

# Ng Teng Fong General Hospital and Jurong Community Hospital: Healing Through Greenery

Text by Jill J. Tan

Images by Ng Teng Fong General Hospital and Jurong Community Hospital

## Project Credits

Location 1 Jurong East Street 21,  
Singapore 609606 Client  
Ng Teng Fong General Hospital  
and Jurong Community Hospital  
Completion Date 2015 Design  
Architect studio505 Project Architect/  
Civil & Structural Engineer CPG  
Consultants Pte Ltd Landscape  
Consultant Peridian Asia Pte Ltd  
Mechanical & Electrical Engineer  
Parsons Brinckerhoff Pte Ltd  
Medical Planning Consultancy HOK  
Main Contractor GS Engineering &  
Construction Corp Interior Designer  
Bent Severin & Associates Pte Ltd  
Site Area 54,144m<sup>2</sup> GFA 182,355.6m<sup>2</sup>





“

Landscaping has been positioned as a unique architectural feature at NTFGH and JCH, complimenting the healing environment without compromising hospital operations—with rain catchment and irrigation systems helping to sustain the green areas.

Among the numerous accolades bestowed upon Ng Teng Fong General Hospital (NTFGH) and Jurong Community Hospital (JCH) since its opening, the commendation of Landscape Excellence Assessment Framework (LEAF) certification from the National Parks Board in November 2016 stands out—acknowledging the synergetic relationship between structure and operation at the hospitals. In addition to being lauded as a development project with outstanding greenery, NTFGH and JCH were further recognised as an Outstanding Project for having set new standards for urban greening excellence.

The infusion of greenery into the architecture and landscaping of NTFGH and JCH is purposeful rather than simply ornamental, spanning approximately 22,600m<sup>2</sup> of greenery that is designed to complement a core orienting principle of patient-centeredness. This considered approach was developed through a collaboration between HOK, a design and medical planning consultant, the Singapore Ministry of Health, prime architect and architect of record CPG Corporation, and Studio 505, a design collaborator focusing on building envelope development.

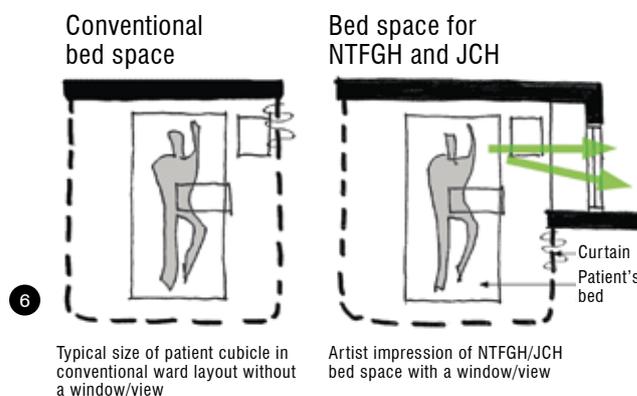
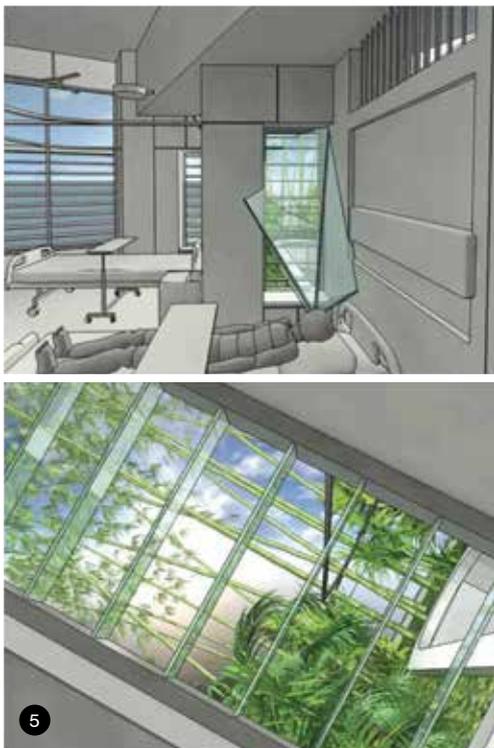
1, 2, 3. Strategically placed planters provide a unique and rejuvenating view from rooms.

Intent on enhancing the typical ward layout, the pioneering design for the NTFGH and JCH wards introduced an innovative new patient bed configuration in the naturally ventilated 6-bed and 12-bed ward rooms. This measure improved natural ventilation by 200% and gave each patient a personal bedside window with a green view and access to fresh air in order to facilitate the healing process.

The goal of providing “a window for every patient” was crucially extended to intensive care patients as well, in contrast to the often isolated and clinical intensive care units prevalent in typical hospitals. Within the ICU, an outdoor terrace was also integrated and fitted with the necessary equipment and supply points for stabilised patients to soak in some much-needed sunshine and fresh air as part of their rehabilitative care plan.

The hospital’s floor arrangement is also oriented to reduce solar gain and take advantage of natural breezes. In full consideration of Singapore’s humid climate, where wind and air circulation are the primary natural cooling mechanisms, the building is oriented towards the Northwest/Southeast direction for optimum exposure to prevailing winds and to minimise exposure to intense sunlight. Angled slats of doors and screens allow air or light to pass through. They provide shade, as vegetation does on the building’s exterior. Strategically placed planters and exterior gardens ensure that the views from each patient’s vantage point is lushly rejuvenating. These serve a dual function in enhancing the building’s one-of-a-kind facade that has proven to be a new gold standard in hospital and healthcare architecture.





“

Strategically placed planters and exterior gardens ensure that the windows from each patient's vantage point is lushly rejuvenating.

Besides having greenery visible from the window of every patient's room, pockets of greenery are also strategically spread out throughout the hospital grounds in the form of outdoor gardens and parks—serving as both functional and rehabilitative tools. Landscaping has been positioned as a unique architectural feature at NTFGH and JCH, complementing the healing environment without compromising hospital operations—with rain catchment and irrigation systems helping to sustain the green areas.

A selection of sustainable native plants populate the grounds: *Alstonia scholaris* trees provide screening along the perimeter and general areas, while blooms like the *Bauhinia × blakeana* (Hongkong Orchid Tree) and *Plumeria rubra* (red frangipani) bring much-needed colour into the gardens. Other plants like *Chrysophyllum cainito* (star apple), *Dyera costulata* (jelutong) and *Brachychiton acerifolius* (Illawarra flame tree) offer a lush variety of greenery within the spaces, chosen for their hardiness and ease of care in Singapore's tropical climate.

Lush landscaping on the ground floor aids in dampening ground-level noise, while protruding sky garden planters help to deflect noise so that patients are made comfortable during their stay. Meanwhile, rooftop gardens like the Healing Garden, located between two ward towers, offer shaded, healing enclaves for patients, staff and visitors alike to rest and rehabilitate. Nestled at the edge of NTFGH and JCH is the Mobility Park with simulated streetscapes and life-sized replicas of the three main modes of public transport to help rehabilitate patients.

Rated Platinum under Singapore's Green Mark program, NTFGH and JCH's design also employs sustainable design strategies to create its "vertical healing garden". The team used detailed computational fluid dynamics models, shading analysis, climate analysis, daylight modelling and energy modelling to optimise energy efficiency and patient experience. Green features of the project include solar thermal hot water heating and a large photovoltaic array. The team at NTFGH and JCH were keenly aware that water and energy efficiency was not only environmentally beneficial but cost saving. 

4. NTFGH and JCH's design employs sustainable design strategies to create its "vertical healing garden".

5. "A Window for Every Patient", the key design principle of the project.

6. A revolutionary improvement to the traditional hospital ward.