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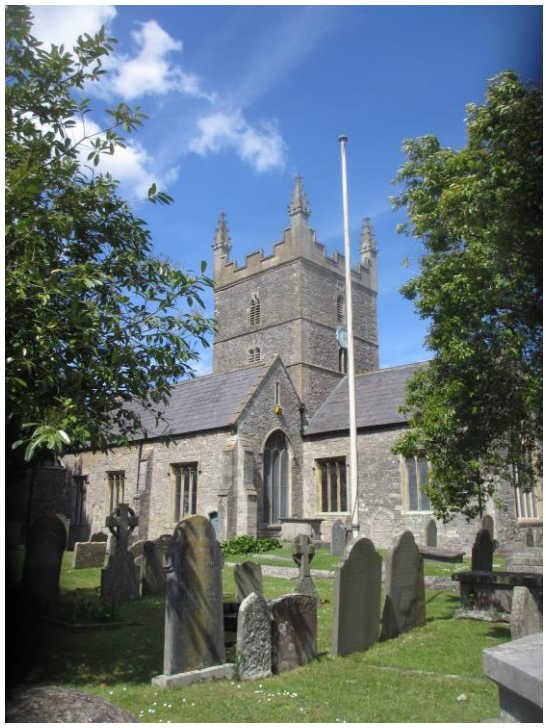
OLVESTON
St Mary

Tower report



Project No 0639

Rev /
1st June 2017

1. INTRODUCTION

1.1 Introduction

1.1.1 This report was commissioned by Mike Wright on behalf of the PCC following the completion of the quinquennial inspection by Marcus Chantrey of b2 architects ltd in September 2016. The inspection was undertaken on Friday 5th May 2017 from ground level with the aid of binoculars and from accessible roofs and the tower roof.

1.1.2 The QQ report identified the condition of the pinnacles as a concern and in particular the crockets which are at serious risk of falling. The report also identified other sections of the tower masonry as requiring attention. The purpose of this report is to describe in more detail the issues and to allow initially informal consultation with both Historic England and the DAC.

1.2 Brief description of Church – Outline Statement of Significance

1.2.1 Olveston is a small village in South Gloucestershire a couple of miles south-west of Thornbury and on the edge of the River Severn's alluvial flood plain. The church is listed grade II* and found within the Olveston Conservation Area.

1.2.2 The church comprises nave, north and south aisles, north and south transeptal chapels, south porch, former vestry, crossing tower, and chancel. The church is built of local rubble stone with ashlar dressings under slate and tiled roofs. It is understood that Dean and Chapter of Gloucester Cathedral have a chancel liability.

1.2.3 The church was originally built around the central Norman tower with the church substantially rebuilt in the fourteenth century. There is record of priest at Olveston in the Domesday Book but the earliest recorded vicar dates from 1280. The tower originally had a spire but lightning struck the church in 1604 and the pyramidal roof dates from the subsequent rebuilding. The chancel was re-ordered in 1748 and the church was lenghtened and repaired in 1841 and restored in 1888-9. Significantly west end re-ordering, which included the construction of an organ gallery, was undertaken in the early part of the twenty-first century. The full listing description is as follows:

> *Parish church. Late Norman tower, dated 1606 at time of rebuilding; C14, enlarged and repaired 1841 (dated on porch) restored 1888-9. Rubble with stone dressings slate roofs with weathered raised coped verges and kneelers, leaded roof to tower. Nave, north and south aisles, south porch, central tower, north and south transeptal chapels, chancel. Decorated style aisles. West front of nave has 3-light window with hood mould, lancet above with stone bell louvres and hood mould, cross finial, door to south with 4-centred arched-head and hood mould with angel stops; west front of each aisle has similar window and lancet above, weathered angle buttresses. 4-bay aisles have to north four 3-light windows with flat hood moulds and ogee-headed, cusped tracery, similar windows to south with trefoil heads, 2-storey porch in 3rd bay from left has pointed arched opening in chamfered surround, hood mould with mask stops, dated inscription 1841, small unglazed window above with iron lattice, gargoyles at eaves. South transeptal chapel has window as on south aisle and door with Tudor arched head and moulded surround to south, 3-light window with pointed arch and hood mould to east; north transeptal chapel has vestry with pitched roof and similar east window. 3-stage tower has north east stair turret with pointed arched door, slit windows and*

