

STRUCTURAL ENGINEERS REPORT

PROPERTY ADDRESS

Pex Hill
Cronton
WA8 5QW



CLIENT

D Kenningham

REPORT REFERENCE

9137-ADS-XX-XX-RP-S-001

DATE

12th April 2024

ADS Structural were instructed by our client to revisit Wayside, Pex Hill, Croton to provide an assessment on the current condition of the structure. An first inspection was undertaken by this practice in 2016 with a number of recommendations made in an attempt to dismantle and rebuild parts of the structure in keeping with its original construction as follows:

1. Stonework to be taken down to eaves level and rebuilt using existing stonework
2. Stonework to be taken down, back to spine wall and rebuilt using existing stonework. Existing cills and lintel to be retained and reused.
3. Top Section of stonework to be taken down and rebuilt ensuring stonework is keyed / toothed in to cross wall to provide lateral stability to the internal gable elevation
4. Gable stonework to be taken down to eaves level and rebuilt using existing stonework
5. First floor panel to be taken down and rebuilt in existing stonework. Existing cills and lintels to be retained and reused.
6. Area to be rebuilt using existing stonework.
7. Existing chimney stack to be taken down and rebuilt. Existing date stamped stone flue / baffles to be retained and reused.

Since the 2016 report it is evident that the building has deteriorated further. On our recent inspection we noticed that the existing roof and ceiling structures which were previously present were no longer there. The ceiling structure, in particular, was providing head restraint and/or lateral restraint to the head of a large proportion of the remaining external walls. Since the lateral restraint has been removed, sections of first floors walls have since collapsed together with remaining window, window frames, cill, surrounds etc. In addition the majority of remaining walls have started to lean or tilt.

Below is Table 2 from BRE475 Tilt of low rise buildings. Whilst the magnitude of tilt was not recorded on site via spirit level by visual inspection we would suggest that the walls would be in the region of 1/100 with some areas towards the 1/50 value.

Table 2 Indicative values for tilting of low-rise housing		
Classification	Tilt	Comment
Design limit value	1/400	The maximum acceptable differential settlement across the building is related to the design limit value for tilt. If the building is likely to tilt more than this limit value, ground treatment or deep foundations may be required.
Noticeability	1/250	The point at which the tilt of a building becomes noticeable will depend on the type and purpose of the building, and the powers of observation and perception of the occupiers. Typically, tilt of low-rise housing is noticed when it is in the region of 1/250 to 1/200.
Monitoring	1/250	When tilting is noticed it is advisable to make some measurements to confirm that the building has tilted. If the measured tilt is greater than 1/250, monitoring should be carried out to determine whether the tilt is increasing.
Remedial action	1/100	Where tilts of this magnitude are measured, or the measured rate of increase of tilt indicates that this degree of tilt will be exceeded, some remedial action should be taken. This is likely to include re-levelling the building, perhaps by grouting or underpinning and jacking.
Ultimate limit	1/50	If tilt reaches this level, the building may be regarded as in a dangerous condition, and remedial action either to re-level or to demolish the building will be required urgently.



It is clear that the structural stability of the building has decreased since our first inspection and could be considered to be progressively worsening with some parts of the remaining building potentially now considered to fall under the classification of dangerous structures. We have marked up plans and elevations to illustrate the areas already perished and areas which would need to be taken down and rebuilt. Approx. 80% of the wall panels have either collapsed already or would require rebuilding, in addition to the entire roof and first floor structures. As such we see little benefit in attempting to dismantle/refurbish 20% of the remaining existing walls and would recommend that it is demolished and rebuilt following a successful planning application.

I trust the above clarifies our current position, however should you have any queries please do not hesitate to contact the undersigned.

Report Prepared By: Andrew Bristow.

Director
For and on behalf of
ADS Consult Limited.
A trading name of ADS Structural Limited.



APPENDIX A

2016 REPORT

Our Ref.: 16-1739

06th July 2016

Wayside
Pex Hill
Widnes
WA8 5QN

Dear Sirs,

RE: REFURBISHMENT OF WAYSIDE, PEX HILL, CRONTON, WA8 5QN.

Furth to our site visit to inspect the existing property and trial hole inspection of the existing foundations and sub strata we comment as follows:

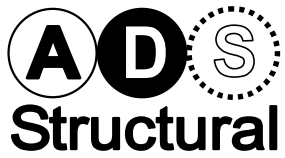
We have attached marked up copies of the architect drawings 004,005,006&007 which are existing floor plans and elevations for the property. The areas highlighted in green show area of the property which require rebuilding due to instability or damage due to a recent fire.

