

JOB REF: J12345/SDR

ENGINEERS REPORT / SPECIFIC DEFECTS

Relating to Cracking to the Rear of the Property

**Ground Floor Apartment within a Large
Early Victorian Property in London**



FOR

A Concerned Home Owner

Prepared by:

INDEPENDENT CHARTERED SURVEYORS

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INTRODUCTION

Instruction

We have been instructed by a concerned client to specifically comment upon the cracking to the rear of their property. We have carried out a visual inspection of the property.

We have not had the benefit of access to the other adjoining properties.

SYNOPSIS

Situation and Description

The subject property is a ground floor apartment within a large early Victorian property. The property was converted some years ago into several apartments / flats. The property is terraced and sits in a residential area.

CONSTRUCTION SUMMARY (of the whole property)

EXTERNAL

Chimneys:	Brick chimneys (limited view)
Main Roof:	Pitched slate roof (limited view and not accessed)
Gutters and Downpipes:	Plastic
Walls:	Predominantly painted render with some brickwork (limited view)
External Detailing:	Sliding sash painted timber windows
Foundations:	Not inspected, assumed stepped brickwork



Front View



High level rear view

INTERNAL

Ceilings:	A mixture of the original lath and plaster and modern plasterboard (assumed)
Walls:	A mixture of solid and studwork (assumed)
Floors:	Ground Floor: A suspended timber floor with the joists running from the front to the back of the property (assumed)



Low level rear view

We have used the term 'assumed' as we have not opened up the structure.

ACCOMMODATION AND FACILITIES

GROUND FLOOR – Communal Areas

- Shared communal entrance hall
- Internal Stairway (situated on the right hand side of the property)

THE APPARTMENT

- Front Lounge
- Internal Bathroom
- Rear Bedroom
- Rear Kitchen with access to the garden
- Private Garden area
- Small cellar under the right hand side of the property

EXECUTIVE SUMMARY

Executive summaries are always “dangerous” as they try and encapsulate relatively complex problems in a few precise and succinct words. Having said that here is our executive summary and recommendations:

The Valuation for Mortgage Purposes report has asked us to comment on the following:

‘Obtain a report from an engineer or Chartered Building Surveyor with regard to the structural condition of the property. Carry out any recommendations under professional supervision’

Specifically, Condition 10 identifies:

‘Evidence of movement was observed in the form of differential settlement to the rear main wall. This appears significant and likely to be progressive’.

Subject to the limitations set out within this report we would comment as follows:

Based on information gathered from the occupier and via a visual inspection of the subject apartment, together with measurement of the cracking and making standard assumptions, as set out within the rear of this report, we would conclude that we believe the cracking to be long standing and not unusual for this age, type and style of property. However, please note our comments on this being a one-off inspection and therefore limited.

We believe there may be various factors causing the cracking. These include:

- Movement over the windows, which is reasonably common, particularly if there is a timber lintel or a brick arch, however this is hidden by the painted render finish.
- Lack of maintenance to the adjacent soil and vent pipes and rainwater pipes allowing dampness into the structure.

ACTION REQUIRED: We would recommend that the render is opened up in this area to check the type and condition of the lintel.

If this is a timber lintel depending upon its condition it may be necessary to replace it.

If it is a brick soldier course lintel that has slipped then it needs to be secured in place, i.e. packing or a supporting metal lintel.

Whilst opening up the render you should also check to see if the cracks transfer through the bricks. We found when checking the depth of the raking crack that the majority of it was render thickness, with approximately a quarter of it going deeper than we would expect; indicating the possibility of some brickwork damage.

The soil and vent pipes and the rainwater pipes need to be made watertight.

Finally, we would add that we feel the cracking should be referred to your insurance company. Commonly the insurance company, and as recommended by the Building Research Establishment, would like to monitor such cracking for a period of 12 months. We would reiterate our comments that this is a one-off inspection and therefore limited.

It would be interesting to receive feedback from the valuer that originally saw the property as to why he specifically considers this to be progressive movement.

INSPECTION AND SURVEY FINDINGS

Time Line – A brief history of the structure

(based upon discussions with the owner)

Work Carried out to the Building:

Early 1980s	Converted into flats / apartments
2000	Shared Freehold purchased
2003	Gutters replaced at high level Render redecorated Flat roof repaired / replaced
2006	Garden wall rebuilt to the rear
Proposed work in the next three years	Build Garden wall to the front of the property Decorate shared access areas internally Redecorate externally Possible removal of the render, subject to investigations work to bring it back to the brickwork beneath the render as the adjoining properties.

