

80/82 PRINCE GEORGE STREET
CHEADLE
STOKE ON TRENT
ST10 1HX

A REPORT

ON A

STRUCTURAL APPRAISAL

PREPARED BY:

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1 INTRODUCTION

On instructions received from Mr J Slaney and Mr E O'Grady, I have been instructed to carry out a Structural Appraisal of the above properties and prepare a report to support the current application for the demolition of the properties.

All references to left and right are given facing the front of the building, unless specifically noted otherwise.

For the purposes of this report, the front elevation is defined as the elevation abutting Prince George Street.

I carried out an inspection on the 10 January 2022.

2 GENERAL

The properties are a pair of semi-detached cottages. It is understood that the properties were constructed in the early 1990s on the site of two former cottages.

As part of the development in the 1990s, the site around the property was built up and a modern concrete block retaining wall built on top of the original brick retaining wall at the rear.

In September 2019, following heavy rainfall a large section of the modern concrete block retaining wall at the rear of the properties collapsed onto the rear wall of the shops below in the High Street.

Since that time, both the properties and the shops below have been uninhabitable.

The properties are the subject of a Dangerous Structure Notice from the local authority.

3 OBSERVATIONS

I attach at Appendix A a series of photographs to help illustrate the following points.

3.1 External

On the front, the roadside elevation, there is no evidence of any cracking or other distress. There is evidence of water splash against the wall at low level and algae growth.

On the right-hand gable, which includes the entrance to number 80, above the head of the entrance door is a raking 1mm wide crack running up to the bedroom window. Beneath the lounge window to this elevation is a raking 0.5mm wide crack.

On the rear elevation to both properties, there is no evidence of any cracking or movement of structural significance. Emanating from around all of the feature lintels above the ground floor patio doors and windows are raking 0.5mm to 1mm wide cracks.

On the left-hand gable, which includes the entrance to number 82, there is no evidence of any cracking or movement.

3.2 Internal

At the time of my inspection, a soft strip of the reclaimable items had been undertaken on behalf of the owners.

Throughout, the property is finished in a modern painted plaster finish.

There is no evidence of any cracking or movement to any of the internal walls to either property, either at ground or first floor level.

Observations internally through the loft hatch show that the roofs to the properties are constructed from a cut timber roof from modern timbers. There is no evidence of any distress to the roof structure.

4 TRIAL PITS

In order to determine the foundation detail for the properties, two trial pits were excavated, one on the left-hand gable and one on the rear elevation. The trial pits were excavated by a specialist site investigation contractor and logged by an engineering geologist.

The trial pits showed that the properties are built off 250mm thick strip footings founded at approximately 1100mm below ground level.

Within the parking area, the trial pits have identified at least 1.6m of fill material.

Based on observations on site, there is likely to be a depth of fill in excess of 3m deep across the rear of the property.

5 RETAINING WALL

Photographs of the retaining wall from October 2019 are included at Appendix B.

Observations of the retaining wall are limited due to the lack of safe access. Based on the observations possible, the original brick retaining wall along the rear of these properties has been raised in height by around 3m to 4m and it is believed the overall height of the retaining wall is now of the order of 10m.

The section of retaining wall supporting the car parking area, to the left of the properties, has collapsed against the rear wall of the shops on the High Street.

In the section of retaining wall across the rear of the properties, there is evidence of lateral displacement of the blockwork at low level.

There are tie bars and pattress plates evident to the area of newer blockwork, but it is not known whether these were a feature installed at the time of original construction or added retrospectively.

6 DISCUSSION

At the present time, there is no evidence of any significant structural movement to number 80 or 82 Prince George Street.

However, the investigations possible have shown that the properties are built on a deep layer of fill material across the rear. Given this and the adjacent movement to the retaining wall, it is surprising that more significant movement has not been detected.

The retaining wall across the rear of the properties which supports the fill on which the properties are founded has failed in structural terms.

The section of retaining wall to the rear of the car parking area has already totally collapsed causing damage to the adjacent properties. The remaining section is at high risk of collapse at any time with the risk of further consequence damage to the properties on the High Street.

Should the retaining wall across the rear of the two properties collapse, in my opinion, it is inevitable that properties will suffer severe structural movement to the point they could collapse onto the buildings on the high street.

