Report on	Magherafelt Office Heating System Upgrade
Date of Meeting	6th December 2018
Reporting Officer	Terry Scullion - Head of Property Services
Contact Officer	Paddy Conlon, Building & Assets Manager

Is this report restricted for confidential business?	Yes	
If 'Yes', confirm below the exempt information category relied upon	No	X

1.0	**Purpose of Report**
1.1	To seek members' approval to upgrade and fund the replacement of the heating boilers, fuel tank, introduce a building management system for the efficient operation of the heating system in the Magherafelt Office.
	Background
2.1	The Magherafelt Office is the largest office accommodation building in the Council estate, and hosts monthly Committee meetings. The building consists of two parts. The original two storey block to the rear of the main building is approximately 1500m2, including plant room. It was built in approximately 1992. The second part of the building involved the construction of a four storey extension approximately 2400m2 to the front of the original office building in 2003. This portion of the building was opened in 2005.
2.2	The offices are currently heated with two standard oil fuelled boilers located in the basement area of the original building with a brick chimney serving both of them. The first boiler is eighteen years old, was manufactured by Buderus, and serviced the original building. The second boiler is an IDEAL boiler was installed in 2003 at the time of the building extension, and the burner replaced in 2008. While the second boiler is a lower grade boiler in terms of quality, both boilers have reached the end of life in terms of efficiency and reliability.
2.3	Overall the Magherafelt office is in good condition both structurally and aesthetically. However the Mechanical and Electrical system associated with the building heating needs replaced and upgraded to ensure the building is operated efficiently, to current standards, and to ensure the property asset is fit to meet future user demands.
3.0	**Main Report**
	Current status
3.1	In 2015 occupancy of the building increased significantly, so has the heating needs and demand in the building with additional large radiators installed in a number of

	locations in the building. Since 2016 there have been numerous faults and breakdowns with both boilers and failures with the heating system. This has left the building unheated, or partially heated with limited hot water at periods thus causing cold environment for occupants and visitors. Since mid October 2018 there has been two heating system failures, despite regular maintenance and repair to keep the system functioning. In addition to the boiler issues, the oil storage tank was sized and installed to suit the original building and not the extended building. Not only does it not have adequate capacity, it is not compliant with current Oil Storage Regulations.
3.2	The heating controls for the building are outdated and not efficient as they are considerably outdated resulting in poor system efficiency with significant fuel consumption. The heating controls are key to controlling the efficiency of the heating system. It includes a simplistic 'summer' and 'winter' system setting for the whole building. In a modern system automated controls would be in place to ensure the boilers are only used when required in the parts of the building required. The newer part of the building utilises Thermostatic Radiator Valves (TRV) in each room for further control. There are no such controls is the original part of the building resulting in significant heating inefficiencies.
3.3	The oil storage tank is currently in contravention with the oil storage regulations due to the bund capacity and the impervious nature of the bund. Regulations state that the bund should be capable of holding 110% of the tank capacity, be impervious and weather tight. At present the tank and bund installation is not complaint.
	Proposal
3.4	It is proposed to replace the two steel boilers in their current location with two new high efficient condensing boilers rated at 199kw. This work would include installation of a fire detection system to ensure the risk of fire is reduced in accordance with industry practice. At a future date these boilers could be converted to hybrid system to allow flexibility in fuel supply (e.g. natural gas when mains gas becomes available, subject to a Cost Benefit Analysis on the viability of a dual fuel system using oil or gas).
3.5	Installation of a new stainless steel flue pipe within the existing chimney stack. This would ensure fumes are contained with the flue and not released into any part of the building in accordance building regulations. Due to the alterations this would be a requirement of the proposed works.
3.6	Provision of a fully controllable Building Management System (BMS) to enable full control of the heating system from a central point with full programmable capability. This will ensure the heating system is monitored for performance to ensure the building is heated efficiently and effectively. This can be undertaken at a desktop computer, making controlling easily accessible to facility staff. It will also include the inclusion of Thermostatic Radiator Valves (TRV) in each room in the original part of the building and upgrade were required in the remainder of the building.
3.7	Supply and installation of a fully bunded oil storage tank to comply with current oil storage regulations. This tank will have a capacity of approximately 20,000 ltrs and

	this will ensure that refills will occur less frequently than at present. The tank will also have electronic level alarms that will ensure fills occur at relevant period and over filling is notification. Appendix 1 contains a costed breakdown of the proposed works.
4.0	**Other Considerations**
4.1	**Financial, Human Resources & Risk Implications**
	Financial: This work is considered to be essential, there is a significant upgrade element for the building in terms of energy controls and management over and above planned or reactive maintenance. Therefore funding is requested from the Council's Capital program to fund the project investment at a cost of £110,700.
	Human: Officer time to finalise the scheme design and submit a building control application. Officer time in planning works, and coordinating a phased work programme in Spring 2019 with building users in conjunction with the contractor to minimise disruption on facility operations.
	Risk Management: The proposed works will help ensure Council meets its duty of care responsibilities under the Health and Safety at Work Order to its staff, members and the public who use the building to provide a safe and comfortable working Environment, in addition to improving Council's Carbon footprint. Works with be carried out to comply with current building regulations, while installation of the oil tank will ensure compliance with the Oil Storage Regulations.
4.2	**Screening & Impact Assessments**
	Equality & Good Relations Implications: None.
	Rural Needs Implications: None.
5.0	**Recommendation(s)**
5.1	Members are asked to approve the release of £110,700, plus a 10% contingency (£122,400) from the Council Capital Program to undertake the Heating system replacement and upgrade works outlined at the Council's Magherafelt Office.
6.0	**Documents Attached & References**
6.1	Appendix 1 - Summary of works proposed and estimated cost