ARCHITECTURE ASIA

The Architects Regional Council Asia (ARCASIA)
26 Eng Hoon Street, Singapore, 169776

The Architectural Society of China (ASC)
9 Sanlihe Road, Beijing, China, 100835

Tongji University
1239 Siping Road, Shanghai, China, 200092

Tongji Architectural Design (Group) Co., Ltd.
1230 Siping Road, Shanghai, China, 200092

ARCHITECTURE ASIA SINGAPORE ARCHITECTURE AT 60 - A snapshot and reassessment JUNE 2025

ARCHITECTURE ASIA

SINGAPORE ARCHITECTURE AT 60 – A snapshot and reassessment

Journal of the Architects Regional Council Asia · www.architecture-asia.com · ISSN 1675-6886

ARCHITECTURE ASIA

Journal of the Architects Regional Council Asia (ARCASIA)

Co-Publishers

The Architectural Society of China (ASC)
9 Sanlihe Road, Beijing, China, 100835

Tongji University
1239 Siping Road, Shanghai, China, 200092

Contents

Editorial

Singapore is arriving at its 60th year post independence as a republic. Together with a long list of colonies of empire that had gained an independent status, it had arguably evolved most intensively. This is inevitable because of its small size and intense connectivity with international influences and with many of its nationals not even native to Singapore. It is a nation of migrants, with many also educated abroad.
Its leadership had also passed on from the Founders to a stable set of succession and more importantly a system of succession and institutional ethos that creates a kind of identity.
Its relative success in developing high growth and rapid change inevitably triggers a reassessment when, if personified as a person, the country had advanced to a "senior hood" if not maturity.
This "feeling "is like that of a person at the age of 60 reflecting upon matters as a kind of re-assessment. A reassessment of both achievements and perhaps where we may have room to grow.
I hope in the following compendium to offer a glimpse into is "mood of reassessment".
01. Ronald Tan takes us via "A survey of Singapore contemporary architecture" as an anchor essay.
02. Then we have the recent awardees of the Singapore Institute of Architects Design Awards, an award that is very popularly subscribed to by the fraternity. More telling is that the type of work, the current "Awardees" and the huge shiny complexes funded by huge corporations are juxtaposed starkly against the small, the nuanced, and the re-invigoration of heritage and tradition.
03. We see quite interestingly ground up initiatives by non-profit organizations like DOCOMOMO Singapore who takes great pains to flesh out a strong position and offer free options for State considerations. These non-profit function as research, education and advocate for the continuous reassessment of what is modern
04. The state itself is also very conscious of the community and assets that structures and patterns of use have turned buildings into key components of a place. This place awareness sees placemaking as now an important part of urban renewal. Sometimes is it not only about a new place but also the "old place". Delta Sports Complex is about an old place made new.
05. Climate and sustainability take on an urgency at every level. Net zero and low energy building require a rethinking on envelop, what is comfort and what is an acceptable balance between the needs of high. In NUS the efforts are spearheaded by the Department of Architecture no less in the form of SDE3 (School of Design and Environment Building 3) and recent reframing of the student centre at Yusof Ishak House. We see an intense attempt to re-frame, with the new low carbon, low energy buildings not just as devices to manage climate change but also to imbrue that agenda with an aesthetic.
06. On a allied yet telling journey on how Singapore is truly a Creative City of Design, Lai Chee Kien takes us through the very interesting design journey of our popular mascots.

About the Guest Editor

Fong Hoo Cheong

A graduate of NUS cum laude (1990) and University of Sydney (Illumination design) Fong Hoo Cheong, MSIA, BOA registered Architect is the owner and founder of HCF and Associates (HCFA) a boutique Architectural firm in Singapore from 2003 to present. While in practice Fong also has various other roles.
From 2015 to 2016 he was the editor of The Singapore Architect creating as series of folios that anchors the fundamentals of design discourse.
Fong served on the public board; Preservation of Sites and Monuments Advisory Board from 2016 to 2021.
An active member of the profession, he was Executive Director of the Singapore Institute of Architects 2016 to 2022.
A veteran architecture educator with 23 years in Design teaching from 2000 to present he specializes in foundational Design teaching.
His award-winning designs gained recognition in attaining President's Design Awards Design of the Year 2015.

Beneath All That Glitters: The Architecture of a Constructed Society

Surveying the Spatial Transformations of Singapore over the Last Decades

Ronald C. T. LIM

Image captions, credits & sources in table below this essay

Ar. Ronald C. T. Lim is a Singapore-licensed architect and design educator who works at the intersection of architectural culture, design research and practice. He has worked internationally for distinguished architects like Cesar Pelli and Fumihiko Maki and more recently, collaborated with Lekker Architects on groundbreaking design research. He also curated the first major retrospective exhibition for the newly launched Singapore Architecture Collection, "To Draw An Idea: Retracing the Designs of William Lim Associates / W Architects". Besides running his eponymous practice Ronald Lim Architect, Ar. Lim was also Co-Chief Editor of The Singapore Architect magazine and currently teaches at the National University of Singapore. He holds a Master of Architecture from Yale University.

Depending on who one speaks to, the city-state of Singapore conjures different images, impressions and meanings, which then frame and colour differing perceptions of its architecture. For an international audience, the prevalent image is likely that of a technological utopia humming with technocratic efficiency. Record numbers of international visitors (some 16.5 million in 2024) throng this global business city whose sparkling skyline of gleaming skyscrapers and the decade-old Marina Bay Sands (MBS) continue to define brand Singapore, the technotopia. This icon-filled skyline, itself the handiwork of generations of urban planners at the nation's Urban Redevelopment Authority (URA), glitters as demonstration of a Singaporean exceptionalism stemming from global capitalism.

The Singapore skyline.

Yet, this ubiquitous image of a global city par excellence illustrates but one outer facet of the polity's many simultaneous, overlapping realities. As a multicultural city-state with a polyglot society of diverse origins, special effort is made to weave and coax a common national experience in the everyday such that this diverse society also identifies itself as one people. Lee Kuan Yew, Singapore's founding prime minister, often proclaimed, "To understand Singapore and why it is what it is, you've got to start off with the fact that it's not supposed to exist and cannot exist ... we don't have the ingredients of a nation, the elementary factors: a homogenous population, common language, common culture and common destiny."
Therefore, beginning with policy and extending to the built environment, the Singapore government exerts every effort to create the common, accessible spaces and amenities that define the common Singaporean lived experience.

Notwithstanding the many options for outlandish Crazy Rich Asian luxury that entices Asian billionaires to park their wealth on the island, the large majority of everyday Singaporeans reside in large, heterogenous neighbourhoods that were planned and constructed by the state where public housing, neighbourhood retail and recreation co-exist with private condominiums for the upper middle-class.

Beyond the exclusive enclaves where Asia's wealthy elite reside (e.g. Sentosa Cove, image), the large majority of Singaporeans live in heterogenous neighbourhoods planned and constructed by the state, where public housing amenities co-exist with private condominiums. (e.g. Queenstown Estate, Singapore, image)
Every effort is made to create the common, accessible spaces and amenities that define the common Singaporean lived experience. (e.g. Ang Mo Kio Central, image)

To perceive and understand Singapore's architecture and urbanism only through an icon-studded, global neo-liberal gaze misses most of the plot behind Singapore's ongoing social and national construction that extends into built form and space. Charles Jenck's 2016 essay in the Architectural Review "Notopia: the Singapore paradox and the style of generic individualism" represents one such predictable, if unfortunate, surface-reading of cherry-picked icons from a Western gaze. Unlike the glitzy Middle-Eastern counterparts of Dubai or Doha with their predominantly expatriate population, the project of Singapore (the national polity, the city, the society, the economy) is a game of high-wire balancing between multifarious needs, desires and imperatives that are sometimes inherently conflictual.

Notopia: the Singapore paradox and the style of Generic Individualism

Charles Jencks' 2016 essay "Notopia: the Singapore paradox and the style of Generic Individualism" mystically interpreted Singapore's architecture and urbanism through the lens of the authored "iconic building"

Source: https://www.architectural-review.com/archive/notopia-archive/notopia-the-singapore-paradox-and-the-style-of-generic-individualism

Courtesy of HDB

Courtesy of CSYA Studio

Courtesy of Changi Airport Group

For every major big-ticket investment in Singapore's infrastructure to secure the country's future (e.g. Changi Airport Terminal 5, KPF & Heatherwick Studio), there are equivalent investments in social infrastructure like new housing estates (e.g. Tengah New Town, image below) and markets. (e.g. Jurong West Hawker Centre, by CSYA Studio)

Big-ticket superlative projects built for next-generation economic relevance (e.g. a massive new airport terminal, a new megaport that will be the world's largest container terminal, a new state-of-the-art entertainment arena) are counter-balanced with massive investments in social infrastructure (e.g. housing, education, healthcare, recreation) that fulfils the social compact between the state and its populace. In this arrangement, the state becomes a major provider and remediator of the socio-economic tensions latent in neo-liberal capitalism. Where economic growth alone cannot lift the tide for the population's more vulnerable segments, the state invests heavily in neighbourhood and other social support infrastructure to level the playing field. Political elections every five years are, in essence, a referendum on the ruling party's effectiveness in remediating these tensions.

The spectacularity of Moshe Safdie's donut-shaped Changi Jewel, featuring the world's tallest indoor waterfall encircled by a forested terrace, may captivate and dazzle visiting travellers with its sensorial biophilia. Yet, for every attention-grabbing structure designed for global Instagrammability, there exist many other less publicised but equally fascinating permutations of social typology that are transforming the fabric of everyday life for the Singaporean heartlander. Integrated complexes like Our Tampines Hub – a gleaming community complex on a 5.3-hectare site integrating a library, swimming complex, stadium, neighbourhood retail, community centre and seamlessly plugged into transit – are turbo-charging community life in Singapore's public housing New Towns.

Extrapolating the Modernist maxim "form follows function" and its capitalist counterpart "form follows finance," in Singapore both function and finance follow policy, which indelibly shapes its architecture. One can say, "Form follows policy."

Wikicommons

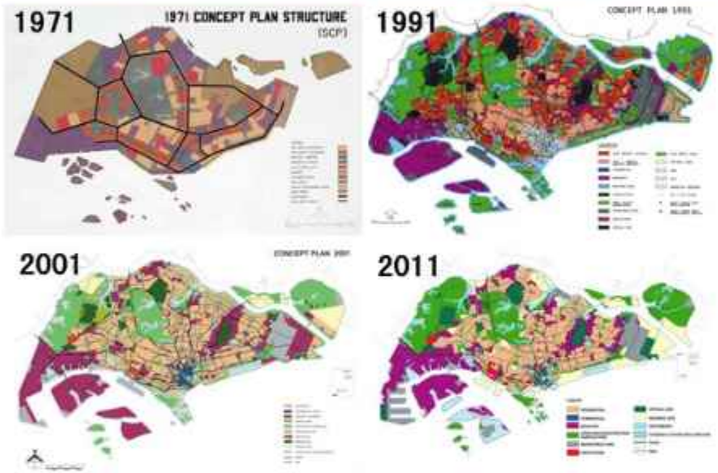
Changi Jewel, an imaginative lifestyle complex located at Changi Airport, designed by Moshe Safdie.

Courtesy of DP Architects

Our Tampines Hub, a hub for integrated community, recreational and public services by DP Architects (2017).

Urban Densification and Regulatory Form

At the time of Singapore's independence in 1965, her population was hardly 2.5 million. This figure has since swelled to over 6 million people today. With a land area of 735 square km (i.e. just 1/3 the area of metropolitan Tokyo) and with over a third of her land reclaimed from the sea, securing possibilities for the city-state's future development requires a rigorous methodical approach to shape the urban policies and regulations that can, at times, seem unrelenting. Every 10 years or so, the Urban Redevelopment Authority (URA) systematically reviews and updates Singapore's Concept Master Plan, setting out the broad brushstrokes for the next 30 to 50 years of its development. This eventually cascades down to operationalised control parameters like plot ratios, building setbacks, and urban design guidelines to control massing bulk, which then guides subsequent building development on individual sites.



The Urban Redevelopment Authority (URA) updates its Master Plan of Singapore every 10 years or so, taking into account the nation's complex and evolving needs.
Source:
https://www.sg101.gov.sg/infrastructure/urban-planning/longterm/

Kampung Admiralty, a WoHa-designed complex, integrates senior-friendly apartments with a rooftop park, medical centre, hawker centre and neighbourhood retail.

Eunoia Junior College, a new-generation "high-density" school typology with its elevated stadium and running track.

Singapore's official "Land-Use Intensification" policy encourages redevelopment with a higher built density as a precondition for lease renewal, where most properties are on an expiring 99-year lease. This adds impetus to a brownfield demolish-and-rebuild dynamic where buildings inevitably get bigger, taller and more complex. Once-standalone amenities like the polyclinic, the school or the community centre are now combined into mix-and-match permutations of dense, one-stop urban typologies located on superblock land parcels. Kampung Admiralty, a WoHa-designed complex integrates senior-friendly apartments with a rooftop park, medical centre, hawker centre and neighbourhood retail. Other densification examples are less mixed and more consolidative like Eunoia Junior College, a 10-storey junior college (i.e. high school) campus complex with a massive elevated stadium deck or the many 50-storey public housing complexes woven with landscaped community decks currently under construction. Whether for hospitals, schools or other amenities, integrated mega-consolidation yields impact at scale. Land has become too precious and expensive for what used to be modest, standalone buildings. In this high-density "land-use intensified" Singapore, new small-to-mid-sized building developments that conjure intimacy, human scale and urban fabric will become increasingly rare.

For the URA and its sister agencies like the Building & Construction Authority (BCA) and the National Parks Board (NParks), a plethora of regulations and incentives attempt to coax outcomes that the state perceives as positive for the built environment and its ecosystem. Of this smorgasbord of carrots and sticks, URA's definition of gross floor area (GFA) or conditions for when it grants a project "bonus GFA" is a most powerful incentive tool for private developers.
Exempting certain desired spaces like communal sky terraces from GFA calculation incentivise developers (who seek to maximise rentable area) to provide these features that they would otherwise exclude. URA considers granting bonus GFA in other circumstances if the developer offers a public good encouraged by the state – like providing community amenities, conserving an adjoining heritage structure, installing public art, using district cooling, etc. As an accompaniment, BCA uses its "Buildability Score" requirement to incentivise the adoption of precast and prefabricated technology that reduce reliance on construction labour.

