Diocese of Durham

HAWTHORN
St MICHAEL & ALL ANGELS
(49)

Care of Churches and Ecclesiastical Jurisdiction Measure 1991

QUINQUENNIAL REPORT
on the architect’s inspection on

29 September 2022

Durham Archdeaconry
Easington Deanery

an unlisted building
with a grade II listed war memorial in the churchyard

in Hawthorn Conservation Area

Incumbent The Revd Lucy Moss
PART ONE

1. I have made a thorough general survey of the condition of the church and churchyard. The inspection was such as could readily be made from ground level with binoculars. 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 is free from defect. The electrical installation was not tested. Damp meters were not used.

2. No material seen is likely to contain asbestos and the history of the church is such that asbestos is unlikely to be present. However this report is an Assessment rather than a Management Survey under the Control of Asbestos at Work Regulations 2012. The PCC may wish to see the guidance on the Church Buildings Council (‘ChurchCare’) website. If a management or demolition survey is required and not previously done, a specialist surveyor should be approached.
**Brief description**

3. The shrunken medieval village of Hawthorn is between the A19 and the coast. St Michael’s is a small church built 1864 in a rectangular churchyard fronting the main street.


5. Solid sandstone walls and buttresses. Originally a shaped stone flag roof with overhanging eaves and no gutters. Now plain clay tiles, gutters and pipes. The Porch and matching S Vestry have unusually steep roofs and high gables. With the tall bellcote on the W gable they give the modest church vertical character.

6. The war memorial in the church yard was listed in 2016.

**Recent structural history**


   Significant work since 2000 noted in the Log Book:
   - 2000 new ceramic infrared heaters, timer added 2004
   - 2000 and 2003 diseased elms removed
   - 2006 new electricity supply cable pointing at Vestry ridge, other parts of roof, mortar fillets removed and replaced
   - 2007 church interior repainted
   - 2008 Porch concrete floor renewed
   - 2009 main path changed from gravel to sandstone flags, new gates on existing posts, portable ramp introduced
   - 2010 gutters and pipes repaired and repainted sound installation and hearing loop
   - 2011 broken diaper glass replaced Vestry eaves insulated gutter repairs
   - 2012 bellrehung
   - 2015 slipped roof tiles repositioned, gutters cleared temporary repair of Chancel floor, loose Porch wall tiles fixed
   - 2016 entry gates rehung in new posts, gates painted, gate posts and bench stained flag path pointed new notice board after storm damage door painted
   - 2017 general redecoration
   - 2018 electrical installation test and change of lights to LEDs
   - 2020 dead tree removed

**Summary of structural condition**

8. The church is generally sound.

   Since the last redecoration some recurrence of high level plaster and paint damage by damp.
PART TWO

DETAILED DESCRIPTION OF THE EXTERIOR

Roofs
9. Red clay plain tiles and ridges, lead valleys at Porch and Vestry. In places underlay is lapped into the gutters. The tiles are flat machine made, rather dull and pitted. A few replacements.

10. Tiles good at both sides of steep Chancel and Nave.
   At S Nave some replacement tiles. Minor breakages by the SE valley.

11. Porch and Vestry are unusually steep at about 70°. Porch tiles and valleys sound.
   Most Vestry tiles look older. Perhaps most tiles remain from its building in 1902. Two broken at top of W side and one slipping. At E one broken and four slipping.
   Mortar missing from both sides of the Vestry ridge.

12. Mortar fillets against low watertables, where Chancel butts to Nave and where Vestry and Porch butt to Nave. Some fillets are wide recent mortar over smaller old mortar over substitute soakers lapped into the tiles.

13. The fillets are mostly sound but at
   SE - a short length at bottom is missing
   S Chancel against Nave - about a metre length near the top and at least one metre at bottom have cracked away from the Nave wall
   E Vestry - one metre length above mid height is missing
   W gable and bellcote both sides – both fillets are all cracked away from the watertables – cracks widest at the top two metres and around the bellcote where parts of the fillets are missing
   W Porch – bottom of added fillet missing
   E Porch – good except short length of added fillet missing
   N Chancel against Nave – good except a length at bottom has broken off and slipped down.
14. Mortar fillets are weak by nature. Mortar is heavy, does not adhere strongly to tiles or masonry and in long lengths is cracked by shrinkage. The problem is worse when a wide thickness is added over a narrower original. Sometimes as here mortar is unavoidable because there is no height difference between tiles and watertables needed to fit lead cover flashings over the soakers.