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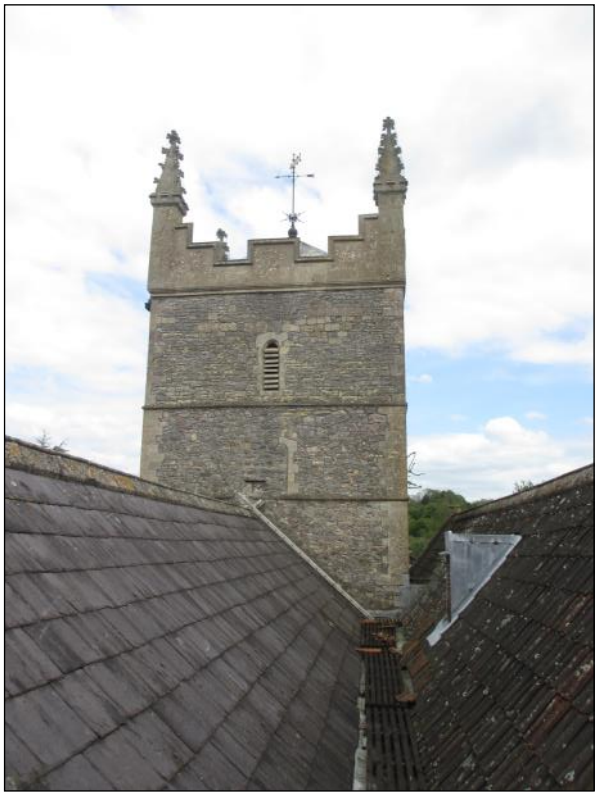

Top left : The north and east faces of the tower

Lower left : The south elevation of the tower

Top right : The southeast corner of the tower.

Lower right : The west face of the tower.

battlements; 2nd stage has 2-light windows with round heads, chamfered surrounds and relieving arch, clock to east, 3rd stage has windows with bell louvres, 2-light to north and south, single light to east and west; plain strings, quoins, embattled parapet, large pinnacles and central weathervane. 2-bay chancel has 2 windows to south as on south aisle, central blocked priest's door, 2 similar windows to north, 4-light Perpendicular style east window with hood mould, quatrefoil above and cross finial. Interior: C20 door to porch, nave has 5-bay arcades, octagonal piers with moulded capitals and pointed arches of 2 chamfered orders, parvise door in south aisle with depressed 4-centred arched head; tower supported on Transitional Norman arches springing from piers with scalloped capitals and keel-moulded jamb shafts, arch to south is later and springs from the floor with deeply hollowed mouldings, high pointed arch with moulded surround between aisles and chapels. South transeptal chapel has Perpendicular style tomb recess with ogee crocketed arch and pinnacles, pointed arched door with battlemounted top to east; north transeptal chapel has vestry door in chamfered surround, Perpendicular style niche for statue set in east wall. Tower crossing has ceiling divided into 9 panels with heavy beams supported by corbels, nave, aisles, chapels and chancel have coved ceilings. Chancel has stone panel at east end divided into squares with non-repeating pattern of flowers, plain continuation to north and south incorporating piscina to south, wood panelling with shields and arms to north and south, from Bristol Cathedral. Fittings: C19 font, pulpit and pews. One Jacobean sanctuary chair in chancel and one in tower crossing, Jacobean carved chest in south transeptal chapel. Brass chandelier in nave of 3 tiers surmounted by bird, from Bristol Cathedral. Brass monument in south transeptal chapel of 2 kneeling figures wearing tabards, to Morys Denys and his son, 1496. Monument in recess in north aisle to Ralph Green, vicar 1590-1639. C16, C17 and C18 ledger stones in tower crossing and north aisle. Many C18 and C19 marble monuments including in north transeptal chapel to Rice Charleton with tracery and angel corbels, 1788; monument in north aisle with mourning female, to Samuel Peach and other members of the family, 1785 by W. Paty; monument in north aisle to Clarissa Peach, 1836 by Daw of Berkeley; monument in north aisle with Latin inscription to John Camplin, 1799 by Drewett; monument in south aisle with urn to Edward Bailey, 1748 by Drewett. One hatchment in north aisle, 3 at west end of nave. External monument on wall of south aisle, with skull, to Richard Seagar, 1663. East window by A. Gibbs, south window 1893 by Kempe, north window, 1846 by Willement. (Sources: Verey, D. : Buildings of England, Gloucestershire : The Vale and The Forest of Dean. 1970).

Listing NGR: ST6007187286.

