

Hutton + Rostron Environmental Investigations Limited

Southleigh Park – Stables: Lintel investigation

Site note C2 for 8 January 2021, job no. 152.09

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Distribution:

Steve Coull – Director, FSL Group

Prepared by:	Technical review by:	Administration by:
Tim Jordan BSc MSc MCIOB	Tim Jordan BSc MSc MCIOB	Jennifer Potter BA(Hons)

Hutton+Rostron Environmental Investigations Ltd, Netley House, Gomshall, Surrey, GU5 9QA
Tel: 01483 203221 Email: ei@handr.co.uk Web: www.handr.co.uk

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1 INTRODUCTION

1.1 AUTHORITY AND REFERENCES

Hutton + Rostron Environmental Investigations Limited carried out a site visit to Southleigh Park on 8 January 2021 in accordance with instructions from Steve Coull of FSL Group by email, on 10 November 2020 at 13:09. Drawings were provided by the client. For the purpose of orientation in this report, the Stables was taken as facing west, towards the Coach House

1.2 AIM

The aim of this survey was to investigate lintel structures for construction, condition, and service life so as to provide recommendations for cost effective remedial works

1.3 LIMITATIONS

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 any 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. 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

2 STAFF ON SITE AND CONTACTS

2.1 H+R STAFF ON SITE

Tim Jordan

2.2 PERSONNEL CONTACTED

David Mosdell – FSL Group
Site Staff

3 OBSERVATIONS AND RECOMMENDATIONS

3.1 SUMMARY OF CONSTRUCTION

The first floor lintels were often softwood eaves plate for the adjacent roof structure but with localised instances of modern steel, historic hardwood and a brick arch roundel. Ground floor apertures were generally supported by softwood timber although there were again various other instances of hardwood and concrete

3.2 SUMMARY OF CONDITION

There were 2no. decayed timber lintels, localised below failed flat roof finishes in the south part of the ground floor. The majority of timber lintels were found to be free of decay and too dry for decay to occur at time of survey. Further reference can be made to Site Note C1 which discusses the roof structure (partly integral with some lintel). There were two internal apertures where it appeared that no lintel was present and that the doorframe was used to support the flint rubble wall. Detailed information is provided within Attachments

No chemical treatments are required to timber or masonry structures in relation to fungus or insect decay. Intact timber lintels are deemed suitable for retention on refurbishment, subject to no further water penetration and at the discretion of the Structural Engineer

4 H+R WORK ON SITE

- 4.1** H+R inspected lintels by drill probing and sample exposure by removal of finishes
- 4.2** H+R took photographs for record and illustration purposes

5 PROPOSED ACTION BY H+R

- 5.1** H+R will advise on remedial detailing, so as to minimise the risk of damp and decay problems after refurbishment if further instructed by the Project Team to do so
- 5.2** H+R will advise on conservation of original fabric with regard to damp, decay and salt damage, as necessary and if further instructed by the Project Team to do so
- 5.3** H+R will review proposed remedial details as these become available if instructed by the Project Team to do so
- 5.4** H+R will return to site to inspect sample remedial details if instructed by the Project Team to do so
- 5.5** H+R will liaise with building guarantors and conservation authorities, if instructed by the Project Team to do so, so as to ensure the cost-effective conservation of original fabric and discharge of guarantee conditions

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 will 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

