

Structural Appraisal
of
Ceiling repairs
St. Mary's Church
Castle Street
Reading
RG1 7RD



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1.0 INTRODUCTION & BRIEF.

We were contacted by Mark Clements of St. Mary's Church, located at 14 Castle Street, Reading. RG1 7DH to inspect and advise on a number of fractures to the existing ceiling of the church.

Our initial inspection of the wall was conducted on 17th August 2024, followed by a second inspection in May 2025 and more recently Thursday 31st July 2025 to inspect opening up of the ceiling structure.

St. Mary's Church is located slightly south of Reading town centre and is a grade II Star listed building. The church was first listed in 2022 under List entry number 1113427 with the List entry name of "Church of St Mary" and summarised: Evangelist chapel of 1798 by R Billing, with embellishment and extension by N Briant around 1840 and further alterations in the late C19 and mid- to late C20. Full details of the listing can be review on the following web link:-

<https://historicengland.org.uk/listing/the-list/list-entry/1113427?section=official-list-entry>

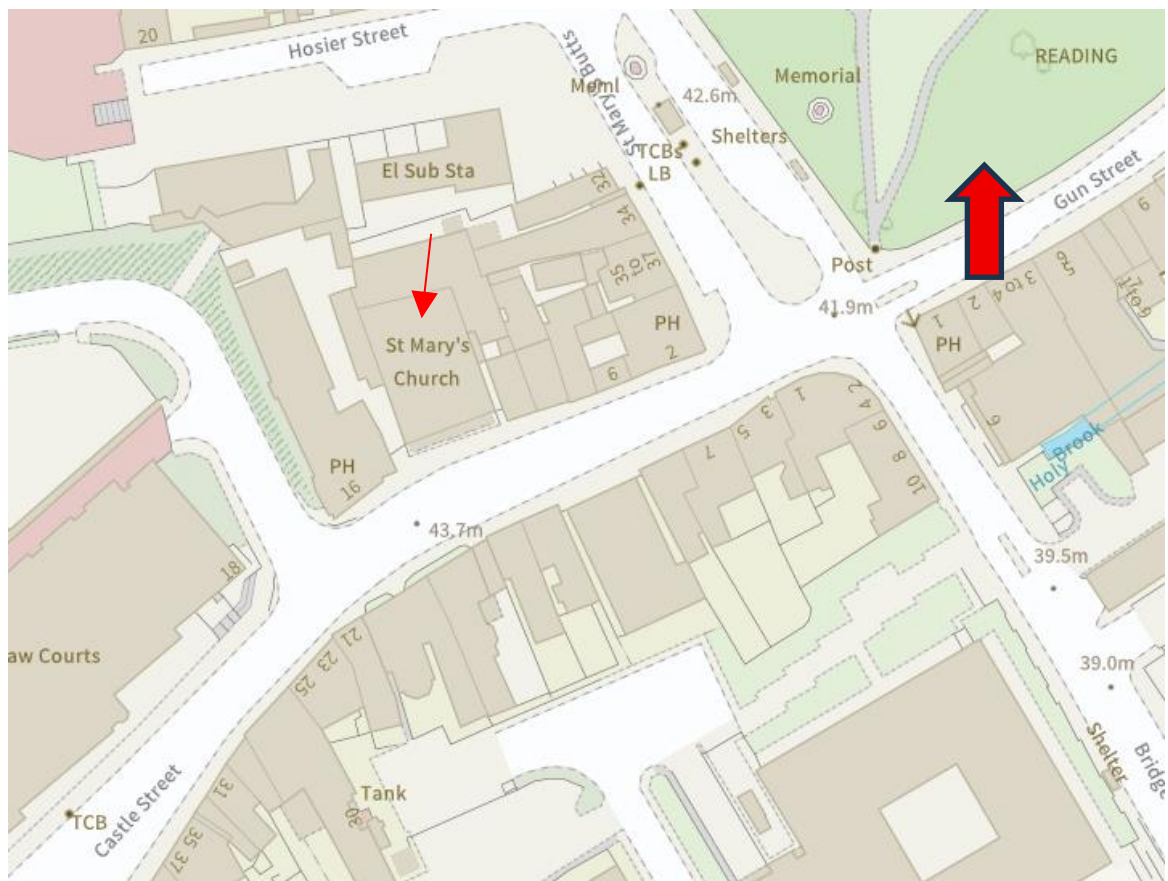


Figure 1. Location plan.