Work Carried out within the Apartment

February 1999	Purchased
1999	Living room refurbished and complete new floor
1999-2001	Kitchen refurbished
2002-2003	Bathroom refurbished
2003	Living room refurbished
2003-2005	Bedroom and Hall refurbished

INSPECTION

Our inspection has been specifically related to the diagonal cracking over the window to the rear of the property.

- A** A visual inspection of the external of the apartment.
- B** A visual inspection of the internal of the apartment.
- C** Discussions with the present owner.
- D** We have tried to gain access to the apartments above, but no one was in at the time of our inspection.
- E** We have also tried to gain access to the adjoining owners' properties but no one was in at the time of our inspection.
- F** We requested a copy of the original survey that was carried out when the property was bought but the client was unable to find this.
- G** We have taken digital calliper readings of the cracking and also checked their depths.



Diagonal cracking to left hand side of window

SURVEY FINDINGS

External Inspection

1. Externally to the subject property diagonal cracking of approximately one and a half metres ranging from 1mm to 8mm with a depth range of approximately 10mm – 40mm, the majority of which is in the 10mm – 15mm range, indicating that the minority of the crack is also into the brickwork. The cracking looks to have been repaired previously.



2. We noted hairline cracking over the adjacent kitchen window that looks to have been repaired previously.



3. Externally we noted that the soil and vent pipes showed signs that they are leaking quite badly with a vegetation growth, which are immediately next to the widest part of the crack, which we feel will be causing additional problems with the freeze / thaw cycle.



In our discussions with the owner she advised that the gutters had been replaced. We would assume that deterioration had been caused to the render and possibly the brickwork before this by the discharging of rainwater down the face of the property.

4. We noted that the adjoining buildings are predominantly still brick faced.

5. We noticed that the apartment above had some cracking externally to the window, which is why we were keen to talk with the owner and inspect this apartment, but unfortunately we were unable to gain access. However, the client did gain access for us and took photos which can be seen in the Internal Inspection section below.

6. We also reviewed the front of the property, which is also rendered and we noticed a defective soffit and fascia indicating possibly that the guttering is still leaking in this area.



7. We noted that there was a single storey bay to the front of the property which forms part of the subject apartment.

Internal Inspection

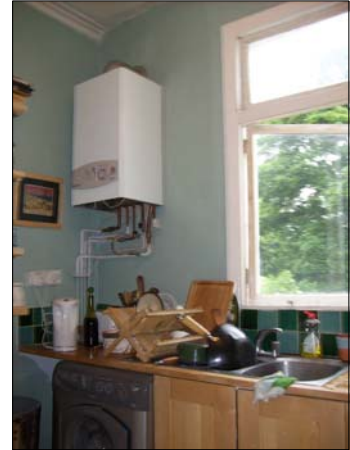
8. This was restricted to the subject apartment only. From our discussions with the owner we identified that the majority of the inside of the apartment has been renewed since the property was purchased in 1999. We identified hairline cracking within some of the rooms, which we believe to be plasterboard cracking and caused by differential movement between the old and new materials.

We did not have access to the main structure of the property and this was a visual inspection only.

9. We did access the cellar area; the majority of the ceiling was clad but we were able to see a small selection of floor joists within an access hatch within the cellar. What we could see looked in reasonable condition.



10. We have been forwarded these three photos of the first floor apartment by the client. From our inspection of the photos they do not show any signs of internal cracking, even though cracking can be seen externally.



Communal Stair Area

11. We inspected the communal stair area and could see that there has been some movement within this area, which is relatively common.

SUMMARY UPON REFLECTION

The Summary Upon Reflection is a second summary so to speak, which is carried out when we are doing the second or third draft a few days after the initial survey when we have had time to reflect upon our thoughts on the property. We would add the following in this instance:

From a one off inspection it is impossible to be 100 percent certain as to whether this cracking is progressive or not. This is why the Building Research Establishment recommend 12 months monitoring, which we would also concur is the best way to be 100 percent certain in this instance.

We would recommend that this cracking is referred to your insurance company and that they are asked to monitor it and that you also locate your original survey and establish if this identifies the cracking discussed within this report and we ask that a copy is forwarded to us as soon as possible to enable us to comment further.

If you would like any further advice on any of the issues discussed or indeed any that have not been discussed! Please do not hesitate to contact us on 0800 298 5424.