15. When replacing fillets durability can be improved by using combinations of
   – smallest cross section (so remove all existing before laying new material)
   - mechanically fixing non ferrous full height anchors such as a stainless steel wire armature or mesh between nails secured between tiles or stones
   - a primer to maximise adhesion to both tiles and watertables.
   - low strength lime mortar (not cement mortar most prone to shrinkage)

**Rainwater System, Drainage**

16. Ogee cast iron gutters, glossed inside and out, with good brackets fixed to eaves boards. Clear every year.

17. Round eared pipes end at shoes unusually high above ground level. In wind some water must spill into the plinths instead of reaching the gullies.
   Some of the damp inside at the Chancel arch may be caused by the high shoes (para 42).
   A S Nave pipe has no shoe.
   The Vestry W pipe (mixed painted cast iron and aluminium) has been altered to fill a butt, gully disused.
   The Vestry E pipe is painted aluminium held off the wall.

18. Some pipes (N & S Chancel, SE Nave, W Porch) are in corners so very hard to paint rusting backs. No present leak visible except N Chancel whose bottom offset is wet outside after rain suggesting a leak (may also contribute to the Chancel arch damp)
19. Both W Nave gutters have open ends draining into the lead valleys and onto the Porch and Vestry tiles which risks leakage through any tile or fillet defect.

20. The S Chancel gully is part dropped, opening mortar joints, and may spill into the foundation.

21. Good cast iron gullies and shallow earthenware drains with three manholes, not opened. System said to drain into the road verge, not to sewer.

Walls, Buttresses
22. Coursed snecked sandstone rubble with dressed watertables, buttresses and plinths. Course grained and mostly sound. The Vestry of mixed colour might include magnesian limestone.
Fair lime pointing of mixed ages.

23. Watertables have stepped (not lapped) joints. Mortar fillets added against some steps may trap rather than shed water. No sign of damp proof courses (usually lead) under the watertables which are best protection for the wall heads.

24. E gable Stone and pointing beginning to decay at cill level especially at N end probably due to wind scour around the buttress. Probable cross missing and its base slightly cracked.
Joints between cap and top watertable and most other watertable joints open.
At S watertables a mid height bond stone has moved out a little opening its joints.
A very minor movement crack diagonally from top of N buttress. Minor crack through and below N cill, unchanged.
One stone decaying in side of S buttress.

25. S Chancel Vertical crack next to E buttress, wider at top and slight diagonal crack in joints over SE window both suggest very slight eastward movement of the E gable (also suggested by wide fillet on the roof tiles).
Minor decay in wall and buttress near cill of W window may be accelerated by pointing smeared over the stone.

26. E gable of Nave – decayed stone S side at head height by corner with Chancel.

27. SE Nave – wall and mid buttress beginning to decay at and below cill level, worsened by cement mortar.

28. Vestry – narrower joints, sound except very minor decay behind cement pointing in gable below cill level.
29. **W Gable** – two open watertable joints. Stone is mixed course and fine grained, buff, grey or reddish, suggesting iron content which stains the pointing below. All well repointed in the last ten years. Scattered very minor holes.

30. **SW and NW Nave** fair. **NE Nave** fair but minor decay begins in and around the mid buttress.

31. **Porch** – Tall cross good. Gable has a minor vertical crack in joints over the door due to limited bond. Minor opening joints in the peak. Sides fair.

32. **N Chancel** – fair but minor decay begins around the buttress and plinth damp behind leaking rainwater pipe.

33. Modern cement mortar is harder and less permeable than lime mortar. Rain evaporating out of a wall leaves by the easiest route. Where stone is repointed with cement moisture tends to leave through the stone causing it to decay rather than through the pointing. Stone is much more expensive to replace than pointing which is best soft and sacrificial.

**Bellcote, Bell**
34. Good carved cross except top decayed and base cracked. Rest of stone good though some joints slightly open at very peak. Slight inward lean is not a concern.

