

Chichester District Council

CABINET

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Upgrade of Heating and Ventilation Systems, South Wing, East Pallant House, Chichester.

1. Contacts

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2. Executive Summary

This report proposes a fundamental upgrading of the heating and ventilation plant serving the ground floor and first floor open plan offices at East Pallant House. Cabinet is recommended to approve the PID (see Appendix) and approve capital funding for a new scheme that will address issues with under heating, draughts and fresh air delivery. The works which are subject to planning consent, will be phased to cause minimal disruption to services and will be completed by late May or early June 2016.

3. Recommendation

- 3.1. That the Project Initiation Document (PID) set out in the Appendix to this report be approved.**
- 3.2. That Option 2 be approved as the preferred option**
- 3.3. That Council is recommended to release £186,300 from capital reserves, to fund the upgrade of the heating and ventilation plant including associated costs and fees.**

4. Background

- 4.1. The heating and ventilation plant serving the south and east wings of East Pallant House was first commissioned in 1983 as part of a major building works programme to extend the Council's headquarters. However, the installation had inherent design problems with air distribution and supply, mainly caused by the limitations of deep open plan design and poor air supply to one of the two plant rooms.

- 4.2. The internal distribution of heating and cooling throughout these areas has been substantially modified in the mid 90's and again in 2007. The original low level supply was replaced with a high level ducted supply with the underfloor plenum return retained. Supplementary air conditioning units to provide extra cooling were also added in 2007. The air handling plant supplying the treated air has also been subject to periodic upgrades. However, the fundamental design issues remain unresolved.
- 4.3. In addition to mechanical solutions described above, other passive measures to improve comfort conditions internally have been implemented. These measures have included the provision of better quality window blinds and adding glazing film to the east and south facing windows. As a result there has been some improvement in achieving better working conditions, which has been acknowledged by staff. However, comments received from staff following the recent staff survey show that there is clearly an issue with draughts reported on the ground floor and under heating reported on the first floor of the south wing.
- 4.4. This report and PID (see Appendix), follows a survey and feasibility study, completed in July this year by appointed mechanical and electrical Consulting Engineers. The study confirmed that the current heating and ventilation system installed in the south wing is unable to maintain comfortable environmental conditions on the ground floor and first floor open plan offices without a redesign of the supply and distribution plant. The consultants have proposed two options which are described in the PID in addition to a do nothing option.

5. Outcomes to be achieved

- 5.1. The proposed options will, as minimum requirements, achieve compliance with recommended air quality standards (as set out in the PID) and aim to provide a more robust and effective heating and ventilation system capable through improved design and monitoring controls to achieve satisfactory environmental conditions in the open plan areas that are not achievable with the current installation.

6. Proposal

- 6.1. The Cabinet is requested to approve Option 2 described and costed in the PID and request that Council release the necessary funding. This option addresses the compliance issue relating to the limitations on air supply to the ground and first floor open plan offices. By replacing the two original Air Handling Units (AHUs) with a single larger externally located AHU, the inability of the Do Nothing option and Option 1, see para 7 below, to effectively control air supplies to either of the two main open plan offices is resolved. This option also includes new air conditioning units, which provide cooling only. New controls to provide close control and monitoring are also included.

Note: By implementing either Option 1 or Option 2 there is a business continuity benefit as the new air conditioning units can provide either heating or cooling i.e. they can reverse cycle. Therefore, they can be used to provide space heating in the event of a total gas boiler failure. The system has a design life of between 15 to 20 years,

7. Alternatives that have been considered

- 7.1. Do Nothing: This option is not supported in the Consulting Engineer's feasibility study. The study concludes that the current system, as a very minimum, requires a new control system. Also the quantity of air supplied to the ground and first floor open plan office cannot be increased due to spatial restrictions which prevent additional ventilation ductwork being introduced into the internal lower ground floor plant room.
- 7.2. Option 1: This option includes for new air conditioning units to provide some additional heating or cooling but also includes for the retention of the existing two larger AHUs located in the lower ground floor plant rooms. With this option the volume of air supplied to the open plan offices remains unchanged. However, although the total volume of air supplied does not meet the recommended standards, the Engineers noted that the air quality was good. Therefore this option provides a workable compromise but does not present the opportunity to flexibly manage the space if occupancy levels increase.

8. Resource and legal implications

- 8.1. The invitation to tender (ITT) and Contract preparation will be undertaken by the Building and Facilities Manager with support from the Legal Practice Manager and Procurement officers. Contract administration will be undertaken by the Consulting Engineer who will review and approve the commissioning of this scheme which includes integration with the existing plant. The cost of this appointment is included in the PID.
- 8.2. In order to complete this work a sum of £186,300 is requested from capital reserves. Major replacement of the system was not planned until 2020/21 and it had been hoped that adjustments to the system undertaken as part of previous works to the offices would suffice until then. However, this has not proved effective and replacement rather than refurbishment of the AHUs, new air conditioning equipment and a new controls system is now required in order to restore acceptable working conditions.

9. Consultation

- 9.1. There has been ongoing consultation with Staff, Unison representatives and the Council's Senior Leadership Team (SLT) regarding this matter. There has also been consultation with Planning Officers and a full planning application will be submitted to the Local Planning Authority.

External consultation, in addition to meetings with the Consulting Engineer's principal designer and controls specialists, also includes input from ventilation contractors.

10. Community impact and corporate risks

- 10.1. There are specific risks relating to this project which are identified with mitigated actions included in the PID. A key risk includes unrealistic client expectations over and above the engineering parameters included in the systems design. The remaining design risks are deemed minimal and the contractor identified risks relating to time constraints and cost will be mitigated as part of the detailed evaluation of the contractor tenders.
- 10.2. The scheme is expected to deliver energy cost savings due to plant efficiency and improved system controls provided by a new building management system. These savings are likely to be relatively small, possibly in the region of 5%. Once the system is fully commissioned environmental and energy data will be collated and presented to Members in a post project evaluation report.

11. Other Implications

Crime & Disorder:	No
Climate Change: The scheme is expected to reduce carbon dioxide emissions at East Pallant House the exact quantity in tonnes/annum to be confirmed in the Principal Designer's final design report.	Yes
Human Rights and Equality Impact:	No
Safeguarding:	No

12. Appendix

- 12.1. PID – Upgrading of Heating and Ventilation Systems in the South Wing East Pallant House, Chichester.
(The PID is available in the supplementary appendices pack on the Council's website; it is printed for members of the Cabinet.)

13. Background Papers

None