

# ITE College West REALISING WAVES OF TRANSFORMATION

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Images as credited



## PROJECT CREDITS

**Location:** 1 Choa Chu Kang Grove **Completion Date:** 2010 **Design Architect:** DP Architects Pte Ltd **Contractor:** Gammon Pte Ltd **Mechanical & Electrical Consultant:** Beca Carter Hollings & Ferner (S.E.Asia) Pte Ltd **Landscape Consultant:** Sitetectonix Pte Ltd **Interior Design:** DP Design Pte Ltd **GFA:** 114,480 m<sup>2</sup> **Site Area:** 95,400 m<sup>2</sup>

The landscape expresses and gives physicality to the Waves concept in a series of evolving experiences as users move through the site from north to south.

Completed in 2010, ITE College West is the second of three new divisions of Institute of Technical Education (ITE), following an initiative to consolidate its previous 10 campuses into three main ones. Generating a new sense of energy and dynamism through the use of curvilinear architecture and generous greenscape, this Services and Innovation College pushes customary vocational and technical education to the next level.

The new 10-hectare-large campus, with seven buildings and nine themed landscaped gardens, houses one of the most extensive training facilities, including a functioning hotel, fine-dining restaurant, supermarket, and music store. Great thought was put into its planning and development to ensure that the campus generates a boast to the education system and strategies for environmental sustainability are adopted and implemented.

The motto, “Waves of Transformation”, was adopted by ITE to reflect the forward-looking aspiration harboured by this reorganisation. ITE College West is designed with a capacity of 7,000 students in the day and 8,000 in the night. A series of four waves penned along the length of the site sets the defining lines for the seven buildings. The idea of “waves” is carried through to both eastern and western façades, intended to evoke a sense of energy and dynamism. The gentle site undulations intertwine with the conceptual curves to form a well-cushioned “heart” in the Events Plaza.

Similar to the architecture, the landscaping is conceived as fluid curves that work in tandem with the architecture to reinforce the overall concept. The landscape expresses and gives physicality to the Waves concept in a series of evolving experiences as users move through the site from north to south. Its design takes inspiration from organic forms in nature, with a series of abstract naturalistic forms that sweep along the ground plane. Formal and informal pockets of gathering spaces intertwine with earth formations, water elements, hardscape elements, and planting.

The overall character of the landscape is designed to imbue different degrees of grandness and formality; playfulness and excitement; serenity and tranquility; and wilderness and nature. A series of gardens progresses through the linear site, each distinguished by a specific purpose. For example, the entry North Plaza garden exudes a sense of dignity and formality to create a strong first impression, while the second-storey interior courtyards, named the Art and Code Gardens, provide repose and facilitate small gatherings.

The heart of the campus is the Events Plaza—a place to gather and a cause of excitement during large events—whose steps form informal spectator seating around a performance stage. Covered by a 2,800-square-metre Teflon membrane structure, the large elliptical-shaped outdoor amphitheatre has proven to be very successful as a venue for job fairs and college-wide performances. It recently hosted celebratory performances during the campus’ official opening in 2012, an affair graced by Prime Minister Lee Hsien Loong.

As a design statement, the architects wanted to use a single form of sufficient size to provide shelter to the Events Plaza, but still visually connect the upper floors around it to the ground plane. The advantage of using a lightweight membrane structure lies in the possibility of eliminating support elements other than cables. As Teflon is a semi-transparent material, natural daylight can reach the urban plaza without direct glare from the sun, providing a more comfortable environment. At night, it is able to reflect and diffuse the lighting from the spotlights below.

The fluid sweep of the organic terracing steps echoes the valley terrain of the existing site contours and original landform. In this respect, the landscape helps the architecture to transition down from the Events Plaza into the Sports Village. Connecting them is the Garden of Origins that draws inspiration from cultivated rice terraces, the original source for sustenance of the Asian world. The organic forms of these terraces wind up and down, in and out, stepping down

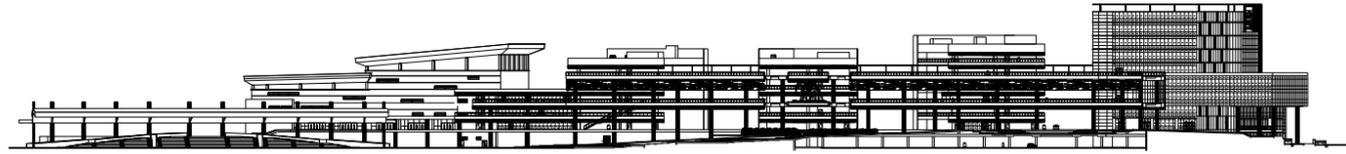




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Longitudinal Section Across Site (Drawing: DP Architects Pte Ltd)

over a level change of about five metres. The floor material is rustic and varied in colour and finish. Rough natural boulders are scattered throughout.

