Project Name	Plymouth High School for Girls – Mezzanine Library project

Nomination summary
This innovative and unusual structural alteration to create a mezzanine library to the existing Grade II listed school building has created a fantastic learning and resource environment at third floor level. The wider works to this project have also enabled this area of the school to be fully accessible.

Supporting statement (please expand as necessary)

Plymouth High School for Girls Summary
An exemplar for rejuvenating and transforming worn out facilities into major asset. A clear and coherent refurbishment strategy followed through in detail, colour and execution. An ambitious structure assembled in very constrained circumstances and completed in the heart of live school. Only possible through an all round team effort.

Supporting Statement

The project to install a new mezzanine floor at Plymouth High School for Girls evolved from a Masterplan undertaken by Atkins in 2008. The school occupies the site of two former Victorian Education establishments, which were amalgamated and whose buildings have been extended over many decades. The School is highly successful in spite of its restricted and constrained inner city site. Space is at a high premium in the buildings and whilst the Victorian buildings add significantly to the character, they are relatively inflexible in layout. As a consequence of its amalgamation is that the School has two halls of similar size. One has a stage and better ancillary facilities, which is used as the Main hall. The other, known as the Annexe Hall, became the subject of this refurbishment project.

After the amalgamation, the Annexe Hall has had a variety of uses. It was for some used as a Gymnasium, until the recent completion of a replacement facility. Since then it has been used as a corridor and examination room. It was insensitively adapted as a Gym with the insertion of gallery and the installation of inappropriate gas fired air blowers. The large windows needed urgent maintenance and the room was noisy. It was difficult to heat or cool. Its form did not lend itself to easy subdivision, so could not be readily converted to classroom space. The School also lacked a decent sized Library and Resource Centre. This seemed a logical choice, but presented some fundamental challenges.

Grade 2 Listed and any refurbishment would need very sensitive handling. Unfortunately, the floor was not capable of taking library loadings without strengthening but was high enough for a mezzanine. The walls were tested and found suitable for the insertion of a new structure. The design philosophy

adopted was to minimise impact on the existing fabric and use the new mezzanine to provide the service routes and hang the new stairs and lift from. This would enable previous cabling and detritus to be removed and the original fabric restored. However, the challenge was to develop a structure that could be installed with extremely limited access and that would enhance the room.

The opportunity for the funding of the project arose from the School being chosen to deliver the International Baccalaureate. This created two complications, a tight timescale and the need for fully accessible unique facilities. In hindsight, the only way this project realistically could have been delivered successfully was with a team that knew the scheme and had already worked together. This and the Masterplan provided the continuity and the trust to tackle the most difficult aspects of logistics and Listed Building Consent.
We had preliminary discussions with Building Control prior to any LBC Application, which were invaluable because of the physical and historic constraints. We could not directly comply with the Approved Documents, but were given essential assistance in developing a suitable strategy to deal with AD Part B and M. We needed pragmatic support to help understand the risks and provide suitable compensatory measures for the means of escape.

A steel structure was the only viable option, but it had to be capable of assembly in the Hall and being brought in through an existing window opening and with only very limited site access. The entire building below the Hall had to be propped to take the load whilst the frame was constructed. Once completed, it then became the platform for the other activities to be completed.

The design philosophy was to create a clear differential between the new and the old. We needed to produce a lightness and openness by which the nature of the existing room could be enjoyed and not obstructed by the new mezzanine. The structure demanded a technological solution and this generated an 'industrial chic' approach to the detail. This generated the main structural feature, namely the triangular braced trusses, formed from circular members, which span the 10.0m width. Where practical, we restored the fabric but retained many of the minor scars as this is an inherent part of the character and history. We used glass wherever possible to maintain views. We were adapting and re-invigorating the old to new uses, not simply restoring.

The windows were repaired and enhanced with acoustic glass. Again it was a balance between performance and sensitive restoration. We utilised existing ceiling roses to integrate a natural ventilation system using Monodraughts, with the stacks sited unobtrusively away from the Street facade. Bespoke light fittings were installed as an elegant enhancement to this existing feature. Radiant panels and underfloor heating were installed to the mezzanine to avoid any impact on the existing fabric.

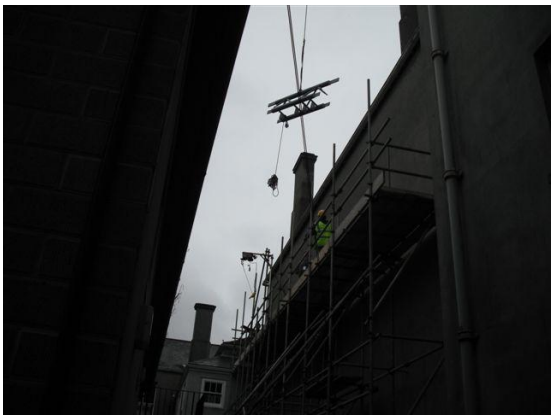
We were fortunate in having additional funds from a bequeathment, which enabled high quality, purpose designed library fittings to be installed. We were able to provide integral lighting and shape the shelving to create an openness and lightness to the mezzanine. We were also able to select flexible furniture for the Hall, which enable the space to be used in a variety of ways. This is crucial