35. Single bell on square iron cross shaft whose remade round ends are set in cup bearings fully sunk into the masonry.

**Window and Door Openings**

**External Iron and Wood**
37. Porch large oak framed board door, sound but poor draught resistance.

**DETAILED DESCRIPTION OF THE INTERIOR**

**Roof timbers**
38. In Nave and Chancel heavy trussed rafters whose close spaced curved braces suggest a barrel roof shape. The inner wall plates stand on painted short stone corbels which enliven a generally plain interior.


**Ceilings**
40. Exposed sarking boards throughout. Holes in the boards for former stove flues in the Chancel SW corner and W of the Vestry door are patched over or pieced in.

**Chancel Arch, Masonry**
41. At some inner window reveals some surface stone decay and algae especially at W end of the N and S Chancel, Nave SE, SW and NW and both W windows, perhaps hastened by internal cement mortar pointing and patching. The oak cill boards are scribed to the decay profiles, showing the stone damage is old.

42. The Chancel arch and at least most of the bare stone window reveals may be magnesian limestone.

43. A tall pointed arch, one chamfer, moulded imposts and bases.
44. General stone surface decay both sides up to dado level may be due to simple rising damp but also corresponds to rusted pipes, high rainwater shoes and sunken gully outside and perhaps the closure of Chancel subfloor ventilation (paras. 17, 59, 68). Small areas of stone surface very loose, others remain stable.

45. The decay appears to result from damp rising in the arch masonry. A simple improvement to reduce damp would be to extend both Chancel rainwater pipes to the gullies.

46. Inserting a damp proof course in the E wall of the Nave would be possible but it may be more practical to reduce the pressure of rising/penetrating damp in the masonry by remaking the cracked Chancel floor as a ventilated suspended floor as original. Extra air bricks desirable. Would also solve the Chancel floor damage (para 68).

47. Inside and outside both sides of the inner Porch doors stone decay at level of the dado tops (also high rainwater shoes both sides) may be made worse by the impermeable wall tiling and bedding in the Porch.

Doors, Panelling

48. Inner Porch – pair arched oak doors with chamfered frames and strap hinges. W door so twisted that for some draught resistance a thick wedge shaped batten and a softwood cover lath have been face fixed to the door. Softwood laths are fixed in the stone opening as stops. Despite these improvements draughts remain. Top and bottom shoot bolts. New frame and doors, perhaps glazed, may be justified.

49. Smaller Vestry arch has later ledged softwood door in softwood frame with fixed top panel. Some worm holes. Woodworm may have been treated but observation of the floor for dust in early summer should continue.

50. Plain panelled dado throughout, oak except softwood matchboards at Vestry opening (where renewed at the W side). Chancel slightly more elaborate oak, given as Picton memorial post 1926. Inscription says Nave panelling was given in memory of Miss Pemberton d1941, replacing original tiles (perhaps matching the porch tiling?). Skirt detached at N Nave. All cills are covered with ply level with dado.

51. Oak skirt. Dado stopped at inner reveals of N Nave door. Loose ply frontal box with woodworm holes and dirt behind in the NW corner.
**Plaster, Wall Tiles, Decoration**

52. Walls painted on plaster (or render in parts such as the Chancel gable low level). The paint appearance is emulsion on limewash. Except at the quatrefoils the window reveals are rendered, much of it very slightly cracked away from the masonry but stable. Good overall but a little dirty in places.

53. Chancel
- S side one flake mid height and slight loss above dado.
- Hairline crack over peak of S wall E window (corresponds to cracks outside suggesting very minor corner movement).

54. Nave
- Over the S side of the Chancel arch (over pulpit) minor paint damage may show minor leakage from water table above or through the wall from the cracked fillet against the E face of the Nave gable (para. 13, 23)
- Damp damage on Nave W gable upper S side (less pronounced than previously) and in S side of top window reveal may result from the cracked mortar fillets on the tiles or open water table joints and lack of damp proof course or both (para 13, 23)
55. In Vestry S gable paint damaged by damp above eave level, worse at W. Might be condensation (a kettle is used) or through the part missing E fillet.

56. Porch fair. Minor damp damage E of the outer door arch.
   Slight damp each side of both window openings may be partly due to the wall tiling trapping moisture.