The Building & Construction Authority promotes the adoption of technology in new construction – like the use of volumetric construction (this image) and mass-engineered timber

Gaia@NTU, a mass-engineered timber building designed by Toyo Ito.

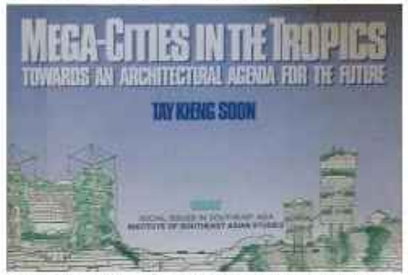
These KPI-induced state regulatory levers have exerted an indelible imprint on the built environment. The myriad towers with sky terraces, constructed biophilia, examples of lego construction with high repeat factors, and mass-engineered timber buildings point to the state's success in translating its objectives into tangible outcomes, ranging in aesthetic results from the compelling to the outright drab-and-ugly. For the everyday practising architect in Singapore, navigating the overlapping regulatory frameworks of different agencies with their own mandates and self-perpetuating KPIs is no simple walk in the park. While they illustrate effective policy implementation, there is a growing tendency among local architects of "designing to the regulation" (much like how its students "study to the examination syllabus"). In a competitive economic milieu of trim margins where "fee burn" is an ever-present reality, the appetite for bottom-up critical design responses that do not dovetail neatly into these state-defined regulatory frameworks has narrowed. Within this highly regulated landscape, the basic organising diagram for each building varies and differentiates within a narrow latitude. In Singapore, form follows regulatory parameters to a T.

Institutionalising Urban Biophilia

In recent years, the image of buildings draped in luxuriant tropical greenery growing from architectural planters or on vegetated screens on a building's facade has become synonymous with the architectural brand of Singapore. The earliest such examples of such architecture were introduced to Singapore in the 1980s by the Honolulu-based firm Wimberly, Whisenand, Allison, Tong & Goo, which designed The Arcadia condominium (1984) and the Garden Wing of the Shangri-La Hotel (1985). These early examples sold a romantic narrative of luxuriant tropical gardens amidst generous built form, and the approach was further developed into a theoretical urban agenda in the following decades, most notably with pioneer architect Tay Kheng Soon's treatise "Megacities in the Tropics" (published in 1989) and his proposal for Kampung Bugis Development Guide Plan (c. 1990) where urban typologies would offer vegetated green relief at a large scale. Within two decades, the first architectural realisations of these high-density verdant typologies would be completed by WoHa Architects – notably Newton Suites condominium (2008) and its School of the Arts (2008).

Source: Oasiamia SG website, photography by Darren Soh

The Arcadia (1984) designed by the Hawaii firm Wimberly, Whisenand, Alison Tong & Goo was among the first buildings in Singapore to integrate greenery.



The idea of urban typologies planted with greenery was developed into a theoretical proposition by Tay Kheng Soon in his 1989 publication "Mega-Cities in the Tropics" and his proposal for Kampung Bugis Development Guide Plan in the same year.

Newton Suites by WoHa Architects. (c. 2007)

As a natural outcome, the state's regulations have caught up to further institutionalise and systematise these developments. One unique metric is the "green replacement ratio," a metric originally developed internally by WoHa Architects to prove that new building projects can compensate, or even multiply, displaced surface vegetation on the original building site. Specific proof-of-concept projects like their much publicised Parkroyal Pickering Hotel (2013) and Oasia Hotel Downtown (2016) proved that their buildings can achieve "green replacement" ratios of anywhere between 2 and 9. These projects have given URA the confidence to institutionalise the metric, setting minimum requirements for planted surfaces on new buildings and also as a yardstick for other GFA incentives. This has led to widespread adoption and normalisation of constructed biophilia in private sector projects.

Courtesy of Pan Pacific

Courtesy of WoHa Architects

Parkroyal Pickering Hotel (2013) and Oasia Hotel Downtown (2016), designed by WoHa architects, attained "green replacement" ratios of between 2 and 9.

On an ever-heating planet where Singapore's tropical climate is not invulnerable to the effects of global warming, greenery is increasingly deployed as a technique to mitigate a rise in ambient temperatures. For buildings at an architectural scale, vegetated surfaces help to mitigate heat through latent heat of evaporation and covering surfaces otherwise exposed to the sun, helping to moderate air-conditioning loads. These plantings often flank naturally-ventilated communal or circulation spaces. WoHa's recently-completed BRAC university in Dhaka, Bangladesh suggest that this model of climatically-adapted high-density urbanism is starting to be exported to the global south. Beyond visual rhetoric, the benefits of constructed biophilia are real and measurable. Nevertheless, the glib tendency of couching such greenery-draped biophilic buildings as "sustainable" masks the inconvenient truth of the amount of embodied carbon involved in constructing (in concrete) the hard structures to begin with, not to mention the costs of initial demolition. This conversation is only starting to surface within the state's regulatory body politic. A major complement to the above "systematised biophilia" is the spatial typology of the Sky Garden, a key architectural feature in high-rise towers in Singapore (both commercial and residential) that is highly-encouraged by URA through GFA-exemption. These are essentially communal, airy landscaped decks located on a tower's intermediate floors or upper floors, offering gathering spaces with panoramic views. These spaces have proliferated, becoming a normal feature in many commercial and residential towers. A few noteworthy projects meaningfully expand this lexicon to push the boundaries of possibility. BIG's Capitaspring Tower, connected four skygarden floors sectionally to create a mid-tower neighbourhood of restaurants and lifestyle offerings. The Oliv by W Architects, a mid-rise residential tower, fronted each duplex unit with a sky terrace to extend each apartment's private domain, reconvening the feel of a villa.

BRAC University by WoHa Architects in Dhaka, Bangladesh.

The Oliv by W Architects uses the sky terrace as a front for each duplex unit, reconvening the spatial feel of "villas in the sky"

The sky gardens in Capitaspring Tower by BIG (2021) are sectionally linked and programmed with restaurants and lifestyle amenities.

Resetting Public Housing & Neighbourhood Centres

With one of the highest home-ownership rates in the world, over 80% of Singapore's population live in the city-state's public housing estates. This represents a large swathe of the local population, covering the lower-income to the upper-middle income brackets. As a side anecdote, cars of luxury makes are not an uncommon sight in public housing estates. Relative to free-market-priced private condominiums, restrictions on the public housing market have kept these apartments within a relative range of affordability unseen in other global cities like Hong Kong, London, and New York where home ownership is out of reach for many. In Singapore, preserving citizens' access to affordable housing remains a cornerstone of electoral legitimacy for the ruling party, and this topic remains a hot-button issue at every election. A generation ago, the government sold the concept of public housing as an appreciating asset that made citizens wealthier. Today, this same asset appreciation has raised barriers to ownership for young couples and families, requiring the government to double-down on responding to their aspirations and needs.

Pinnacle@Duxton (ArcStudio, 2008) was one of Singapore's first 50-storey high-density residential estates.

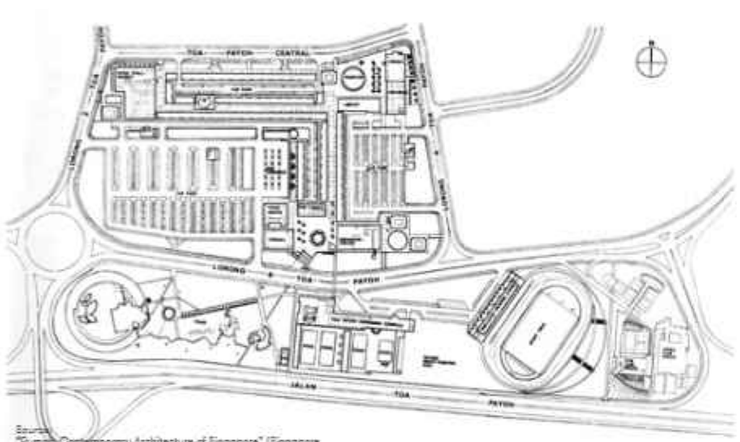
Skyville@Dawson (WoHa Architects, 2015) follows and improves on the model defined by Pinnacle@Duxton.

Skyterrace@Dawson by SCDA Architects (c. 2015)

Skyresidence@Dawson (Surbana Jurong, 2023) with its syncopated heights.

Whereas the earliest objective of public housing was the renewal and resettlement of slums (c. 1960s to 1970s), this subsequently evolved to the encouragement of community identity and social mixing (c. 1990s onwards). Beginning with the high-profile Pinnacle@Duxton by ArcStudio (2008), Singapore's first high-density 50-storey residential complex, successor iterations of public housing have consolidated to higher densities and included a higher design component – all while maintaining affordability, economy, and the standardisation factor that precast construction demands. The Pinnacle's successors, Skyville@Dawson (2015, WoHa Architects) and Skyterrace@Dawson (2015, SCDA Architects) further evolved the typology with explorations of the spatial and visual languages possible in standardised 50-storey towers where painted concrete is the primary means of material expression. Skyville@Dawson, in particular, broke the complex's scale down into sub-neighbourhood units (what it calls "sky villages") – each with its own community terrace. This typological evolution continues to this day. Skyresidence@Dawson (c. 2023, Surbana Jurong), while architecturally less refined than its predecessors, features syncopated tower heights in a searching balance between form, urban density and height. The complex wraps around a conserved 1950s market that has been adaptively-reused into a new lifestyle hub.

Source:
"Rumah: Contemporary Architecture of Singapore" (Singapore Institute of Architects, 1991)



Source:
"Rumah: Contemporary Architecture of Singapore" (Singapore Institute of Architects, 1991)

Toa Payoh Town Centre in the early 1970s was planned as an amenity centre for Singapore's first satellite housing township of Toa Payoh.

Toa Payoh Town Centre today at a higher built density.

When the Housing & Development Board (HDB) planned the city-state's first New Towns in the 1960s and 70s, the nucleus of each satellite town was the neighbourhood centre. Within these planned amenity centres, generous pedestrian plazas would link community shops with a wet market, polyclinic, library, cinema, bus terminal and other such facilities, adapting from the model of British New Towns like Milton Keynes. With four decades of subsequent population growth and infrastructural development, a new level of intensity percolates these town centres now served by Mass Rapid Transit. The land in these town centres is now precious, valuable, and re-developable. This has led to a level of spatial reconsolidation that is happening in many of Singapore's "mature estates." New "neighbourhood hubs" built at a higher density, consolidating once-standalone amenities into various programmatic permutations, are being planned and built across Singapore with the objective of freeing land once occupied by the older amenities for other strategic or rentable uses.

Courtesy of DP Architects

Our Tampines Hub, the first "whole-of-government" attempt to create a one-stop-shop of civic, recreational, institutional and public service functions.

Section of Kampung Admiralty showing integration of different community and age-friendly programmes.

Courtesy of Serie Architects, photography by Hufton Crow

Oasis Terraces: a retail, polyclinic and community complex in the Punggol neighbourhood by Serie Architects. (2019)

Courtesy of DP Architects

Bukit Canberra by DP Architects. (2022)

One of the earlier test beds of this hub concept is Our Tampines Hub (2017, DP Architects), a massive community complex that serves as a one-stop-shop of civic, recreational, institutional and public service functions – hosting government offices, a hawker centre, stadium, library, swimming complex, community auditorium and other functions. Underlying this project was the state's pitch for a holistic "whole-of-government" experience that breaks down the silo-mentality inherent in the bureaucracy of government agencies. Other such hubs feature different programmatic permutations. Kampung Admiralty (2018, WoHa Architects) is pitched as an elder-friendly development, combining senior-friendly apartments with a polyclinic, food centre, neighbourhood retail, and a sheltered community plaza linked seamlessly with mass transit. In the singular Oasis Terraces (2019, Serie Architects), the programming is predominantly shops accompanied by a polyclinic and blended with a massive ramped rooftop community park. The most recent of these neighbourhood hubs, the sports-oriented Bukit Canberra (2022, DP Architects) pitches a narrative of regenerative ecology through planted biophilia over contiguous hexagonal units that blur the distinction between indoor and outdoor.

Enhancements to the original Ang Mo Kio Town Centre by Zarch Collaboratives.

Among the first "net zero" energy buildings to be built in Singapore is SDE4 at the National University of Singapore (2019, Serie Architects). This building tackles operational carbon, combining passive design strategies with photo-voltaic panels and a hybrid-cooling system that allows it to consume less energy than it produces. The adjacent SDE1 and SDE3 buildings, whose renovation and adaptive re-use was undertaken by Pencil Design (a design practice led by NUS professor Erik l'Heureux) start to shift the focus from operational to embodied carbon. The extensive, yet sensitive, remodelling proved that 40-year-old buildings constructed for an earlier era could be "updated" and made more attractive without needless demolition before the end of a building's life-cycle. Pencil Design's recently-completed remodelling of Yusof Ishak House, a legacy student amenity centre at NUS, are another example of the aesthetic and formal possibilities of low-embodied-carbon adaptive re-use.

Adaptive Re-use and Carbon Responsibility

As a low-lying coastal city-state, Singapore is particularly vulnerable to the effects of climate change. The government has thus set out an aggressive agenda to half carbon emissions from its peak by 2050 to fulfil its international treaty obligations under the Paris Agreement, notwithstanding the city-state's high dependence on important natural gas for its electricity needs with few renewable alternatives. For context, the ubiquitous solar panels installed all over Singapore contribute less than 1% to Singapore's total energy mix. With the built environment responsible for about 40% of the world's carbon emissions, the imperative to do more is high. Of specific note is the distinction between "operational carbon" (energy used to operate the building) and "embodied carbon" (energy consumed to construct the building).

In terms of operational carbon, the city-state has made steady progress. The Building & Construction Authority (BCA)'s Greenmark certification programme, in place for 20 years, has steadily advanced the agenda and imperative for energy-efficient buildings. Even in air-conditioned tropical Singapore, consensus on the imperative for passive design strategies to mitigate heat gain and unconscionable energy loads for air-conditioning has grown. Where embodied carbon is concerned, however, the carbon costs of the island's wanton demolition and redevelopment are still not captured in a regulatory system of accountability or disincentive. Unfortunately in Singapore, the tendency to demolish buildings before the end of their life-cycle instead of adaptively re-using them proceeds with general impunity.