In order to achieve structural stability during and following refurbishment works we would recommend constructing an internal cast in situ concrete raft foundation to the full extent of the ground floor area. A lightweight blockwork internal skin could then be built off the raft to support the new timber floor and roof structure. The outer stone skin can be tied to the blockwork with proprietary masonry ties. A clear cavity should be maintained between the outer and inner leaves. The size of cavity should be determined by others. The inner leaf could be a structural timber frame construction in order to reduce the impact of the GIFA.

A summary of the bullet points shown on the marked plans are as follows:

1. Stonework to be taken down to eaves level and rebuilt using existing stonework
2. Stonework to be taken down, back to spine wall and rebuilt using existing stonework. Existing cills and lintel to be retained and reused.
3. Top Section of stonework to be taken down and rebuilt ensureing stonework is keyed / toothed in to cross wall to provide lateral stability to the internal gable elevation
4. Gable stonework to be taken down to eaves level and rebuilt using existing stonework
5. First floor panel to be taken down and rebuilt in existing stonework. Existing cills and lintels to be retained and reused.
6. Area to be rebuilt using existing stonework.
7. Existing chimney stack to the taken down and rebuilt. Existing date stamped stone flue / baffles to be retained and reused.

Also attached are preliminary sketches showing sections through the proposed raft and wall sections.



I hope the above and attached highlights the structural works required as part of the repair and reinstatement of the existing masonry structure.

Should you have any queries please do not hesitate to contact me.

Kind Regards

A.Bristow
Director
For and on behalf of
ADS Structural Limited.

APPENDIX B

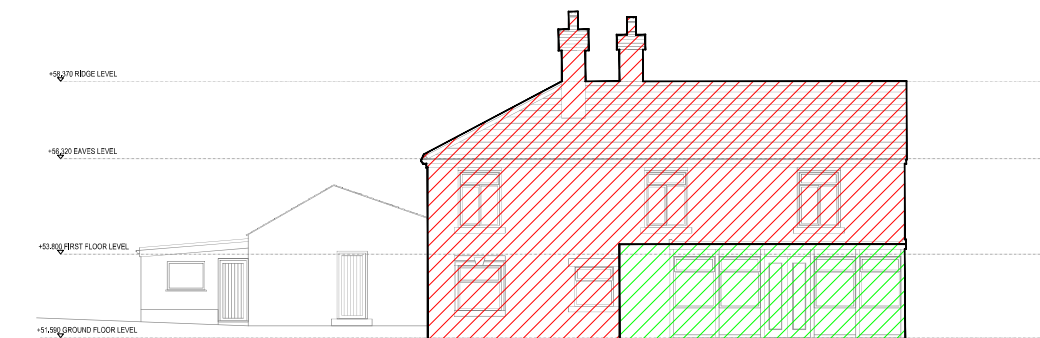
2024 PHOTOS





APPENDIX C

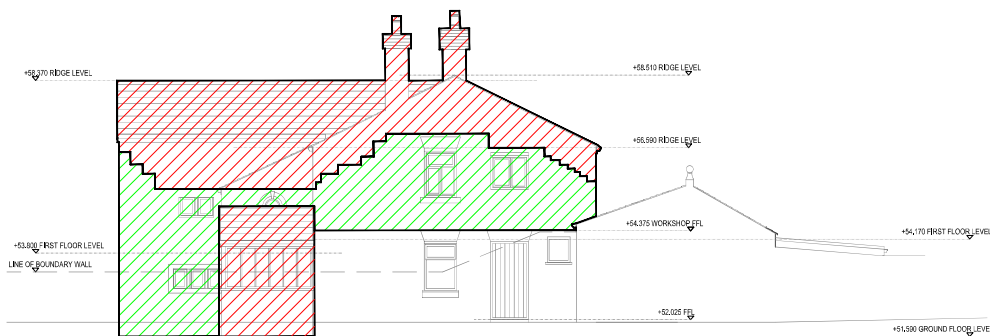
2024 DRAWINGS



ELEVATION A-A

1:50

- COLLAPSED
- AREA OF STONE WALL TO BE TAKEN DOWN AND REBUILT



ELEVATION B-B

1:50

- COLLAPSED
- AREA OF STONE WALL TO BE TAKEN DOWN AND REBUILT

ONLY FOR THE PURPOSES OF THE DRAWING ARE CONTROLLED. ALL OTHER INFORMATION AND/OR LOGO FILES ARE UNCONTROLLED AND ARE USED AT YOUR OWN RISK.

