

# *Structural Assessment Report*

*CO25/123/08*

*Holy Trinity Church*

*Hartshill*

*Nuneaton*

*CV10 0LY*

| Revision | Date       | Changes                                            |
|----------|------------|----------------------------------------------------|
| -        | 15.10.2025 | Initial Issue                                      |
| R1       | 16.10.2025 | Includes repairs to hairline cracks around windows |
|          |            |                                                    |

## 1. Structural Inspection Report

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**Site** : Holy Trinity church, Hartshill Nuneaton CV10 0LY  
**Client** : Mr. Jeff Robinson  
**Date** : Monday 15<sup>th</sup> October 2025

## 2. Brief/Introduction

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- 2.1 JMS were requested by Mr Jeff Robinson to carry out a visual structural inspection and to produce a structural report to the Holy Trinity church located in Hartshill, Nuneaton. The scope of the survey was to comment on the structural condition of the property due to observed cracking at various locations of the church building.
- 2.2 A full visual inspection to the Church was carried out on Monday 29<sup>th</sup> September 2025. All accessible areas to the church were inspected internally and externally to determine if any observed movement was isolated or progressed through the structure. No inspection of the foundations or the formation ground conditions was undertaken during this inspection.
- 2.3 This report is limited in its scope to commenting on the items noted above. JMS Engineers Group has not been asked to comment beyond this and our visual survey was limited to the visible structural elements of the Church Building. No elements were uncovered during the survey. We may identify areas within the Church building that would benefit from further inspection and report. These areas would not be covered by JMS Engineers Group liability in the context of this report.
- 2.4 The report is a snapshot of what we could see on the day. It is recommended that the property is monitored to check for any further changes so that remedial action can be advised.
- 2.5 JMS was unable to inspect the external elevation on the north-east side of the church due to restricted access between the church building and the adjacent library. In addition, there was no safe access to the roof, bell tower, and other high-level areas.
- 2.6 The contents of this report are produced for the benefit of the Clients noted at the beginning of this report and are not for the benefit and must not be used by any other party without the prior agreement of JMS Engineers Group and their Client.
- 2.7 Based upon the observations made within this report, and our assessment of the prevailing conditions, our recommendations for remediation and repair have been made in section 5.0 of this report.
- 2.8 NB: This report is issued subject to our standard limitations of inspection, see Appendix 'A'.

## 3. About The Building

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- 3.1 The Church building is located in Hartshill, Nuneaton. It is a traditional stone structure, built with granite rubble, red brick, blue brick, and sandstone dressings, and finished with lime plaster. The building was constructed in the 1840s and underwent renovations in the early 1900s.
- 3.2 Historic photographs of the church show that the roof is supported by a king post truss, covered with clay roof tiles. The parapet walls feature stone copings. Refer to photos A3 and A4.
- 3.3 A large wheel window is located in the front wall (west elevation) of the church. The narrow left and right bays each have two tiers of windows, positioned between the buttresses. Refer to photos A1 and A5.
- 3.4 A staircase in the south bay leads to a mezzanine floor. It also provides access to the large wheel window, as well as ladders that lead to the bell chamber and upper levels.
- 3.5 Both the south and north elevation walls have masonry piers between the windows.

- 3.6      *The windows feature blue brick roll-moulded round arches throughout the building.*
- 3.7      *A single-storey library building is located on the northern side of the church, connected to the church by a corridor through the north bay. Refer to photo B1.*
- 3.8      *Based on advice from the church, it is believed that the foundations consist of rubble masonry and lime plaster, likely constructed as a solid stone strip foundation.*
- 3.9      *It is suspected that the ground floor is either a concrete ground-bearing slab or a suspended timber floor, while the mezzanine floor consists of a suspended timber construction supported by four internal timber posts.*
- 3.10     *There is a basement at the east end of the church, accessible via a staircase located at the southeast corner of the building. Refer to photo A6.*
- 3.11     *A row of trees is located approximately 5 to 7 meters from the east elevation of the church, while two trees are situated approximately 4 meters from the south elevation. Refer to photo A2.*
- 3.12     *Following the site visit, the client provided JMS Engineers with overall layout drawings, which have been used in the following section.*