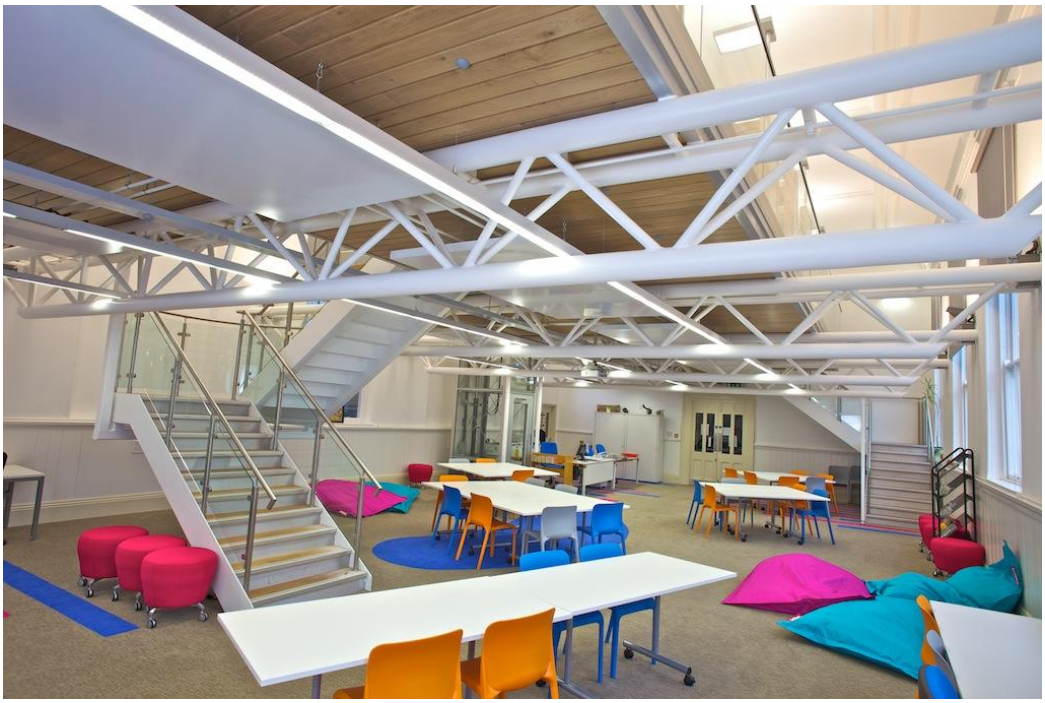
for modern learning environments. The colours and materials were carefully chosen to provide a stimulating and vibrant space. The wooden soffit to the mezzanine was to give warmer appearance and soften the predominantly industrial aesthetic. The space can be arranged formally and informally; for seminars, presentations, exams or groups, all with full IT facilities. The lighting can be controlled to suit the activity.

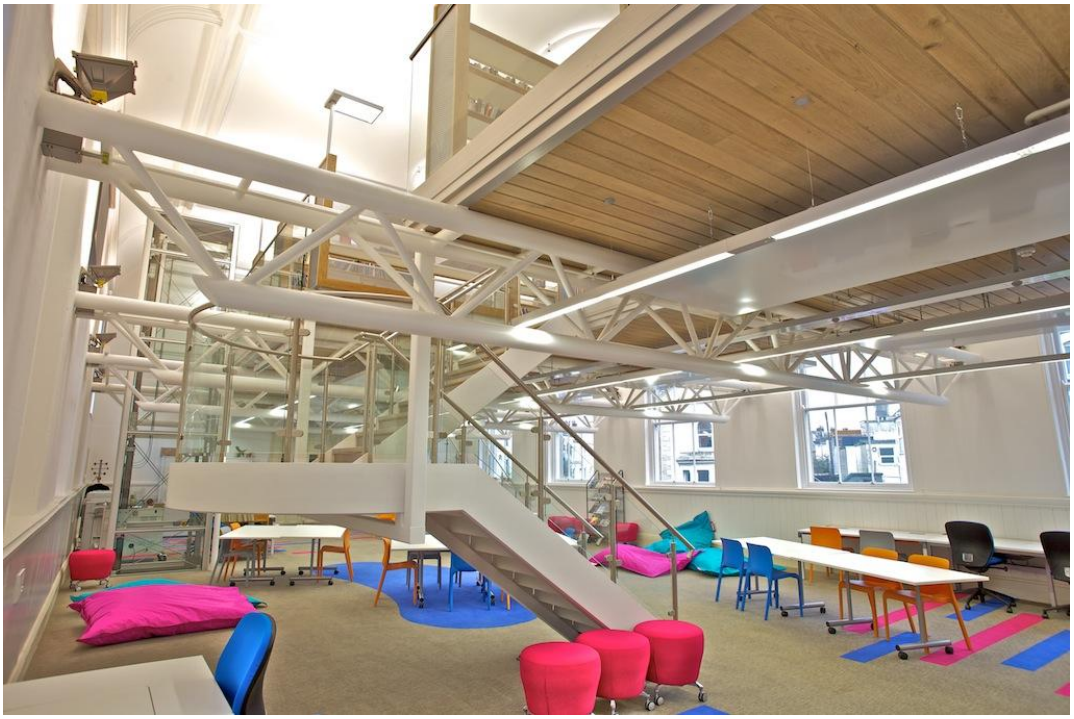
The most important aspect of the project is that it is well liked and a success with the students and staff. It has taken a forgotten corner and created place of lasting value.

LABC Endorsement (please expand as necessary)

Plymouth City Council Building Control is proud to endorse this particular development into the two categories for this years awards; Best Technical Innovation for the very unusual and difficult to construct steel framework that now supports the new library mezzanine and Best Educational Building with the excellent resource and learning environment the project has created. This area of the school is now fully accessible in the 3rd floor of the Grade II Victorian listed building which has also been a fantastic achievement through careful design and planning. The quality of the work has also been particularly impressive with an excellent 'on site' management team, very supportive design team and good quality finishes.







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