NOTE FOR CONTRACTORS

THESE DRAWINGS SHOULD BE CONSIDERED ALONG WITH THE INFORMATION CONTAINED IN THE CIVIL CONSTRUCTION INFORMATION. THE INFORMATION IN THIS LOGO FILE IS THE PROPERTY OF THE CLIENT AND IS NOT TO BE REPRODUCED OR USED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF THE CLIENT. THE CONTRACTOR SHOULD BE AWARE OF THE TYPICAL RISKS ASSOCIATED WITH CONSTRUCTION WORK.

NOTE FOR WORKERS

DO NOT START YOUR WORK UNLESS YOU KNOW THE RISK AND CONTROL MEASURES TO THE WORK ON THE DRAWING INCLUDING SAFE SEQUENCES OF WORK AND EQUIPMENT.

DO NOT SCALE

CONSTRUCTION NOTES

1. SUPPORT TREATMENT FOR ALL FOUNDATIONS.
2. CONCRETE TO BE USED TO REPAIR ALL FOUNDATIONS AND TO BE TAKEN DOWN AND REBUILT.
3. CONCRETE TO BE USED TO REPAIR ALL FOUNDATIONS AND TO BE TAKEN DOWN AND REBUILT.
4. CONCRETE TO BE USED TO REPAIR ALL FOUNDATIONS AND TO BE TAKEN DOWN AND REBUILT.
5. CONCRETE TO BE USED TO REPAIR ALL FOUNDATIONS AND TO BE TAKEN DOWN AND REBUILT.
6. CONCRETE TO BE USED TO REPAIR ALL FOUNDATIONS AND TO BE TAKEN DOWN AND REBUILT.
7. CONCRETE TO BE USED TO REPAIR ALL FOUNDATIONS AND TO BE TAKEN DOWN AND REBUILT.
8. CONCRETE TO BE USED TO REPAIR ALL FOUNDATIONS AND TO BE TAKEN DOWN AND REBUILT.
9. CONCRETE TO BE USED TO REPAIR ALL FOUNDATIONS AND TO BE TAKEN DOWN AND REBUILT.
10. CONCRETE TO BE USED TO REPAIR ALL FOUNDATIONS AND TO BE TAKEN DOWN AND REBUILT.

GENERAL NOTES

1. THE DRAWING IS THE PROPERTY OF THE CLIENT AND IS NOT TO BE REPRODUCED OR USED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF THE CLIENT.
2. THE DRAWING IS THE PROPERTY OF THE CLIENT AND IS NOT TO BE REPRODUCED OR USED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF THE CLIENT.
3. THE DRAWING IS THE PROPERTY OF THE CLIENT AND IS NOT TO BE REPRODUCED OR USED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF THE CLIENT.
4. THE DRAWING IS THE PROPERTY OF THE CLIENT AND IS NOT TO BE REPRODUCED OR USED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF THE CLIENT.
5. THE DRAWING IS THE PROPERTY OF THE CLIENT AND IS NOT TO BE REPRODUCED OR USED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF THE CLIENT.
6. THE DRAWING IS THE PROPERTY OF THE CLIENT AND IS NOT TO BE REPRODUCED OR USED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF THE CLIENT.
7. THE DRAWING IS THE PROPERTY OF THE CLIENT AND IS NOT TO BE REPRODUCED OR USED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF THE CLIENT.
8. THE DRAWING IS THE PROPERTY OF THE CLIENT AND IS NOT TO BE REPRODUCED OR USED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF THE CLIENT.
9. THE DRAWING IS THE PROPERTY OF THE CLIENT AND IS NOT TO BE REPRODUCED OR USED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF THE CLIENT.
10. THE DRAWING IS THE PROPERTY OF THE CLIENT AND IS NOT TO BE REPRODUCED OR USED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF THE CLIENT.

SCALE

1:50

PROJECT

WAYSIDE, PEX HILL CRONTON

LOCATION

WAYSIDE, PEX HILL CRONTON

DESCRIPTION

ELEVATIONS

REFURBISHMENT DETAILS

SHEET 1 OF 2

NOTES

PRELIMINARY

107 Mars Grange Business Park

Lisnane, St Helens

WARRINGTON

Tel: 0151 541 4000

info@adssconsult.co.uk

DATE: 50

PROJECT: 9137-ADS-XX-00-DR-S-202 P1