Several more beautiful and distinct landscaped gardens are incorporated on the higher levels. The Flower Garden on Level 5 of Block 3 is so named as it receives the most sun exposure, so many flowering plants can be used. Fluid and amoeboid forms are used, winding in and out of one another to create interest in an otherwise flat space. On the other hand, the Sky Lobby Garden at Level 6 of Block 2 is an interior space, where planting is limited to oval mounds of thin tall palms and bamboo, sliced by oval patterns of hardscape that are expressed in stainless steel.

Designed to host special events due to its exceptional vantage point, the Outlook Garden at Level 7 of Block 1 overlooks the sports field and sports village. The layout comprises a series of linear bands of varying materials, complemented by the trellises for shade that are also in linear bands. The garden has large trees strategically placed against the single building wall and the garden and for a short section facing the main road. A minimal approach to the landscape this time enhances the feeling of "sky".

One major emphasis of this campus is connectivity. A striking campus feature is the Innovation Walkway, which is a generous walkway with a width of between four to six metres that circumscribes and links all seven blocks at the fourth and sixth storeys. The Innovation Walkway serves as an important "highway" between the blocks, improving accessibility. It also encourages cross-disciplinary interaction while providing an opportunity to showcase exhibitions along its entire length.

Another key foundation of the design lies in the pedagogical principle of creating a borderless campus, with the zoning bubbles planned and created amorously to allow flexibility. Community participation is encouraged as the campus is designed with a fenceless concept

with retail shops aligned to the main spine on the second storey. Accessibility to the campus via public transportation is enhanced with the creation of an overhead link that connects the bus-stops along Bukit Batok Road directly to the campus at the third storey.

In 2009, the new ITE College West building was awarded a Green Mark Platinum Award by Building and Construction Authority, due to various environmentally sustainable design features adopted. Admirably, the green roof and rooftop gardens cover 40 percent of the total roof area. In addition to the extensive landscaping, the façade consists of low-emissivity glass and shading, with no part of the seven blocks facing the afternoon western sun.

The three teaching blocks for the schools of Business, Information Communications Technology, and Engineering are designed with perfect North-South orientation. These blocks are designed with a 8.9-by-13.2-metre grid to allow for different, flexible permutations of laboratories. M&E rooms and toilet clusters are positioned on the western face as an effective insulation buffer layer against thermal energy gain.

Rainwater harvesting tanks and the use of recycled construction materials and low Volatile Organic Compounds are but a few more of the key measures that were implemented. A reinforced earth retaining wall spanning 486 metres was also built along the perimeter boundary, minimising concrete and steel usage in construction.

ITE College West is one of the few campuses in Singapore that has extensive greenery and themed landscaped areas that help to sculpt a conducive, green environment for its occupants. As the first educational institution procured under the Public-Private Partnership arrangement, ITE and all the consultants were committed to ensuring that the development adopts green practices from inception to project completion. 



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1. ITE College West is a Services and Innovation College, one of three new divisions of Institute of Technical Education (Photo: DP Architects Pte Ltd).

2. A series of four waves penned along the length of the site sets the defining lines for the seven buildings (Photo: DP Architects Pte Ltd).

3. The main entrance at the North Plaza Garden (Photo: DP Architects Pte Ltd).

4. Conceived as fluid curves, the landscape design works in tandem with the architecture to express the college's motto of "Waves of Transformation" (Photo: DP Architects Pte Ltd).

5. Pockets of gathering spaces intertwine with earth formations, water elements, hardscape elements, and planting (Photo: DP Architects Pte Ltd).

7. Trellises at the Flower Garden on Level 5 (Photo: John Gollings Photography and Sitetectonix Pte Ltd).

8. Ascending the steps of the Garden of Origins from the Sports Village (Photo: John Gollings Photography and Sitetectonix Pte Ltd).