Photo A1 -Church Building Front Elevation



Photo A2- South Elevation wall showing nearby trees



*Photo A3- North Elevation view*



*Photo A4- Historic photo of Roof Truss*



*Photo No A5 - North/ south bays and mezzanine level in the West end of church*



*Photo A6 Basement doorway at the South East side of Church*



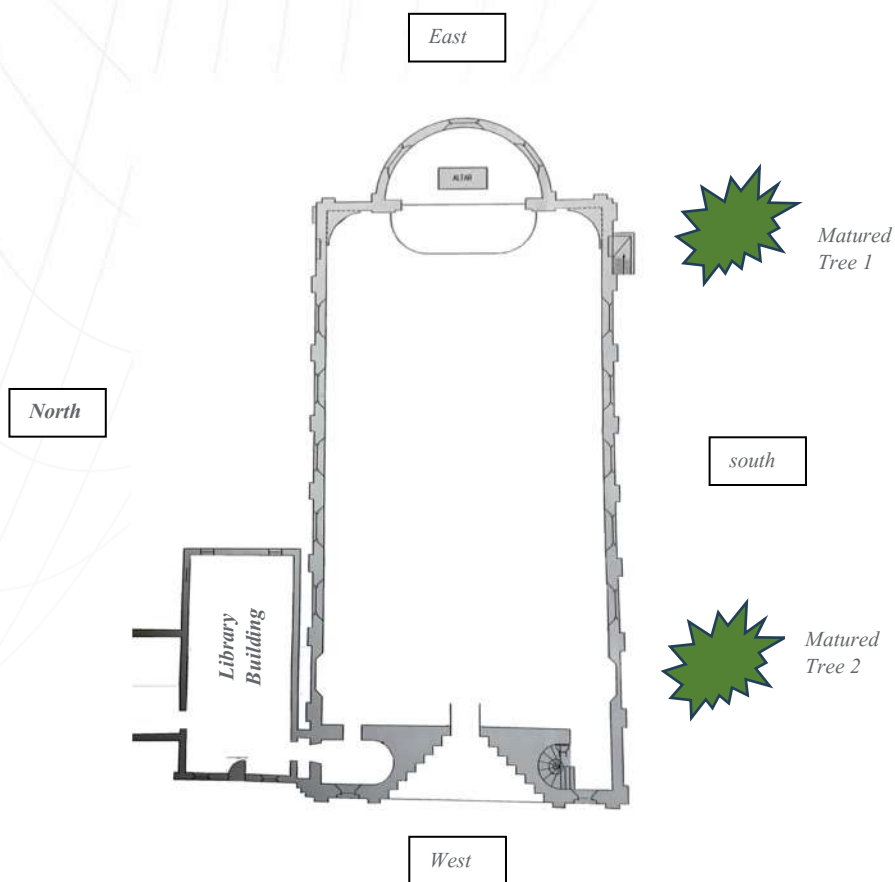
*Photo B.1- Library Building – Front elevation*



*Photo B.2- Library building- Inside view*

## 4. Observations

Following our visual inspection of the Church building and the Library we report our observations as follows.



See Appendix B to the rear of this report Table 1 BRE Digest 251 for definitions to crack widths. Refer to Appendix B for photos referred to within the report.

### Externally

- 4.1 On the south elevation, above the basement doorway, diagonal cracks have reappeared in the area previously repaired. JMS were informed that earlier crack repairs were carried out using the Helifix crack stitching method. Refer to Photos 1 and 2.
- 4.2 Diagonal cracks are observed on the south side of the basement staircase core. The cracking is more severe at the upper level than at the lower level. Refer to Photo 3.
- 4.3 Diagonal cracks are visible at the plinth level of the east elevation walls surrounding the shallow apsidal chancel. Refer to Photo 4.
- 4.4 Vertical crack is present at the lintel level of one of the windows on the north elevation. Refer to Photo 5.