SCHEDULE OF OBSERVATIONS AND RECOMMENDATIONS

REFERENCE	ITEM	OBSERVATIONS	RECOMMENDATIONS	CLIENT COMMENTS
SNc2.1 FIRST FLOOR LINTELS				
SNc2.1.1	1F.A1 (H+R code for first floor, aperture 1)	Integral with roof structure, eaves rafter plate spans over window aperture forming a lintel Softwood, 100 x 120mm No decay detected upon drilling, deep moisture content too dry for decay to occur	<i>No chemical treatments required</i> <i>Lintel may be retained, subject to no further water penetration occurring and at the discretion of the Structural Engineer</i>	
SNc2.1.2	1F.A2	As for 1F.A1	<i>As for 1F.A1</i>	
SNc2.1.3	1F.A3	As for 1F.A1	<i>As for 1F.A1</i>	
SNc2.1.4	1F.A4	Hardwood, oak. Perhaps historic timber salvaged from an earlier structure or the most original form of the stables 120mm high, 150mm deep? No decay detected upon drilling, deep moisture content too dry for decay to occur	<i>No chemical treatments required</i> <i>Lintel may be retained, subject to no further water penetration occurring and at the discretion of the Structural Engineer</i>	
SNc2.1.5	1F.A5	Brick arch, circular aperture	<i>Lintel may be retained, at the discretion of the Structural Engineer</i>	
SNc2.1.6	1F.A6	Steel, modern, branded 'catnic'	<i>Lintel may be retained, at the discretion of the Structural Engineer</i>	
SNc2.1.7	1F.A7	Softwood, 55 x 220mm No decay detected upon drilling, deep moisture content too dry for decay to occur	<i>No chemical treatments required</i> <i>Lintel may be retained, subject to no further water penetration occurring and at the discretion of the Structural Engineer</i>	
SNc2.1.8	1F.A8	No lintel present, flint rubble walling bears onto timber doorframe	<i>Design team to consider generally the challenges of potential alterations to flint rubble walling which is not easily modified, compared to conventional brickwork</i>	

REFERENCE	ITEM	OBSERVATIONS	RECOMMENDATIONS	CLIENT COMMENTS
SNc2.2 GROUND FLOOR LINTELS				
SNc2.2.1	GF.A1 (H+R code for ground floor, aperture 1)	Softwood, 150mm high, 150mm deep? No decay detected upon drilling, deep moisture content too dry for decay to occur	<i>No chemical treatments required</i> <i>Lintel may be retained, subject to no further water penetration occurring and at the discretion of the Structural Engineer</i>	
SNc2.2.2	GF.A2	Concrete, cast in-situ, assumed embedded steel reinforcement, 250 x 300mm Dating from modern alternations and construction of adjoining new-build, supports flint rubble walling above	<i>Lintel may be retained, at the discretion of the Structural Engineer</i>	
SNc2.2.3	GF.A3	As for GF.A2	<i>As for GF.A2</i>	
SNc2.2.4	GF.A4	Solid upon drilling, assumed concrete	<i>Lintel may be retained, at the discretion of the Structural Engineer</i>	
SNc2.2.5	GF.A5	Void over doorhead inspected via videoscope 2no. small-section timber lintels, 65 x 110mm?, each supporting a single leaf of brickwork, no visible signs of decay Concrete lintel may span over, some distance above	<i>Lintel may be retained, at the discretion of the Structural Engineer</i>	
SNc2.2.6	GF.A6	Solid upon drilling, assumed concrete	<i>Lintel may be retained, at the discretion of the Structural Engineer</i>	
SNc2.2.7	GF.A7	Hardwood, oak, 110mm high, 250mm deep? No decay detected upon drilling, deep moisture content too dry for decay to occur	<i>No chemical treatments required</i> <i>Lintel may be retained, subject to no further water penetration occurring and at the discretion of the Structural Engineer</i>	
SNc2.2.8	GF.A8	Softwood No decay detected upon drilling, deep moisture content too dry for decay to occur	<i>No chemical treatments required</i> <i>Lintel may be retained, subject to no further water penetration occurring and at the discretion of the Structural Engineer</i>	
SNc2.2.9	GF.A9	Softwood, 110 x 150mm No decay detected upon drilling, deep moisture content too dry for decay to occur Evidence of historic water ingress from nearby rainwater hopper/downpipe. Resultant superficial deterioration has affected the lintel by wet rot and weevil, this was confirmed as non-structurally significant	<i>No chemical treatments required</i> <i>Lintel may be retained, subject to no further water penetration occurring and at the discretion of the Structural Engineer</i> <i>Care should be taken to refurbish and maintain roof drainage systems on an ongoing basis</i>	

