

St. James' Church, Wick 19549

Condition Report

November 2019



South East Window survey

Report prepared for

The PCC of St James' Church, Wick

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CONDITION REPORT

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Job No.	Issue No.	Description	Issue Date	Checked
19549	1	Condition Survey	4/12/2019	TF

PROJECT SUMMARY

REGION: Wales

PROPERTY: Church of St James'

LOCATION: Wick

OBJECT: South east chancel window

MATERIALS: Stained glass, lead, sandstone possibly Quarella or similar with Blue Lias, lime and cement pointing

DIMENSIONS: 780 x 1400mm

REPORT WRITTEN BY: Brian Bentley & Anastasia Gkouma

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1.0 SUMMARY OF REPORT

1.1 Summary

The church of St James' Wick requested a faculty from the DAC to repair the small south east stone window which is in an unstable condition. The south east wall has signs of water ingress through the window resulting in failure to the lime pointing making it really friable and with noticeable cracks all around the window.

2.0 PROJECT INFORMATION

2.1 Project Brief

At the request of The Church Architect, Micheal Davies, a detailed inspection and survey was made of the east facing chancel window on the 11th of November 2019. This was undertaken by senior conservator Brian Bentley and conservator Anastasia Gkouma, to assess the physical condition and possible conservation requirements of this project.

The window has been divided into sections and surveyed for condition and stability ratings. Notes about inserted material, previous repairs and damage have also been marked onto drawings.

This report provides a detailed fabric survey and diagnosis report on the condition of the chancel window and a broad outline of conservation recommendations, with budget costings.

2.2 Description and History of the Building

The parish church of Wick is dedicated to St James, and dates from the 12th century. It began as a chapel, but was soon given to Ewenny Priory. It is a Grade II* listed building and consists of a chancel, nave, south porch and western saddle back tower. The church is built in the Early English style, although the oldest parts of the structure such as the chancel arch and the font are Norman. The altar is thought to be pre-Reformation, and on either side of it there are unusual niches, which probably contained statues of St James and the Blessed Virgin in the past. Some of the building's features are post medieval, for instance the north and south nave windows. The church was

subject of a major Victorian restoration 125 years ago and has been added to in several ways since that date. In 1994 the exposed masonry all around the chancel was covered with plaster

3.0 OBJECT INFORMATION

3.1 South East Chancel window

3.2 St James Church, Wick

3.2.1 Dimensions: 780mmx1400mm

3.3 General Description

The stained window has a masonry frame with the diamond leaded 'Tudor' window. The outline glass panels are coloured red with blue bottom corners. The rest of the glass panels seem to be a light green/yellow shade. The window appears to be made from sandstone, (possibly Quarella from the Bridgend area). The double spandrel head stone above the arch is in need of consolidation. Previous repairs in this area have been carried out with inappropriate hard cement mortar. There is a rectangular hood mould above the window which also matches the hood mould of the east wall window. Hard cement has been used to secure the window to the masonry and in many other areas where lime mortar has deteriorated.

3.3.1 Physical History of the object

The window has been repaired and repointed with cement in the past, as evidenced by the various different mortar repairs and recently added cement ribbon pointing on top of existing lime pointing.

3.3.2 Significance of the Object

This is probably the oldest stained-glass window at St James' church and it is a unique feature of post medieval architecture.

4.0 CONDITION ASSESSMENT

4.1 Condition Assessment

The chancel window was assessed from both inside and out from ground level. Notes from visual observation and photographs were taken of all the

damaged areas (Diagram 1). The glass panel is severely bulging toward outside but remains stable (Figure 7). The condition of the masonry frame is unstable and shows signs of delamination, resulting in very friable stone surface in some areas (Figure 5 & 6). Once delamination begins, it is difficult to halt the decay process but is possible to slow down the rate. This is a result of moisture penetration leading to freeze thaw action and salt crystallisation, causing the stone to cleave along its weak point. The cement mortars and pointing used to replace original deteriorating lime mortar are causing additional structural damage to the stonework as the trapped moisture escapes through the face of the stones rather than the pointing. There is also lichen colonisation on the surface of the stone which is not causing any appreciable damage to structure of the stone but is at present an aesthetic consideration.