Independent Chartered Surveyors

Definition of Terms Used

- **settlement:** downward movement caused by compression of the ground by foundation loads. Settlement does not crack buildings – only differential settlement potentially does so; damage due to consolidation of poor or made ground usually becomes apparent within the first ten years (e.g. Building Research Establishment Digests)
- **subsidence:** downward movement caused by activity in the ground. However, in the absence of trees, progressive subsidence on shrinkable clay (i.e. continuing beyond the duration of a drought) is most uncommon (Building Research Establishment Digests). Where clay soils are involved see also Building Research Establishment Digests current at the time of writing this report).
- **heave:** upward movement caused by activity in the ground

LIMITATIONS

Specific Defects Report

1. Conditions of Engagement

Please note: references to the masculine include, where appropriate, the feminine.

Subject to express agreement to the contrary (which in this particular case has been none) and any agreed amendments/additions (of which in this particular case there have been none), the terms on which the Surveyor will undertake the Specific Defects Report are set out below.

Based upon a visual inspection as defined below the Surveyor will advise the Client by means of a written report as to his opinion of the visible condition and state of repair of the specific problem or problems only. In this instance we have focused our inspection on the diagonal cracking to the rear window, which gives light to the rear bedroom. We have not opened up the structure and have not had any access to adjoining properties.

2. The Inspection

a) Accessibility and Voids

The Surveyor will base this report on a visual inspection and accordingly its scope is limited. It does not include an inspection of those areas, which are covered, unexposed or inaccessible. Our visual inspection will relate to the specific defects shown to us only.

b) Floors

We have not opened up the floor structure. We have viewed a small area of approximately two metres square from within the cellar. We could only carry out a visual inspection and any conclusions will be based upon our best assumptions. We can open up the floor if so required at an extra fee.

c) Roofs

The Surveyor has not been able to inspect the roofs in this instance. There is a pitched roof and a flat roof to the rear.

d) Boundaries, Grounds and Outbuildings

The inspection will not include boundaries, grounds and outbuildings unless specifically stated (none stated).

e) Services

No services inspected.

f) Areas not inspected

The Surveyor will have only inspected those areas identified within the report. His report will be based upon possible or probable defects based upon what he has seen together with his knowledge of that type of structure.

If you feel that any further areas need inspection then please advise us immediately.

g) Specific Defects Report

As this is a report upon a Specific Defect we do not offer any comment or guidance upon reactive maintenance and/or planned or routine maintenance items.

h) Whilst we have used reasonable skill and care in preparing this report, it should be appreciated that the Chartered Surveyors cannot offer any guarantee that the property will be free from future defects or that existing defects will not suffer from further deterioration;

3. Deleterious and Hazardous materials

- a) Unless otherwise expressly stated in the Report, the Surveyor will assume that no deleterious or hazardous materials or techniques have been used in the construction of the property. However the Surveyor will advise in the report if in his view there is a likelihood that high alumina cement (HAC) concrete has been used in the construction and that in such cases specific enquiries should be made or tests carried out by a specialist.

4. Contamination

The Surveyor will not comment upon the existence of contamination as this can only be established by appropriate specialists. Where, from his local knowledge or the inspection he considers that contamination might be a problem he should advise as to the importance of obtaining a report from an appropriate specialist.

5. Consents, Approvals and Searches

- a) The Surveyor will assume that the property is not subject to any unusual or especially onerous restrictions or covenants which apply to the structure or affect the reasonable enjoyment of the property.
- b) The Surveyor will assume that all bye-laws, Building Regulations and other consents required have been obtained. In the case of new buildings and alterations and extensions, which require statutory consents or approval the Surveyor will not verify whether, such consents have been obtained. Any enquiries should be made by the Client or his legal advisers.

Drawings and specifications will not be inspected by the Surveyor unless specifically agreed; in this case drawings have been provided. It is the Clients responsibility to forward any drawings and specifications that he has or knows the

whereabouts of to us to include information in our report. If these are not forthcoming we will make our best assumptions based upon the information available.

- c) The Surveyor will assume that the property is unaffected by any matters which would be revealed by a Local Search and replies to the usual enquiries or by a Statutory Notice and that neither the property nor its condition its use or intended use is or will be unlawful.

6. Fees and Expenses

The Client will pay the Surveyor the agreed fee for the Report and any expressly agreed disbursements in addition.

