

Aldenham Church

St John the Baptist, Church Lane, Aldenham WD25 8BE

Application to upgrade the boiler in the church.

Statement of Need:

The current heating in the church is by oil fired boiler in the crypt (see picture, it is probably in excess of 70 years old and was originally a multi fuel boiler using coke, wood and any other material to hand. It was converted many years ago to oil and had a new burner fitted some 10+ years ago.

It has been rated as less than 40% efficient and showing signs of failure. It is so old that it is difficult to get anyone to service as parts are no longer available.

The supply pipe is badly corroded and the oil tank in the churchyard has been tilted by tree roots growing under it. It is expensive to run with such poor efficiency and the oil has been stolen from the tank on more than one occasion.

The boiler is installed in the crypt of the church with the pump and associated pipework connecting it to the church system which includes the Vestry. The current pipework, although of similar age is working well and the radiators are considered adequate to heat the church to a reasonable level.

Proposal:

- To Install a gas supply to the church from the road and run a supply pipe to the crypt.
- To install a gas fired boiler in the crypt with a plate heat exchanger and connect them to the existing pipework to the church.
- To install a new flue from the boiler to the outside, terminating next to the South Porch
- Install a water supply from the hospitality area to the crypt.
- To install a condensate drain in the crypt for boiler run-off.
- To install new control system to current electrical supply in the crypt and current controls in the church.

Installation Details

Gas Supply

The gas supply would need to be routed from across the road to a meter unit within the churchyard and from there down into the crypt. It has been established that a supply is available following application to the local gas supplier from the road outside the West gates.

There will need to be a trench to take the supply from the access point within the boundary into the church, dug by volunteers or local handyman.

This would lie beneath the path leading to the West door. (See diagram - gas supply in red.)



Boiler and Heat plate exchanger

The boiler would have a heat output of 78KW - see attached quote and manufacturers specification for details.

This has been calculated by the supplier as being adequate.

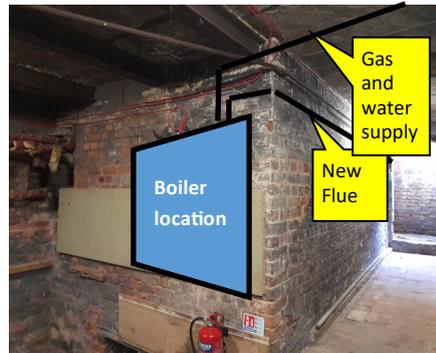
The heat exchanger is necessary and would prevent interaction between the old unpressurised system to the new pressurised boiler, therefore not causing any extra stress to the older pipework or debris from the old system entering the new boiler.

The new boiler would be mounted on the wall opposite the current boiler which would be disconnected and left in situ. See photo.

Flue for boiler.

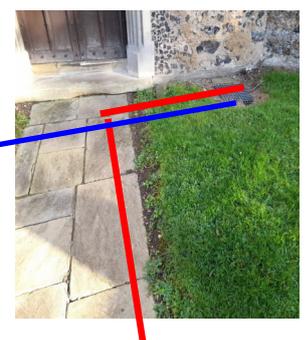
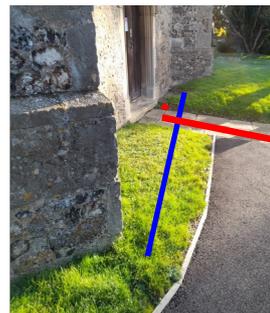
The current flue for the oil boiler discharges through the tower roof and is not suitable for the gas boiler which needs a balanced flue. A new flue would be installed from the boiler through the passage to the access trap and up the wall to discharge next to the South Porch. See diagram here.

The wooden access flap to the crypt would need to be re-configured by volunteers.



Water supply.

As the new boiler has a self contained pressurised system, there would be a need for a mains water supply. This would be laid from the hospitality area at the back of the church to the access vent and down into the crypt following the line of the gas supply. See diagrams below, water shown in blue and gas in red. All pipework would be buried and follow the line of the path the whole way with nothing being visible above ground.



Condensate Drain

See Installers specifications attached for these details.

Control Systems

See Installers specifications attached for these details.

Installer

The PCC have agreed that the quotation from APS Mechanical Services best suits the requirements. See website at: [Mechanical Services – Specialising in the design and installation of mechanical services \(apsmechserv.co.uk\)](http://Mechanical Services – Specialising in the design and installation of mechanical services (apsmechserv.co.uk)) for their accreditation details.

The specifications for the boiler and heat Exchanger are attached.

There will be some other minor work to be done either by volunteers or local trades.

The work would take approx. 2 weeks to install and test.

Cost

The boiler, heat exchanger and flue fitting and Installation would cost £35,426.37p plus VAT to APS Mechanical Services as quote attached.

The gas supply has previously been estimated at approx. £6,000 for the supply from the road.

Consideration of Air Source Heat Pump

Aware of the need for a green solution we researched the possibility of an Air Source Heat Pump for the church but all parties considered that this was unsuitable for the drafty church building. We do have another separate faculty application for this option to be used in the church room where it is more ideal.

Funding

We would seek donations from parishioners and explore any funding resources available.