All Saints Church, Woodham Installation of underfloor heating project completion report August 2022

February 2020 The hot air heating system installed in 1991 (see photo), of an external gas boiler to a vent at roof level, had reached the end of its life. The dry air and rapid changes of temperature was also damaging the organ. Meetings were held with the church inspecting architect, Mandy Lorenz, and the Diocesan Heating Adviser, Ron Neil, to consider options.

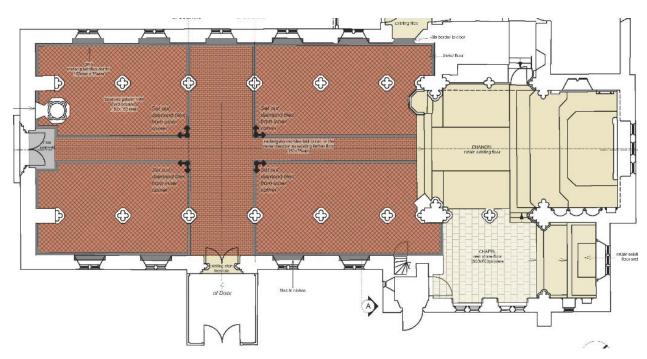
October 2020 A Jupiter underfloor heating system for the Nave and Lady Chapel is chosen. It would deliver an even heat at ground level and not be visually intrusive. The heat source for the water pipes could be a gas boiler or a heat pump. An air source heat pump would require a three-phase electricity supply for this size of the church. UK Power Networks



quote £140,000 to provide a three-phase supply as it would involve digging up Woodham Lane. This makes the heat pump option unaffordable. It is decided to begin with a gas boiler with a buffer tank. The buffer tank means that in the future the gas boiler can be changed to a heat pump if the cost of a three-phase supply drops, or single-phase heat pump technology improves.

March 2021 - June 2022 Forty-five grant making bodies are written to, drawing attention to the community use of the building. Seven bodies award grants. Members of the congregation and other users make generous donations, and a legacy is received.

June 2021 - February 2022 Sarah Khan of Roger Mears Architects produces a floor design of handmade tiles for the Nave and limestone for the Lady Chapel as the top surface for the underfloor heating. The faculty application process begins, including consulting with the Diocesan Advisory Committee, the Church Buildings Council, Historic England and the Victorian Society. The Victorian Society recommends changes to the tile design, which are duly made. The Diocesan Chancellor grants the faculty on 2 February 2022.



April 2022 CES Electrical install a new distribution board (fuse box) and restore light and power to the boiler room and install Wifi in the boiler room to 'talk' to the new boiler.



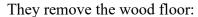




Michael Farley Organ Builders protect the organ from dust. Andy Callin of Sound Analysts Ltd decommissions the sound system. Church volunteers clear the furniture from the Nave and Lady Chapel and stack it in the Chancel. Express Solutions install a sump pump at the foot of the boiler room steps to prevent the boiler room from flooding.

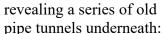
RJM Builders remove the old heating tower: and construct a false ceiling for dust protection:







and excavate the concrete base:









Exit of the original pipe tunnel that goes from the boiler room, under the chancel, to the Lady Chapel. This tunnel will be used for the main heating pipe to the South Aisle manifold: Exit of the original pipe tunnel from the boiler room, to the East End of the North Aisle. This tunnel will be used for the main heating pipe to the North Aisle manifold:





May 2022 CES Electrical lay underfloor cabling for 6 new double power sockets. KD Roofing repair the hole in the roof from the old heating system. RJM Builders complete excavation of Nave and lay a breathable geotextile membrane. The first load of Glapor recycled foam glass is delivered, to be compacted to form a foundation layer:







Jupiter Heating Systems Ltd lay insulated pipework from the boiler room tunnel to the Lady Chapel and North Aisle: and install a boiler: and buffer tank:







The pipe from the boiler room under the Chancel floor to the Lady Chapel and then to a manifold in the South Aisle.

The pipe from the boiler room to the manifold in the North Aisle.





RJM Builders compact the Glapor foam glass base layer.

Jupiter lay a Visqueen 1200 gauge Damp Proof Membrane, followed by 320 bags of dehydrated floor levelling slate:





Jupiter use a laser levelled robot to level the slate:

Then lay 500 kPa Kingspan GG500 insulation on top of the slate:





Aluminium heat diffusing panels are laid on top of the insulation, and the pipes sit in the grooves in the panels. The pipes are PERT (polyethylene raised temperature) with an internal layer of aluminium so that when they are bent round a corner they stay bent. The pipes are connected to the two manifolds.