REFERENCE	ITEM	OBSERVATIONS	RECOMMENDATIONS	CLIENT COMMENTS
SNc2.2.10	GF.A10	Softwood, 110 x 150mm No decay detected upon drilling, deep moisture content too dry for decay to occur A horizontal rendered band spanning at the exterior of this aperture was probe drilled which revealed underlying brickwork	<i>No chemical treatments required</i> <i>Lintel may be retained, subject to no further water penetration occurring and at the discretion of the Structural Engineer</i>	
SNc2.2.11	GF.A11	Softwood No decay detected upon drilling, deep moisture content too dry for decay to occur	<i>No chemical treatments required</i> <i>Lintel may be retained, subject to no further water penetration occurring and at the discretion of the Structural Engineer</i>	
SNc2.2.12	GF.A12	Rolled steel, 'I' section 225 x 100mm overall 45 x 5mm flanges 5mm web thickness	<i>Lintel may be retained at the discretion of the Structural Engineer</i>	
SNc2.2.13	GF.A13	No lintel present, flint rubble walling bears onto timber doorframe	<i>Design team to consider generally the challenges of potential alterations to flint rubble walling which is not easily modified, compared to conventional brickwork</i>	
SNc2.2.14	GF.A14	Exposed external lintel, oak, 220 x 120mm, no decay detected Internal lintel, oak, 200 x 120mm, pocket of partial decay at mid-span, ~20 per cent section loss at topside, not deemed active or structurally significant Secondary internal lintel, softwood, 150 x 120mm, integral with joist plate of flat roof, no decay detected	<i>No chemical treatments required</i> <i>Lintel may be retained, subject to no further water penetration occurring and at the discretion of the Structural Engineer</i>	
SNc2.2.15	GF.A15	Softwood Structurally decayed by wet rot and beetle due to a history of leakage from flat roof above	<i>Lintel to be replaced in pre-cast concrete, as directed by the Structural Engineer</i>	
SNc2.2.16	GF.A16	Softwood Partially decayed by beetle due. Active water ingress leading to saturated moisture contents and condition for further wet rot decay	<i>Lintel to be replaced in pre-cast concrete, as directed by the Structural Engineer</i>	
SNc2.2.17	GF.A17	Concrete, cast in-situ? 150mm high 150mm deep?	<i>Lintel may be retained at the discretion of the Structural Engineer</i>	
SNc2.2.18	GF.A18	Concrete, cast in-situ? 150mm high 150mm deep?	<i>Lintel may be retained at the discretion of the Structural Engineer</i>	

Attachment B



Fig 1:

1F.A1



Fig 2:

1F.A2



Southleigh Park, Stables

Photographs

8 January 2021

Not to scale

Hutton + Rostron Environmental Investigations Ltd, Netley House, Gomshall, Surrey, GU5 9QA
Tel: 01483 203221 Fax: 01483202911 email: ei@handr.co.uk

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Fig 3:

1F.A3



Fig 4:

1F.A4



Fig 5:

1F.A5



Fig 6:

1F.A6



Fig 7:

1F.A7



Fig 8:

1F.A8



Southleigh Park, Stables

Photographs

8 January 2021

Not to scale

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Fig 9:

First floor; showing typical internal apertures supported by studwork



Fig 10:

GF.A1



Southleigh Park, Stables

Photographs

8 January 2021

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Fig 11:

GF.A2



Fig 12:

GF.A3



Southleigh Park, Stables

Photographs

8 January 2021

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Fig 13:

GF.A4
GF.A5
GF.A6



Fig 14:

GF.A8



Southleigh Park, Stables
Photographs
8 January 2021
Not to scale



Fig 15:

GF.A9



Fig 16:

GF.A10



Fig 17:

GF.A11



Fig 18:

GF.A12



Fig 19:

GF.A13



Fig 20:

GF.A14



Southleigh Park, Stables

Photographs

8 January 2021

Not to scale

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Fig 21:

GF.A15

Lintel was structurally decayed, to be replaced in pre cast concrete



Fig 22:

GF.A16

Lintel was structurally decayed, to be replaced in pre cast concrete



Southleigh Park, Stables

Photographs

8 January 2021

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Fig 23:

GF.A17



Fig 24:

