

CSM – Library Flue

D&A Update/ Supporting Statement

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Version history

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Introduction

This supporting document has been prepared by Buttress for Chetham's School of Music to support a Planning and Listed Building Consent for works to replace the Boiler and Flue. Revised drawings (02)004 P01, (02)003 P01 (02) 005 P01 are included in support of this document.

- Despite being situated within a Grade I listed building the project scope and complexity of this project is defined as low. The project entails removal and replacement of the 20th Century boiler in its existing location and direct replacement with a new smaller gas boiler. The flue is to be replaced with a smaller flue which does not project above the line of the parapet wall (unlike the existing) and will not be visible from the ground.

1.0 Heritage Impact

1.1 Proposed works

1.1.1 Removal of the boiler.

1.1.1.1 The boiler has stopped working as it has reached the end of its life, the boiler is not original and is a late 20th century addition.

1.1.1.2 A new, smaller, modern energy efficient boiler is to be installed in the Boiler Room in the same location. *Significance: The impact of replacing the boiler is defined as Low – poor quality design of the existing 1970's boiler which has no architectural or historic significance.* The boiler room does not have any remaining architectural features or historic fabric, what remains is categorised as having low significance. Since the freestanding boiler is to be swapped out directly, then none of the historic fabric (defined as low significance) will be disturbed.

1.1.2 Replacement of the 20th century flue.

1.1.2.1 The existing galvanised steel flue projects above the line of the parapet wall which is 1200mm high, the flue projects above the parapet by 300mm. A new flue proposed is to be lower than the existing parapet therefore it will not be visible from the ground. We have sourced a flue which is only 600mm high above the flat roof and therefore will not be visible from the ground, the flue will be masked by the existing parapet wall. *Significance: The impact of replacing the flue is defined as Low – the existing flue to be removed is of poor quality*

design, has no architectural or historic significance and is a later modern intervention assumed to be 1970's.

Synopsis of work and significance impact:

- 1.1.2.2 2No. Wall mounted fused wall switches as shown on drawing (02) 006 to be replaced with new with existing screw holes reused.
Significance : Low
- 1.1.2.3 Existing copper wall mounted water pipes to be reused and connected into- Significance : Low
- 1.1.2.4 Existing steel boiler flue removed and replaced with new, existing plasterboard ceiling to be refixed on completion of flue installation.
Significance : Low
- 1.1.2.5 Existing freestanding boiler removed and replaced with smaller boiler. Significance : Low
- 1.1.2.6 Wall mounted expansion vessel to be removed and new replaced in existing position.
Significance : Low

2.0 Air Source Heat Pump Option

The following assessment has been considered to determine if a Air Source Heat Pump is a viable option. All the options are to be presented and read as a whole within this section.

1. A three phase power supply would be required to be installed causing intrusive works and harm to significant historic fabric. Furthermore The visual impact of the installation externally, in terms of their size and cabling fixed into the historic fabric we feel would be too intrusive and damaging to historic fabric.
2. To accompany an ASHP would require the installation of underfloor heating throughout. This would be too disruptive in terms of operationally and physically causing significant harm to the highly significant historic flooring. (especially since the feedback presented to us from Historic England regards our recent application was not to lift and rebed any of the flagstones which are cracked in places).
3. The size of equipment needed such as the buffer vessel would be much larger than the space currently allocated and additional space allocation is not currently viable.
4. Whilst there are some instances of ASHPs performing well in historic buildings there are many instances where they do not. When coupled with the high level of capital cost outlay this is a risk the client is not willing to take on a building of this scale and type of function it serves. Whilst the Historic England report: Heat Pumps in Historic Buildings appears to validate their use, the research is only related to relatively small scale buildings

Conclusion: Whilst the client is receptive to reducing energy bills

and embodied carbon, given the high significance of the historic fabric remaining within the building the disruption required to facilitate this installation would be too high and intrusive. The conclusion that an Air Source Heat Pump is not a suitable replacement for a gas boiler in this circumstance.

3.0 Flue Guidance

3.1.1 The client has proposed an alternative boiler which requires a much smaller flue which projects only 600mm above the flat roof. The flue will be hidden behind the stone parapet wall. The previous comments relating to the flue projecting 2.1m above the parapet are no longer applicable.

4.0 Flue Materials Options

4.1.1 As described in the above section the flue will now not be visible therefore this section and related comments are now not applicable.