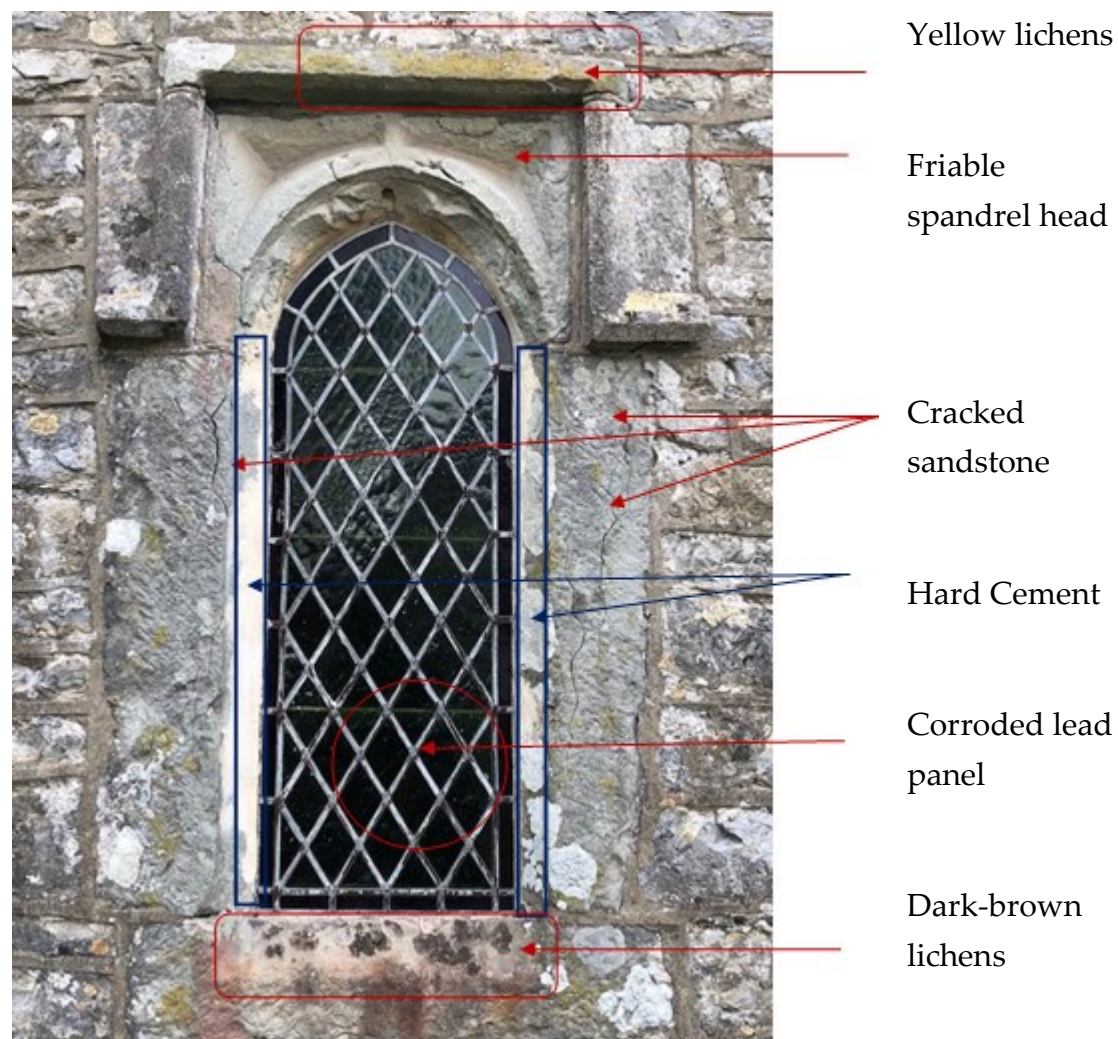


Diagram 1 Surface and structural damages of the chancel window

4.1.1 Structure

The stained-glass panel is bulging toward the outside but it is structurally stable. Several glass squares (quarries) of the panel are shown stress cracks as a result of structural movement. The surface of the lead 'comes' is covered in white and brown lead corrosion as a result of exposure to the elements. Deep delamination fissures are present in the masonry and these are exacerbated by pressure from surrounding hard cement joints leading to losses in the top layer of stone.

