



Projects

A 'HANGING GARDEN' WITH A CREATIVE FAÇADE DESIGN

BACKGROUND

Located within the prime area of Singapore's Central Business District (CBD), the 10-storey high 158 Cecil Street (the original building is environmentally responsive. With floors receding inwards approximately 1.5 metres at each floor, shading was naturally provided. External shading devices on levels four to nine provided further shading to the building façade.

DEVELOPMENT

Through commercial activities over the years, changes in the form of amendments and alterations were made to maximise the site's development (within the site's limits). Meeting the latest planning guidelines, the latest A&A work sought to maximise the allowable Gross Floor Area (GFA) by adding new floors on levels 11 to 14 are supported by a new 1.5-storey high transfer-floor structure extending over 40 metres across the building's footprint. A new atrium was created within the boundary line forming a recessed but external 'atrium' juxtaposed neatly with the existing receding floor plates with

To avoid the need for sprinklers, fire-fighting or smoke extraction system provisions, the 'external' atrium space needs to be naturally ventilated to meet the ventilation requirements of the local authorities. Although the existing open metal mesh satisfies the fire department's guidelines, it did not meet the ventilation requirement.

PROJECT REQUIREMENTS

As an A&A project, the challenge for the design team was to create a meaningful space for the 'external' atrium. In order to achieve that, the design team had to design a façade treatment that looks contemporary and attractive, and to transform the atrium into a lively and pleasant environment for tenants.

APPROACH

The Façade

The primary objective is to maintain the 'atrium' as an 'external space' without the need for any fire-fighting provisions such as sprinklers, fire-fighting or smoke extraction system provisions. To meet the ventilation requirement, the façade must allow sufficient ventilation and enable natural smoke dispersal in the event of a fire. With this in mind, the design team created a layered façade where voids between the staggered full-height 900-millimetre steel mullions provided the free area needed. The gaps are left permanently 'opened', allowing air and light to penetrate deep into the atrium.

IGNesis Consultants were conducted to demonstrate that such a layout would provide the required free area for fire emergencies.

The 'Atrium'

The former 'mesh façade' appeared cell-like and aesthetically unappealing. The planters were also topped up with concrete that made them views. The entire atrium space, painted in dark brown, created an uninviting appearance. Thus, the architect's main task was to transform i

It was thought that a 'hanging garden' concept with additional 'visually interactive' elements could enliven the space. This also provided re the atrium. Existing planters were 'reinstated' with money plants draping over the edges—the plants droop from the newly created 'walkwa

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Kelvin is a Chartered Architect in the UK and Singapore with an MSc in Construction Management from Kingston University. With an ar structural glass design and the curtain wall industries, and has successfully designed and completed various glass/façade projects around in architecture, glass, façade and design capabilities, and 'green' technologies, Kelvin formed AgFacadesign (AgFd) in 2009. The AgFd a conceived by taking it from 'first principles' through a critical and analytical process while pushing the boundaries of design to maximise building.

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