Courtesy of Serie Architects, photography by Rory Gardiner

The SDE4 Building at National University of Singapore, one of Singapore's first Net Zero energy buildings, by Serie Architects.

Courtesy of Pencil Design, photography by Fintan Fallon

SDE1 & SDE3 buildings at the National University of Singapore by Pencil Design, an adaptive re-use of 40-year-old campus buildings.

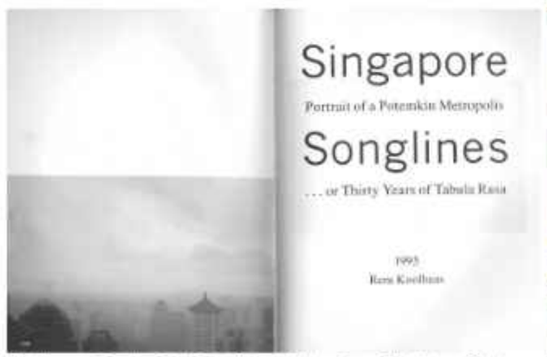
Courtesy of Pencil Design

Yusof Ishak House, adaptive re-use design by Pencil Design.

Among the first "net zero" energy buildings to be built in Singapore is SDE4 at the National University of Singapore (2019, Serie Architects). This building tackles operational carbon, combining passive design strategies with photo-voltaic panels and a hybrid-cooling system that allows it to consume less energy than it produces. The adjacent SDE1 and SDE3 buildings, whose renovation and adaptive re-use was undertaken by Pencil Design (a design practice led by NUS professor Erik l'Heureux) start to shift the focus from operational to embodied carbon. The extensive, yet sensitive, remodelling proved that 40-year-old buildings constructed for an earlier era could be "updated" and made more attractive without needless demolition before the end of a building's life-cycle. Pencil Design's recently-completed remodelling of Yusof Ishak House, a legacy student amenity centre at NUS, are another example of the aesthetic and formal possibilities of low-embodied-carbon adaptive re-use.

Delta Sports Complex by Red Bean Architects. The project enhances its relevance to the surrounding community through selective stitching, minor demolition and additions to a complex built in 1979.

The mindset of adaptive re-use has started to make its way to other community projects in Singapore. Many of these projects arose less from a sense of carbon responsibility and more from limited budgets that do not permit outright redevelopment. Nevertheless, they present positive test cases for how frugal resources can achieve exponential transformation when deployed intelligently and sensitively in an existing built structure. Of these, the most exemplary is the renovation and expansion of Delta Sports Complex (2023, Red Bean Architects). Originally built in 1979, the adaptive re-use saw an accretion of acupuncture stitches, surgical demolitions and design moves to breathe new life and circulation into the building, restoring its relevance and attractivity to the building's surrounding community.



"The Singapore Songlines: Portrait of a Potemkin Metropolis .... or Thirty Years of Tabula Rasa" in S,M,L,XL , a critique of Singapore's urbanism by Rem Koolhaas written 30 years ago.

New Bahru by FARM, c. 2024.

There is a growing awareness that a template model for demolition and redevelopment would only result in more generic spaces devoid of identity, reflective of the "tabula rasa" critique first reflected in Rem Koolhaas' 1996 text "The Singapore Songlines." As such, alternative bottom-up models of urban development are starting to emerge as proof-of-concept test cases. One such example is New Bahru, a new F&B lifestyle complex located at the 1960s-built Nan Chiau School campus originally designed by colonial-era architect James Ferrie. (2024, adaptive re-use by FARM). Developed by local hospitality group Lo & Behold Group which carries a series of unique restaurant brands, this complex offers a curated series of local boutique and restaurant brands, offering itself as a uniquely-authored counterpoint to the generic retail commercialism that pervades much of Singapore.

Singapore's conservation programme of its vernacular and colonial built heritage started early in the 1980s. Today's challenge is the fight to conserve its Modernist heritage.

Conservation Meets Modernism

Relative to other countries and cities in the region, Singapore's conservation programme had an early start. In the late 1980s, after close to two decades of urban renewal that came at the expense of its vernacular and colonial built heritage, the URA launched Singapore's first Conservation Master Plan to conserve entire districts of shophouses and other buildings of architectural or cultural merit. Almost forty years on, the conservation challenge has now turned to a different kind of "heritage" for which no systematic framework exists to protect this layer of history – that of Singapore's post-independence, modernist buildings that bore witness to the city-state's industrialisation.

The Singapore Conference Hall, designed by the Malayan Architects Co-Partnership (c.1965) was unsympathetically renovated before its gazetting as a national monument.

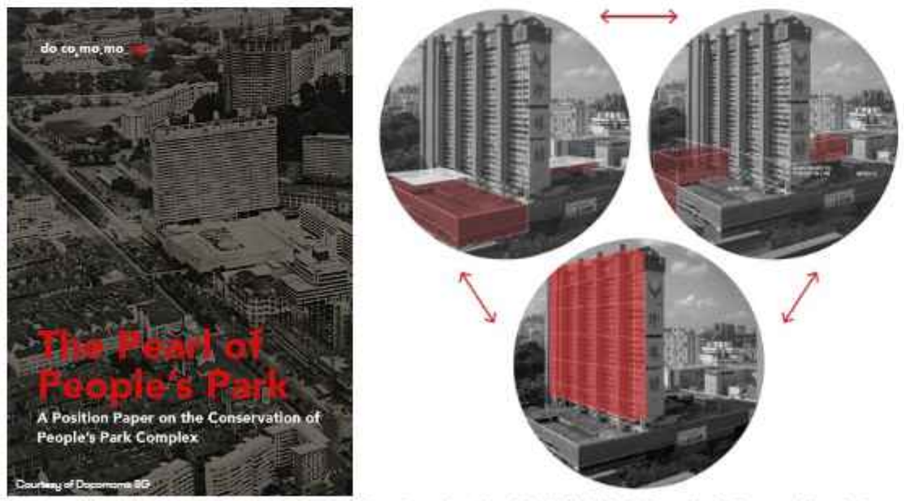
Jurong Town Hall, the first of Singapore's post-independence buildings to be gazetted a national monument and restored.

Pearl Bank Apartments by Architurban Architects (c. 1976), since demolished.

Possibly the first of these modernist buildings to be deemed nationally important was valorised too late. The groundbreaking Singapore Conference Hall designed in the 1960s by the pioneering Malayan Architects Co-Partnership was declared a national monument in 2010, only after it had been unsympathetically renovated a decade earlier to the disappointment of many. Over the subsequent decade, significant progress was made in the conservation and adaptive re-use of other state-owned landmarks like the brutalist Jurong Town Hall and Subordinate Courts (now redeveloped as the State Courts, Serie Architects, 2019). For such government buildings, conservation and responsible redevelopment was generally straightforward with the state being able to set a progressive example with the high-integrity conservation of these landmarks.

A much bigger challenge lies with the many privately-owned buildings of cultural and architectural merit. The aforementioned state "land-use intensification" policy together with decaying leases and stratospheric land prices is placing immense pressure on many such buildings to be sold for redevelopment at a higher density. For their aging owners, many such properties have also grown expensive to maintain and repair. The first significant landmark that fell prey to this dynamic was the brutalist Pearl Bank – a cylindrical-shaped residential tower built in the mid-1970s. Pearl Bank's demolition galvanised the formation of the modernist heritage advocacy group Docomomo's Singapore chapter, spawning more active documentation, public education and policy advocacy efforts.

Golden Mile Complex, the first privately-owned post-independence structure to be gazetted for conservation, is being redeveloped. With additional GFA to make it commercially viable, the integrity of the original structure's massing is altered.



Docomomo SG's position paper on People's Park Complex builds on lessons learnt to anticipate "high-integrity" scenarios for the responsible redevelopment of the complex.

The lessons from Pearl Bank's demolition led to more robust efforts by both government and stakeholders to save these icons, culminating in the gazetting of the brutalist Golden Mile Complex in 2021 for conservation. As part of a quid pro quo, the URA offered generous GFA incentives to secure the building's business model. This complex's adaptive re-use and redevelopment is currently being led by DP Architects, with mixed reactions on the integrity of the final design. The cause of conserving and responsibly remodeling such modernist buildings continues to evolve as a work-in-progress. Docomomo SG's recently-published position paper on People's Park Complex (the sister building to Golden Mile Complex) simulated scenarios for responsible development, attempting to define new paradigms for how such forms of conservation and adaptive re-use should proceed.

Paradigmatic Ethical Responses from the Next Generation

One of the unspoken challenges of the earlier mentioned consolidation towards larger-scale complexes and a track-record-based procurement system is that many younger practices in Singapore face increasing barriers to new building commissions, when compared to firms established a generation ago. The increasing cost of land and construction has also narrowed clients' appetite to take design risks in an expensive city-state where dollars-and-cents wield inordinate influence over decision-making compared to visionary intent. This dynamic has led to most buildings in Singapore being maximalist permutations of efficiency – including for small landed residential projects – where design authorship becomes secondary. Whereas an earlier generation of firms like WoHa started their practices with housing commissions as a testing-bed for theoretical ideas (e.g. tropical tectonics), today's young practices are relegated to pursuing tactical design opportunities within experiential interiors, limited-budget remodeling projects, and even paper speculations.

"Brick and Mortar Shop" by L Architects uses discarded "off-cut" stones and chip tiles with concrete hollow bricks to create a sensual tactile interior of material economy.

Sukasantai Farmstay by Goy Architects. The building redeploys the simplicity of generous eaves in vernacular regional architecture. It sits gently on its site, using humble materials that reflect indigenous Southeast Asian crafts in a contemporary way.

Nevertheless, this has not prevented younger architects from advancing new, ethical propositions in spatial design, expanding the scope of architectural practice beyond the conventional task of designing and erecting a building. Within the confines of resource limitations, these practices are testing out new research-informed ethical paradigms (e.g. social inclusion, circular material ecologies) that were hitherto absent from local architectural discourse, reflecting a growing diversity of design approaches. "Brick & Mortar Shop" (2021, L Architects) is an interior kitchen-appliance showroom that uses discarded "off-cut" stones and chip tiles with concrete hollow bricks to create a sensual tactile interior of material economy. Goy Architects is another practice that taps the potential of regional vernacular artisans to create sensitive, regionally-inflected spaces celebrating the hand-made crafts and textures that resist the ubiquity of industrially-produced building products. Their Sukasantai Farmstay (2021) redeploys the simplicity of generous eaves in vernacular typology to create an understated farmstay resort that sits gently on its site, whose humble materials reflect the indigenous Southeast Asian crafts in a contemporary way.

"Quiet Room" at the National Museum of Singapore (Lekker Architects, 2019) offers a soft, womb-like sensory "safe-space" for children on the ASD spectrum with sensory-processing disorders.

"Kindle Garden" (Lekker Architects, 2015) is Singapore's first inclusive pre-school where special-needs and "normal" children freely interact and learn together.

Another promising area of development is the realm of socially-inclusive design. Lurking beneath Singapore's growing prosperity, many ordinary citizens continue to face challenges in multifarious areas that defy the state's "one-size-fits-all" model of social services. Whether it be the challenge of raising an autistic or special-needs child, caring for a person-with-dementia in the family, or needing daycare for someone who is terminally-ill, the challenges faced by families-in-need can be daunting. The development of Singapore's social services sector supported by philanthropy has allowed it to fill in certain gaps and be stakeholder-partners to the government in providing support. In this realm, Lekker Architects has led on designing highly-nuanced, experiential interiors (or even speculative propositions) for users with various needs. "Quiet Room" at the National Museum of Singapore (2019) offers a soft, womb-like sensory "safe-space" for children on the ASD spectrum with sensory-processing disorders. They also designed "Kindle Garden" (2015), Singapore's first inclusive pre-school where special-needs and "normal" children freely interact and learn together.

An Evolving Dynamic

The exigencies of a small global city-state needing to adapt and survive means that the city-state's neighbourhoods, spaces and showcase districts (and its governing urban policies) will continue to evolve and adapt to changing circumstances. As aforementioned, the project of Singapore (the national polity, the city, the society, the economy) is a high-wire balancing act between multifarious needs, desires and imperatives that are often inherently conflictual. All of these coalesce to drive a dynamic – including an unrelenting pace of "rapid obsolescence" for recently-built buildings – that demands continuous renewal and redevelopment to maximise its limited land area. Singapore will forever be obliged to find imaginative ways to generate value for the economy while adapting to the demands of an ageing, heterogenous society that was "an accidental nation." This dynamic is unfolding in an era of unpredictability in the global trading system with existential consequences for this trade-reliant polity. As Singapore confronts this newly unstable world, the next chapter of Singapore's multi-act play is yet to be written.

Writer bio:

Ronald C. T. Lim is a registered architect, design educator and curator who works at the intersection of architectural culture, design research and practice. He was until recently the Co-Chief Editor of the Singapore Architect magazine (the official journal of SIA) and also curated the first major retrospective exhibition for the Singapore Architecture Collection. He holds a Master of Architecture degree from Yale University.

DELTA SPORT CENTRE

Red Bean Architects LLP (RBA) is a registered practice with the Board of Architects and the Singapore Institute of Architects, first established as a sole proprietorship in 2009 by Teo Yee Chin. In 2020 Red Bean Architects was converted to an LLP, bringing in Zeeson Teoh as a partner. The practice completed a number of private residential houses and interiors in the first few years before beginning to diversify their portfolio with more public projects in the civic, educational and institutional domains. They have also built up an expertise in adaptive reuse of existing structures while updating them to accommodate evolving programmatic needs. The practice takes a humble, technical, and deeply contextual approach towards the design of buildings, seeking to understand the wider social, cultural and urban context of each project so as to create strong connections that anchor them in place.
Email: admin@redbeanarch.com

Tiong Bahru Road View
As a community space in a residential neighborhood, the new Delta Sport Centre is a horizontal counterpoint to the agglomeration of surrounding towers, 2023.(Finbarr Fallon)

How did the project come about? Why this choice of site, integration into the urban environment or into the landscape? Can you outline the design concept, programme and functional characteristics? What are its Structural and technical characteristics, and also its building services?

