

M&E CONDITION REPORT
AT
GOSFOTH COMMUNITY HALL
GOSFORTH
CUMBRIA



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DATE: MAY 2023
REF: 8749

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1.0 TERMS OF REFERENCE

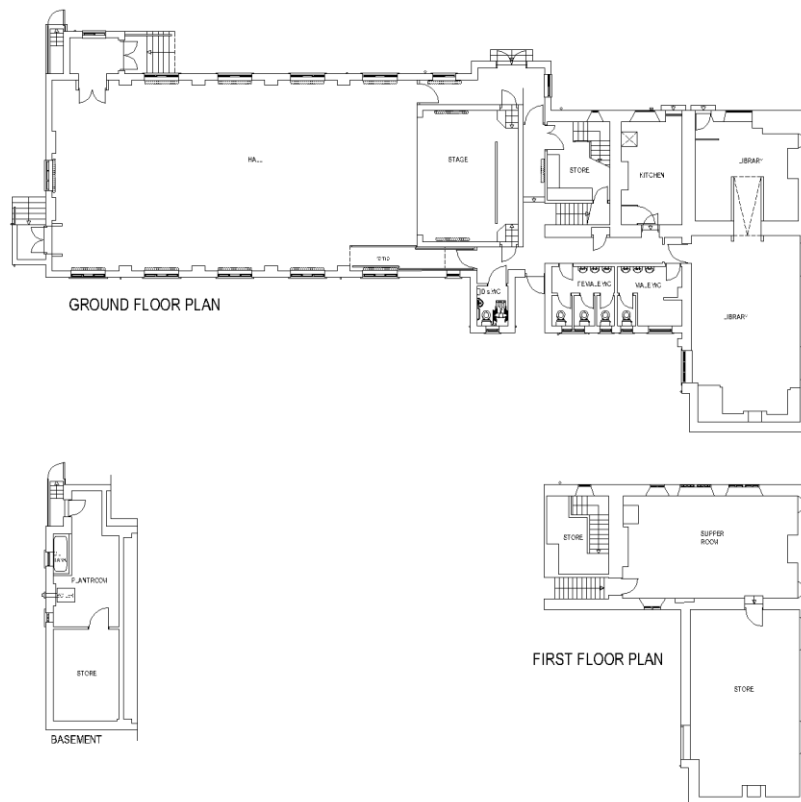
Pettit Singleton Associates have been employed by Day Cummins to review the condition of the existing Mechanical and Electrical building services at Gosforth Community Hall, Gosforth, Cumbria.

The report is based on a visual examination only, with no intrusive tests having been carried out on the mechanical and electrical system.

2.0 SITE INSPECTION

The building was constructed in 1930 and is set over three floors, the Lower Ground floor houses the Main Hall, Toilets, Kitchen and Library with the First Floor having a large Meeting Room (Supper Room) and Store.

The Basement consists of a Plantroom which houses an oil-fired boiler and oil storage tank.



Mechanical Installation

General

The main building is heated by a two-pipe wet heating system, the library is heated by a combination of electric radiant ceiling panels and electric panel heaters. The building has two timed heating zones, these are the Ground Floor and the Supper Room on the first floor. Hot water is generated by number of instantaneous and point of use electric water heaters.

Main Boiler Room

The heating is provided a single Grant Vortex Utility 58-70 oil boiler, this was fitted in 2019, the boiler is fitted with a balanced flue this exhaust at low level through the wall. The oil storage tank is also located internally within the plantroom, this a non-bunded 1,250 litre plastic tank, the tank sits within a brick bund, the tank also appears not to be fire rated. In line with OFTEC regulations only fire rated should be fitted internally, ideally this tank needs to either replaced with a fire rated bunded unit or placed externally.



Oil Boiler & Header



Oil Tank

The heating system appears to have no form weather compensation or frost protection, at the time of survey, the oil-fired boiler was not operational however it appeared to be in good condition.

The heating system has two separately pumped heating circuits, each of these has its own single head, fixed speed heating pump, the heating system has no resilience and if there is a failure in any one component the heating system will not operate.

Within the basement boiler room there is a sump, this is a low point in the room where the water can collect, the sump is not fitted with an automatic discharge pump and if flooding is deemed to be a risk, then ideally a sump pump discharging to a drain should be fitted.

The boiler plant is located its own dedicated plantroom, these rooms are classed as areas of higher fire risk, it is good practice for these types of room to be in their own fire compartment, it appeared that this not the case in the Community Centre.