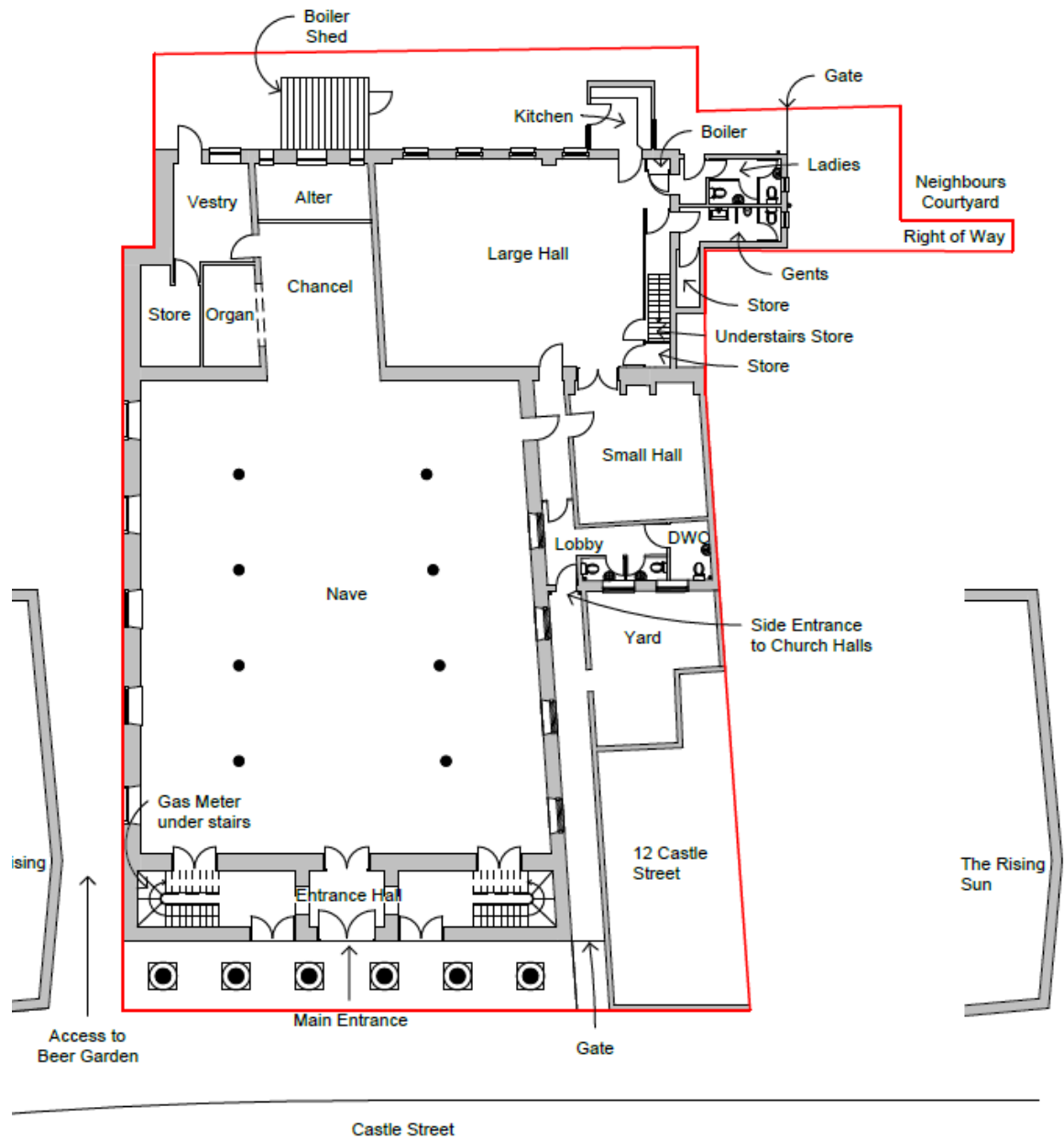


Figure 2. Ground floor plan.