### ***Internally***

#### ***Basement Level***

- 4.5 *Multiple diagonal cracks are present in the east wall of the basement. The cracks are wider at higher levels, with widths ranging between 2 mm and 5 mm. Refer to Photos 7.1 and 7.2.*

#### ***Ground Floor Level***

- 4.6 *Horizontal Horizontal hairline cracks are observed around the door opening between the church building and the corridor leading to the library. Refer to Photo 8.*
- 4.7 *Multiple hairline cracks and areas of flaking plaster are present below the front elevation window on the northern side of the bay leading to the library. Refer to Photo 9.*
- 4.8 *A diagonal crack is visible below the timber beam supporting the mezzanine floor, where it bears on the north elevation wall. Refer to Photo 10.*
- 4.9 *Multiple hairline vertical and horizontal cracks are present around the window openings on the north and south elevation walls, along with areas of flaking plaster. The cracks are generally less than 2 mm in width. Refer to Photos 11.1 to 11.6, 12, and 13.*
- 4.10 *A vertical crack is observed at mid-height of the wall between the windows on the north elevation, near the east end. Refer to Photo 12.*
- 4.11 *A vertical crack is visible at mid-height of the south side pier located at the start of the apse/chancel area. Refer to Photo 14.*
- 4.12 *Significant and widespread cracking is observed around the southeast corner of the east and south elevation walls. Vertical cracks extend the full height of the wall, with widths ranging between 12 mm and 25 mm. Refer to Photos 15.1 to 15.3.*
- 4.13 *Multiple hairline vertical and horizontal cracks, along with areas of flaking plaster, are present around the window openings within the apse area. Refer to Photos 17.1 to 17.3.*
- 4.14 *Multiple diagonal and vertical cracks are observed in the wall between the south bay and the nave, with crack widths ranging from 1 mm to 2 mm. Diagonal cracks are also noted above the door opening at ground floor level in the south bay. Refer to Photos 18.1 to 18.4.*
- 4.15 *Multiple vertical and diagonal cracks are observed above and below the window openings in the south bay of the front elevation wall. The cracks are generally less than 2 mm in width. Refer to Photos 19.1 and 19.2.*
- 4.16 *The concentration of cracking and flaking plaster is notably more severe on the south elevation wall, particularly at the southeast and southwest corners where trees are located in close proximity to the building. Refer to Photos 13 to 20.*

#### ***Mezzanine Level***

- 4.17 *Severe flaking of plaster is observed around the southwest corner of the landing area. Refer to Photo 20.*
- 4.18 *A diagonal crack is present above the door opening in the south bay, between the mezzanine floor and the staircase landing. The crack width is less than 2 mm. Refer to Photo 21.*
- 4.19 *Severe diagonal cracks are observed around the large wheel window opening on the front elevation wall, with crack widths ranging between 10 mm and 20 mm. Refer to Photos 22.1 to 22.3*

- 4.20 *Multiple diagonal cracks are observed below the door opening between the north bay and the platform leading to the large wheel window. The cracks are wider at the top and gradually narrow toward the lower levels. Refer to Photo 23.1. These cracks extend below the mezzanine floor level and appear as fine hairline cracks at ground floor level. Refer to Photo 23.2.*

#### **Library Building**

- 4.21 *Overall, the Library building is in an acceptable condition, showing only minor wear and tear consistent with its age. No cracking or signs of structural movement were observed, so no specific concerns are noted for this part of the building. However, dampness issues were observed on the east elevation wall. Refer to Photo 24.*

