



28 January 2025

Graham Shaw,
St Johns church Keynsham,
Parish Office ,
1 The Park,
Keynsham,
Bristol,
BS31 2BL

Dear Graham,

Installation of Halo heating system in St John's church, Keynsham

It was very nice meeting you on Monday 20 January at St John's church Keynsham. You appointed Mann Williams to review and discuss the implications of installing a suspended heating system, known by the commercial brand Halo. According to the product datasheet you provided, the weight of each of those heating units would be in the region or slightly less than 30kg.

During my visit, I had the opportunity to review the stone arches either side of the nave. My inspection consisted of visual review only from ground level (no high-level access was available). Similarly, I carried out a cursory review of the timber roof structure from ground level without being able to access the structure up close. The inspection only related to the feasibility of the heating unit installation and commenting on any other defects was beyond the scope of our appointment or this letter.

Observations

The stone arches either side of the nave are robust structures, free from obvious signs of distress or cracking. The profile of the stone voussoirs is slightly different on either side of the nave. This needs to be taken into account when planning the relevant fixing details. An existing metal hook was noted at the underside of each arch apex.

Similarly, no obvious signs of distress were noted on the timber roof structure. Despite the remote inspection, it would appear that common rafters, purlins and trusses are well sized. We cannot comment on the condition of wall plates and rafter ends, since these were not accessible for inspection at the time of our visit.

Conclusions

Based on the structural form of the stone arches and timber roof, we conclude that installation of the suspended Halo heating units is feasible. The required fixings would need to be installed carefully to avoid disturbing the integrity of the existing stonework.

Recommendations

We recommend that 2No M12 resin fixings are provided for each suspended heating unit fixed to the stone arches. HITLI HIT HY 270 or equivalent approved resin should be used, and the installation should take place in accordance with the suppliers instructions. The fixings would need to be bedded min 150mm in sound stone units (not joints between the stones). Provide minimum 100mm distance between the fixings and min 100mm distance between the fixings and any edges of the stonework.

Mann Williams
Consulting Civil and
Structural Engineers

7 Old King Street
Queen Square
Bath BA1 2JW
T: 01225 464419
www.mannwilliams.co.uk

Also at:
53 Mount Stuart Square
Cardiff CF10 5LR
T: 02920 480333

Directors

Jeff Stott
BA (Hons) CEng MStructE
CARE Accredited Conservation Engineer
Jon Avent
BSc (Hons) CEng MStructE IHBC
CARE Accredited Conservation Engineer
Neil Lancaster
BSc (Hons) CEng MICE
Peter Blankley
BEng (Hons) CEng MICE
Spencer Fereday
BEng (Hons) CEng MStructE

Associates

Stephen Swinbank
BEng (Hons) CEng MICE
Dan Job
MEng (Hons) CEng MStructE
Darren Jones
CEng MICE MStructE
Matt Potter
BSc (Hons)
Ben Chase
MEng (Hons) CEng MICE

Consultants

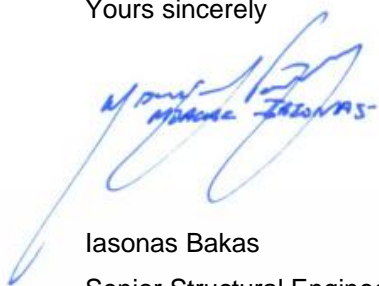
John Mann
BSc (Hons) CEng FICE
Clive Onions
BSc (Hons) CEng FICE FCIWEM MStructE
Henry Pinder
BA (Hons) MA (Cantab) MEng CEng MStructE

The profile of the arches soffit is different on the right and left hand side of the nave. Thus, slightly different installation details would be required to ensure compliance with the above recommendations. To aid with visualisation of the required fixing method, we have drafted two indicative details. Please find those enclosed with this letter. We are unsure of the quality of the existing metal hook, thus it should not be used as a primary means of suspending the heating units.

Similarly, for heating units suspended from timber roof structure, 2No 12mm coach screws should be provided. Use common rafters or purlins and avoid fixing into decorative elements of the roof that are often weakly attached to the primary structure. Provide min 100mm embedment to sound timber and provide min 50mm distance between the fixings and the edge of the timber member. Provide min 100mm distance between fixings themselves.

I trust this is sufficient information. If you need any clarification, please do not hesitate to contact us.

Yours sincerely



Iasonas Bakas
Senior Structural Engineer
Mann Williams

Mann Williams
Consulting Civil and
Structural Engineers

7 Old King Street
Queen Square
Bath BA1 2JW
T: 01225 464419
www.mannwilliams.co.uk

Mann Williams is the trading name of Mann Williams Ltd, Registered in England and Wales
Number 3609498