GF.A18



Southleigh Park, Stables

Photographs

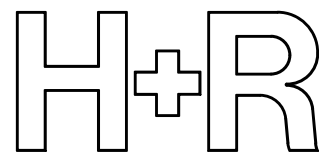
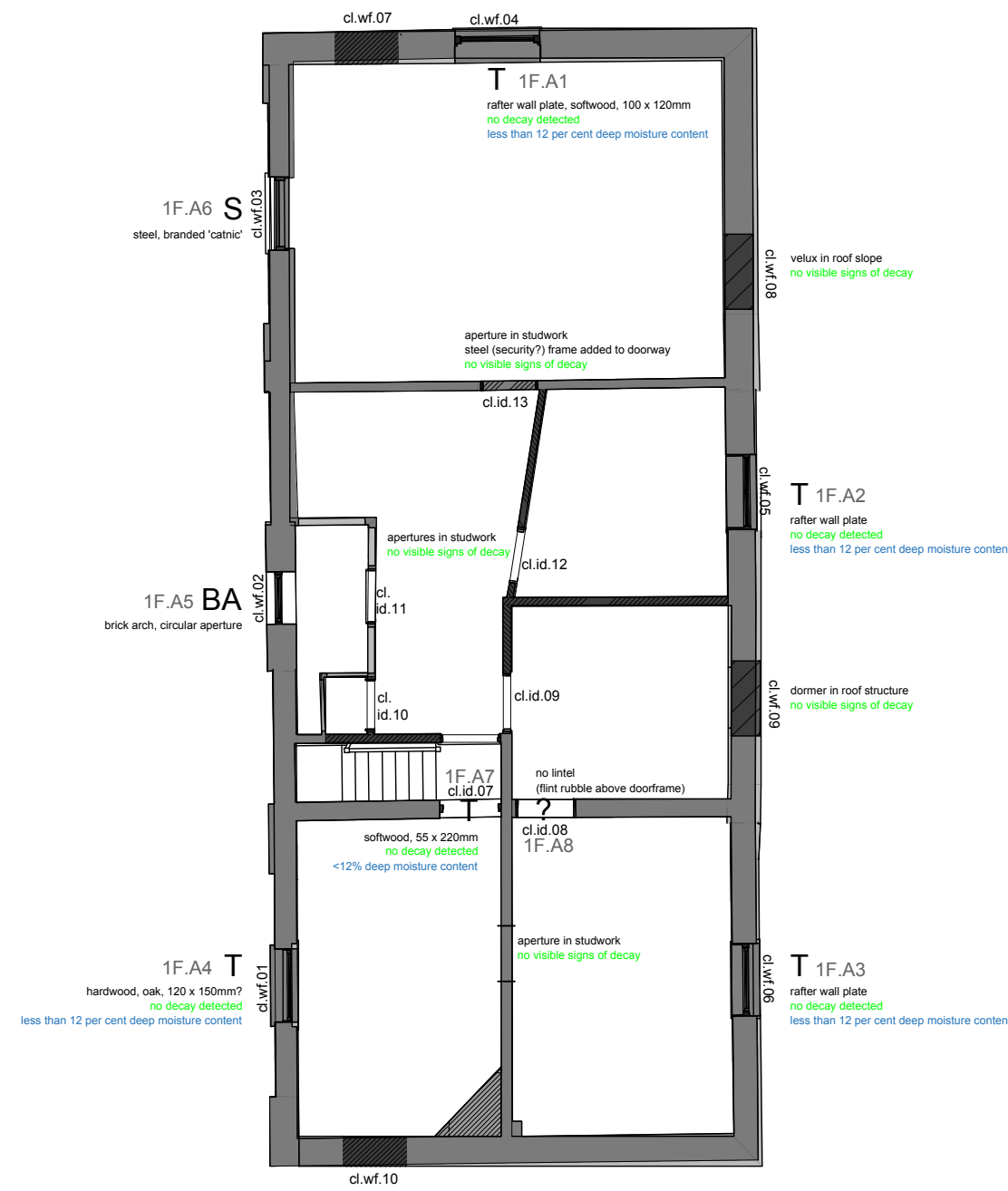
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Tel: 01483 203221 Fax: 01483202911 email: ei@handr.co.uk