## **5. Conclusions and Recommendations**

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- 5.1 *The observed significant structural cracks in the south elevation wall and front elevation wall below the long wheel window appears to be longstanding and show signs of progressive widening over time.*
- 5.2 *It is suspected that settlement of the South elevation and east elevation wall foundation has caused outward rotation of the building, resulting in major structural cracks at the south east side of the building. This movement may be due to consolidation of the underlying clayey soils, potentially combined with shrinkage caused by roots from the nearby trees. In particular, the proximity of the trees located at the south-east corner and south west corner of the building is likely contributing to the soil shrinkage. Refer to photos 6.1 & 6.2.*
- 5.3 *Multiple hairline cracks and flaking plaster around the windows are likely caused by thermal expansion and shrinkage. Seasonal temperature changes can lead to shrinkage of the lime plaster, resulting in cracking and plaster flaking.*
- 5.4 *Cracks observed around the door opening in the south bay, the front elevation window in the south bay, the large wheel window, and in the basement may be attributed to foundation movement or distortion.*
- 5.5 *Dampness on the east side wall of the library building may be due to a faulty gutter allowing water ingress into the masonry. We recommend regular gutter maintenance and replacement where necessary to prevent further issues.*
- 5.6 *We recommend undertaking further crack width monitoring for a period of 12 months, followed up with a brick course distortion survey and trial pit investigation to get a better understanding on the cause and nature of the structural movement. For crack monitoring, it is recommended to install "tell-tales" at significant crack locations, including those in the South East corner, large wheel window and the wall between the Nave and south bay leading to staircase to monitor any further movement over time. The crack monitoring gages should be inspected and recorded periodically every 2 months for a minimum of 12 months to determine if the movement is ongoing.*
- 5.7 *Once the above monitoring is completed a suitable remedial solution can be developed and implemented. This may potentially require underpinning of the south elevation wall. Additionally, partial underpinning of the east and/or west elevations may be necessary.*
- 5.8 *For the minor internal cracks around the window openings in the north elevation wall and the north bay (refer to photos 8 to 11), the existing plaster should be removed to a width of 75mm on each side of the crack. Reinforced plaster tape should then be applied over the crack, followed by re-plastering using Carlite Renovating Plaster. The new plaster should be feathered in at the edges to blend seamlessly with the surrounding surface. If the repair works to the other walls are carried out before addressing the foundation movement, there is a risk that the cracks may reappear, potentially requiring the repairs to be redone.*
- All other hairline cracks and category 0 cracks within north side of the church and library building can be raked out and filled with proprietary filler before re-decoration.*
- 5.9 *We would emphasise that our inspection was related only to the brick work cracks in the building, such as the condition of weatherproofing to the roof, floor joists, parapet masonry and decor, were excluded from the inspection as it is considered that they would be upgraded and maintained as necessary.*

*Prepared By: Nandini Ponnusamy MEng (Hons)*

*Reviewed / Approved By: Tom Morris MEng CEng MStructE*

*We confirm that we will remain liable for a period of 6 years from the date of this Report/Certificate (assuming that such insurance is available and at commercially acceptable rates). Such liability shall be afforded to the end user as specified in item 1 of this report only. The figure above shows the minimum amount of professional indemnity insurance the consultant will keep in force to cover his liabilities under this certificate for any one claim or series of claims arising out of one event.*

*Yours sincerely For and on behalf of JMS Engineers (Midlands) Ltd*

A handwritten signature in black ink, appearing to read 'P. Nandini'.

*Nandini Ponnusamy MEng (Hons)*

## APPENDIX 'A'

- I. *During our inspection of the premises as presently existing, which is normally carried out in a single visit, we shall 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 foreseeable future. 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.*
- II. *We shall, where possible, lift loose laid floor coverings and inspect cellars and roof voids where appropriate, but we shall not empty the contents of any fitted cupboards, move heavy furniture or lift carpets or floorboards and our report specifically excludes all covered, and unexposed or inaccessible areas and buried elements of construction such as foundations and built-in steels and timbers. Apart from any balconies and roofs to which external access may be available, our external inspection will be carried out from ground level. Unless requested otherwise the main building shall be the form of this report.*
- III. *In accordance with our professional indemnity insurance cover, we must 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.*
- IV. *We will not 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, but where appropriate, will seek further instructions for these to be carried out for an additional charge.*
- V. *With regard to service installations, incoming mains, waste and drains, we shall report on any matters that come to light during the course of our inspection as requiring further investigation by specialists, but we shall not arrange for tests to be carried out unless specifically instructed.*
- VI. *Although where appropriate, we will be happy to examine any lease or title documents, planning or any other consents or fire certificates which are made available to us prior to our inspection, we shall assume in such cases that 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.*
- VII. *We require to be informed, prior to the undertaking of any excavation or boring work, of the positions of any underground services or plant beneath the site. Whilst reasonable care will be taken during the execution of field work, we cannot accept liability, either direct or consequential, for the damage to any service not clearly identified to us.*
- VIII. *Our written report will be addressed and forwarded to the Client. Any liability which may arise from its contents will be specifically restricted to the Client and not to any third party.*