Sport Singapore, the state agency in charge of the public sporting facilities, has been going through a renewal and rejuvenation of first-generation sport centres in Singapore, most of which were built in the seventies and eighties. Delta Sport Centre (Delta), serving the community since 1979, is one of them. Consultants were selected from the panel of public sector consultants, and design work started in late 2017.
There are three pools, one indoor gym, one hockey stadium, and one indoor hall with badminton/multipurpose courts. As a multi-sport complex, the integration of the different uses could be improved. With minimal interventions and creative reuse of structures, the project unites them into a seamless flow of activities that also connects with and engages the surrounding communities.
Occupying a 3.25-hectare site are three key components - the indoor sports hall fronting Alexandra Road, the swimming complex alongside Tiong Bahru Road, and the hockey stadium in between. In the 1980s, the facilities were considered state of the art. For example, it boasted the first astroturf and mechanically irrigated pitch. In the late 1980's the rise of the MRT viaduct along Tiong Bahru Road crudely blocked off the relationship between Delta and Redhill estate. With the development of more advanced arenas over the years, the facilities have also transitioned from being national competition venues to becoming exercise spaces for the community, with the courts often overbooked.
The intervention first links up the venues previously operating separately as an integrated complex using "one active bridge". This is an elevated thoroughfare that extends the overhead bridge crossing Tiong Bahru Road into the complex. Along this promenade, the pedestrian is first welcomed into the spatial volume with the sheltered teaching pool, then passes through and overlooks the hockey and futsal fields in the middle of the site, before reaching the indoor sports hall at the northern boundary. Here, facing Alexandra Road, the opaque brickwork of the hall is replaced with full glazing fitted within the existing concrete frame to attract commuters and nearby residents. A tarmac entrance driveway was also paved over and pedestrianized to form a seamless connection for commuters.
Along the eastern boundary, we removed walls and fences for more porosity to welcome residents from Henderson Crescent. Existing concrete tiered seating for spectators at the hockey pitch and badminton hall, always empty nowadays, gave way to yield a much-in-demand activity space for additional futsal and badminton courts. Balancing above subtractive operations, an elevated box housing a new 1,000sqm fitness gym is the key formal addition, sheltering a teaching pool and looking over the viaduct to gain a presence in Redhill. Concrete sun-shading fins and glass vision panels are integrated in the rippling façade, which echoes the lively waterplay downstairs and evokes the quieter, but no less powerful diagonals in this old landmark.
The interventions do not change the siting of this familiar community space but improve its connectivity and visibility. It remains comfortably nestled within the existing neighbourhood, but now much less hidden and more accessible.

Overview
The project site is vast but materializes as an urban connector between the different neighborhoods surrounding it. We conceive it as "one active bridge" linking north to south, from the old HDB estate of Tiong Bahru Road to the condominium belt of Alexandra Road, 2023.(Finbarr Fallon)

Drop Off Point
The main entrance and drop-off is framed by the gym block. Small circular perforations in the concrete staircase wall provide natural ventilation without use of aluminium and glass, 2023.(Finbarr Fallon)

Entrance Reception
The elevated gym block not only shelters a teaching pool but also the approach to the entrance reception. If accessing via the overhead bridge from Tiong Bahru Road, the second-storey promenade also meanders through this double-volume space, 2023.(Finbarr Fallon)

Sheltered Teaching Pool
The sheltered teaching pool retains a visceral connection to the context when the train zooms past every few minutes at eye level, an experience of the MRT that surely cannot be had anywhere else, 2023.(Darren Soh)

BSA-Indoor Hall
Before and after collage of the indoor hall, showing how we find an articulation of solid and void by a strategy of subtraction from the existing structure, 2023.(Finbarr Fallon & Red Bean Architects)

BSA-Overview
Before and after collage showing the new elevated fitness gym block restoring a presence of Delta Sport Centre to Redhill estate by hovering above the rising MRT viaduct, 2023.(Finbarr Fallon & Red Bean Architects)

Elevated Promenade
What used to be the top step of the concrete stadium seating is now re-imagined as an elevated promenade that connects the swimming complex to the indoor hall, while overlooking the new futsal and hockey courts downstairs, 2023.(Finbarr Fallon)

Gym Block Facade
The gym block façade integrates sun-shading concrete fins against the east and west sun with glazing always facing north and south. The solitary fin touching the corner is a result of this logic, 2023.(Darren Soh)

Why do you think this solution is interesting to you?

Architecturally.
The complex is innovative in its complementary use of additive and subtractive architectural strategies to create a multi-functional sports complex. It shows technical sophistication to work within and retain an old building with complex structural and site constraints. The designers found an opportunity to use strong architectural form impactfully with the elevated gym block, while showing restraint in using subtractive strategies to open up other structures, such as removing walls and slabs to become more welcoming. This works to improve the functionality of the facilities, especially where concrete spectator seats were removed to create more playing courts.
An Urban connection to all that builds on the existing.
Being a sprawling site in between disconnected and high-rise residential neighbourhoods that are furthermore catering to different income groups (high-end condominiums and social housing blocks), the opportunity for this sports centre was to be a programmed linkage between different communities. The project is an accessible hub to encourage and facilitate active living. It contains different sports arenas that cater to different levels of activity – from professional to casual, from structured to spontaneous. Complementing these are flexible and multipurpose spaces that invite free play by the public.
As an ecological and economic strategy, the complex retains the majority of the existing structure and makes incisive interventions to improve its functionality and connectivity. The construction is largely cast-in-situ reinforced concrete with painted infill walls of pre-cast panels or brick walls. This matched the existing structures that were retained. Floor surfaces were usage-determined, such as outdoor vinyl for the pool deck, epoxy coating for outdoor ball courts, and timber flooring for indoor ball courts. Larger spans for the sporting spaces were bridged with reinforced concrete beams and roofed with metal deck standing seam roofs. These are inexpensive conventional methods that interface well with the existing structure. The savings on resources are clear, with the construction estimated to cost a third of what an equivalent new complex would demand. Adaptive reuse yields a new yet familiar facility, exciting residents without alienating them. This approach is thus both environmentally and socially sustainable.
The complex relies largely on cross-ventilation in the public circulation passages, taking advantage of Singapore's mild climate. The multipurpose hall and bathrooms are naturally ventilated, supplemented by fans. The fitness gym is the only significant air-conditioned space. Here, angled cast-in-situ concrete fins and glazing in between create a jagged envelope whereby the opaque fins are oriented east-west, facing the incident sunlight, while the glazing is always facing north-south to receive light and allow views out. (Note the sun in Singapore comes from the east and west.) This configuration reduces heat gain into the space while creating an interesting and transparent profile for the form.

Multipurpose Court
The zig-zagging cantilever beams and canopy are retained from the existing stadium architecture while the concrete tiered seating were removed to provide space for new futsal courts, surely the scene of exciting action in the evenings to come, 2023.(Darren Soh)

The facilities are backed by the national agency Sport Singapore that promotes sporting activity for the population. This involves integration with their online management system that allows users to choose, pre-book, and pay for the venues. The facilities are managed by the same agency that attends to public feedback and upkeeps the property to function optimally. These soft structures complement the physical premises, which provide a great variety of activity spaces. Lastly, the courts can be customised to different uses, such as badminton/basketball indoor halls and hockey/futsal/pickleball outdoor courts. These spaces can furthermore adapt to new sports which may become popular in the future. Non-physical aspects of healthy living are integrated with the Active Health Lab in the complex, which gives basic health monitoring and advice to the public, such as regarding heart rate and blood pressure.

The complex deserves recognition for its adaptive reuse of structures that forges new relationships to the transport infrastructures that have evolved over time, while improving long-standing bonds to the communities around. The sprawling site interfaces neighbourhoods and transport networks on different fronts, and serves as an effective in-between, allowing pedestrians to criss-cross the site for better connectivity. Existing structures were also familiar to the residents, and modifying them for continuity holds great emotional value for them. This approach is environmentally and socially sustainable because it achieves cost-efficiency and reduces resource usage while extending the lifespan of a well-loved community hub.

On the urban scale, the centre is accessible by the mass rapid transit (MRT) system as well as the bus network. It is also accessible via two main motorways, Alexandra Road on the north and Tiong Bahru Road on the south. The centre plugs into this public transport infrastructure by providing 96 bicycle parking spaces. For motorcar users, seventy carparking, five motorcycle, and two accessible parking spaces are provided. The main vehicular drop-off roundabout is next to the swimming pool complex, and a service centre is clearly visible thirty meters away from this point, where there are staff to assist with any queries.

There are multiple entry points to the complex on the south, north, and eastern edges, with direct entry into the second storey also possible through the overhead bridge across Tiong Bahru Road. The complex has one elevator, which is located at the swimming complex area that is also directly below the fitness gym. The complex is not secured at the boundaries – in fact, fences have been removed so that pedestrians can filter in freely. Entry into facilities that require payment, such as the pools and fitness gym, is accessed at the facility itself with turnstiles that scan the user's identification and charge by cashless methods, while ball courts are pre-booked with an online system.

Indoor Hall
The previously opaque façade was opened up with full height glazing replacing the brick infill within existing reinforced concrete frame. The former driveway and parking in front of this were also paved over to form a traffic-free connection from bus-stop to the indoor hall. Mature trees here were retained to provide shade and character, 2023.(Finbarr Fallon)

Indoor Hall
The indoor hall is used mostly for badminton games. We retained much of the hall but converted the stepped seating on the far side to provide space for 2 more badminton courts, a dance studio, and a café, 2023.(Darren Soh)

Indoor Hall
The previously opaque façade was opened up with full height glazing replacing the brick infill within existing reinforced concrete frame. The former driveway and parking in front of this were also paved over to form a traffic-free connection from bus-stop to the indoor hall. Mature trees here were retained to provide shade and character, 2023.(Finbarr Fallon)

Indoor Hall
The indoor hall is used mostly for badminton games. We retained much of the hall but converted the stepped seating on the far side to provide space for 2 more badminton courts, a dance studio, and a café, 2023.(Darren Soh)

A visual signage system is installed throughout the complex, with the overall map displayed at the drop-off point and lift lobbies. The complex is broken into three key programmatic components – Swimming Complex, Hockey Stadium, and Indoor Hall, and abbreviated as SC, HS, and IH for easy orientation. Tactile tiles on the ground guide the visually impaired through the main circulation corridors, and braille labels are installed on the handrail at the beginning of the staircases. Ramps with handrails and tactile tiles are provided between all level changes. An accessible ramp is provided for entry into the teaching pool, which is 1 metre deep and allows the elderly to stand and partake in group fitness activities. There are two accessible toilets provided at the indoor hall and four provided at the swimming pool complex, one of which serves the third-storey fitness gym. All toilets are provided with strobe lights that warn of emergencies to the hearing-impaired. Correspondingly, a public address system is installed across the complex for key announcements.

In terms of materials, the pedestrian passageways use an epoxy coating system over concrete floors, providing good grip and durability. The textured outdoor vinyl used is an innovation for outdoor pool decks, replacing the existing ceramic tiles. It is elastic and does not crack, is not hot to walk on under the sun, is a bit softer to the touch, and has a good grip to prevent slipping even when wet.

The complex brings people of different physical abilities together through sport. It does so through its facilities as well as connectivity across the complex. Of note is the accessible teaching pool, which incorporates a gentle ramp to enter and exit the pool. The complex also prioritises pedestrian connectivity to the surroundings and its various facilities. It does so through the use of a seamless thoroughfare on the second storey that cleverly integrates levels of the overhead bridge across Tiong Bahru Road and structural levels of the existing complex. The strategic elevator placement near the thoroughfare facilitates vertical access across levels.

Gym Block & Context
Another view of the new gym block nestled against the HDB blocks of Redhill, 2023.(Darren Soh)

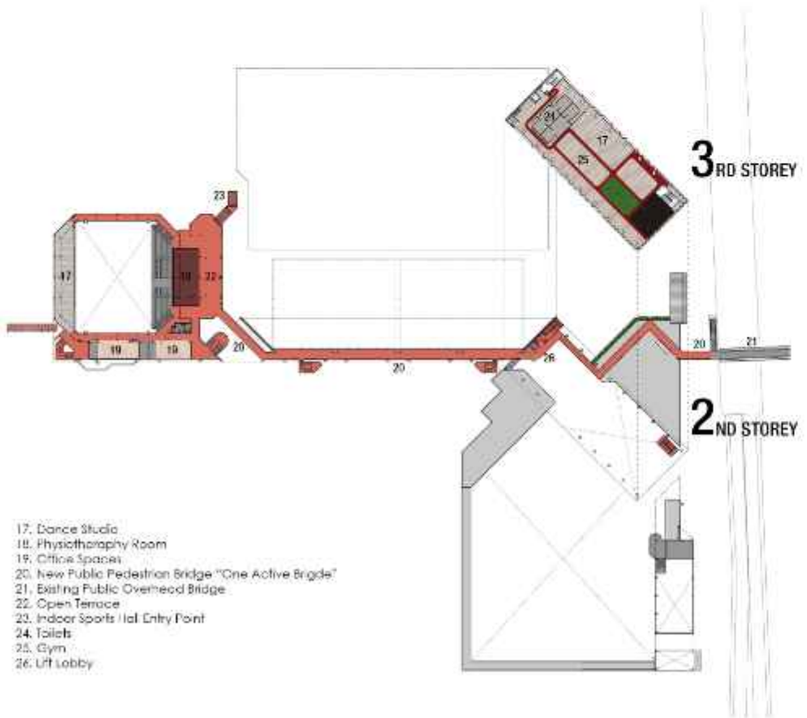
Swimming Pool Complex
An addition and alteration project should always be understood as adaptive re-use. This includes preservation of existing elements, selective removal of parts, and the insertion of new form where needed, 2023.(Finbarr Fallon)