57. In Porch a patterned dado of brown and buff tiles under a coat peg rail. Thick tiles on a mortar bed. Parts of the borders are lost at both doors and side windows, now partly patched with painted plaster. By limiting evaporation of damp the tiles may damage the adjacent plaster and stone.

**Ventilation**

58. Subfloor airbricks barely above ground level both sides and W end of the Nave, though ventilation reduced by Vestry and Porch and by gully surrounds. The W gable N airbrick is below ground level so is kerbed.
   Full cross ventilation of the subfloor said to be by ducts through the solid walkway.

59. Airbricks at the Choir have been mortar filled suggesting a former suspended floor before the present solid.

60. Rusted iron hoppers in two Chancel lights. N side so rusted that wide holes top and bottom let in wind. Hoppers in Nave are now sealed.
Glazing, Protection

61. High level quatrefoils in each gable, elaborate coats of arms of the builders, Richard Lawrence Pemberton and his wife Elizabeth Jane 1861, in painted decoration. Good condition apart from minor loss of paint and some dirt. Cobwebs.

62. Three E lancets vivid mid Victorian painting, some cracks, dirty. Wailes of Newcastle in their style of early to mid 1860s.

63. Chancel N and S lancets similar with minor cracking and loss of transfer paint at N. Bowed leading in rusted hoppers.

64. In N and S Nave the E lancets are SS Michael and Gabriel 1901 R Pemberton memorials, both very fine painting and in good condition. Small strips hidden by ply cills. Said by the late Neil Moat to be by Percy Bacon Bros of London.

65. Remaining six Nave lancets, Porch and Vestry all have diaper pattern iron frames with clear glass. Some panes replaced. Glass generally dirty with cobwebs.

66. W gable pair Faith and Hope memorials 1896 and 1900 to Pemberton daughters, Clayton and Bell of London very good colourful painting and condition.
67. Black wire grills at E quatrefoil and N and S Chancel. Grills and protective sheet glass at E lancets with two minor cracks.
No protection at Nave or W gable. Perhaps protection should be added at the Bacon and W glass.

Floors, Rail
68. Chancel loose carpet on granolithic topped solid floor which is not original (blocked air bricks para. 59). Grano divided into square bays by black strip movement joints to prevent shrinkage cracking. Some damage to grano L of altar. Middle of floor slightly humped up and cracked, making parts of the rigid black strips stand proud under the carpet. This may be a mild form of the heave or subsidence often found in solid chancel floors due to poor base material.
The front edge (the Chancel step) is patched with makeshift concrete now cracked. The time may have come to renew the whole Chancel floor with ventilation which may reduce decay at the Chancel arch.

69. In Nave four softwood pew platforms slightly above solid walkway which is said to include cross ventilation ducts. A slight gap between undersides of boards and top of walkway may be deliberate for ventilation. Two front platforms renewed after rot, said to have been worst at NE under organ. The boards part hidden by pews but appear sound.

70. Cross plan walkways have fitted red carpet on lino or rubber underlay on geometric tiles (at least at parts seen). Minor fraying at carpet edges Some damp in the underlying tiles.

71. Vestry fitted carpet on wood blocks on solid floor at visible part.

72. Porch now fully carpeted. Previously visible were a centre strip of plain modern tiles in poor condition and concrete each side. Broken plain tiles on low step at inner door.
A former iron bar thresh set in concrete on the worn outer step is now missing. The remaining broken concrete and carpet edge looks poor and is a slight trip hazard.

Reredos, Monuments, Brasses, Furnishings, Organ
73. Aumbry in reveal of Chancel NE window. Simple oak panel reredos is part of the 1926 memorial Chancel panelling. Altar 1963 memorial also plain panelled oak by Mousy Thompson. Two Pugin chairs.

74. No communion rails. Simple mouldings at plain oak clergy stall, lectern and oak pulpit which has a modern softwood floor. Steel paschal candle holder. All good condition.

75. Twenty stained softwood pews. Uncomfortable due to recessed panel backs, could be filled.
Worn carved stone or composition font with plug hole but used with a plastic bowl. Oak cover.

76. Oak rectors’ board and four large wall memorials, all Pemberton family, all well designed and lettered. W memorial streaked by past leaks.