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Attachment C

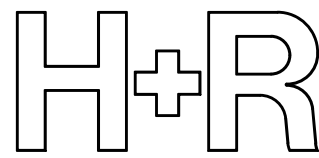
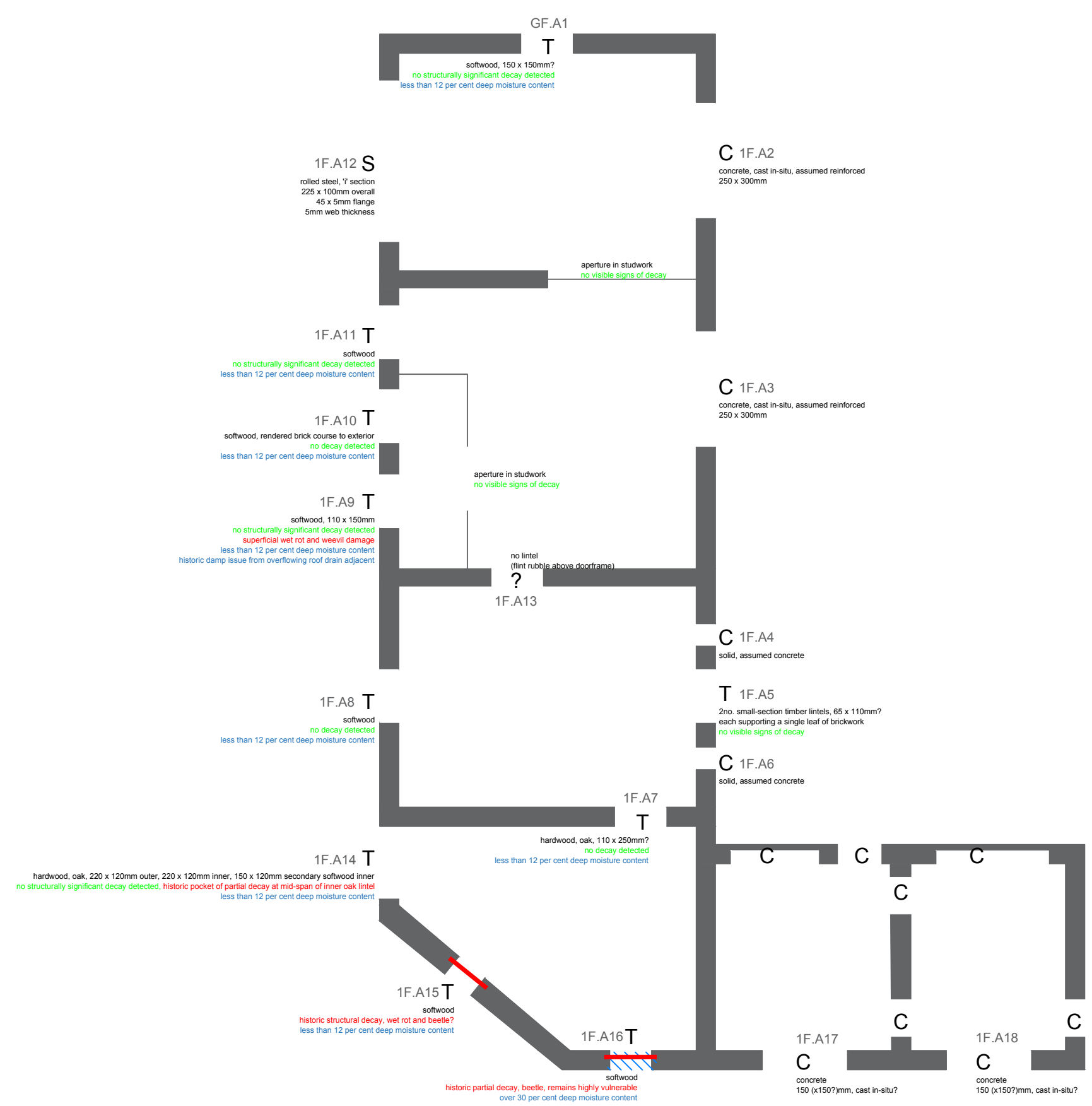


Southleigh Park, Stables - First Floor
Lintel investigation
8 January 2021

Hutton + Rostron Environmental Investigations Ltd
Netley House, Gomshall, Surrey, GU5 9QA Tel: 01483 203221
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Key:

GF.A1 H+R lintel code for reference purposes
T / S / BA Timber / steel / brick arch lintel



Southleigh Park, Stables - Ground Floor
Lintel investigation
8 January 2021

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Key:

GF.A1 H+R lintel code for reference purposes
T / S / C Timber / steel / concrete lintel