## APPENDIX 'B'

*Table 1 BRE Digest 251*

|                   |                      |                            |
|-------------------|----------------------|----------------------------|
| <i>Category 0</i> | <i>"negligible"</i>  | <i>&lt;0.1mm</i>           |
| <i>Category 1</i> | <i>"very slight"</i> | <i>0.1-2mm</i>             |
| <i>Category 2</i> | <i>"slight"</i>      | <i>&gt;2 but &lt; 5mm</i>  |
| <i>Category 3</i> | <i>"moderate"</i>    | <i>&gt;5 but &lt;15mm</i>  |
| <i>Category 4</i> | <i>"severe"</i>      | <i>&gt;15 but &lt;25mm</i> |
| <i>Category 5</i> | <i>"very severe"</i> | <i>&gt;25mm</i>            |

## APPENDIX 'B'



*Image 1 – Helifix crack repairs carried out in the past*



*Image 2 – Diagonal cracks above window -within the helifix repair*



*Image 3 – Diagonal cracks in basement staircore*



*Image 4 – Diagonal crack in the rear elevation*



*Image 5 – Cracked joint at brick lintel to the side elevation*



*Image 6.1 – Proximity of sycamore tree to the South East corner*



*Image 6.2 – South elevation showing adjacent trees*



*Image 7.1 – Cracked basement – East side wall*



*Image 7.2 Cracked basement wall– East side*



*Image 8 – Horizontal cracks above the door opening*



*Image 9– Horizontal cracks below the front elevation window sill level*



*Image 10– Diagonal cracks below the timber beam at mezzanine level*



*Image 11.1 – Multiple hairline cracks around the window*



*Image 11.2 – Multiple hairline cracks around the window*



*Image 11.3 – Multiple hairline cracks around the window*



*Image 11.4 – Multiple hairline cracks around the window*



*Image 11.5 – Multiple hairline cracks around the window*



*Image 11.6 – Multiple hairline cracks around the window*



*Image 12 – Vertical cracks between windows*



*Image 13 – Multiple cracks and flaked plaster work in south elevation window*



*Image 14 – Vertical cracks in the south side pier between Apse and Nave*



*Image 15.1 – Vertical cracks and flaked plaster in the rear wall*



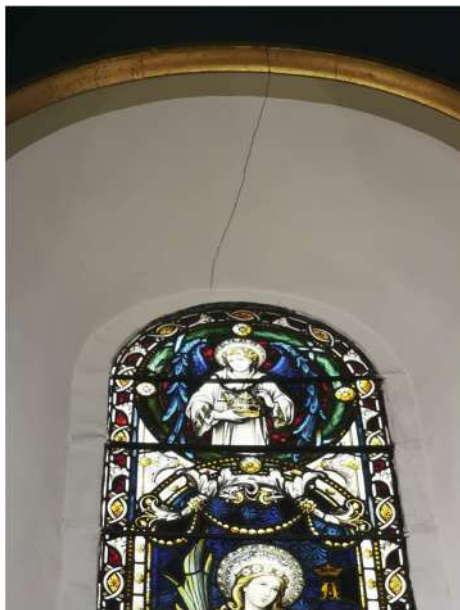
*Image 15.2 Vertical cracks and flaked plaster south east corner wall*



*Image 15.3 Vertical cracks and flaked plaster in the rear wall*



*Image 16 Full height vertical cracks in the South east corner of south elevation wall*



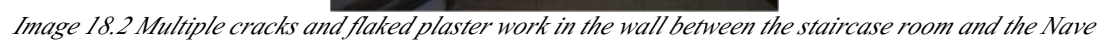
*Image 17.1 Vertical cracks above window within Apse*



*Image 17.2 Vertical crack above window within Apse*



*Image 17.3 Multiple cracks around the window opening in Apse*





*18.3 Diagonal cracks above the door opening between the south bay and the Nave*



*Image 18.4 Diagonal cracks above the door opening between the south bay and the Nave*



*Image 19.1 Cracks around the front elevation window within the staircase room*



*Image 19.2 Cracks around the front elevation window within the staircase room*



*Image 20 Flaked lime plaster at mezzanine landing level*



*Image 21 Diagonal cracks above door opening at mezzanine floor level*



*Image 22.1 Diagonal cracks below the Large wheel window opening*



*Image 22.2 Diagonal cracks below the Large wheel window opening*



*Image 22.3 Diagonal cracks below the Large wheel window opening*



*Image 23.1 Diagonal cracks at mezzanine level*



*Image 23.2 Diagonal cracks at mezzanine level extended below*



*Image 24 Dampness in the East side wall of Library*