1.2.4 The church sits in a large churchyard which includes a fine yew tree close to the south porch which is protected by a Tree Preservation Order. The Cuthbert chest tomb to the south of the chancel is Grade II listed and the War Memorial, including the steps and flanking walls in the south-east corner of the churchyard is similarly Grade II listed.

1.2.5 Postcode: BS35 4DA.

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Top left : All four of the pinnacles are currently netted.

Lower left : The lead shows the extent of general erosion to the surface of the stone.

Top right : The weathervane on the top of the tower roof.

Lower right : The proud shells in the oolitic limestone.

1.3 Statement of Need - Condition Statement

Generally

1.3.1 The central crossing tower is effectively in three stages with narrow intermediate string courses. There are four massive stone pinnacles on the corners with castellated parapets. There is a large painted iron weathervane, dated 1841, mounted on the apex of the leaded tower roof. There leaded gutters and access on to the roof is via a vertical ladder in the bell chamber.

1.3.2 To the upper stages, there is a single stone louvred opening on the east and west faces and twin louvred openings on the north and south faces. To the middle stage of the tower, there are twin light windows on to the north, east and southern faces. Also on the east face, there is a painted timber clock face with gilded hands and numerals. The lowest stage abuts the nave and chancel roofs resulting in small triangular areas.

1.3.3 High up on the east face there is a date plaque of 1606 which relates to the rebuilding of the tower following the lightning strike that led to the loss of the spire. There is a single copper lightning conductor downtape on the east face of the tower and a cast iron downpipe on the north side. The tower is accessed via a vice turret stair on the northeast corner of the tower.

1.3.4 The tower is very exposed and from the top there are far-reaching views down the Bristol Channel.

Tower roof

1.3.5 The pyramidal tower roof is leaded and was generally found in good condition. A date plaque records Dawson's work. Patch repairs are required to 1no split on the east face and various tabs require re-dressing.

1.3.6 A lead dormer houses the access door which requires urgent repair to prevent bird access into the bell chamber. A crack to the lead weld also needs attention. A grab bar could beneficially be installed on the inner face of the parapet opposite the access door to assist with roof access.

1.3.7 At the centre of the roof, there is iron weathervane which requires redecoration and re-gilding. The lightning conductor tape is attached to the weathervane, bonded to the leadwork and to spikes on the four pinnacles.

1.3.8 4no LED spotlights are clamped to the corners of the lead rolls to the roof. The fittings are detachable and understood to be in good working order.

1.3.9 The condition of the lead parapet gutters in good but a couple of short lengths of flashing pointing should be renewed.

1.3.10 The stone parapets and pinnacles are all constructed from an oolitic limestone similar in appearance to Bath Stone. The precise quarry is unknown but it is likely to be relatively local. Shelly beds are prominent.

1.3.11 The parapets were all found to be stable but there has been considerable erosion to the surface of the stones. In the more exposed areas, the stone erosion is approximately 15mm. Despite this, the ashlar stonework condition remains

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Top left : The neck of the finial has thinned.

Lower left : Extensive erosion to the crockets and loss of detail.

Top right : The ball on this finial has now broken off.

Lower right : The base of each of the pinnacles.

Top left : The southeast pinnacle - viewed looking south.

Lower left : The southwest pinnacle - viewed looking west.

Top right : The southeast pinnacle - viewed looking east.

Lower right : The southwest pinnacle - viewed looking south.

Top left : The northwest pinnacle - viewed looking north.

Lower left : The northeast pinnacle - viewed looking east.

Top right : The northwest pinnacle - viewed looking west.

Lower right : The northeast pinnacle - viewed looking north.

reasonably good and there are few opportunities for water trapping. Open joints to the parapets nonetheless should be repointed and 50% should be assumed.

1.3.12 The four large pinnacles are mounted on a square base rising from the four corners of the tower. The square base is 650x650 mm and the base rises approximately 2100mm from the lead parapet gutter. Above this is a decorative castellated cornice measuring 930mm x 930mm and approximately 430mm high. This single piece of stone has some significant erosion but the architectural detail remains and none of the stonework appears to be at risk of detachment. There are no plans to replace them.

1.3.13 All four pinnacles are constructed in three pieces, with the lowest joint above the lowest crocket and the second joint immediately below the upper crocket. An estimate of the pinnacle height from the cornice upwards is just over 2 metres.