Wet Heating System

With the exception of the Library the majority of the main building is heated using the wet heating system, this works in conjunction with a combination of press steel iron column radiators and panel radiators, these are all fitted with TRVs, in some cases the TRVs have been retro fitted. The pipework and radiators appear to be around 25-30 years old; the heating system is coming towards the end of its economic life; however, it appears to be in reasonable condition and there were no obvious signs of water leaks.



Heating controls and time extension switches



Heating extension timers

In the disable WC it was noted that a standard radiator has been installed, to avoid the risk on burns in these types of rooms it is good practice to fitted low surface temperature (LST) radiator.

The heating zones are controlled by a two basic time clocks, each zone also has a heating time extension function



Typical Retro fit



Standard rad in disable WC



Column radiator

Electric Heating

The library is fitted with electric heating, this a combination of ceiling mounted radiant panels and floor standing panel/storage heaters. The electric panel heaters are controlled by wall mounted thermostats, in the library the temperature is control on two zones.

The library also has a small plug-in dehumidification unit, this ran on its own internal timer' its operation was not checked.

The main kitchen also has a ceiling mounted radiant panel heater fitted, the room is also fitted with a radiator of the wet heating system, it is assumed that the radiant panel this used to supplement heating in this space.

The supper room on the first floor with a combination of radiators and wall mounted infrared heaters, out of five infrared heaters only one appeared to be operational.



Electric radiant panel heater



Electric storage heater



Radiant panel heater thermostat



Radiant panel heater – kitchen



Infrared heater – Supper room



Electric panel heater

The electric storage heater and panel heater appear to be around 20 years old; these are at the end of their economic life and are due for replacement. The radiant panel heaters appear to be relatively new probably around 5-10 years old, these appear to be in reasonable condition. The infrared heaters appear to be around 20 years old; these are in poor condition and at the end of their economic life, these are due for replacement

Domestic Hot & Cold-Water System

The building has a single 15mm copper unmetered cold-water supply, this is located in the kitchen, the water distributes round the building at mains pressure, there are no cold-water storage tanks.

The hot water is generated by a number of instantaneous electric heaters, there are two located in each WC block and one in the kitchen, the disable WC its own 10litre electric point of use water heaters.



Instantaneous water heater - Female WC



Instantaneous water heater - Male WC



Instantaneous water heater – Kitchen



Location of old kitchen water heaters



10 litre water heater – Disable WC



Incoming water supply - kitchen

It appears that the hot water for the kitchen had previously been generated by two wall mounted electric heaters, these have been stripped out, however the pipework connections remain in place, these are not capped off. This pipework is both a flooding and legionella risk, ideally all redundant pipework should be stripped out leaving no dead legs.

Each of the WC blocks is fitted with two wash hand basins (WHB), however the instantaneous heater only supplies hot water to one WHB, ideally both WHB should have hot water.

Ventilation

Generally, the building is naturally ventilated, there are no mechanical extract ventilation systems, if the kitchen is to be used for light commercial work ideally some sort of mechanical extract ventilation system is required.

Electrical Installation

Incoming mains & mains power distribution

The building has three phase 60kva whole current incoming supply derived from an overhead supply; the supply cut out, meters and switchgear are located in a cupboard of the corridor passing by the Male and Female WC's, with additional outlying consumer units feeding the Library and Stage area.

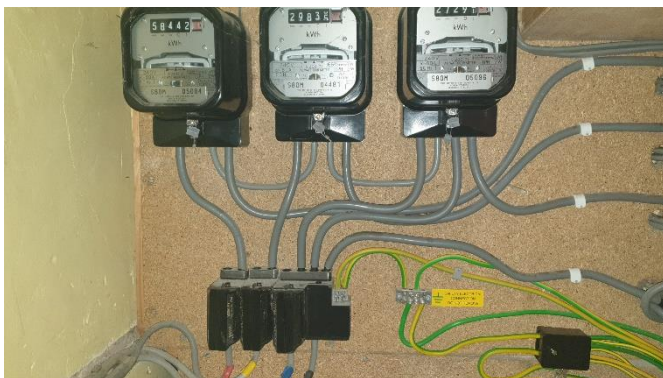
All but the Stage Consumer units have recently been replaced (March 2023) providing RCBO and surge protection throughout, all Consumer units are of single-phase configuration.

The Library and "Theatre" appear to be sub metered.