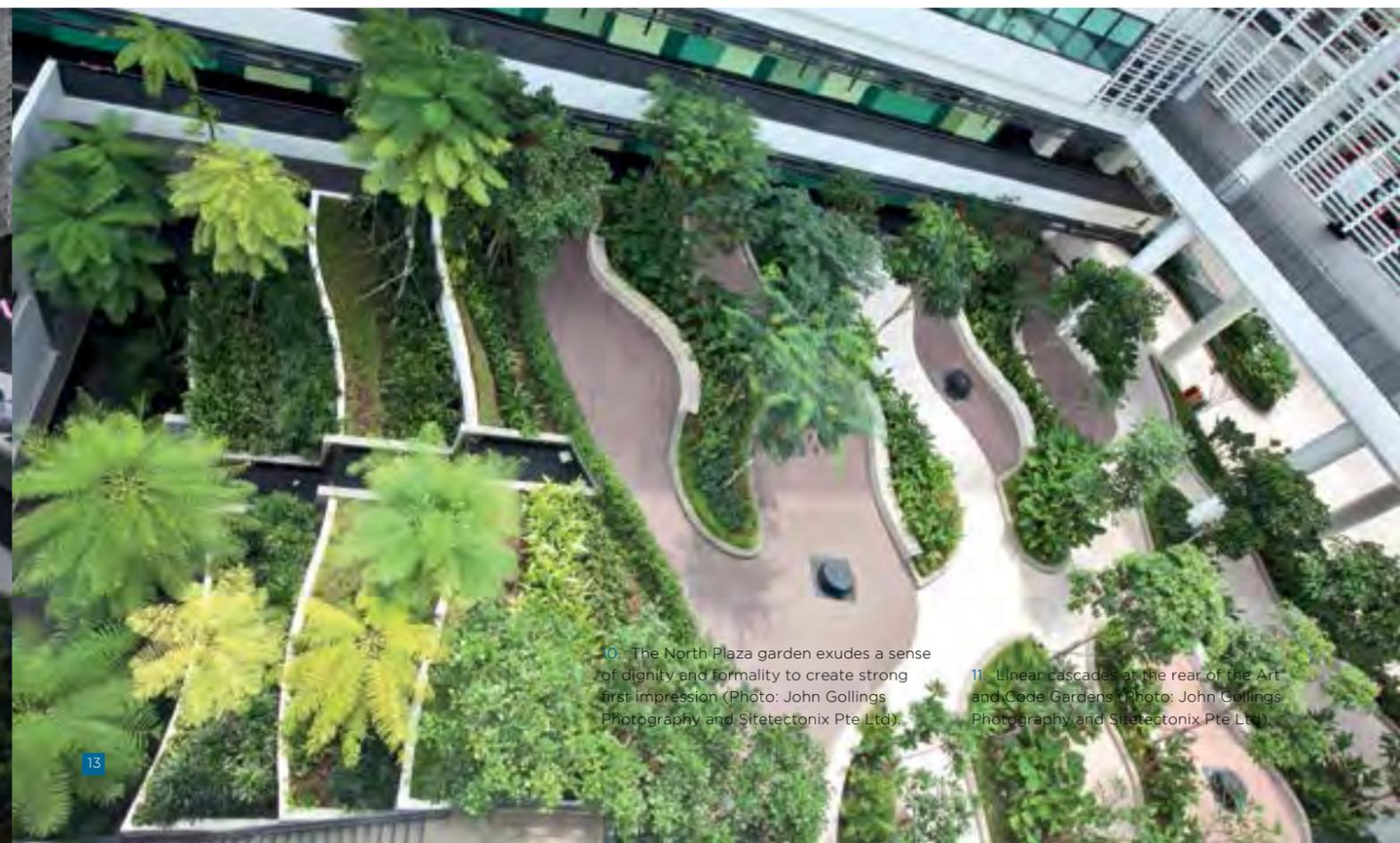
9. View of the Garden of Origins from the Code Garden (Photo: John Gollings Photography and Sitetectonix Pte Ltd).

10. The North Plaza garden exudes a sense of dignity and formality to create strong first impression (Photo: John Gollings Photography and Sitetectonix Pte Ltd).