7. Restrictions on Disclosures

- a) This report is for the sole use of the Client in connection with the property and is limited to the current brief. No responsibility is accepted by the Chartered Surveyors if used outside these terms.
- b) Should any disputes arise they will be dealt with and settled under English law;
- c) This report does not fall under the Third Parties Rights Act.

8. Safe Working Practices

The Surveyor will follow the guidance given in Surveying Safely issued by the Royal Institution of Chartered Surveyors (RICS).

APPENDIX 1

PROCESSES USED

1. General Appraisal

General appraisal of building, its age, use, general construction form and condition, noting any unusual aspect of its materials structural character, and changes made (especially recent), potentially relevant information – for example, recent or ongoing nearby construction, nearby trees (proximity, species and maturity) and soil type.

2. General Appraisal of Cracking

In this case we have carried out four measurements with regard to the crack's width and depth.

3. Assessment

Make a first assessment of crack severity according to the above list; then seek a cause or causes, but with time and effort at this stage in proportion to supposed severity.

4. Consider Causes of Cracking

Consider whether the cause or causes are likely to lie:

- i. in the cracked part itself or
- ii. in associated parts which impose forces (tension, compression, shear, rotation and bowing) on the cracked part.

If ii, consider whether the forces arise from within the building itself (eg, dead or live loads, deflection, creep or sway) or from external sources affecting the entire building (eg, wind loads or snow loads) or from changes in its support (eg, settlement of made ground, erosion by leakages, poor compaction of fill, seasonal volume changes under shallow foundations in clay, longer term volume changes, mining subsidence, local excavation, swallow holes or landslip).

5. Make an approximate first assessment of temperature-induced size changes and, if applicable, size changes due to initial expansion or

contraction and to reversible moisture-induced size changes. Compare estimated changes with crack widths and spacings and joint widths and spacings; relate to any changes of section or of construction or materials. Consider whether any of these size changes are of the right order of magnitude to be responsible, alone, for the cracks; check that the first assessment is consistent with the age of the crack.

6. Consider possible chemical causes: corrosion of metals, sulphate attack on ordinary Portland cement-based products and materials, alkali silica reaction (reactive aggregates), carbonation (of cement-based products, especially sheets). In all cases check whether the constituents for reaction are present and the conditions are favourable to the reaction.
7. For each potential cause identified by these initial assessments, seek a mechanism linking cause and effect. (If that was the cause, how did it produce this effect?) Accept as possible causes only those for which a possible mechanism can be found; re-examine those causes, seeking further evidence that confirms or denies their existence.
8. When a possible cause is thus identified, seek answers to the following questions.
 - i. Are the constituents and conditions confirmed to be, or to have been, present?
 - ii. Is the mechanism one that can be confidently accepted?
 - iii. Is the supposed cause consistent with the evidence obtained at 2 above?
 - iv. Is the potential order of magnitude of the cause consistent with the observed effects?

If the answer to either i, ii or iii is no, provisionally discount that cause. If the answers to i, ii and iii are yes but the answer to iv is no, consider whether other causes are also present and contributing to the observed effects.

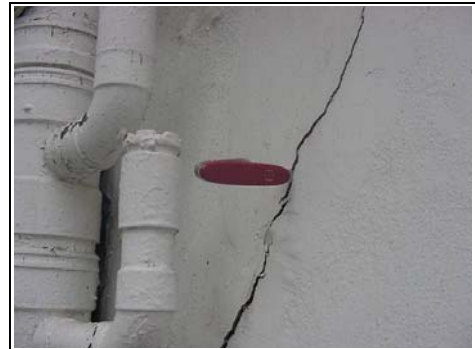
9. Avoid the assumption that a cause is correctly diagnosed until all other reasonably possible causes have been examined and discounted; do not overlook the considerable probability that more than one cause is operating. Recognise that the first assumptions may be overturned as the investigation yields further information; also that the first general appraisal of the building may later need to be more specific in the light of that further information.
10. If diagnosis indicates foundation movements as a probable cause and there is reason to believe that movements might be progressive, take account of

published guidance (eg, Building Research Establishment Digests) to decide whether long term monitoring is necessary.

SELECTION OF PHOTOGRAPHS



Checking depth of crack -
Bottom of crack



Checking depth of crack -
Lower middle section



Checking depth of crack -
Upper middle section



Checking depth of crack –
Top section



Bedroom – Minor hairline crack
due to drying out of internal
finishing material



Adjacent cupboard is lined, so we
did not have access to the wall
structure.