The collapse of the retaining wall and subsequent movement of fill material between the retaining wall and the line of the highway, gives rise to the risk of movement to the highway itself.

In order to mitigate the risk of further catastrophic collapse of the retaining wall and the two properties, the retaining wall across the rear needs to be made safe. A number of options for making this area safe have been investigated with specialist contractors including erection of specialist propping through the shops and filling the void with foam. All of these have practical difficulties and following discussion with multiple parties, it has been agreed the only way to make the area absolutely safe is to take the section of wall down.

Given the location of the properties relative to the rear retaining wall, there is no safe access to the retaining wall unless the properties are removed.

Therefore, demolition of the properties is required in order to make the area safe.

With the retaining wall taken down and the area made safe, a bored pile retaining wall can be installed to stabilise the ground and prevent further loss of ground undermining the highway.

I have not inspected woodwork or other parts of the structure, which are covered, unexposed or inaccessible and I am therefore unable to report that any such part of the property is free from defect.



13 January 2022

EUR ING J D SYMONDS
BSc (Hons), CEng, C.Build E, MICE, FCABE,
MCIHT, IMaPS, MRCEA, FRSA

DAVID SYMONDS ASSOCIATES

APPENDIX A

Photographs taken by Mr J D Symonds



1. View looking at the left-hand gable from Prince George Street.



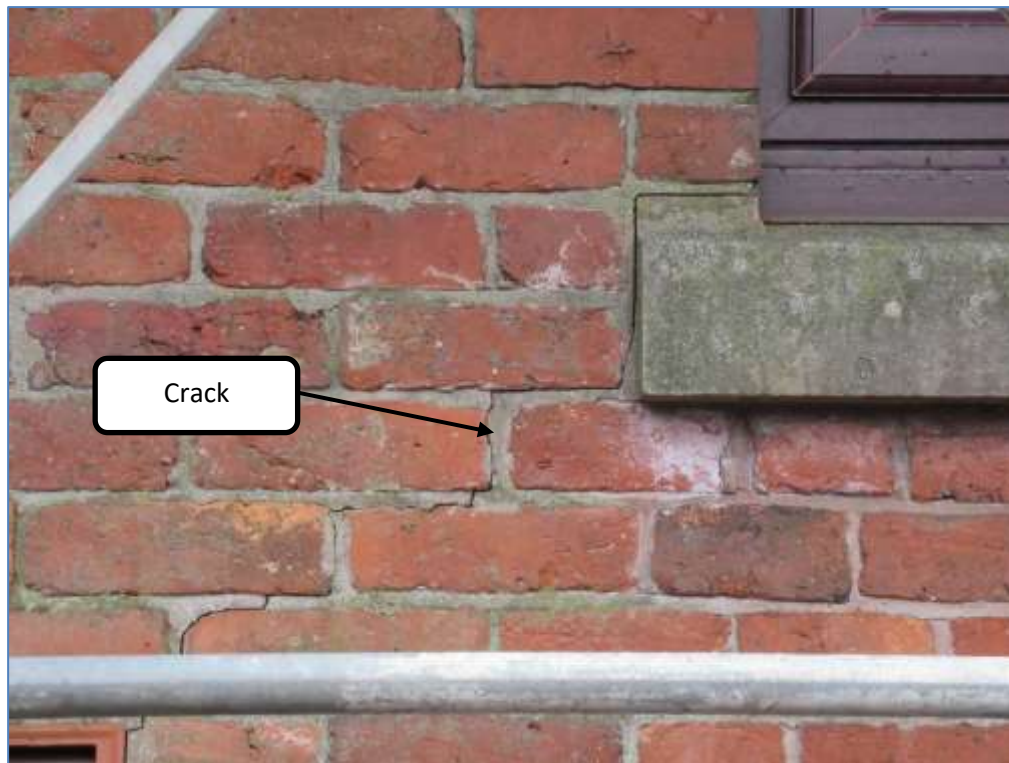
2. View of the kitchen window to number 82.