Heat diffusing panel:



Pipes connected to North Aisle manifold:



Pipes in the Lady Chapel:



Pipes from Lady Chapel to South Aisle:



Jupiter lay a slip membrane above the pipes and then Screed Replacement Tiles are slotted and glued together to sit on top of the membrane:





June 2022 Jupiter connect pipes in the boiler room:

and connect the Nave manifolds:





July 2022 Liviu Negut from Calacatta Stone and Ceramics starts to lay the roughly 10,000 Nave tiles. Sussex Red and Sussex Dark, 152mm x (152mm/75mm) x 18mm, from Aldershaw Handmade Tiles Ltd. On a bed of NX Flexible Standard Set Tile Adhesive, plus around the walls a border of SECIL natural lime NHL5.

Centre aisle:



Tiling over a manifold cover:



August 2022 Liviu applies the first coat of "Lithofin TC Sealant for cotto, terractotta and clay clabs" on the tiles prior to grouting with "Ardex-Flex FL Grout" Ocean Grey:

Liviu lays the Lady Chapel floor in Hanover Greige Honed Limestone, 600mm x 600mm x 15mm, from Natural Stone Consulting. Grout colour to be 'Silver Shimmer'. Then "Lithofin Stainstop W":





The finished floors:







Woking News and Mail article published 25 August 2022

New floor for church after heating installation

ALL Saints Church at Woodham has reopened after four-month building project that included the excavation of the floor to install underfloor heating.

The Grade II listed building had previously been heated by a hot air blower installed in 1991 that was continually breaking down.

The hot air system was damaging the historic 1928 Harrison and Harrison organ and a new solution for keeping the building warm had to be found.

The church opted for the underfloor heating system supplied by Jupiter UK, based at Chobham. The floor was excavated, and foundations of foam glass, slate, and insulation were laid, on which were installed the pipes.

Handmade tiles were chosen as the top surface, to be in keeping with the church's Arts and Crafts heritage.

One of the churchwardens, Adrian Vincent, commented: "We had a hard deadline of a wedding in the church on Saturday 20 August. We finished the project with only hours spare.



REINSTATED – The interior of All Saints Church with its new floor following the installation of underfloor heating

"Those who have seen the new floor say that it blends in so well that it looks like it is original to the church, which is a great compliment to all involved."

The new floor will be blessed by the Bishop of Guildford, Andrew Watson, during the 10am service on Sunday 4 September. There will be Heritage Open Day tours of the church on Saturday 17 September from 11am to 6pm.

On Sunday 18 September at 7.30pm the Loveday Singers will be performing a concert to celebrate the re-opening. Tickets will be £10 on the door, children free.

Particular thanks to

Funders

- Members of the congregation and other church building users.
- The Friends of Woodham.
- Grant making bodies:
 - Allchurches Trust (now called Benefact Trust);
 - Bernard Sunley Foundation;
 - Garfield Weston Foundation;
 - National Lottery Community Fund: Awards for All Scheme;
 - Sabina Sutherland Charitable Trust;
 - Surrey Churches Preservation Trust;
 - Woking Borough Council: Community Infrastructure Levy: Canalside Councillors: Mohammad Ali, Tahir Aziz and M Ilyas Raja.

Contractors and advisors

Grant Ashworth and team: CES Electrical.

Adrian Brooks and team: Express Solutions Group.

Andy Callin: Sound Analysts Ltd.

John Clarke: John Clarke Natural Stonework.

Clive Dawson: Hockley and Dawson Consulting Engineers Ltd.

Kevin Diamond: Guildford Diocesan Registry.

Karl Dore: K D Roofing.

Michael Farley and team: Michael Farley Organ Builders Ltd.

Wendy Harris: Diocesan Advisory Committee.

James Hughes: The Victorian Society.

Nick Hunt: A T Design.

Andrew Jordan: (former) Diocesan Chancellor.

Anthony Kindell, Lindy Latreille and team: Aldershaw Handmade Tiles Ltd.

Chris Kollmer and team: Jupiter Heating Systems Ltd.

Sarah Khan: Roger Mears Architects LLP.

Stacey Knight and team: Natural Stone Consulting Ltd.

Mandy Lorenz: Architect.

Tracy Manning: Church Buildings Council.

Richard and Fran Matthews and team: RJM Building Contractors.

Ron Neil: Heating Advisor.

Liviu Negut: Calacatta Stone and Ceramics.

27 August 2022

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