1.3.14 All the pinnacles have been temporarily netted to assist with catching any stone that becomes loose. One detached section from a finial was noted as being trapped by the netting. The condition of the netting is poor and its replacement is required in the near future.

1.3.15 All four pinnacles appear to be of a similar age although their erosion patterns are different. Generally, the pinnacles on the northern side are in a slightly less decayed state than those on the southern side but different stones have weathered in different ways. For example, to the northwest pinnacle the upper four crockets are in relatively better condition compared to the lower ones which are now very seriously eroded. The best way to describe the condition of the finials and crockets is 'skeletal' with almost all the original surfaces now decayed. The original detailing is just discernible from the least decayed areas on various pinnacles. Cross reference should be made to the photographs but the following was noted:

- The southeast pinnacle finial neck is badly eroded. All the crockets are in very poor condition with stone loss having already occurred. Further stone loss can be reasonably anticipated at any point.

- To the southwest pinnacle, the neck of the upper finial is significantly reduced in dimension and all the crockets are in poor condition. Stone loss is likely in the near term.

- To the northwest pinnacle, the condition of the upper crockets is better than found elsewhere but the condition of the lower sections is poor. The upper section indicates the extent of stone loss/erosion that has taken place to all pinnacles.

- To this northeast pinnacle, the condition of the lower crockets is fair and the upper crockets poor. The finial is in exceptionally poor condition with the upper section loose and trapped by the netting.

1.3.16 It is proposed that 4no new pinnacles are carved and installed.

Tower - East Elevation

1.3.17 To the merlons and embrasures at parapet level, a few short lengths of pointing have washed out and these should be replaced. Allow 50% repointing.

1.3.18 There are significant sections of pointing loss to the middle stage of the tower and to the triangular sections of the lower stage on either side of the chancel roof. In these

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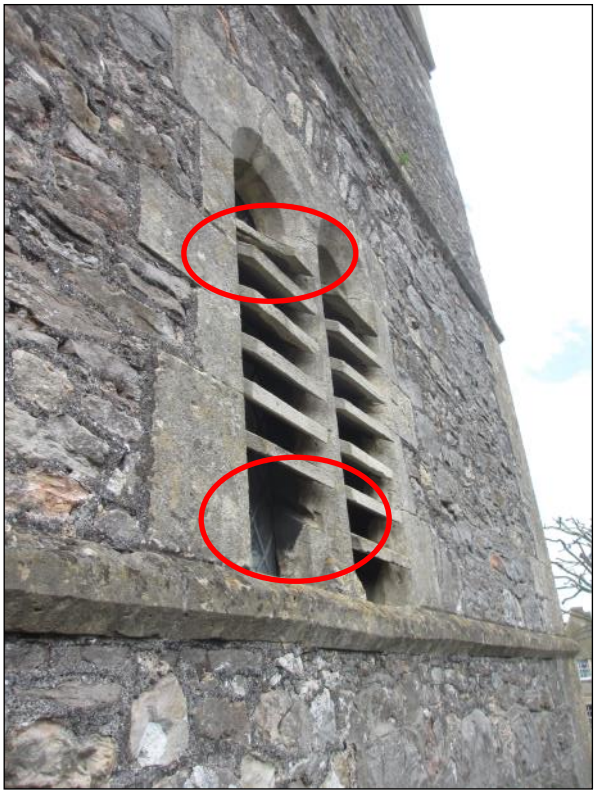

Top left : Extensive mortar loss from the stonework to the east face for of the tower.

Lower left : Damaged and missing stone louvres on the south side.

Top right : Two section of string course on the north side are in poor condition.

Lower right : Loose masonry along the former roof line.

areas, deep voids are visible and approximately 10% of the area requires deep pack pointing. 100% repointing is required.

1.3.19 To the upper stage of the tower, the pointing condition is better but the most noticeable issue here is the surface erosion of the stone as a result of the hard cement pointing. 100% repointing is recommended.

1.3.20 Many of the quoins have been replaced but there is erosion of older stones at high level on the north side and there should be an allowance to replace two badly decayed stones. The pointing condition of these quoins is good.

1.3.21 The condition of the stone string courses is good but the open perpend joint exists and where found these should be repointed. Allow 50% repointing.

1.3.22 The condition of the clock face is poor with peeling paint which in turn is leading to the loss of the gilded numerals. The gilding to the hands is in better condition but it is recommended that the hands are re-gilded at the same time the face is repainted and gilded.

