NORTH KOWLOON MAGISTRACY, HONG KONG

Retrofit

A CASE STUDY

Background

The North Kowloon Magistracy, located in the Shamshuipo region of Hong Kong, was designed by private firm Palmer and Turner Architects and completed in 1960. Once construction works were completed the Magistracy started to function as a lower court house and government office, eventually ceasing operation in January 2005 when the courthouse relocated to more modern facilities. The building remained vacant until 2008, when the Magistracy was offered in the first batch of revitalisation sites under a review of the regions' heritage buildings by the Hong Kong Development Bureau. SCAD was selected as the delivery partner, making use of their own funding in carrying out all capital works.

The Building

Constructed in 1960, the building is a modest example of classical revival in Hong Kong government architecture. It is comprised of over 70,000 square feet spread over seven floors, and was used as a single purpose design with court rooms on three of its floors, the reception and payment offices on the ground floors and various administration offices throughout the upper floors. Although only fifty years old, the building had seen many upgrades and modifications of interior spaces by the former occupants. Original environmental controls included an early air conditioning system for the main courtrooms and the addition of window units as needed throughout the building. Overall the building was cooled by open windows and doors through cross ventilation and an interior light well making use of natural convection. The building is constructed of concrete with floor systems composed of concrete and ceramic block. Although structurally sound, the engineering of the building only minimally met standards. However, it has stood the test of time and is more than suitable for its proposed use as an educational environment.

Design and Construction

Rather than retrofitting the building based on what SCAD wanted, SCAD instead looked at what the building is best suited to do. It was decided that minimal change was required - for example, the high ceilings of the courtrooms were suited to theatre and arts classes; the rooms with high levels of natural light from years of window additions were ideal for fashion or architecture courses; and the lecture rooms and staff offices were best placed in the higher-storey office-like environments, with some requiring total darkness for projection systems. Therefore, this particular building with its wide variety of spaces proved an excellent starting point for adaptive re-use.

An example of the design approach is the re-use of the four primary courtrooms:

The Antiquities and Monument Office deemed the courtrooms to be significant and worthy of conservation. Since there were four identical courtrooms on the second floor, a decision was made by the authorities to keep one courtroom intact, retain all of the moderately ornate door and entries which entered on to the central lobby, but to allow for the re-purposing of three of the courtroom spaces for classrooms or studios. The elaborate conserved courtroom is used as a lecture hall for art history classes.

One courtroom has been taken down to its original wall surfaces and subdivided to create two classrooms, and another court has become a sound design and mixing studio following the introduction of engineered walls, doors and soundproof glass windows.

The final court room has been reduced to bare walls and now holds a 'green screen' wall that takes advantage of the eight plus metre ceiling height for theatre students.

An example of retention rather than demolition can be found in the design programme for jail cells located at the ground floor of the new campus. The cells, which once housed up to forty prisoners, were constructed of concrete with concrete benches and latrines. Steel doors and reinforcement ensured that prisoners and detainees could not escape or move to public sections of the building. One jail cell out of the six was to be retained to ensure that an exact example of the cell and condition would survive for public viewing throughout the heritage programme.
Realising that the space created by the five benchless cells was suitable for offices and meeting rooms, SCAD decided to retain them in original configuration (complete with barred doors!) yet add lighting, climate control, IT infrastructure, and carpeting. The building was also made more up-to-date to comply, and exceed, with Hong Kong building codes and fire safety.

M&E Integration

Due to the new educational technologies introduced, numerous computer lab spaces, data servers, offices and classrooms are required to operate year round in controlled environments. Spot zoning of air conditioning was introduced, which reduces cost and increases energy efficiency. The lavatories are designed for high efficiency and minimal water uses, and lighting
is either LED or T-5 efficient florescent.
Design solutions for classrooms with high windows include the use of cloud ceilings. This simple and novel design keeps the drop ceiling system an average of 20 inches off of perimeter walls of the room, allowing for air circulation, a greater feeling of space as there is no hard termination point or line at the upper wall, and most importantly allows for the building's existing irregular windows to protrude above the ceiling line, yet also permits light to enter the classrooms.

Conclusions

With minimal change and investment, this building has been saved from the wrecking ball and turned into a more efficient, sustainable heritage building that retains important features of its past. A ground-up consideration such as this, where looking at what the building is best suited to do, rather than changing the building based on what is desired, proves that adaptive re-use of buildings is a carbon-saving and effective approach.

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