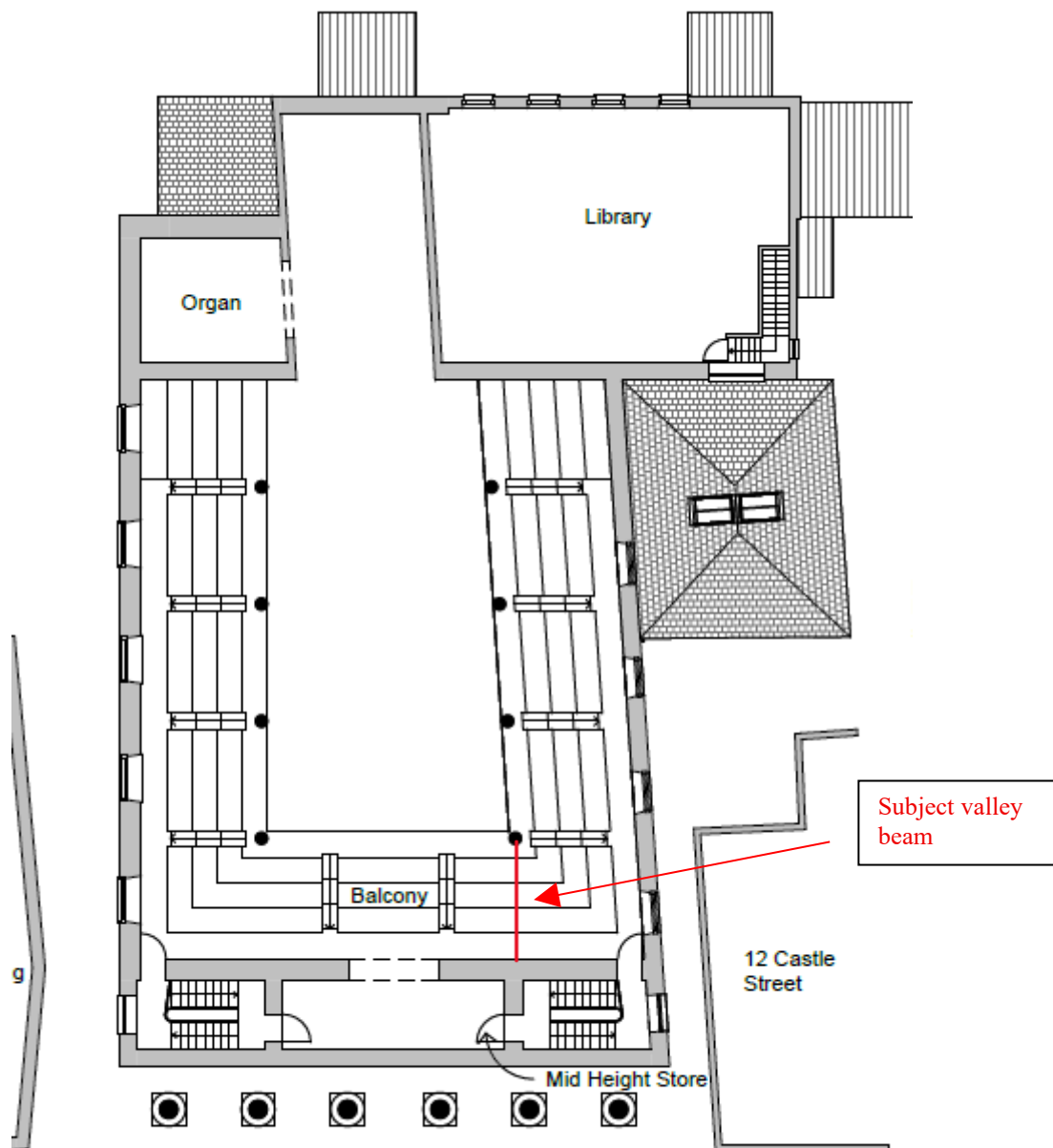


Figure 3. First floor plan.