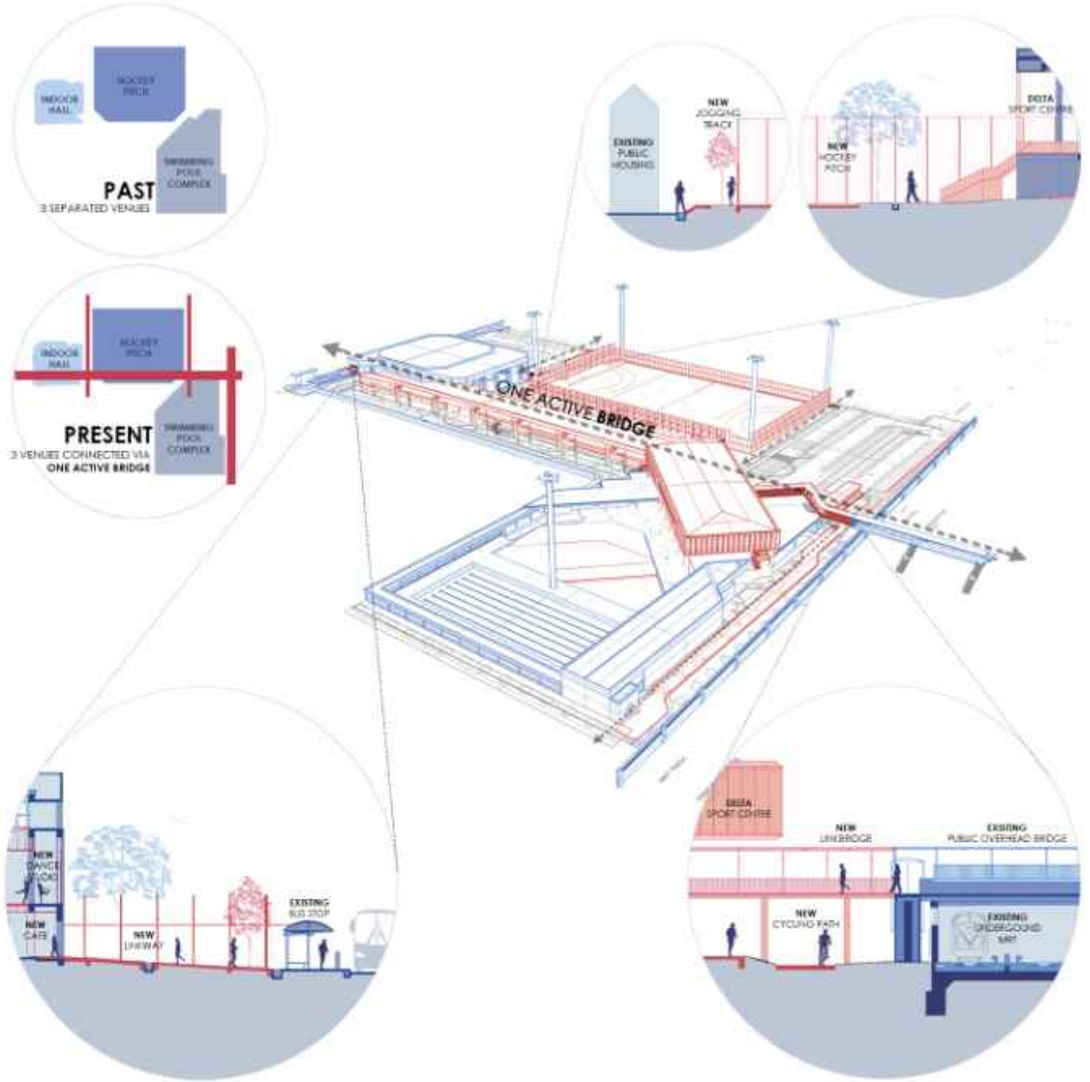
Swimming Pool Complex Night View
Night view of the elevated gym block against the backdrop of Redhill's HDB blocks, 2023. (Darren Soh)

Elevated Promenade
The concrete stadium seating has been re-imagined as an elevated promenade that connects the swimming complex to the indoor hall horizontally, with integrated staircases along the pathway providing vertical connectivity, 2023.(Darren Soh)

Existing Swimming Pool Complex
Existing swimming pool complex featuring a sheltered wading pool and an open teaching pool, 2018.(Red Bean Architects)

Existing Swimming Pool Complex
Existing hockey pitch, flanked by a concrete spectator stand on the left and the rear indoor hall block on the right, with the gym located on the 3rd storey, 2018.(Red Bean Architects)





The Delta Sports Complex was awarded the President's Design Award 2025, Design of the year.

Groud up Reassessment(DOCOMOMO) Part1 - A Brief History of People's Park Complex

The Singapore chapter of Docomomo (Documentation and Conservation of Buildings, Sites and Neighbourhoods of Modern Movement) was formally established in early 2021. It is a non-profit group that consists of members from diverse backgrounds. It was set up to:

- research and educate ourselves about the modern built heritage of Singapore.
- advocate for and work with partners to find creative, sustainable, and inclusive ways to conserve and retrofit the modern built heritage of Singapore.

The origins of the Docomomo Singapore can be traced to the formation of a working group in early 2018 after the Pearl Banks Apartments was sold in a collective sale and threatened with demolition. With the recognition that the Pearl Banks Apartments might be the first of many modernist icons built in the 1970s and 1980s that would be sold in collective sales and demolished through a very narrow understanding of redevelopment, the working group was formed to fulfil the urgent need to advocate for environmentally more sustainable and socio-culturally more appropriate alternatives of redevelopment and value creation.

Since 2018, Docomomo Singapore has organised a major international conference in November 2019, published op-eds and articles on different aspects of Singapore's built heritage in newspapers and magazines, researched and created an inventory of modern buildings of Singapore.

Website: www.docomomo.sg

Email: admin@docomomo.sg

People's Park Complex, 1973. (Source: DP Architects: 50 Years Since 1967)

People's Park Complex is a site of multiple intersecting histories, evolving from a key social space in colonial-era Chinatown, to a bustling commercial space known as sin chew pasah, to a protagonist of the post-independence state-led urban renewal programme, and finally emerging as a realised vision of avant-garde urban-architectural ideas for post-independence Singapore.

People's Park in Colonial Singapore

The inception of People's Park dates to 1881, when Governor of the Straits Settlements Sir Frederick Weld allocated 15 acres of land at the foot of Pearl's Hill for a new park. The area surrounding the park, designated the 'Chinese Campong' in the 1822 Jackson Plan, housed a rapidly growing population of Southern Chinese settlers. The new 'People's Park' provided an open reprieve from the back-to-back shophouses and crowded streets across New Bridge Road, serving as one of the few urban public spaces in late-19th century-Singapore.

Over time, People's Park was transformed from a curated recreational landscape into a centre for mercantile activity. Itinerant street hawkers selling fresh produce, sundries, cooked food, and small wares peddled their goods within the park grounds. As commercial activity grew and eventually replaced the landscaped grounds, People's Park became a centre for the economic and social life of Chinatown, giving rise to its vernacular dialect name, sin chew pasah or the 'People's Market'.

1847 View of Chinatown from Pearl's Hill by JT Thomson (Source: National Archives of Singapore)

1885 Police Courts at Dunman Green (Hong Lim Green) (Source: National Archives of Singapore)

1893 Map of Singapore Town, Close up of Pearl's Hill and People's Park (Source: National Archives of Singapore)

Independence and Urban Renewal

When Singapore attained internal self-government from the British in 1959, Chinatown was chronically overcrowded, with many living in squalid cubicle conditions. Some 140,000 people lived in a 2km2 area, with poor sanitation and the endemic spread of diseases. Alongside mass public housing provision, the newly elected People's Action Party (PAP) made the transformation of the city centre a priority.

In 1962, Norwegian architect-planner Erik Lorange made several recommendations to the government as part of a United Nations (UN) technical assistance programme. These included active state involvement in urban renewal through land acquisition, comprehensive planning, and tailored incentives for private development. Lorange advised that urban renewal should be undertaken through a "two-pronged centrifugal" framework beginning from the northern and southernmost precincts, 'North 1' (Beach Road) and 'South 1' (Pearl's Hill). In 1963, Lorange's recommendations were supplemented by a second UN team comprising Otto Koenigsberger, Charles Abrams, and Susumu Kobe. The 'KAK' team suggested that urban renewal be undertaken through "action programmes" with coordinated resettlement, land acquisition, infrastructural, and redevelopment works.

Equipped with these recommendations, a three-man Urban Renewal Unit led by architect-planner Alan Choe was formed within the Housing and Development Board (HDB) in 1964, which soon evolved into a fully-fledged Urban Renewal Department (URD). In 1966, the Land Acquisition Act was passed, allowing the state to acquire privately owned land "for any public purpose" at effectively below-market prices. That same year, 90% of the land in precinct South 1 (S1) was acquired, involving the displacement of 2,376 families and businesses. Resettlement plans were hastened by a fire which ravaged a large portion of People's Park Market in December 1966.

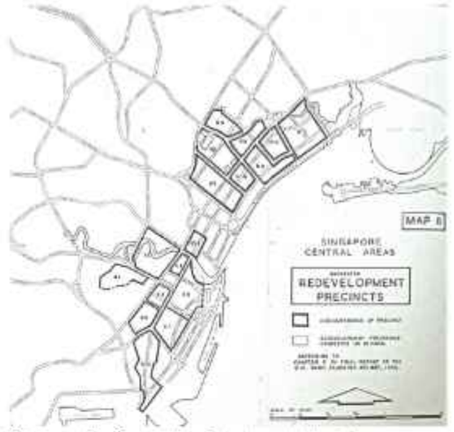
In 1967, the URD launched the 'Sale of Sites' programme to facilitate private sector participation in urban renewal. The first land sale included sites in People's Park, the Golden Mile, Kallang Park, and River Valley, and was focused on residential, shopping, and hotel development. To encourage investment from a nascent development sector, the URD devised a set of incentives, which included property tax exemptions, favourable financing provisions, and priority approval of plans.

The URD prepared 'simulated plans' for each sales site, which specified uses, plot ratios, floor plans, and building massing. Developers were allowed to adopt, amend, or propose alternatives to the URD's simulated designs, with architectural innovation weighed alongside economic considerations in awarding tenders.

For the People's Park Complex site, the URD proposed a mixed-use flats and shopping complex that resembled the nearby HDB-built Outram Park Complex, with a commercial podium topped by three residential slab blocks.

In 1967, glass merchant turned developer Ho Kok Cheong won the tender for the site. Ho and his architects, the young firm Design Partnership (DP), aspired to "recapture and recreate the atmosphere [of People's Park] on a larger and more sophisticated scale", noting that the site had "become legendary in the hearts and minds of the citizens of Singapore as a place of gaiety, life, and activity."

1960s People's Park Market (Source: National Archives of Singapore)



1965 Lorange Plan (Source: Urban Redevelopment Authority)

1962 People's Park Market looking towards Pearl's Hill Police Barracks (Source: NLB)

1963 Ring City Plan (Source: URA)

Urban-Architectural Vision

Design Partnership was formed in 1967 by partners William Lim, Koh Seow Chuan, and Tay Kheng Soon. All had previously been part of Malayan Architects Co-Partnership (MAC), which produced a diverse and influential body of work that adapted modernism to the context of independence-era Singapore and Malaya, including the Singapore Conference Hall and Trade Union House (1965), now listed as a National Monument.

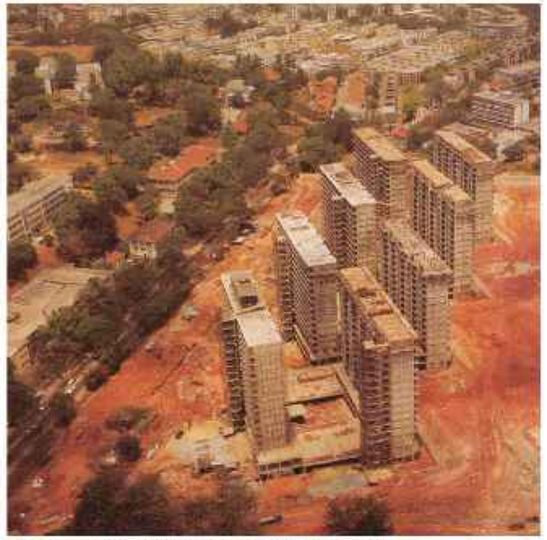
The architects of DP were deeply engaged with late-modern architectural discourse concerned with humanising large-scale modern development, associated with groups such as Team X and Jacqueline Tyrwhitt, both of whom Lim had studied under at the Architectural Association in London and Harvard's Graduate School of Design. At Harvard, Lim had also met Japanese architect Fumihiko Maki, who by the mid-1960s had become a protagonist of the 'megastructure' movement, which proposed large-scale, mixed-use, and flexible urban-architectural ensembles. Lim, Tay, and Koh articulated these views and their applicability to the context of post-colonial and rapidly urbanising Asia as members of the Singapore Planning and Urban Research Group (SPUR).

As DP's first project, these influences coalesced in the design for People's Park Complex. Conceptualised as a wide commercial and retail podium and single residential slab block, DP's proposal integrated a series of 'City Rooms' – large interior atriums designed for the gathering of "people from all classes, different walks of life, young and old, poor and rich" – that sought to reinstate the civic quality of the old People's Park. Having theorised the City Room several years prior, Maki reportedly visited the People's Park Complex site and exclaimed, "We theorised, and you people are getting it built!"

DP's civic ambition was mirrored in the design of human-scale interior spaces: bridges, balconies, and interior 'facades' created spaces that were simultaneously "large, intimate, and informal." These architectural features were appended by an ensemble of interior kiosks, illuminated signage, public furniture, and multi-colour prismatic lamps, whose total effect was to create an intense, vibrant, and civic interior 'streetscape'. Commenting on the City Room following its completion, Singapore Herald editor Francis Wong stated that "I know of no other private building in Singapore (or public one for that matter) in which commercial functionalism and social welfare are so happily combined."
The residential slab block, featuring alternating sets of one- and three-bedroom units, also demonstrated a concern for humanising new forms of high-rise apartment living. Common access corridors every five floors, serviced by articulated stair and lift cores, were designed as 'streets in the air', appended by a "community area" for residents to socialise. In earlier, though ultimately unrealised design iterations, the podium rooftop and slab undercroft were also envisioned as communal spaces, featuring lush planting, a creche, meeting rooms, games rooms, and open-air playground. DP also adopted a distinctly late-modern approach to construction and finishing, focusing on honest structural and material expression. The building featured pre-cast ribbed reinforced concrete façade panels, whose finishes, alongside cast-in-situ structural elements, were originally left exposed.

Model of redevelopment proposals for Precinct South I comprising 136 acres of land bounded by Outram Road, Havelock Road and New Bridge Road.

