

COLNEY HEATH VILLAGE HALL : ACOUSTIC SOLUTION WITH SOUND REDUCTION SYSTEMS

THE STARTING POINT

The Studio is our secondary space, part of the extension to the original 1938 main hall. Opened in 2000 as the “Community Room”, it is used for a range of smaller functions – yoga, meditation, music lessons, art classes, first aid training, dance practice, cheese and wine party, committee meetings etc. And it’s the official polling station for elections.

20 years on it the room was dull and tired, needed to be refurbished. The carpeted floor was worn and not suitable – easily marked with wet muddy feet and splashes of artists’ paint, difficult to keep clean enough for floor users like yoga and meditation, and useless for dance practice.



IMPROVEMENTS CREATED A NEW PROBLEM

The room was transformed with a high quality laminate hardflooring funded in full by a grant from The Tarmac Landfill Trust and installed by a local builder, T.Taylor & Sons. The total cost was £960 + VAT. The trustees had a workday to paint the walls (c£250 for materials) and to rehang our pictures. The space was rebranded as the “Studio” to attract more users and, it must be admitted, to increase our hire rates with a more contemporary name.

With the floor, walls, and ceilings now all being hard surfaces, we expected the acoustics in the space to be “brighter”. We hoped the carpet wall hangings (£180 from Wayfair plus £25 for fire retardant) would soften the acoustics enough. This did not work. Users found the space uncomfortable on the ear – too “bright” and “tinny”. The music classes for flute beginners were almost unbearable.



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SRS' EXPERTISE TO THE RESCUE

The suggestion of increasing the thermal insulation above the ceiling was rejected. Sound reflects in the space from the surfaces. The “reverberation time” of the space determines the experience. Insulation above the ceiling would not help, at least not the acoustic problem, as the sound is reflecting from the internal ceiling surface. Carpeting the floor again was rejected for the original reasons, but provided a base cost of around £1,500 to compare alternative solutions. But what these might be, and would they work? We needed an expert.

At the Village Halls Conference at Little Hadham village hall in November 2021 we had a chat about our problem with Richard Sherwood from Sound Reduction Systems www.soundreduction.co.uk

We entered the few simple details required by their online webform – dimensions of the space and ceiling height, and a description of the floor, wall and ceiling surfaces - and a photograph. SRS entered this data into their programme and the “dark art” of acoustics was transformed into a simple and practical solution.

A summary of Richard’s report send to us 3 days later said “my calculations estimate that the reverberation time of the room is approximately 1.83 seconds, which is too high for a room of this kind and intended use. The excessive reverberation will certainly detrimentally affect the users of the space. Adding 7.2m² (5no 1200x1200x50mm) of Sonata Aurio absorption to the ceiling reduces the reverberation time to approximately 1.0s and should give you a subjectively noticeable improvement.”

Concurrent with solving the acoustic problem we were upgrading our lighting to LEDs in both the main hall and the Studio with a grant from the Low Carbon Workplaces. We decided to replace the three fluorescent light fittings with 4 dimmable LED fittings to improve the lighting levels and to leave a clear space down the centre of the room for the acoustic treatment. We prepared a drawing of the ceiling as a smoke detector and emergency light fitting had to be repositioned. SRS offered to supply the panels and adhesive for £570+VAT but we decided to accept their supply and install price for £1,404 VAT included. This was later reduced by their 10% discount offer through ACRE. The installation date was fixed to suit the lighting installation programme which was arranged during half term when our pre-school hirer was not using the hall. The SRS team arrived exactly at the appointed time and, 45 minutes later, the job was done and they were off to the next one. We could have done the installation but the panels are fixed with contact adhesive so, if not perfectly aligned when placed, mistakes cannot be corrected.

Most users haven’t mentioned the changes to either the acoustics or the lighting. However, when asked they say the space “feels better” or “seems calmer”. One can overdo the sound absorption, and then the space feels flat and dull. SRS judged the solution very well, provided excellent advice and service, and we would recommend them to other halls in need of an acoustics solution. And finally, we have added “do not paint” signs on the panels so the next upgrading project does not paint over the panels and then wonder why the room is acoustics have deteriorated.