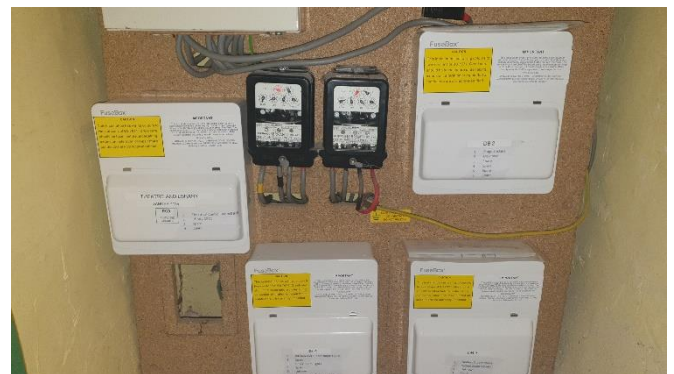
The Chartered Institution of Building Services Engineers (CIBSE) document Guide M entitled "Maintenance Engineering and Management", considers the indicative life expectancy for distribution equipment to be 20 years.

The Stage Consumer units are at the end of their expected life span, consideration should therefore be given to upgrading the switchgear that has not already been replaced.

The existing Mains supply tails length appears to be excessive and the route taken exposes the cabling to damage as it passes unprotected, in areas, through the building to the supply cut out; as a minimum the supply tails should be better protected or the incoming supply relocated during the course of major works.



Incoming Main Cut out



Recently replace Consumer units



Expose Tails



Exposed Tails



Stage Consumer Units



Switchgear Layout

Containment and general cabling

The cabling consists of twin and earth secured with varying degrees of success to the fabric of the building.

In general, cabling throughout the building is contained within the fabric of the building (in floor voids and ceiling voids) or clipped direct.

Generally cable fixing and containment requires improvement.

The Chartered Institution of Building Services Engineers (CIBSE) document Guide M entitled "Maintenance Engineering and Management", considers the indicative life expectancy for cabling to be 25 years.

It is estimated that the existing cabling is of an age where rewiring would be considered, this would in turn better support the needs of the current building use.

The Building has a Stage area and Hall with Adhoc performance equipment having been installed – the cabling to the equipment would appear to consist of a mix of hard wired and flexible cabling with multiple extension leads in use to provide the required number of connection points; exposed live cable joints were identified during the inspection – the Stage Lighting installation should be reviewed as a separate specialist item and deficiencies found made safe for further use.



Poorly fixed and protected cabling

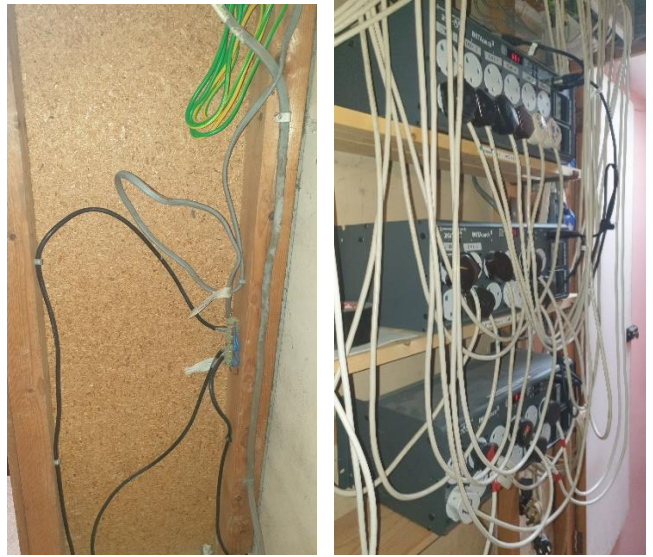


Poorly fixed and protected cabling





Stage lighting



Stage Equipment and Exposed Cable Joints



Older style rewirable fuses and Twin cable into plug tops



Extensions used in place of fixed wiring

Lighting

Lighting throughout the building is poor and of an age where replacement would be considered, consisting of a mix of fittings with exposed lamps, bulkheads fitted with Incandescent lamps and fluorescent tube lighting. Switching is manual in nature throughout.

The Chartered Institution of Building Services Engineers (CIBSE) document Guide M entitled "Maintenance Engineering and Management", considers the indicative life expectancy for lighting to be 20 years (15 years for external lighting).

The lighting installation is at the end of its economic life and complete replacement of the installation, both internally and externally should be considered utilising LED technology with appropriate controls to minimise energy consumption.