1965 Precinct S1 (Source: HDB Annual Report)



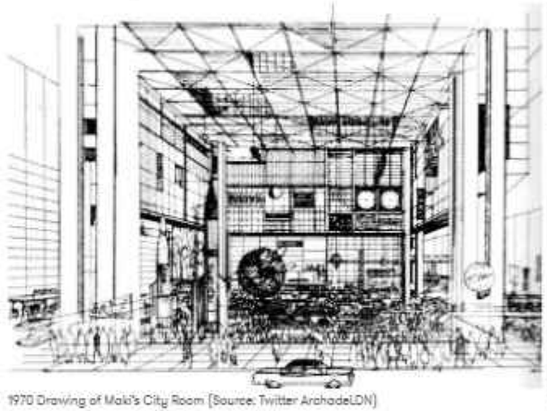
1967 Aerial View of S1 Outram Park Housing Estate (Source: HDB)

1967 Park Road Housing Development (Source: HDB)

An aerial view showing the successful comprehensive redevelopment of a section of the Central Area with private participation under the URA Sale of Site Scheme.

Among the private projects to be completed by the end of 1976 are the Pearl Bank and Pearl Centre. Projects completed under the earlier years are People's Park Complex, the People's Park Centre and Ocean Garment Building.

1975c_URA Annual Report 74-75_Aerial View of Precinct 51



1970 Drawing of Maki's City Room (Source: Twitter ArchadeLDN)

1970s People's Park Atrium (Source: DP Architects)

1973 People's Park Complex City Room (Source: National Archives of Singapore)

1973-4 People's Park Square (Source: HDB Annual Report)

Conclusion

When People's Park Complex was completed in 1972, it stood as a new urban monument for a rapidly modernising and newly independent Singapore. The building became quickly enmeshed in the social fabric of an evolving Chinatown, continuing the site's legacy as both a mercantile and social hub.

Today, People's Park Complex is under threat from the same forces of modernisation through which it was incepted. Redevelopment pressure, an evolved commercial environment, and demands for new forms of living, shopping, and working have raised the prospect of People's Park being razed and rebuilt once again. However, as one of the most significant works in the canon of Singaporean modern architecture, and in the context of the climate crisis, we are obligated to envision alternatives to demolition and redevelopment. Instead, we must find ways to adapt People's Park Complex to new conditions while preserving its enduring architectural, historical, social, and environmental values.

1980_NAS_PPC Bridge to Pagoda Street

1990_NAS_PPC City Room

Part2 - The Pearl of People's Park — A Position Paper on the Conservation of People's Park Complex

INTRODUCTION

People's Park Complex (PPC) launched its first two en-bloc sale attempts in 2018 and 2023. Docomomo Singapore published a statement in response and embarked on an advocacy campaign calling for the conservation of PPC, including walking tours showcasing the urban connectivity of the building's City Room, and conducted workshops to reflect and cogitate on PPC's significance and possibilities.

This Position Paper is a year-long cumulative effort of members and volunteers of Docomomo Singapore, who rigorously debated, researched and brainstormed about the past, present and future of PPC.

The Position Paper can be downloaded in entirety from
<https://www.docomomo.sg/happenings/a-position-paper-on-the-conservation-of-peoples-park-complex-post-1>

CONSERVING THE FIRST CITY ROOM

Conceptualised initially by Fumihiko Maki, pioneer of the Japanese Metabolist movement and Pritzker Prize laureate, the City Room refers to an interiorised public space for both planned and spontaneous events. The City Rooms of PPC played a crucial civic role as a community space sheltered from the tropical weather, hosting public talks, performances and exhibitions. PPC was a groundbreaking project that not only successfully materialised the concept of City Rooms, but also proved its viability.

CONSERVING THE HEART OF PEOPLE'S PARK

People's Park Square, bounded by OG Building, People's Park (HDB) and PPC, is lauded as "one of the most successful urban spaces in Singapore." The designers of PPC modulated the building's massing and street-level interface in response to the Square, creating a seamless network of connections to the interior streets and City Rooms of PPC, and through to the wider streetscape of Chinatown. Such sensibilities anchor PPC as a crucial placemaking node in the precinct and exemplar of community-oriented urbanism.

CONSERVING THE MODERNIST LAYER OF CHINATOWN

PPC was among the pilot urban renewal projects by the Urban Renewal Department, predecessor of the Urban Redevelopment Authority (URA). Located on the site of the fire-razed People's Park Market within the planning area of Precinct South 1 (S1), the mixed-use development was envisioned as the new nucleus of Chinatown's community and small businesses. With the contemporaneous S1 project Pearl Bank Apartments demolished, PPC remains the sole private post-independence modernist landmark commemorating the success story of urban renewal and nation-building.

SUMMARY OF RECOMMENDATIONS:

Docomomo Singapore strongly advocates the gazetting of PPC for conservation, in recognition of its intrinsic architectural, urban and social significance as one of post-independent Singapore's most important modernist buildings. Even in the event of PPC's en bloc sale, rather than the conventional demolish-and-redevelop model, the environmentally sustainable approach of rehabilitation and adaptive reuse should be fully embraced.

Key Elements & Principles For Retention

This position paper has identified, at the urban level, PPC's Podium and Slab massing along with its heterogeneous mix of uses, its internal City Rooms, and its urban envelope facing People's Park Square, The Majestic Theatre and Eu Tong Sen street as character-defining elements to be retained. Doing so preserves the legibility and integrity of the original architecture.

Process & Policy Strategies

The strategy proposes a policy direction that aims to strike a balance between conservation and commercial prerogatives, with attendant incentives to spur the participation of private developers whilst ensuring that they see themselves as custodians of PPC - protecting the legibility of the complex whilst adapting it for refreshed relevance.

Programmatic Strategies

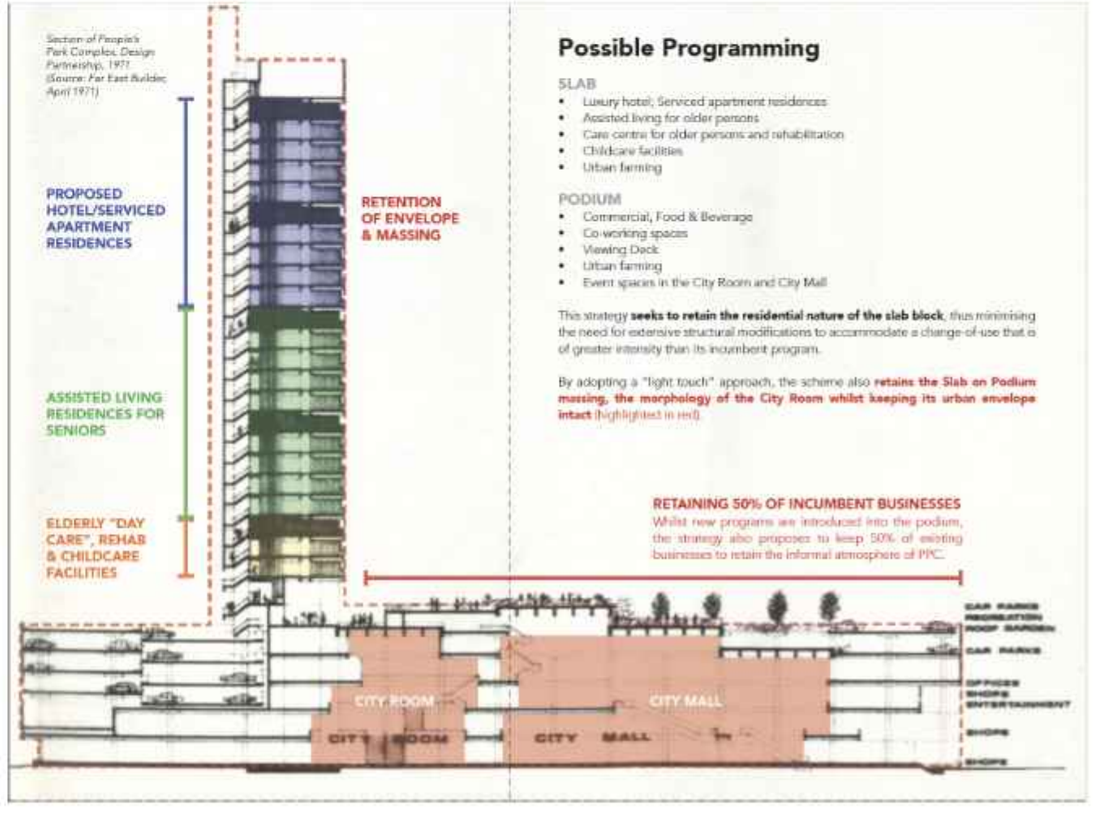
New programming should take into account the urban civic role of PPC within Chinatown's ecosystem, and incorporate community-oriented spaces and small businesses, possible including existing ones. The programmatic reconfiguration of PPC presents an opportunity to address evolving societal needs. Tapping upon the proximity to the Singapore General Hospital (SGH) and the Outram transport network, one proposal is to integrate new assisted living facilities into the programme mix as a viable option of 'aging in place, aging in community'.

Building-Level Strategies

The building-level strategies illustrate the possibilities for intensification while ensuring that key elements of the building are retained. The Gross Floor Area (GFA) increase and locations proposed for intensification works, such as the existing carpark or the rear of the podium, lend flexibility and viability to new commercial needs.

Precinct-Level Strategies

The conservation of PPC benefits the larger precinct, beyond its building boundaries. It proposes to stitch up the various green networks within the Pearl's Hill Masterplan and to strategically allocate additional GFA derived from the conservation of PPC for greater heritage and community use.



Rethinking what is Climate and Tradition Interview

Erik l'Heureux, Fong Hoo CHEONG
Email : Erik.LHeureux@monash.edu
hcfong@hcfa.com.sg

Erik G. L'Heureux (PhD) FAIA is an award-winning architect, educator, and academic leader whose creative practice engages the dense equatorial city, with particular expertise in adaptive reuse, Net Zero energy design, and decarbonization. His work is characterized by simple monolithic forms and finely tuned climatic veils that calibrate buildings, interiors, and experiences to the hot, humid air of the urban equator—transforming climate into a medium for delight and surprise.
He is Professor of Design and Decarbonization and Head of the Department of Architecture at Monash University. From 2003 to 2025, during his tenure at the National University of Singapore, he served as Dean's Chair Associate Professor, Vice Dean, and Director of both the Undergraduate and Master of Architecture programs. In these roles, he led award-winning Net Zero energy retrofits and advanced design strategies that lock in embodied carbon while significantly reducing operational emissions.
Through an integrated approach to creative practice, design research, and pedagogy, Erik advances architecture's capacity to address the climate crisis. His teaching and practice equip the next generation of architects to critically engage with a warming world, shaping a more resilient, inclusive, decarbonized—and beautiful—future.

Yusof Ishak House New Elevation

Q This project seems to be concerning renewal, reassessment of what is the current agenda of Architecture. As a teacher in NUS and also the designer you have a unique insight. I have questions that will let our reader understand more.
What was the original design basis for NUS and why do the buildings look like this in 1980.
Any comments on OD 205's master plan etc

NUS, which now houses the Equatorial School of Architecture, occupies the western edge of the Kent Ridge campus—a site shaped by late-1960s planning ideals. The original campus plan, OD205, was conceived as a decentralized, infrastructural network—more circuit board than civic ensemble—reflecting the industrializing ambitions of Singapore during that period. The architectural manifestation was consistent and systematized: a modular grid of reinforced concrete columns, aluminum sunscreens, yellow-painted soffits, and brick pavers coursing across the ridge. This was a campus without a center, with faculties dispersed rather than clustered, each plugged into the larger network.
The architectural language of the time was one of mechanization and industrial promise. Mechanical systems—ducts, vents, chiller plants—were not hidden but celebrated, forming an iconography of modernity. Even before air conditioning was fully installed, the architecture anticipated it—projecting an ethos of mechanical comfort and environmental control. In many ways, this became an "aircongraphy": a belief that climate could and should be controlled through technology, not through form, section, or material behavior.
The redesign of SDE1 and SDE3 engages this legacy critically. While respecting the infrastructural clarity of the original grid, the new interventions seek to recalibrate its environmental assumptions—opening the buildings to air, light, and landscape through passive strategies and breathable envelopes. Here, comfort is not imposed but negotiated—through climate-responsive forms, adaptive reuse, and low-carbon light weight material assemblies—anchoring a new architectural ethos for an equatorial school of architecture.

SDE 3 circa 1980s, Top: North West view. Bottom left: South West view and Main stairs to SDE3. Bottom right: SDE 1 circa 1980s

What was SDE 3 as a building before and why did you set up to change it so much

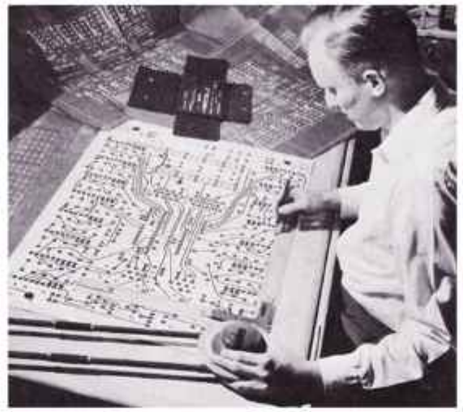
SDE1 and SDE3 were originally academic buildings, but each presented a distinct set of spatial and pedagogical challenges. SDE1 primarily housed faculty and departmental offices alongside small-scale teaching rooms. Its layout surrounded a temperate lawn, but the offices were internally oriented—cut off from daylight, views, and connection to the landscape. SDE3, on the other hand, was conceived as a vertical stack of disconnected floor plates. Studios were configured as enclosed "fishbowl" spaces, encircled by faculty offices. This spatial arrangement limited transparency, obstructed natural flow, and reinforced the idea of studio as an isolated, siloed activity—making cross-cohort learning and informal exchange difficult.

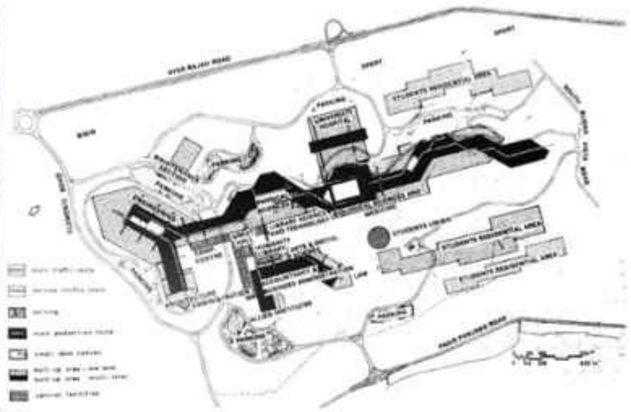
SDE 3 also suffered from the presence of raised floors and low air-conditioning plenums, which imposed a white-collar, corporate atmosphere—more befitting an office tower than a school of architecture. It became clear that a fundamental rethinking was required, not just in form, but in pedagogical intent and spatial ethos.