Condition Code Summary

Stability	ii	(i – stable; iv – highly unstable)
Condition	C	(A – excellent; D – poor):
Treatment priority	3	(1– no treatment; 4 – urgent)

4.1.2 Surface

On the surface of the hood moulding and on the stone cill of the window of the window there is some yellow and dark-brown lichen colonisation. The sandstone surrounding the window and the double spandrel head stone above the arch show signs of delamination and the surface is quite friable (Figure 3 & 4). Due to the severe delamination in the area, the shape of the arch is not sharp with large areas of stone missing from the top the arch.

Condition Code Summary

Stability	ii	(i – stable; iv – highly unstable)
Condition	C	(A – excellent; D – poor):
Treatment priority	2	(1– no treatment; 4 – urgent)

4.1.2 Condition of Building Envelope and Environment

Previous repairs to the original lime pointing with new cement strap pointing are affecting the build up of moisture in the masonry. There appears to be a relatively recently installed French drainage system close to the window which appears to be in good order with clean gutters, diverting the rainwater off the window (Figure 1). The inside wall of the chancel window appears in good condition with no moisture signs or paint blisters (Figure 2).

5.0 RECOMMENDATIONS

5.1 Summary of recommendations and Scope of Works

The remedial works will aim to consolidate the friable stonework and create barriers to prevent further damage from water ingress on the delaminated stone areas. All the delaminating stone will be grouted, followed by capping of the grouted fissures with appropriate mortar aiming to achieve a harmonious match of strength, texture and colour with the original stone surface. An attempt will be made to remove the hard cement next to the affected masonry in order to replace it with lime-based mortar. However, if the procedure proves to be too disruptive then only the consolidation of the friable stone will take place.

5.1.1 Preventive

Masonry frames must be kept well pointed and 'caulked' to prevent moisture from corroding the armature and anchors within. Maintenance of the gutters above the window is essential to prevent rainwater penetrating the masonry.

5.1.2 Object treatment

Decayed and friable stone should be consolidated with an aqueous colloidal dispersion such as Syton W30.

All areas of delaminating stone should be flushed out with industrial methylated spirits (IMS) and water prior to grouting with a lime-based grout such as PLMA, (a proprietary lime-based grout). The grouted fissures should then be capped with soft lime-based colour-matched mortar. The decayed stone of the spandrel head should be treated in the same way.

The window has been repaired with inappropriate hard cement. An attempt should be made to remove the peripheral joints and those surrounding the spandrel head. These should be replaced with a soft lime-based mortar. The stonework surrounding the window has been repaired with hard cement. Consideration should be given to replacing this if it does not prove to be too disruptive or does not compromise the window fixings. If successful these should be replaced with lime-based mortar repairs.

Window bulging

It is suggested that when a window is bulging more than 1" (25mm) out of plane it has reached the point where it should be removed from the opening to be flattened out. However, in this case the window panel is set with hard

cement in the masonry frame, thus the extraction process is more difficult and dangerous for the glass panel.

5.1.3 Post-Conservation Treatment recommendations and Maintenance

Masonry frames must be kept well pointed and caulked to prevent moisture from corroding the armature and anchors within. Maintenance of the gutters above the window is essential to prevent rainwater penetrating the masonry.

5.2 Estimated Cost

The following estimated costs apply to the tasks described in the Scope of Works above:

Budget Costings:

Set up site

Flush out cracks & grout windows

Soft mortar caps

Remove cement joints where possible and replace

Clear site

Total expenses for conservation work

£1,285.00 ex VAT



Figure 1 Picture taken from ground level of the current state of the chancel window and on the top and right-hand side there is evidence of the French draining system



Figure 2 Photo taken from inside the chancel showing that there is no visible damage to the indoor wall of the window