77. Electronic two manual organ second hand 20 years ago, pedals not working fully. Singe spherical speaker hanging under ridge.
Heating
78. Originally two floor-standing stoves with flues through eaves, then electric skirting heaters now removed. Gas in the village but no supply to church.

79. Overhead wall mounted 3kW electric radiant heaters 25 years old (two in Chancel, six in Nave) One 1kW in Vestry. Well fitted but limited effect on persons and no heating of fabric unless on for 24 hours. All overhead heating may create discomfort when heads are warmer than feet.

Electrical
80. Three phase supply, earth rod in Vestry, meter, main fuses and two distribution boards with two extra for heating controlled by 7 day timer. Not known whether there is spare supply capacity should extra heat be needed. Periodic electrical test report September 2018 summarises the installation as ‘satisfactory’ and all cables MICC in good condition.

81. One Distribution Board in Vestry with RCCB and 4 ways for sockets, Vestry light, and Chancel lights. Submain and a second DB in church with 5 ways used to switch the Nave lights at the circuit breakers.

82. Warm colour LED floods above the eaves, two in Chancel, five in Nave. Adequate and unobtrusive. Spot at lectern with slightly intrusive orange sheathed cable on Chancel arch masonry. Reading light at pulpit.

83. Sound system and hearing loop. Mics at lectern, pulpit and radio mic.

Lightning Conductor
84. None

Fire Precautions
85. 6 litre foam and 2kg CO₂ extinguishers in Nave serviced December 2021.

Water and Sanitary facilities
86. None. Drinking water carried in for a kettle.

Access and use by people with disabilities
87. Good flagged path with moderate slope but use limited by two low concrete steps at the gates and two stone steps into the Porch. Loose ramp available. A very low step from Porch to Nave. No handrails at steps including Chancel step. Only space for a wheelchair is by the Vestry door.

88. No wc for any user.

Security
89. Well overlooked. Good large rim lock at single Porch door. Unprotected W windows would be a route in for the determined. Floor safe in Vestry.

Insurers tend to advise that churches are least at risk if kept open during daylight hours.

Grounds, boundaries, signs, paths, trees
90. The churchyard remains open for burials. Limited space at W end.

91. A simple rectangle between the main road to the E, a garden at W and between houses at N and S. Stone boundary walls all sides with good round copings. The pointing of the pavement wall is poor enough for some small rubble at SE to become loose. N wall similar. Its W end retains the churchyard above the neighbouring garden, over which it may lean slightly. The W wall also retains the yard. Slightly cracked and bowed where it is pushed out by an ash tree. S wall fair but small patches are becoming loose.

92. Recent gates. Chamfered tops. Stained softwood gate posts installed 2016. Concrete step very poor. Good varnished oak sign with hinged front. Both need to be kept well decorated

94. A cast iron filigree fence around a group of Pemberton graves with gates wired in place. Part painted since last inspection.
   In contrast near the S wall a small grave with oak cross and kerb now decays.

95. In the centre graves dated 1950s – 1970s are kerbed close together making movement and maintenance difficult. Slightly disrupted. If the families agree removal of kerbs would help maintenance. Any future tree growth needs to be controlled.

96. Two stones have fallen onto their faces. Should be reset if possible (by families or failing that PCC). This is not difficult and is important to prolong the life of the stones and for grass cutting etc.

97. Remaining stones stand but some lean. A shaped stone and a stone in the shape of a cross are delaminating and may become slightly dangerous.

98. A shed SW of the church has lost felt from one side of its roof.

**Archaeology**

99. Consultation with the County archaeologist indicates that the site may be of archaeological importance if it is in the Hawthorn shrunken medieval village. There should be early consultation if significant works affecting the site are considered.
General comments
100. A delightful small church. Good stained glass and balancing light through the plain glass.