1.3.23 To the upper window, the condition of the stone louvres is good. One short length of pointing is required to an open joint. A clean of the protected surfaces would be beneficial to remove the black carbon deposits.

1.3.24 To the lower twin light east window, a gentle water washing and brushing of protected surfaces will improve the appearance and the breathability of the stone. The condition of the leaded lights is poor with at least ten of the quarries broken. The tie bars are assumed to be iron and it is recommended the window is re-leaded with new stainless steel tie rods installed.

1.3.25 There is a single lightning conductor downtape on this east face. A secondary downtape is almost certainly required to meet current codes.

Tower - South Elevation

1.3.26 To the parapet, washed out joints exist and to the string courses, open perpend joints exist with one small plant noted. 75% repointing should be assumed.

1.3.27 The stonework and pointing to the upper stage of the tower is much the same as found on the east face. There some stone erosion as a result of hard pointing and locally open joints exist. The pointing to the middle and lower stage is in poorer condition with 100% repointing recommended to both areas. To this middle stage, a number of phases of repointing are visible and there is a hint of a crack line above the head of the window which may have opened up very slightly.

1.3.28 The top quoin on the southwest corner requires pinning where fractured but otherwise the quoin condition is fair.

1.3.29 To the bell chamber window, the stone louvre condition appears good but some repointing around the louvres is required. A mortar repairs to the westerly cusp may be detaching and a fracture through the head of westerly light may also require pinning. Only close inspection will confirm if this is necessary.

1.3.30 The lower twin-light window is leaded behind the stone louvres. The leading and glass condition is good. Externally, the upper louvre on the west side is damaged and the lowest louvre is missing. Both require replacement.

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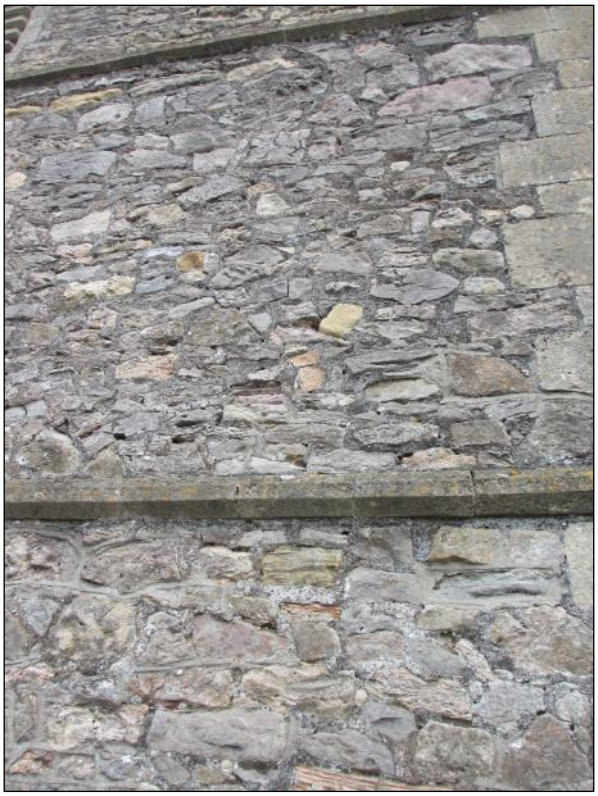

Top left : The typical condition of the stonework and failing pointing to the middle stage (west).

Lower left : Vegetation growing from the string course on the south side.

Top right : A badly decayed quoin stone on the west elevation at high level (northwest corner)

Lower right : Cracking to the detaching vice turret stair.

Tower - West Elevation

1.3.31 To the west face of the tower approximately 50% of the parapet ashlar stonework requires repointing with an allowance of 100% repointing for the string courses.

1.3.32 A single quoin stone at high level on the northwest corner is badly eroded, fractured and requires replacement. Again to the upper ashlar work, the stone erosion is advanced with the mortar now sitting proud. Locally some of this mortar has worked loose and 100% repointing is advocated.

1.3.33 To the middle and lower stage, pointing loss is prevalent in many areas; a full repoint is now recommended. Along the scar of the former roof line, a number of stones require re-setting.

1.3.34 The slate filet at the nave roof abutment is cracked and requires renewal. New lead soakers should be assumed.

Tower - North Elevation

1.3.35 Approximately 50% repointing is required to the ashlar parapets.

1.3.36 To the upper stage, stone decay is advanced as a result of hard cement pointing and 100% repointing is required. A crack runs from the parapet level down through the eastern side of the head of the upper window and is of limited concern. The introduction of helibars into raked out joints would be beneficial during repointing works.

