



OPUS STRUCTURAL SURVEYS

Structural Inspection Report

**Bridge Hotel,
4 Bridge Road,
Sutton Bridge,
PE12 9UA.
For Mr Mark
Andrews Property
Services Ltd**

On Behalf of

**Spencer-Lockwood, 10 - 16 Tiller Road,
London, E14 8PX.**



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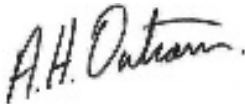
Prepared By



P Ogden BEng CEng FICE
Director, Property Services

Opus Structural Surveys
Doncaster Structural Surveys Office
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Reviewed By



A Outram BSc (Hons) CEng MStructE
Principal Engineer

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Date: 4 November 2016
Reference: U-C3091.00
Status: Issue 1

Summary

Property Address

4 Bridge Road, Bridge Hotel, Sutton Bridge, PE12 9UA.

Property Description

The property was a 4 storey former hotel constructed from solid brickwork and surmounted by a pitched roof. The property had suffered extensive fire damage

Problem	Cause	Recommendation
We were asked to comment on the stability of the front and LHS elevations of the property	Damage to structure caused by fire. The seat of the fire appears to have been to the LHS corner of the property most probably to the ground floor as reported by the local fire brigade.	We understand that it is proposed to redevelop the site and that a façade retention scheme has been proposed as part of the development plans. Typically brickwork performs very well in fire situations depending on the intensity of the fire. However our observations of the site revealed significant damage to the front LHS corner of the property and to the chimney on the LHS gable elevation. We believe that as a result of this damage approximately 30% of the front elevation will require rebuilding and repairs to spalling brickwork at parapet level and the entrance porch are also required due to weathering of the façade. With this in mind it may be economically unviable to retain the façade and rebuilding it total to current Building Regulations may be the best option.

Engineer Contact

P Ogden BEng CEng FICE
Director, Property Services

Should you wish to discuss this report for any reason please do not hesitate to contact us on 08081 44 88 99

1 Brief

- 1.1** We were commissioned on 31 October 2016 by Spencer-Lockwood Ltd to carry out a limited visual structural inspection of the exterior specifically the front and left hand side elevation. of 4 Bridge Road, Bridge Hotel, Sutton Bridge, PE12 9UA, for and on behalf of The Applicant, Mark Andrews Property Services Ltd.
- 1.2** We visited the property on 2 November 2016.
- 1.3** At the date and time of our site visit to the property:

The weather was cold and bright.

The property was unoccupied. Access was only available to the exterior of the property as it was unsafe due to the fire damage.
- 1.4** This report is issued subject to our standard 'Limitations of Inspection' attached as Appendix B to this report. This visual structural inspection was carried out on behalf of Spencer-Lockwood Ltd and Mr Mark Andrews Property Services Ltd, and no liability is accepted to any Third Party for all or part herein other than those listed above.
- 1.5** In this report RHS and / or LHS refers to right hand side and / or left hand side of the elevation as viewed.
- 1.6** External observations were made from ground level only.
- 1.7** Any photographs referenced to within the Internal Observations or External Observations sections of this report can be found at Appendix A.
- 1.8** This report does not address any environmental or asbestos related issues.
- 1.9** This report should be read in full.
- 1.10** This report is limited to comment on the structural stability of the front and LHS elevations particularly as a result of the fire damage apparent at the time of our inspection.

2 External Observations

2.1 The Site

- 2.1.1 This was a sloping site with the slope being from the front down to the rear of the site.
- 2.1.2 The following trees and the distance away from a wall face were noted (distances and heights are approximate):
 - a) None likely to affect the structure were noted at the time of our inspection

2.2 Building Description

- 2.2.1 The property was a four storey detached building, a former hotel built circa 1850's with a pitched roof the coverings to which were not visible as the roof had collapsed during the fire. The original coverings would have been slate.
- 2.2.2 The property was constructed from solid brickwork.

2.3 Roof and Roofline

- 2.3.1 Whilst not strictly the subject of the report the roof structure does provide lateral support to the main structural walls by tying the top of the walls together and forming a diaphragm. The fire had resulted in the roof being damaged beyond repair (See Photo 01) and potentially leaving the upper storeys vulnerable to wind loading and collapse.

2.4 Walls

2.4.1 Front Elevation



Front Elevation

- a) The front elevation wall was finished in facing brickwork.
- b) Vertical cracking (estimated maximum width of 4mm) of brickwork to the lintel ends of the LHS windows (See Photos 02 and 03).
- c) Spalled brickwork and eroded mortar was noted to the elevation at parapet level and to the front porch structure (See photos 05 – 07).
- d) Cracking (estimated width of 2 mm) of brickwork to the basement window surround on the LHS window and spalling of brickwork (See photo 10).
- e) The front wall appeared to be out of plumb to the upper level of the LHS corner (See photo 04).
- f) There was no bulging to the wall at first floor level / eaves level.
- g) There was movement cracking of the lintels.
- h) There was soft, loose and missing pointing to the front elevation.