Hall Lighting



Exposed lamp fluorescent



Suspended Luminaire



Exposed lamp fitting in store room



Exposed fitting in WC.



Library Luminaires



Luminaire in need of cleaning / replacement diffuser



Basic External lighting.



Bulkhead Luminaire



Bulkhead Luminaire

Emergency Lighting

Only illuminated emergency signage was identified at Exit points; As this is a Public Use building a risk assessment should be carried out to determine a suitable level of emergency lighting for current use – both Escape and Anti Panic lighting should be considered both internally and externally to Assembly Points.



Existing Emergency Lighting

Fire Alarm

The Building does not have any form of Fire Detection and Alarm System – The building Fire Risk Assessment should be consulted to determine the appropriate classification of System required.

Security

The Building does not have a security alarm - The Client should consult with their Insurers to determine the building need.

It was reported that the site does not have CCTV provision; it was noted however that there is a camera to the rear of the building, it was not possible to determine the operation of this camera at time of visit and it may well be a dummy camera – The Client should consult with their insurers to determine the building need.



Location of existing camera

Data and Communications

Data and Telephone provision within the building is minimal in nature with two BT points being identified within the Library area; The main data “Hub” is housed within a data cabinet which is laid on the floor under a desk within the Library. The Building Occupiers should be consulted to determine the building need and enhancements required.



Incoming BT Provision



Data Hub located on floor

3.0 SUMMARY

The wet heating and hot water installation throughout is in reasonable condition, however it is either coming to end or at the end of its serviceable life. The boiler plant and pumps have been replaced recently and appear to be in reasonable condition, these can be retained.

If the building is to undergo a major refurbishment it would be prudent to replace the heating system.

The building only has a 15mm incoming water supply, this is usually only considered to be suitable for a domestic property with low water use, if the building is to be used for commercial operation with higher occupancy number a larger water supply will be required.

The hot water generation is by a number of point of use electric water heaters, in the main WCs these only serves single wash hand basins, the other basin have cold water only, the main kitchen also only has a single point of use instantaneous water heater. Depending on the proposed operation and occupancy numbers these may not be considered as having the suitable capacity for supplying the required amount of hot water.

Generally, for this type of building a central hot water cylinder could be considered as the preferred option, this could either be heated by the oil boiler or an electric immersion heater.

Due to the condition and age of the fixed wiring electrical services, it is recommended for both safety and economic reasons, that the installation is stripped out and the building rewired.

The lighting is beyond its economic life cycle, and should be replaced; replacement with LED technology would allow the Occupier to benefit from energy savings.

Externally lighting is minimal, this should be reviewed and upgraded to allow safe passage to emergency assemble points and to provide better access and security during the hours of darkness.

The Building does not have any form of Fire Detection and Alarm System – The building Fire Risk Assessment should be consulted to determine the correct classification of System required.

As noted, security and CCTV requirements should be reviewed with the client and their Insurers

Data and Telephone provision within the building is minimal in nature. The Building Occupiers should be consulted to determine the need for Enhanced IT and Communication systems.

Budget Costs have been provided in Section 4.0 and are provided as a guide only; it should be noted that costs provided are subject to confirmation of Project Scope and final requirements.

4.0 BUDGET COSTS

The following is our estimated mechanical and electrical costs for the above works. These costs exclude VAT and fees:-

Mechanical Works Description	Cost
Preliminaries	£5,000.00
Relocate oil tank	£8,750.00
New incoming cold-water supply	£5,500.00
Heating distribution system, inc library	£48,500.00
Hot and cold-water distribution system	£22,370.00
Kitchen extract canopy and fan	£6,500.00
Testing and commissioning	£3,015.00
As fitted documentation	£475.00
Totals	£100,110.00

Electrical Works Description	Cost
Preliminaries	£5,000.00
Testing – Stage Area	£2,000.00
As installed and Operation	£1,000.00
Builders work Inc Strip-out	£2,000.00
Small Power	£20,000.00
Lighting	£41,000.00
Data and communications (Scope TBC.)	£6,000.00
Distribution	£30,000.00
Containment	£18,000.00
Fire Alarm (Scope TBC.)	£19,000.00
Security (Scope TBC.)	£10,000.00
CCTV (Scope TBC.)	£7,000.00
AV inc UHF Systems (Reconnect Stage Equipment Only)	£2,500.00
Totals	£163,500.00