101. Chancel floor and roof fillets need attention.

PART THREE

RECOMMENDATIONS in order of priority

For immediate action
Repair Vestry roof tiles 11
Rebed or repoint gully S of Chancel to drain all water 20

For completion within 18 months
Remove all existing and remake roof fillets in better materials, preferably with new damp proof course under Vestry and W gable watertables and pointing of all watertable joints 12 - 15, 23, 29, 54, 55
Renew concrete step at entry gates 92

For completion within five years
Keep clear glass clean 65
Improve thresh at outer Porch door 72
Obtain further periodic electrical system test report in 2023 80 and Addendum
Begin patch pointing of boundary walls 91

Desirable improvements
Extend rainwater pipes to catch all water in gullies 17, 45
Change the cracked Chancel floor to ventilated suspended 44 – 46, 59, 68
Remake Chancel side windows without rusted hoppers 60, 63
Consider filling panels in pew backs 75
Reset fallen grave stones 96

Recommendations on Maintenance and Care
Clean gutters and outlets regularly 16
Continue to check floor each summer for sign of active woodworm 49, 51
Remove high level cobwebs every year 61, 65
Consider adding ventilated polycarbonate protection at Bacon and W glass 67, 89
Continue to maintain external timbers 92
ADDENDUM to the SURVEY REPORT
Required under the Care of Churches and Ecclesiastical Jurisdiction Measure 1991

PURPOSE OF REPORT  This is a general report only, as is required by the Measure. It is not a specification for execution of repairs and must not be used as such. The parish is reminded that it will be necessary to obtain either the Archdeacon’s permission or a Faculty if it is intended to make repairs for which an architect’s specification should be sought. The PCC minutes must record that an application is being made for permission or faculty and a copy of that minute must accompany the application together with a full specification, drawing where appropriate and an estimate of the cost of the work. In any application for grant aid a full specification is always required.

LOGBOOK   The parish has a duty under Canon F13(4) to keep a Log Book recording all work carried out on the building. I commend this practice to the PCC. Not only does it help the inspecting architect but it can prove a valuable aid to the parish.

MAINTENANCE Continual vigilance to guard against blockages in gutters and the rainwater system as a whole is needed. Every parish must find for itself a reliable procedure to ensure that gutters, ground gutters, gullies and drains are kept clean. It might be: maintenance under contract by a local builder or handyman or maintenance by church working party
Whatever system is adopted the problem remains to remember when to organise the work. Gutters and pipes should be checked at least twice a year. If the Log Book is used as a check list of action every year and kept as an up to date record this will itself act as a reminder.

HEATING INSTALLATION   Unless heating remains simple electric radiants (as at present) a proper examination and test should be made by a qualified engineer annually and a written report obtained for the log book

ELECTRICAL   The installation should be tested every five years and immediately if not done within the last five years by a competent electrical engineer, that is a certificate holder of the National Inspection Council of Electrical Installation Contracting (NICEIC) or a member of the Electrical Contractors Association (ECA) and a resistance and earth continuity test should be obtained on all circuits. The test report should be kept with the Log Book. The present report is based on a visual inspection of the main switchboard and certain random sections of the wiring without the use of instruments.
To check registration with NICEIC and ECA see www.electricalsafetyregister.com

LIGHTNING CONDUCTOR   Any lightning conductor should be tested by a competent electrical engineer every five years (in addition to any recommendation in this report) in accordance with the British Standard Code of Practice. Records of the results and condition should be kept with the Log Book. Note that there is no general requirement for a Lightning Conductor.

CHURCH WARDENS’ INSPECTION   Although the Measure requires the church to be inspected every five years serious trouble may develop in between these surveys if minor defects are left unattended. It is recommended that the wardens should make or have made a careful inspection of the fabric at least once a year and arrange immediate attention to such matters as displaced slates and leaking pipes.

PEOPLE WITH DISABILITIES ‘One of the striking characteristics of the Gospel narratives is Jesus’ concern for people with disabilities but sadly the Church has, in the past, given little attention to their needs. The design of our buildings has often proved a barrier to those who attend church services’ (Chairman of the Church Buildings Council). The PCC are reminded that the Disability Discrimination Act 1995 places a duty on churches to review all practices and facilities and to take all reasonable steps to avoid discrimination against people with disabilities caused by physical features, bearing in mind the limitations often found in historic buildings
Useful advice and audit sheets are to be found in ‘Widening the Eye of the Needle’ published by the Church Buildings Council 1999 £10.95.

INSURANCE   The PCC is advised that insurance cover should be reviewed annually to take account of any rise in the cost of rebuilding.