2.4.2 LHS Elevation



LHS Elevation

- a) The LHS elevation wall was finished in common brickwork.
- b) Vertical cracking (estimated maximum width of 30 mm) of brickwork to the façade return feature (See photo 08).
- c) Badly damaged and loose brickwork to the LHS chimney stack (See photo 09).
- d) The LHS elevation wall appeared to be plumb
- e) There was no bulging to the wall at first floor level / eaves level.
- f) There was movement / cracking of the lintels.
- g) There was soft, loose and missing pointing to the LHS elevation.

2.5 Miscellaneous

- 2.5.1 The property had timber windows which were not in good condition suffering from extensive fire damage.

3 Internal Observations

3.1 No internal inspections were carried out due to the danger from the fire damaged structure.

4 Conclusions and Recommendations

4.1 Damage Categorisation

As defined by the Building Research Establishment cracking of external brickwork / internal plaster is categorised as follows:

4.1.1 Category of Damage 0

Hairline cracks of less than about 0.1mm which are classed as negligible “No Action Required”.

4.1.2 Category of Damage 1

Fine cracks which can be “treated easily using normal decoration”. Damage generally restricted to internal wall finishes; cracks rarely visible in external brickwork. Typical crack widths up to 1mm.

4.1.3 Category of Damage 2

“Cracks easily filled. Recurrent cracks can be masked by suitable linings”. Cracks not necessarily visible externally. “Some external repointing may be required to ensure weather tightness”. Doors and windows may stick slightly and require “easing and adjusting”. Typical crack widths up to 5mm.

4.1.4 Category of Damage 3

Cracks which “require some opening up and can be patched by a mason. Re-pointing of external brickwork and possibly a small amount of brickwork to be replaced”. Doors and windows sticking. Service pipes may fracture. Weather tightness often impaired. Typical crack widths are 5mm – 15mm, or several of say 3mm.

4.1.5 Category of Damage 4

Extensive damage which “requires breaking out and replacing sections of walls, especially over doors and windows. Windows and door frames distorted, floor sloping noticeably*. Walls leaning or bulging noticeably*. Some loss of bearing beams. Service pipes disrupted. Typical crack widths are 15mm to 25mm but also depends on number of cracks.

*Local deviation of slope, from the horizontal or vertical, of more than 1/100 will normally be clearly visible. Overall deviations in excess of 1/150 are undesirable.

4.1.6 Category of Damage 5

Structural damage which “requires a major repair job involving partial or complete rebuilding”. Beams lose bearing. Walls lean badly and require shoring. Windows broken with distortion. Danger of instability. Typical crack widths are greater than 25mm but depends on number of cracks.

5 Discussion

- 5.2.1** We were asked to comment on the stability of the front and LHS elevations of the property. The structure as a whole has suffered extensive damage as a result of the fire which we were informed occurred in August 2016. The seat of the fire appears to have been to the LHS corner of the property most probably starting on the ground floor.
- 5.2.2** We understand that it is proposed to redevelop the site and that a façade retention scheme has been proposed as part of the development plans. Typically brickwork performs very well in fire situations depending on the intensity of the fire. However our observations of the site revealed significant damage to the front LHS corner of the property and to the chimney on the LHS gable elevation. We believe that as a result of this damage approximately 30% of the front elevation will require rebuilding and repairs to spalling brickwork at parapet level and the entrance porch are also required due to weathering of the façade. With this in mind it may be economically unviable to retain the façade and rebuilding it totally to current Building Regulations may be the best option.

5.3 Recommended Further Investigation

5.3.1 None

Appendix A

Inspection Photographs





Photo. 01



Photo. 02



Photo. 03



Photo. 04



Photo. 05



Photo. 06



Photo. 07



Photo. 08



Photo. 09



Photo. 10

Appendix B

Limitations of Inspection





OPUS STRUCTURAL SURVEYS

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Rev C
OPUS STRUCTURAL SURVEYS LIMITED
LIMITATIONS OF INSPECTION SCHEDULE

CLIENT : Mr Mark Andrews Property Services Ltd

PROJECT NUMBER : OSS/U-C3091.00

SUBJECT PROPERTY : 4 Bridge Road, Bridge Hotel, Sutton Bridge, PE12 9UA.