The redesign adopted a deliberately stripped-back strategy, working with elemental architectural tools: access to daylight and views, visual and physical openness, biophilic integration, and a renewed sense of spatial generosity. In SDE1, the temperate lawn in the courtyard was replaced by a dense, equatorial jungle planted at the heart of the building. This move reoriented the architecture school around the local climate and ecology—embedding a tropical landscape into its core. Framed views from department offices now look into this lush courtyard, reestablishing a continuous relationship with the surrounding environment.

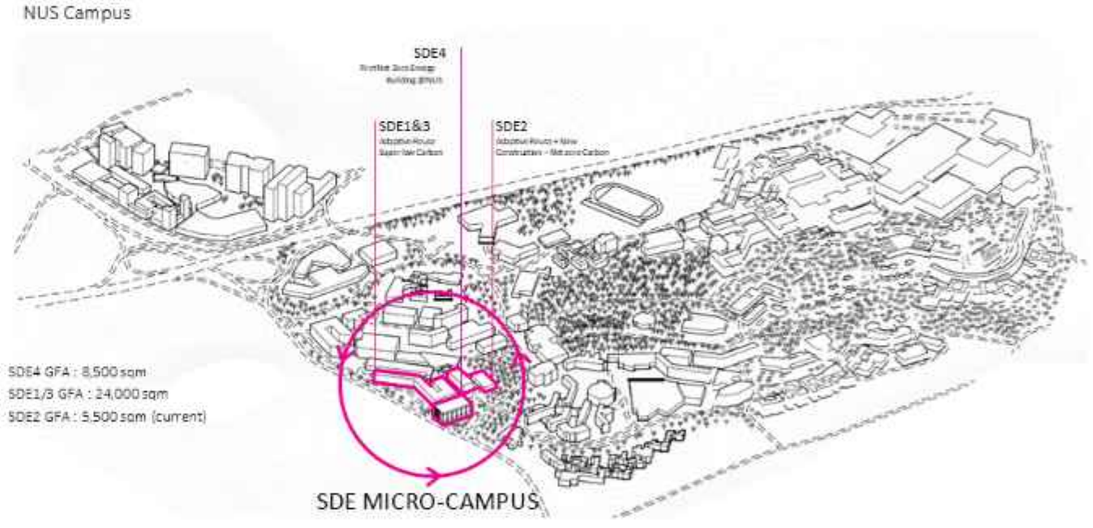
Studio spaces in SDE 3 were radically opened up—not just physically, but pedagogically—with an emphasis on student-centered design. The result is a more porous, breathable, and socially engaged architecture that redefines what a school of architecture could be in the equatorial context. A large social commons staircase links all three levels of the building. It moves away from mechanical containment and institutional closure toward a more open-ended, collaborative, and climatically responsive form of learning and making.

Top: SDE3 Circa 1990s, Bottom left: SDE3 Level 1 Circa 2000s, Bottom right: SDE3 Circa 1960s

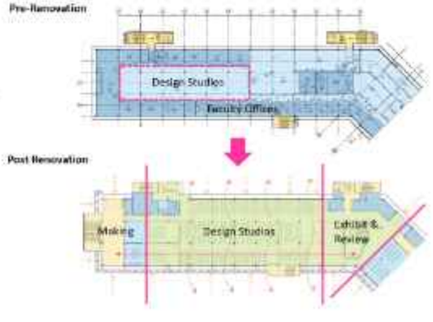




NUS conceived as an integrated network on a terrain circa 1980s



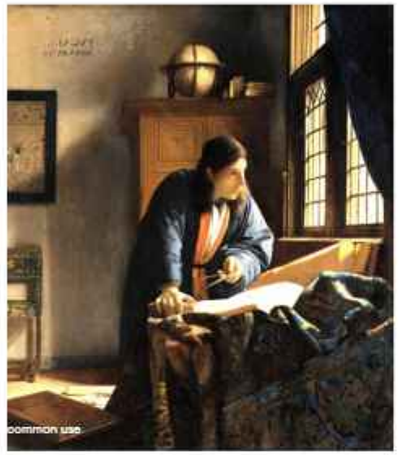
	Existing		Renovated		Gained
Level 1	2.8m	→	4.6m	→	+1.8m
Level 2	2.6m	→	3.6m	→	+1.0m
Level 3	2.6m	→	3.6~4.6m	→	+1.0m
Level 4	2.6m~3.2m	→	5.0m	→	+1.8m
Total Height Increase					+5.6m



These images seems to point to deeper intent that leads to the "how did you make the intent real" question

In designing the social commons staircase space in SDE3, I was particularly interested in how light could shape both atmosphere and behavior—how illumination could turn the space into a kind of social condenser, a gravitational center that draws people in. The use of teak laminate paneling was intentional, referencing the timber legacies of Southeast Asia while capturing and reflecting daylight from the full-height window wall flanking the stair. The original design proposed a skylight that would punch through to the roof, doubling as a thermal exhaust and vertical light shaft. Unfortunately, this feature did not survive the budget cuts.

We also installed catenary rope lights to enhance the ambient glow and accentuate the inviting quality of the space, though these were later removed by a new administration. Still, the natural daylight remains—and in the late afternoons, it creates a luminous moment that recalls Vermeer's fascination with light cascading softly into interior spaces. On the equator, sunlight is often diffuse and bleached by humidity, but here, the low afternoon sun filters through the building envelope to produce a hazy, golden illumination—a quiet, atmospheric gift that anchors the space in time and place.



Left: SDE3 New Atrium showing light from the setting sun. Right: Image of The Geographer, J Vermeer.

Readers would be very keen for you to connect these images which seem to dicuss space and transformation. When you made these images or juxtaposed them what were you keen to let us know?

The image captures the lightshelf in action—channeling daylight deep into the 24-meter floor plate. The illuminated clerestory registers high light levels, while the white-painted ceiling above further amplifies reflectance, distributing light evenly throughout the space. What's significant here is that the building envelope is not merely a façade or outer screen; it actively traverses both exterior and interior, in this case spanning a full 7 meters. This section reveals that the architecture of the envelope is not skin-deep—it is volumetric, spatial, and environmental. The envelope becomes a thickened zone of performance, demonstrating that climate-responsive architecture is not applied, but deeply integrated into the body of the building.

The juxtaposition between the jungle courtyard at SDE1 and the central social space of João Batista Vilanova Artigas' Faculty of Architecture and Urbanism (FAU) building at the University of São Paulo is purposeful. Both courtyards share a similar proportion—relatively long in relation to their width—and serve as the spatial and symbolic heart of their respective buildings. At SDE1, the original courtyard featured a temperate lawn and an air-handling tower, elements that felt out of place in the equatorial context. Replacing them with dense, tropical flora was a deliberate act of climatic and cultural reorientation.

Encircling the jungle is a golden crown that frames the landscape with luminous contrast—tropical green set against a warm metallic hue. The crown is not merely decorative; its vertical fins are precisely calibrated to block the intense western sun, while its form subtly adapts to the existing building fabric—lying flat along the west and gently angling on the east to accommodate inherited rainwater downpipes. It serves as both climatic device and spatial frame—a unifying architectural gesture that dignifies the transformed courtyard.

There is, of course, a quiet political commentary embedded in the juxtaposition of these two courtyards—captured from nearly identical vantage points. At FAU-USP, designed in 1961 by Artigas, the central space has long been a site of social gathering, political activation, and student life—an architecture of openness and resistance. At SDE1, shaped by the particularities of Singapore, that center is now occupied not by people, but by a jungle. I leave the deeper reading open to interpretation, but the substitution is intentional—raising subtle questions about publicness, collectivity, and the architectures of expression in different institutional and cultural contexts. It remains one of my favorite moments in the project—a playful, layered reference to architectural schools of thought, both literal and metaphorical.

Left SDE1 courtyard, Right: FAU building, University of Sao Paulo

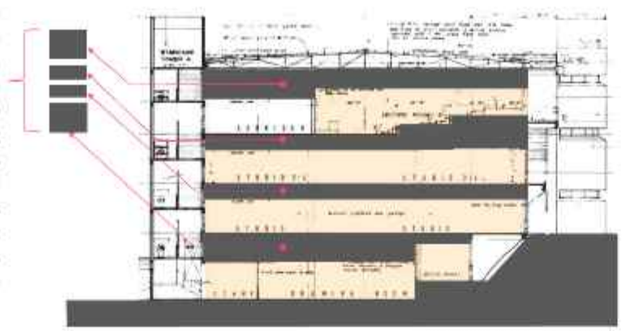
difficult to get rights / exact authorship for this image.

The original design that I developed in 2015, included a plan to repurpose and recycle the existing aluminum fins from the 1970s building—a direction that aligned with both sustainability, lifecycle, circular economy goals and the architectural legacy of the campus. This intention was formally documented in the tender drawings. However, during the bidding process, no façade contractor was willing to assume liability for the reused aluminum elements. Around the same time, a change in university leadership introduced further hesitation: neither the new administration nor the dean was willing to carry the legal risk associated with repurposed materials. As a result, the idea—though meaningful and technically sound —could not be realized.

Still, traces of that original intention remain embedded in the final design. The scale and proportion of the new façade reflect the dimensions of the original aluminum members, preserving a continuity of rhythm and register across time. I often say the design intent was right—the ambition was there—but the economic and construction ecosystem simply wasn't ready to support it.

Transposing the old facade elements into the new

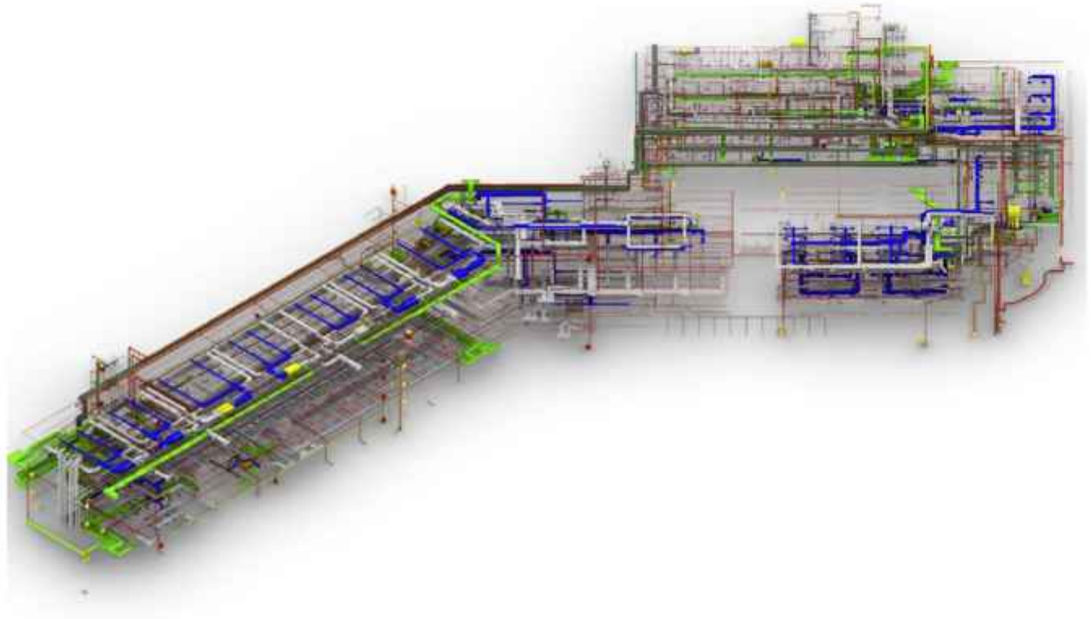
By removing the plenum and the layers of mechanical detritus once concealed above the acoustic false ceiling, we were able to reclaim approximately 25% of the original building height—equivalent to nearly a full story—and return that space to student and public use. Previously, this volume was occupied solely by mechanical systems, invisible yet dominant. In the redesign, that space is reallocated to people—to create height, to accommodate the air volume required by high-performance fans, and to foster a more open and generous spatial experience. What was once reserved for machines is now shared by the community, transforming the character and atmosphere of the interior.



Recovery of volume from removing the false ceiling

Opening up the ceiling—typically reserved for concealing mechanical systems—required significantly more coordination across trades. In conventional construction, different systems such as refrigeration, electrical, lighting, fire protection, and plumbing often run independently, with little regard for spatial or experiential quality. Since everything is hidden above a dropped ceiling, visual order is rarely a priority.

In this project, however, removing the ceiling system meant every pipe, conduit, and duct would be exposed to view, making coordination essential. To manage this complexity, we developed a highly detailed digital twin—modeled down to the level of individual conduits—and worked closely with each contractor to ensure precision and clarity. The result is an exposed services ceiling that is both functionally efficient and visually composed. You can see the evolution in coordination between SDE1 and SDE3. The early lessons learned from SDE1—where exposed systems were more exploratory—were refined and advanced in SDE3. Indeed, the mechanical coordination at SDE3 is markedly more resolved, demonstrating how design intelligence can evolve across projects, even within adjoining buildings.



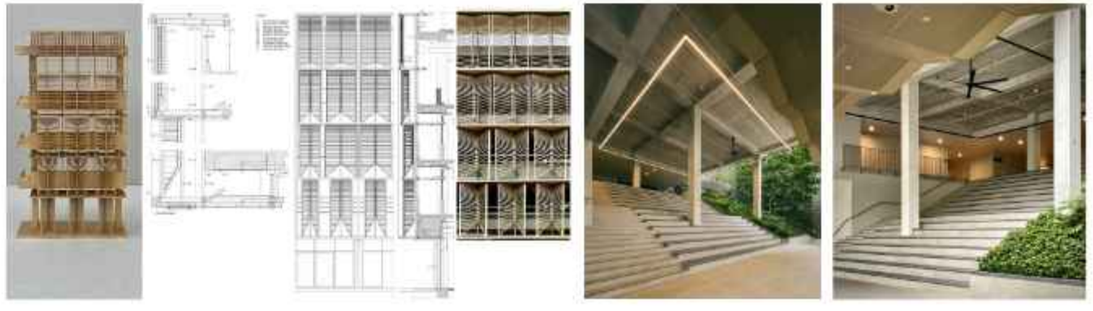
A digital twin to inform on the minutae of each system.