11. The Events Plaza is covered by a Teflon membrane structure with minimal support structures to create a feeling of lightness (Photo: John Gollings Photography and Sitetectonix Pte Ltd).

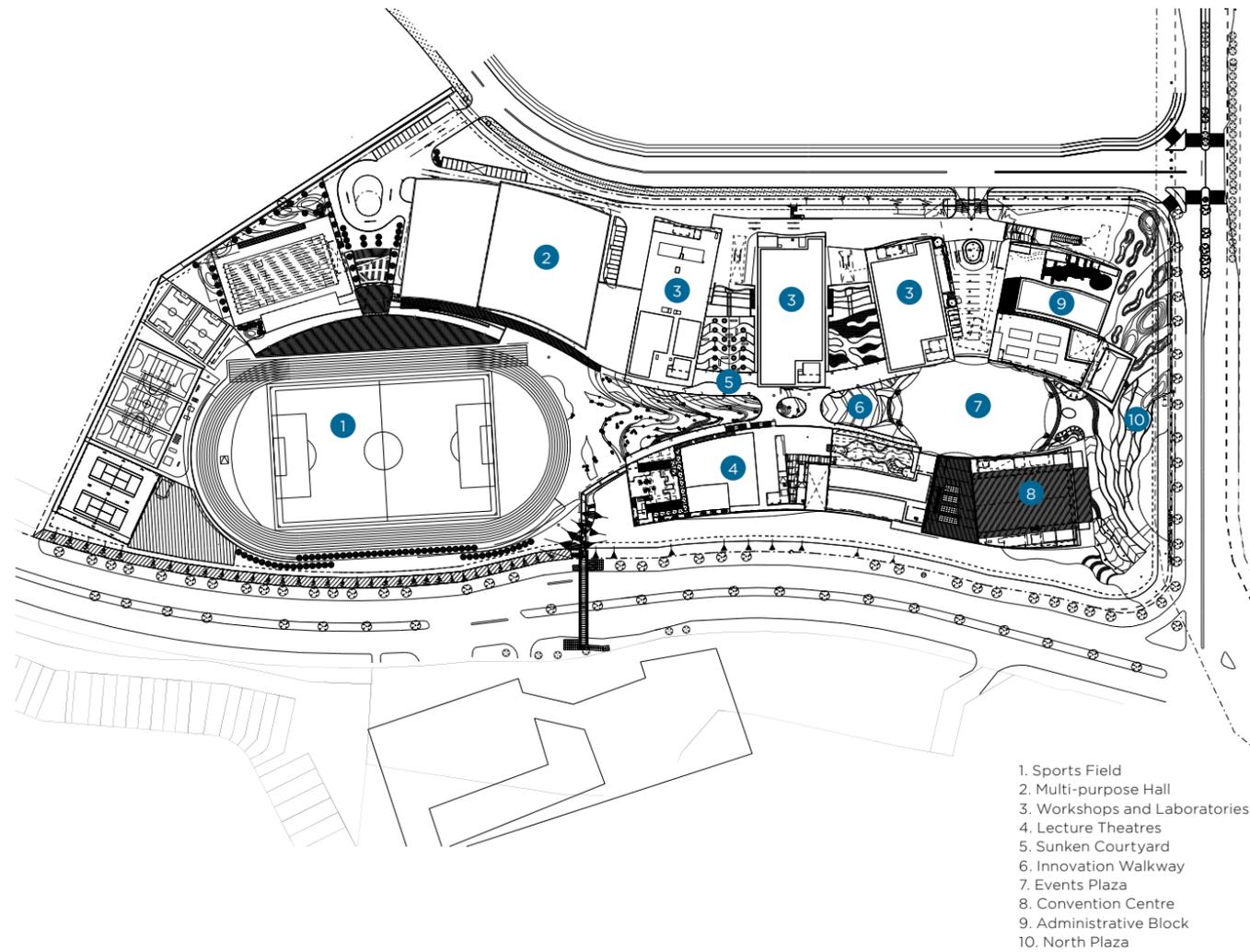
12. Linear cascades at the rear of the Art and Code Gardens (Photo: John Gollings Photography and Sitetectonix Pte Ltd).

13. The Art Garden is one of two courtyard gardens between the two school blocks (Photo: John Gollings Photography and Sitetectonix Pte Ltd).



