 3:

G.L2; showing location of possible lintels. The timber element may be a wall plate, however, it was still investigated and was found to be decayed. Decay detection drilling and deep moisture probing resulted in a reading of 15.7 per cent

Allowance will need to be made for further investigation and replacement



Fig 4:

G.L2 from exterior; showing missing gutter with only the gutter brackets remaining. Lack of adequate roof drainage around the lintel may be cause for decay



The Pest House Photographs 27 November 2018 Not to scale

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Fig 5:

G.L3; showing location of lintel. The west bearing end of the lintel was found to be decayed on drilling. Decay detection drilling and deep moisture probing resulted in a reading of 15.5 per cent. Decay may be caused by a faulty roof water course above

Allowance should be made for the replacement of the lintel



Fig 6:

Exterior of north elevation; showing plant growth over window (G.L1) and gutter. Suspected faulty roof drainage system may be the cause of decay to the lintel

Plant growth should be removed from the surrounding area around the window. All roof drainage systems should be checked, cleared and repaired or replaced if necessary



The Pest House Photographs 27 November 2018 Not to scale

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