TO BE INSPECTED : Visual Structural Inspection of Property
(Excluding valuation and any specialist tests)

- 1.0 During our visual inspection of the premises as presently existing, which will normally be carried out in a single visit, we shall visually check all visible exposed and accessible elements of construction in order to identify defects and shortcomings which are likely to adversely affect the use of the property or give rise to expenditure in the future.
- 2.0 We shall consider the condition and durability of the building fabric in relation to the type and age of the property, the need for repairs or special maintenance and, where appropriate, comment on the suitability of the structure for its proposed use.
- 3.0 We shall, where possible, visually inspect cellars and roof voids but we shall not empty the contents of any fitted cupboards, move furniture or lift carpets / floorboards or floor coverings and our report will specifically exclude all covered, and unexposed or inaccessible areas and buried elements of construction such as foundations and built in steels and timbers.
- 4.0 Apart from any balconies and roofs to which external access may be available, our external visual inspection will be carried out from ground level.
- 5.0 In accordance with our professional indemnity insurance cover we have to state that "we have not inspected woodwork or other parts of the structure which are covered, unexposed or inaccessible and we are therefore unable to report any such part of the property is free from defect".
- 6.0 We will not at the time of our first visit, unless specifically requested, arrange for exposure works to be carried out to the superstructure or below ground, or carry out tests for high alumina cement concrete, calcium chloride, asbestos or the use of woodwool slabs as permanent shuttering.

Upon further instruction these works can be carried out at an additional charge.

If 'specifically requested' then we will:

- a. Visit site on the agreed date and time
- b. Visually inspect exposed external elevations only

- c. Undertake carbonation testing to exposed external elevations only

If there are signs of cracking to the exposed external elevations we will:

- d. Request a visual inspection internally but specifically to the inside of the external walls

If there are no signs of cracking to the exposed external elevations we will:

- e. Not visually inspect internally when restricted solely to carry out intrusive testing.

After the site visit we will prepare a report based on the carbonation testing and the visual inspection.

We cannot guarantee that our site visit, testing and report would be conclusive for mortgage purposes, however, we will attempt to provide recommendations that should assist the future integrity of the property for consideration by others.

- 7.0 With regard to service installations, incoming mains, waste and drains, we shall report on any structural matters which come to light during our inspection which may be related to defective services. Further investigation by specialists maybe required.

- 8.0 Although where appropriate we will be happy to examine any lease or title documents, planning or any consents including building regulation approvals or fire certificates which are made available prior to our inspection, we shall assume in such cases that your solicitors will be advising in detail upon these matters and that they will also check on the responsibility for the maintenance of all boundaries and rights of way and the existence of any easements or necessary rights of light, drainage etc.

Please Note: We will not inspect boundaries or boundary walls unless specifically instructed by our Client and only upon receiving written instructions and the signed limitations.

- 9.0 Should intrusive investigation be requested at the time of our initial site visit, we require to be informed, in advance of any work by us, of the positions of any underground services or plant beneath the site. Whilst reasonable care will be taken during the execution of the field work we cannot accept liability, either direct or consequential, for the damage to any service not clearly identified to us.

Intrusive inspections of wall cavities will be carried out using an endoscope only. Should our engineer see significant movement / cracking to the property we may advise brick removal or removal of cladding panels which will be subject to an additional visit by the engineer and a building contractor to carry out the exposure works and making good after the inspection.

Please note that an intrusive investigation by the use of an endoscope is only a limited inspection of the cavity wall.

- 10.0 Our written report will be addressed and forwarded to the above mentioned Client, marked 'Confidential'. Any liability which may arise from its contents will be specifically restricted to the Client and any other Third Party as mentioned in paragraph 1.1 and 1.4 of the structural inspection report.

**OPUS Structural Surveys
Standard Limitations of Inspection**

**Rev C
SSD/U-C3091**

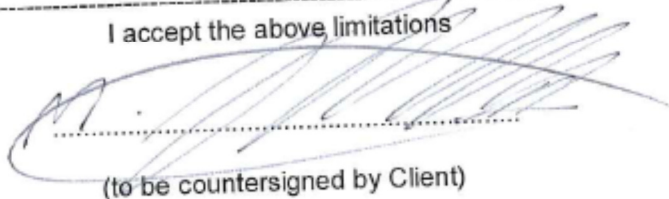
- 11.0 We wish to point out and seek your advanced agreement to the above exclusions being incorporated in our report and must accordingly request your acknowledgement by countersigning and returning the attached copy of this note with your payment in full.
- 12.0 The findings of our investigation and our report will not be released from our Offices until we are in receipt of a countersigned copy of this document and full payment.

For and on behalf of Opus Structural Surveys



**D Sykes BSc(Hons) MSc CGel FGS
Office Director**

I accept the above limitations



(to be countersigned by Client)



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