3. View showing the stairwell window to number 80.



4. General from looking at the right-hand gable to number 80.



5. Shows cracking running from the head of the entrance door.



6. Shows cracking running below the window to the lounge.



7. General view of the rear of number 80.



8. General view of the rear of number 82.



9. Shows cracking at the end of the lintel over the ground floor windows to number 82.



10. Detailed view of the left-hand gable.



11. View of the entrance to number 82.



12. View of the ground floor gable to number 82.



13. View of the upper gable to number 82.



14. General view in kitchen of number 82.



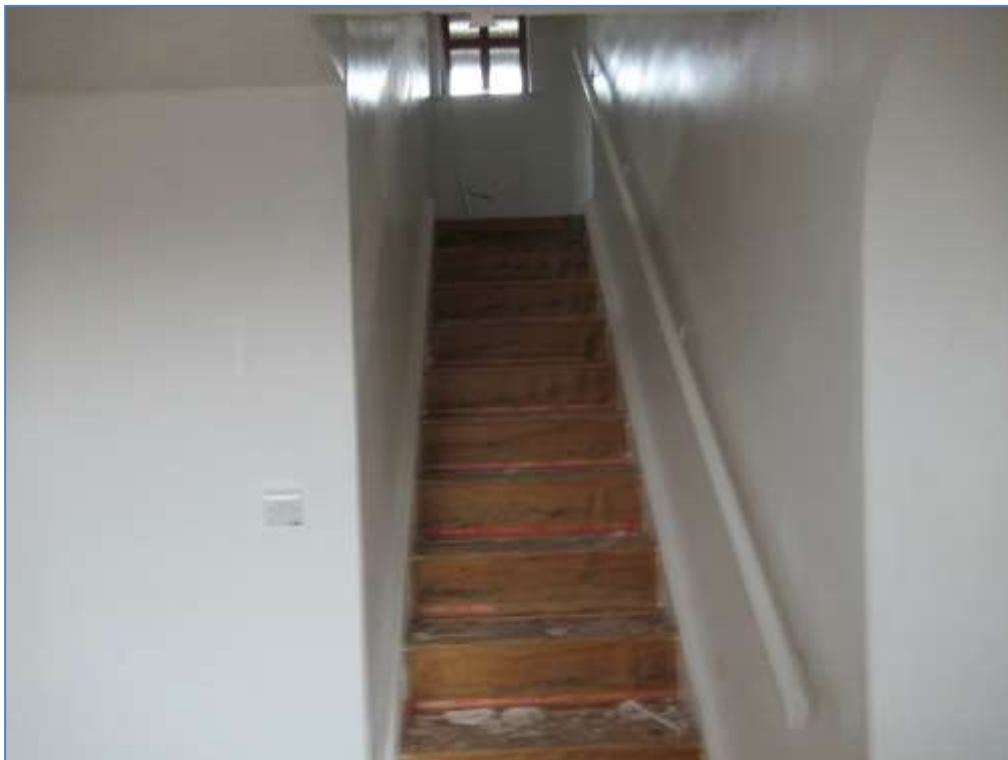
15. General view in kitchen of number 82.