2.0 DESCRIPTION.

Our inspection focused on the central ceiling area above the Nave. The ceiling is barrel-vaulted and supported by timber beams and columns positioned along the edge of the Nave. The church were advised that it would be necessary to consult a plaster specialist to carry out intrusive opening-up works before any remedial solutions can be adopted and that a listed building application would be required to carry out and remedial works.



Figure 4. Ceiling to the south end of the church.

The barrel-vaulted ceiling is formed of lime plaster set over timber laths supported by ceiling joists spanning from north to south onto the main timber roof trusses. The main timber roof trusses span east to west onto timber beams and stone columns running both sides of the nave.



Figure 5. Ceiling construction from within roof void.



Figure 6. Lath and plaster ceiling construction from within roof void.

3.0 INSPECTIONS

- 3.1 Our initial inspection of the ceiling was carried out from the gallery areas and revealed minor cracking of the ceiling surface. These areas of cracking are likely to have been caused by delamination of the plaster from the timber laths, triggered by roof leaks however, we now understand that the roof has been repaired. Michal Wolf of All-Things-Lime visited the church in February 2025 and advised that the minor cracking to the ceiling area can be repaired by inserting screws and penny washers each side of the crack prior to repairing the plaster using traditional techniques.



Figure 7. Minor cracking to ceiling over the nave.

- 3.2 Of particular interest was a fracture in a timber valley beam over the gallery to the far south of the nave (see figure 3) where the timber beam supports a post from the main roof truss above.



Figure 8. Fracture in timber beam to the south end of the church.

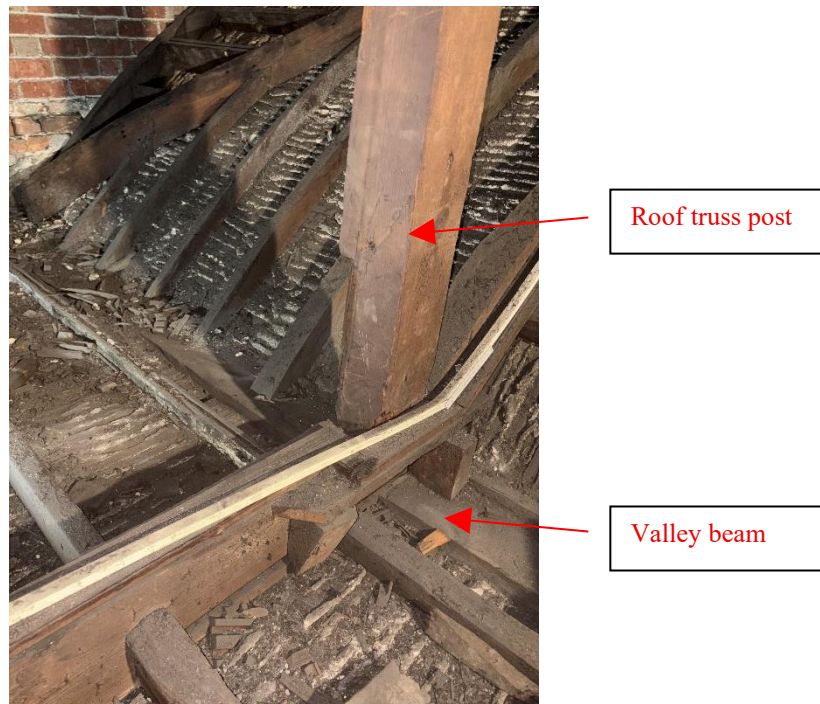


Figure 9. Roof truss supported by fractured beam.

- 3.3 Clive Hudson Associates recommended an intrusive inspection of the valley beam which required partial removal of the plaster casing and the adjacent mouldings. Michal Wolf was employed to take insitu castings of the mouldings and carefully remove the plaster casing ready for CHA's inspection.



Figure 10. Valley beam prior to intrusive inspection.



Figure 11. Valley beam after intrusive inspection.

- 3.4 The intrusive investigation revealed the timber valley beam to be approximately 150mm deep and 200mm wide. A severe split was observed within the valley beam, approximately 70mm deep and directly beneath the supported roof truss post.



Figure 12. Valley beam width.



Figure 13. Split depth in valley beam width.

4.0 RECOMMENDATIONS

4.1 There are three remedial options available:

Option A – Replacement of existing beam.