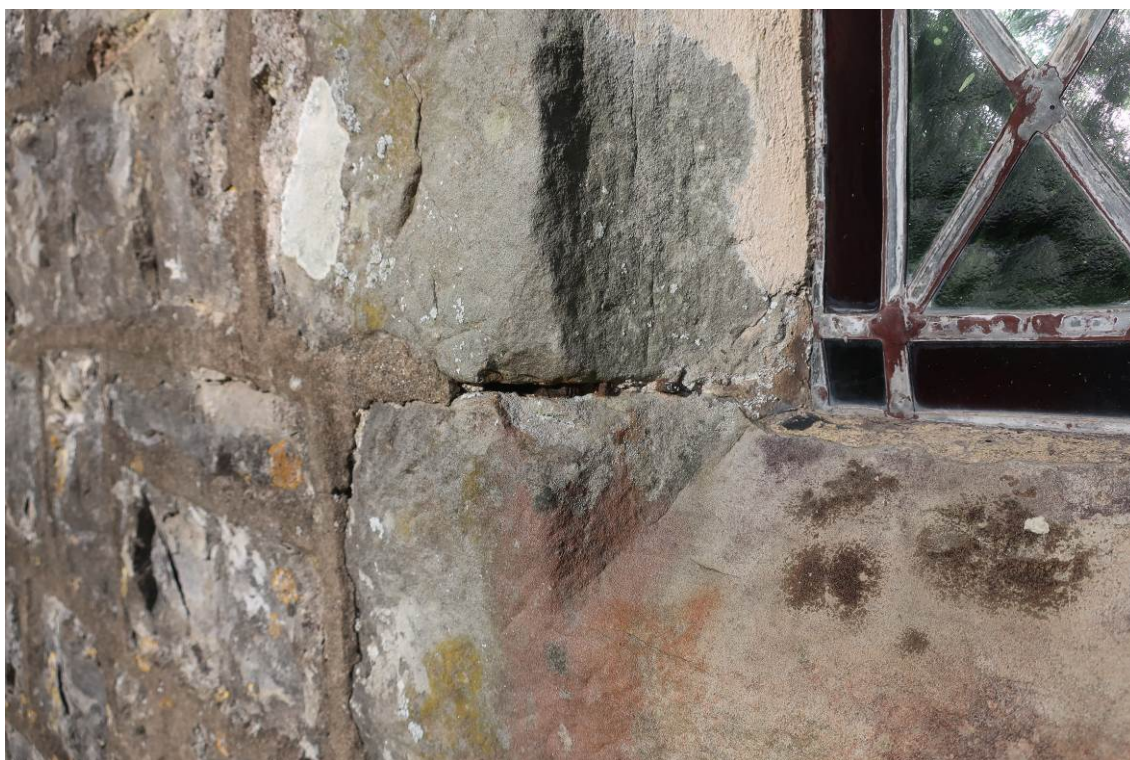


Figure 3 Close up of the left bottom corner with evidence of lichen colonisation on the sill stone of the window. An open joint is also visible in this picture and part of the white hard cement between the stone frame and the lead panel



Figure 4 Close up on the arch and hood moulding structural damages caused by the delaminated stonework and incorrect hard cement pointing



Figure 5 Delamination of the left-hand side the sandstone and lichen colonisation on the surface



Figure 6 Severe delamination of the right-hand side sandstone leading to loss of stone surface



Figure 7 Side photo showing the bulging window

A Condition Code Summary
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APPENDIX A

Condition Code Summary, Cliveden Conservation Workshop Ltd

CONDITION CODE SUMMARY

STABILITY (i-iv)		
i	Stable	Condition not expected to deteriorate within the next 10+ years
ii	Potentially unstable	Condition not expected to deteriorate within next 5-10 years
iii	Unstable/Steady deterioration:	Change in condition likely to be evident between 1 –5 years
iv	Highly unstable:	Change in condition likely to be evident within 1 year
CONDITION (A–D)		
A	Excellent	Little or no damage evident
B	Good	Minor amount of damage and/or loss of original and added material, or with light discoloration or accretions.
C	Fair	Noticeable damage and loss and appears disfigured with visible accretions.
D	Poor	Considerable and/or significant loss of original or added material or major damage/breakage or disfigurement. May be endangering other objects and surfaces.
TREATMENT PRIORITY (1-4)		
1	No treatment	Conservation treatment not required beyond routine maintenance.
2	Desirable	Conservation treatment desirable but not necessary to ensure the long term stability of the object. For instance, conservation treatment may be required for curatorial reasons.
3	Necessary	Conservation treatment necessary to avoid further deterioration, loss or undesirable strain on an object and/or loss of significance (evidential or artistic value).
4	Urgent	Conservation treatment required to prevent significant deterioration in condition of object and/or loss of significance (evidential or artistic value). This may include structural vulnerability, risk of total loss of entire object or part of object, or risk of accident to visitors/users.