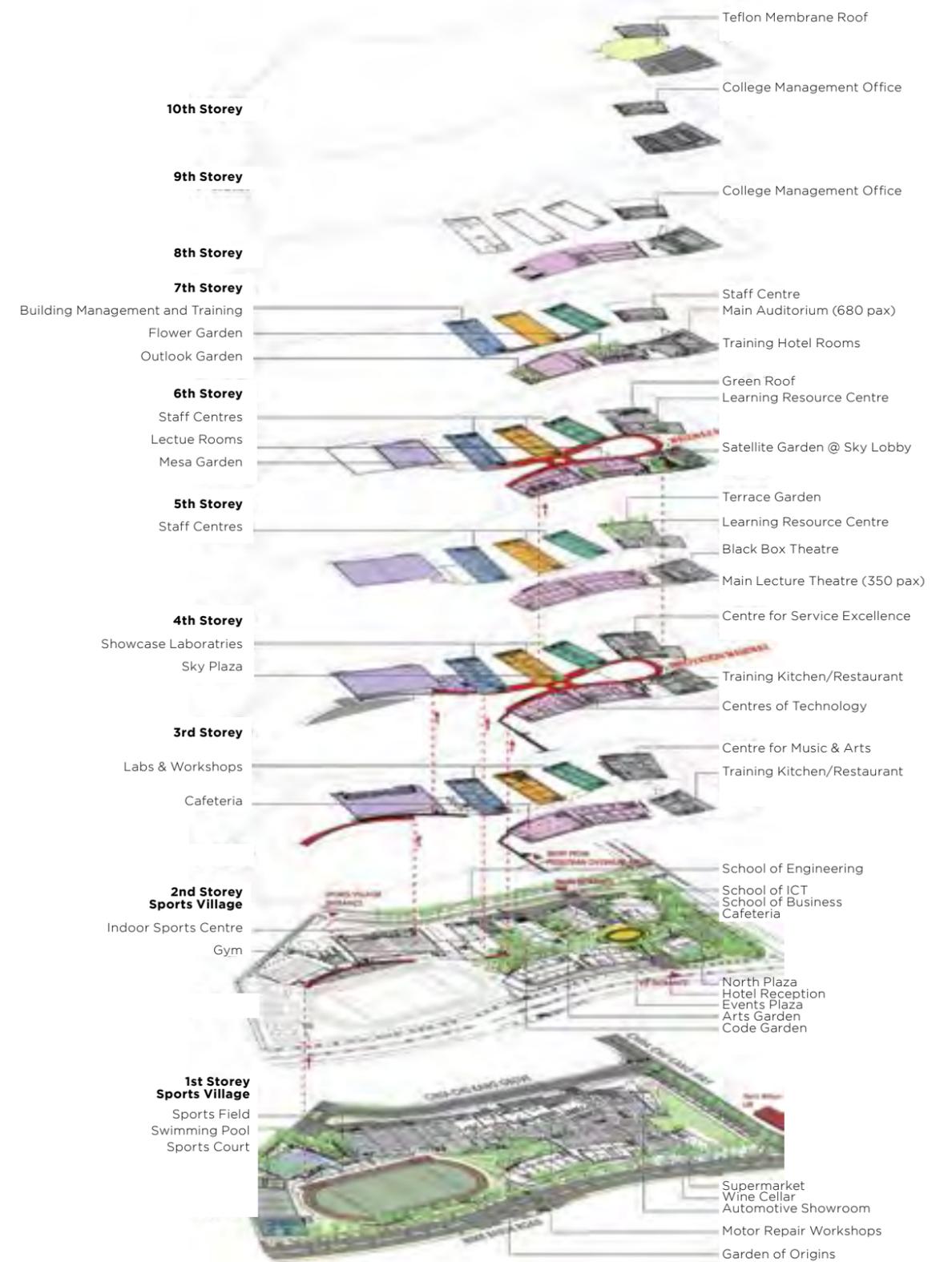
10. The North Plaza garden exudes a sense of dignity and formality to create strong first impression (Photo: John Gollings Photography and Sifetectonix Pte Ltd).

11. Linear cascades at the rear of the Art and Code Gardens (Photo: John Gollings Photography and Sifetectonix Pte Ltd).



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Site Plan of ITE College West (Drawing: DP Architects Pte Ltd)



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Stacked Floor Plans (Drawing: DP Architects Pte Ltd)