Complete replacement of the existing timber valley beam is likely to be the most cost effective solution and would not require a specialist contractor.

Option B – Rotafix remedial repair.

- i. The valley beam should be propped onto the gallery floor with an Acrow prop. The floor to ceiling height is 3.9m and therefore a No.4 prop will be required.
- ii. A Rotafix repair solution could be employed similar to the following detail and installed by a specialist repair contractor.

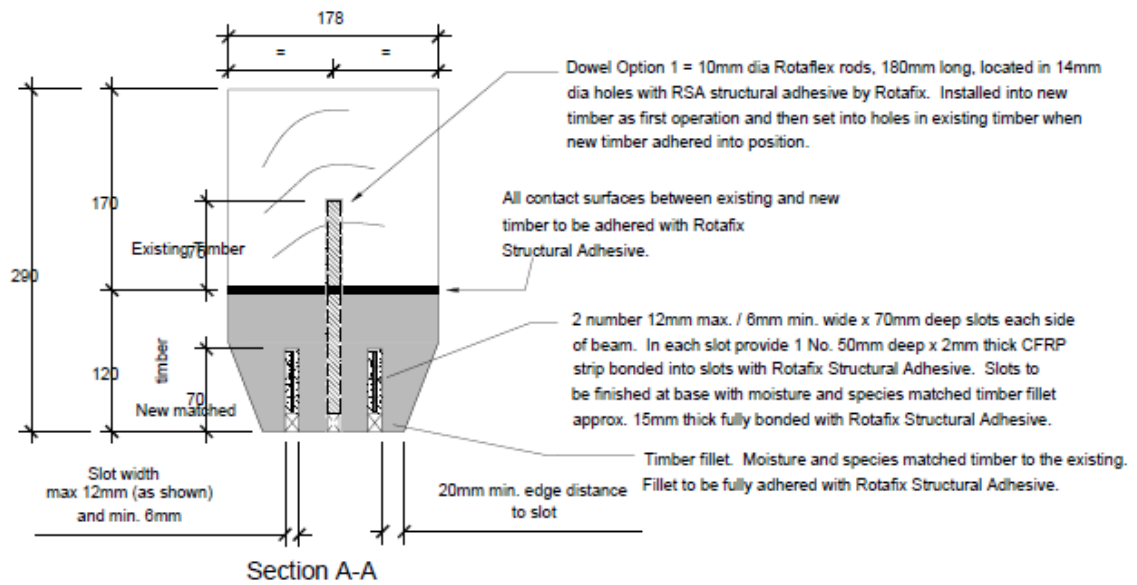


Figure 14. Rotafix timber beam repair.

Option C – Timber Resin Splice remedial repair.

- i. The valley beam should be propped onto the gallery floor with an Acrow prop.
- ii. An epoxy resin splice repair solution could be employed similar to the following detail and installed by a specialist repair contractor.



Figure 15. Epoxy resin timber beam repair.

4.2 Other matters

- i. A listed building application should be submitted to the local authority requesting permission to carry out the repair options noted above. It should be noted that the complete removal of the plaster casing enclosing the beam and the adjacent mouldings will be required in order to carry out the repair.
- ii. Inspection of the timber beam bearings at each support will be required to ensure that the beam transfers its load safely onto its supporting elements.
- iii. Following completion of the beam repair we recommend All-Things-Lime are employed to reinstate the plaster mouldings and casing using traditional techniques.
- iv. We recommend All-Things-Lime are employed to advise on the appropriate repairs to the cracked ceiling areas. As discussed above, the initial advice from ATL was that minor cracking to the ceiling area can be repaired by inserting screws and penny washers each side of the crack prior to repairing the plaster using traditional techniques

- 4.3 This report is presented for the sole use of St, Mary's Church. No responsibility or liability is accepted for the whole or any parts of its contents in respect of any third-party claim.

A handwritten signature in black ink, appearing to read 'C. N. W. Hudson', with a horizontal line drawn underneath the name.

Eur Ing. Clive N.W. Hudson B.sc.(Civ.Eng.) C.Eng. M.I.Struct.E.
[On Behalf of Clive Hudson Associates](#)