1.3.37 A mortar repair to one of the quoins on the northwest corner appears to detaching and replacement of 1no quoin should be anticipated.

1.3.38 50% repointing is require to the upper string course. To the intermediate string course, two sections of the stone are in poor condition with mortar repair detachment. Both stones should be replaced full length.

1.3.39 To the middle and lower stages of the tower the pointing is in poor condition and 100% repointing is again required. It is noted that the lower stage is lime pointed.

1.3.40 The condition of the upper twin light bell chamber louvred window is good. The cleaning of blackened concealed surfaces is encouraged and a few short lengths of repointing are required.

1.3.41 The lower ringing chamber twin-light window has been infilled with slates and the overall condition is fair. Various washed out joints exist to the stone surround and 5 linear metres of repointing should be assumed in short lengths. Beneath, the single casement window, requires redecoration and its perimeter pointing renewed.

1.3.42 The overall condition of the cast iron downpipe is good but it is lichen covered and the opportunity should be taken to redecorate and possibly install an overflow in the side of the hopper.

Vice Turret

1.3.43 The vice turret is cement pointed full height and there is a significant vertical crack at the junction with the north aisle and the chancel. The stair appears to be not bonded to either wall and the cracking is long-standing. The cracking was assessed by MRM Engineers in 1993 but the presence of daylight through the crack on the south side,

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coupled with further movement supports the argument that a new inspection is now required together with proposals to arrest further detachment. An assessment by a Structural Engineer is being sought and a copy of the original report is attached in Appendix I.

1.3.44 To the north aisle crack, silicone has been used to re-seal the gap. Following the assessment by a Structural Engineer and the implementation of proposals, it is recommended that all of the cement mortar and silicone is removed and the crack repointed full height. Consideration should be given to repointing the whole of the outer face of the stair enclosure.

1.3.45 The 3no vice turret windows are infilled with chicken wire and these would benefit from being replaced with powder coated stainless steel guards to provide permanent bird protection.

1.3.46 Internally, cracking is also very evident at the top of the stair. Following the Structural Engineer's assessment and implementation of proposals, approximately 5m^2 of repointing is required.

1.4 Summary

1.4.1 It is proposed that the 4no pinnacles are replaced and that the tower masonry is repointed in almost its entirety. Other minor non-contentious works are proposed to make good the defects described but pre-application advice is now sought from both the DAC and Historic England for the replacement of the pinnacles.

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APPENDIX I – MEM Engineer's 1993 report on the vice turret

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MRM

ABBST316

ST MARY'S CHURCH, OLVESTON

CIRCULAR STAIR TOWER STABILITY

I inspected the tower on 12th October 1993 at the request of Peter Floyd to advise on its stability.

The tower is some six to eight metres high and about one and a half metres in diameter. It was constructed at a later date than the walls which it abuts and it provides access from the outside ground level to the ringing chamber in the main church tower.

The stair tower abuts two walls of the church which meet at a right angle at one corner of the main tower. It appears not to have been bonded to either of these walls and I presume that it has a separate foundation.

Over the period of probably two to three hundred years since it was built it has tended to tilt slightly away from the church but not to the extent that it is visibly out of plumb.

This tilting has opened up external vertical cracks between the circular tower and both walls. These cracks have been successively filled with mortar over the years and finally with a polysulphide or similar flexible filler which appears to be intact and fulfilling its purpose of excluding water from the wall.

Where the cracks are visible internally it can be seen that there is a certain amount of on going movement as shown by open cracks between previously applied repair mortar and the walls. Glass tell tales have been applied to these cracks at various dates from the early 1970's onwards and some of these have cracked. I do not consider this to be anything to worry about. It may be an indication of very slight recent movement or it may be due to the inherent vulnerability of glass tell tales.

As a result of my inspection I am satisfied that the stability of the tower is not at risk as a result of the movement which has taken place nor has it affected the stability of other parts of the church.

Provided therefore the measures which you have already taken continue to exclude the weather there is no necessity for structural remedial work.

In the event that the movement continues and gives rise to further concern a relatively simple and cheap solution is available in the form of circular stainless steel external straps which would encircle the tower and could be bolted to the substantial walls which it abuts to restrain it from further outward movement.

Ian Abbs

19.10.93

cc. D. Bone
Rev. A Thomas
M. Neale