16. General view showing through lounge to number 82.



17. Shows rear patio doors to number 82.



18. General view of stairwell to number 82.



19. View of central bedroom to number 82.



20. View of rear left-hand bedroom to number 82.



21. View of lounge to number 80 showing patio doors.



22. View showing area around entrance to number 80.



23. Shows area of stairs to number 80.



24. Shows first floor master bedroom.



25. Shows modern cut timber roof to the properties.



26. Shows modern cut timber roof to the properties.

APPENDIX B

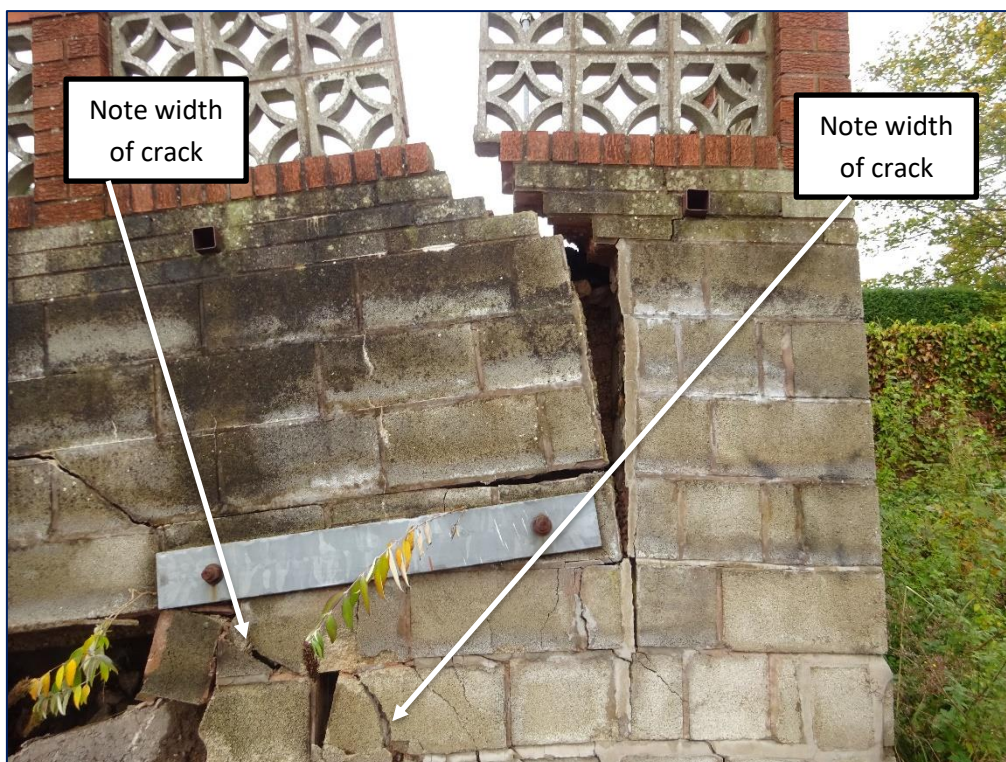
Photographs October 2019



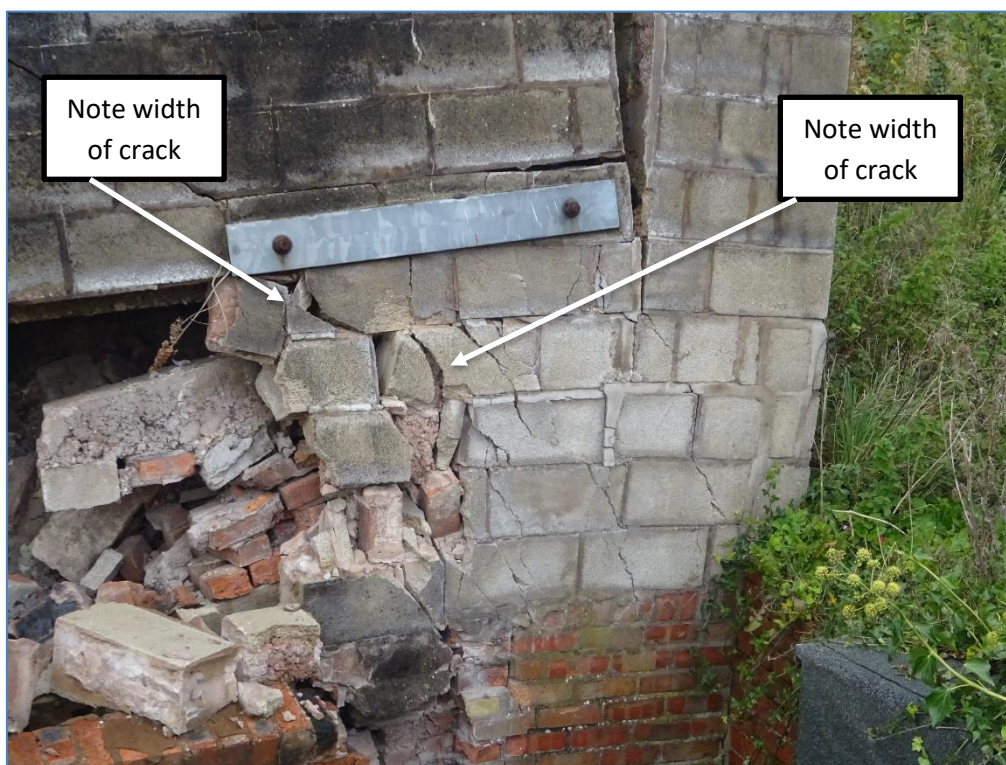
1. October 2019.



2. October 2020.



3. October 2019.



4. October 2020.