The building envelope was purposefully conceived as parasitic—designed to "clamp" onto the existing structural frame. This strategy emphasized the contrast between old and new, heavy and light, rough and refined. Rather than masking the original building, the new envelope reveals and frames it, drawing attention to their layered relationship. Careful detailing was developed at every point of intersection to highlight these differences while also expressing their interdependence. For example, the envelope splays outward at existing rainwater downpipes and structural columns, creating a distinctive Y-shaped connection detail that articulates the meeting of systems. The original structure is painted a darker grey, while the new interventions are powder-coated in champagne gold—materializing the contrast and clarifying the architectural dialogue between the past and the present. These calibrated differences not only support the building's performance but also enrich its spatial and visual legibility, foregrounding transformation and reuse as central design values.

Blending new envelope into the old structural frame, yet maintaining a formal dialogue

Q Outcome images that seem to look at space in a specific way. Please expand on how you relate space to detail in SDE3

The images capture the deliberate contrast between the delicacy of the new insertions—the refined details of the envelope—and the rough, heavy presence of the original building. This tension between the precise and the crude is purposeful. The finely tuned junctions, as refined as public work at NUS would allow, are set against the existing concrete screed finishes, which retain their raw, utilitarian character. Rather than concealing these differences, the design makes them visible—foregrounding the interplay between old and new, finesse and heft, precision and mass. The result is an architecture that embraces contrast as a narrative device, allowing the building's layered history to remain legible. There is also a secondary visual play at work: the linear quality of artificial lighting, shaped into dramatic geometries, contrasts with the softer, filtered daylight that passes through the layered building envelope. This interplay of light—designed and diffuse, artificial and natural—adds another register of contrast and nuance. The photographic composition captures this tension as well, reinforcing the architectural narrative through the framing of shadows, alignments, and layered filters.



New studio space to left and right

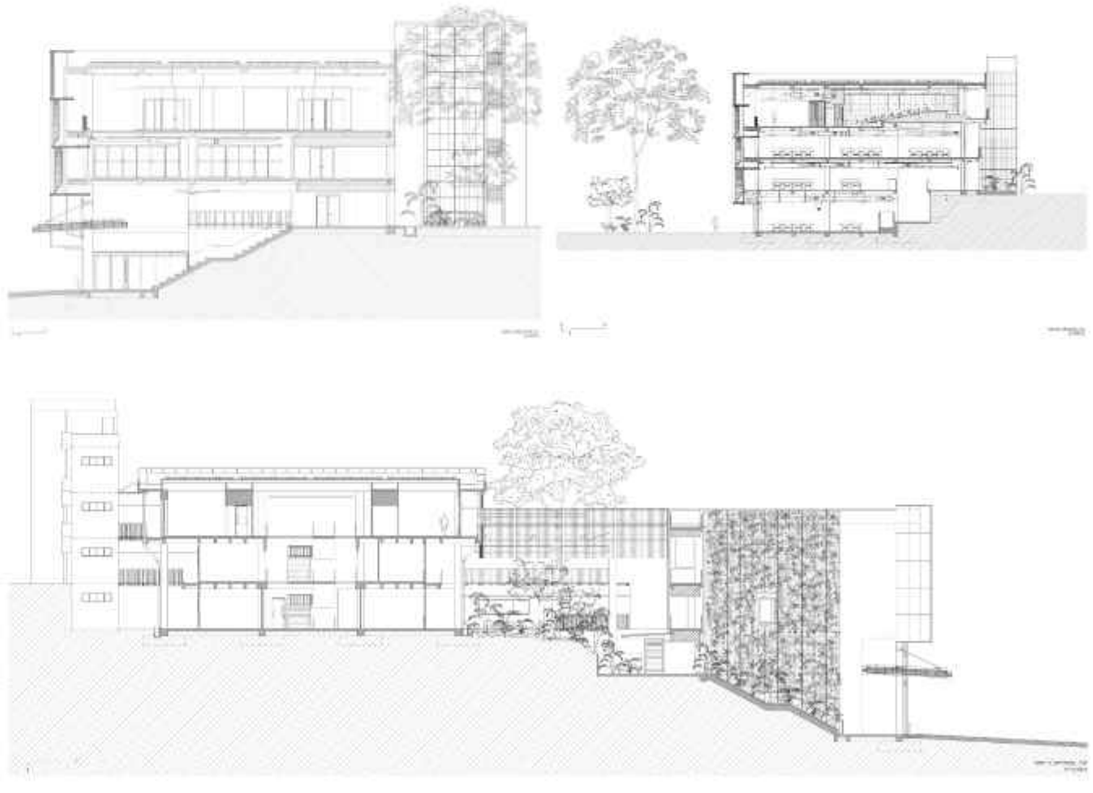
An immediate connection of inside and outside to the left and right

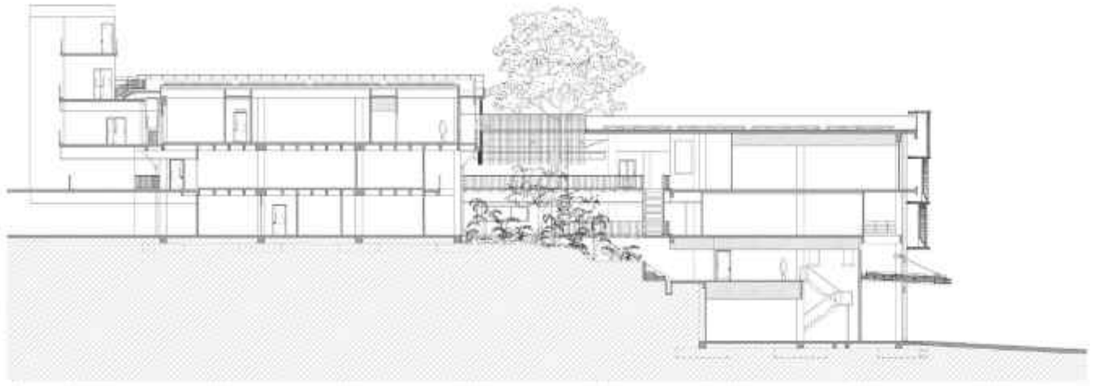
A refreshed interior

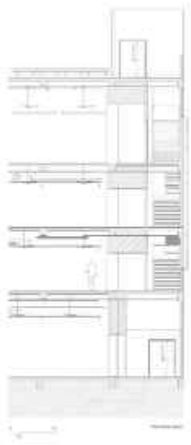
Would be good to connect these impressive drawings to outcome images and your goals on space, plants, lights and climate

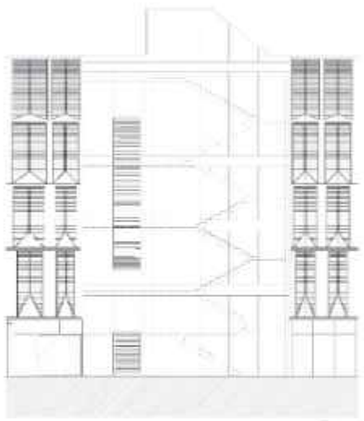
The drawings similarly convey the solidity and mass of the original architecture, yet they extend beyond the building to include elements such as planting, ground, earth, topography, trees—and, in some cases, even air. These contextual layers are not merely given; they are designed. Each drawing is composed entirely of linework—eschewing solid fills or opaque poche—to maintain a sense of lightness and delicacy. For me, the precision of the line is a conceptual and representational precursor to the filigree of filter and screen that I seek in the architecture itself.
These drawings articulate relationships of scale and proportion, revealing how the project is carefully sited within its landscape. They also reflect the same attentiveness to proportion and detail that is embedded in the built work. In this way, the drawings are not just representations but extensions of the architectural thinking—drawing attention to what is solid and heavy, but also to what is ephemeral, porous, and light.

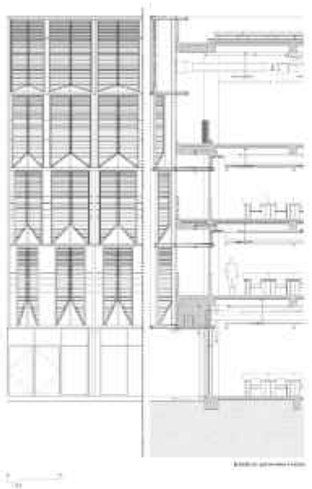
A rejuvenated pre lecture concourse and circulation paths

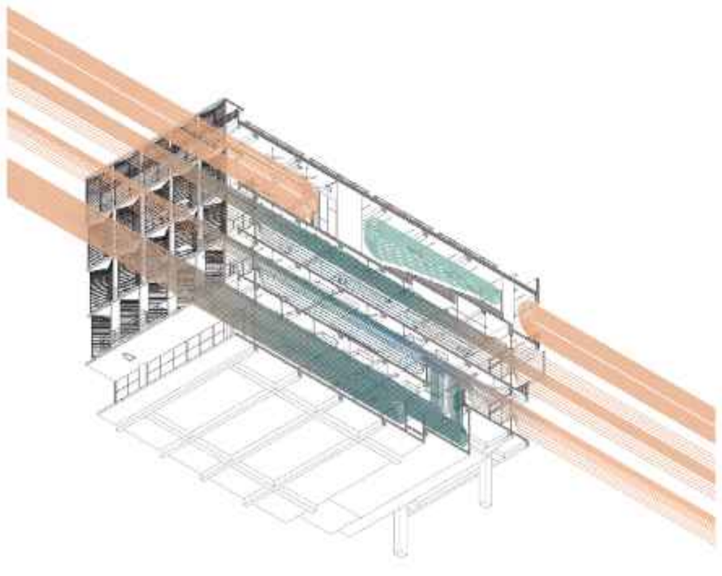


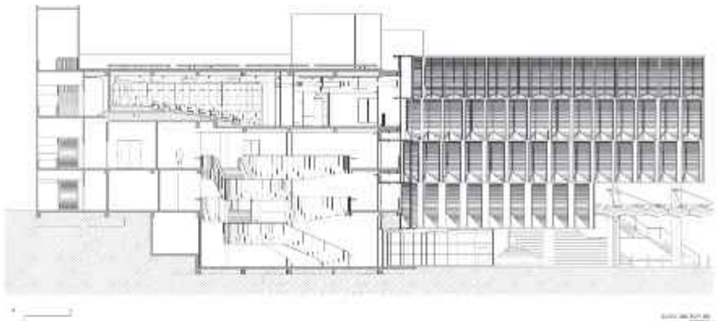


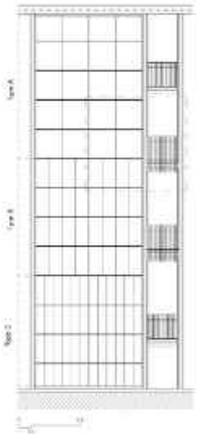


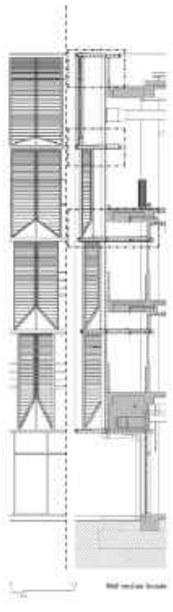


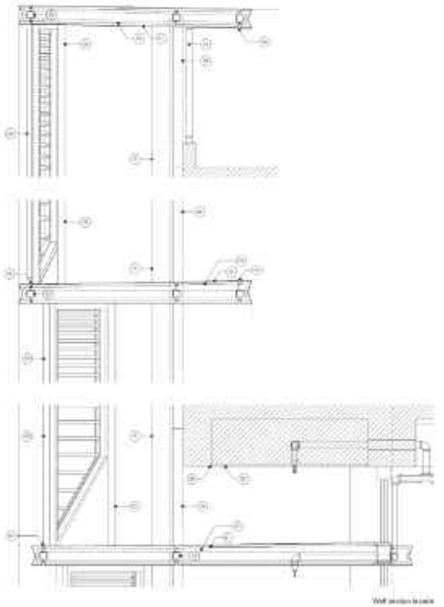












These are the most "human" of the set of images to show the building in action.
1. Any reflections from others or anecdotes from them to share?
2. You too became a user for a few years. Any personal reflections on what you have made?

The building performs—and so do its inhabitants. That performance is always a loose fit, a constant negotiation and collaboration between architecture and its users. In the early days, there was hesitation: students and faculty seemed reluctant to pin up drawings or present models in the public review spaces surrounding the social commons. But over time, and through the initiative of a few studios that embraced a more open and public mode of learning, a culture of shared presentation began to take root. Today, there's a growing robustness to how work is displayed and discussed openly, engaging the larger architectural community. My hope has always been that students across different cohorts might cross-learn—simply by occupying the same space and encountering one another's work.
Of course, the relationship between designer and user is never simple. As an architect, I see all the missed opportunities—the compromises, the things that could have been if there had been more courage, more time, or more budget. But being a user of the building myself has allowed me to recalibrate how I think about design intent and actual use. For example, the ground floor gallery was designed as a flexible lecture space, but initially, it wasn't being used that way. I was able to initiate a few lectures there, setting a precedent and slowly shaping new patterns of occupation.

One regret remains: I had pushed to replace the clunky, ad hoc movable pin-up boards with a more thoughtful, integrated storage-and-display assembly—one that preserved airflow and visual continuity. Unfortunately, this proposal was canceled at the last minute by the previous administration. The grey boards persist, often awkwardly placed in ways that block daylight, restrict air movement, and unintentionally isolate studios from one another. This runs counter to the pedagogical vision of openness and transparency—one that encourages cross-studio and cross-cohort learning through shared visibility and proximity.
There is still more work to be done: not just in designing spaces, but in shaping how they are inhabited—to encourage users to prioritize daylight, views, and air movement over the maximization of pin-up surfaces. And, admittedly, one area I didn't give enough attention to was the management of refuse. While the design includes adequate external refuse areas near each studio, the recent addition of black trash bins and dumpsters scattered throughout the studio interiors has significantly diminished the spatial quality and atmosphere. These are not architectural failings per se, but cultural ones—habits and behaviors that must be cultivated over time.
In the end, the building is no longer my design project. It belongs to the community who occupies it. Architecture can set the stage, but it is the people who determine how the performance unfolds.

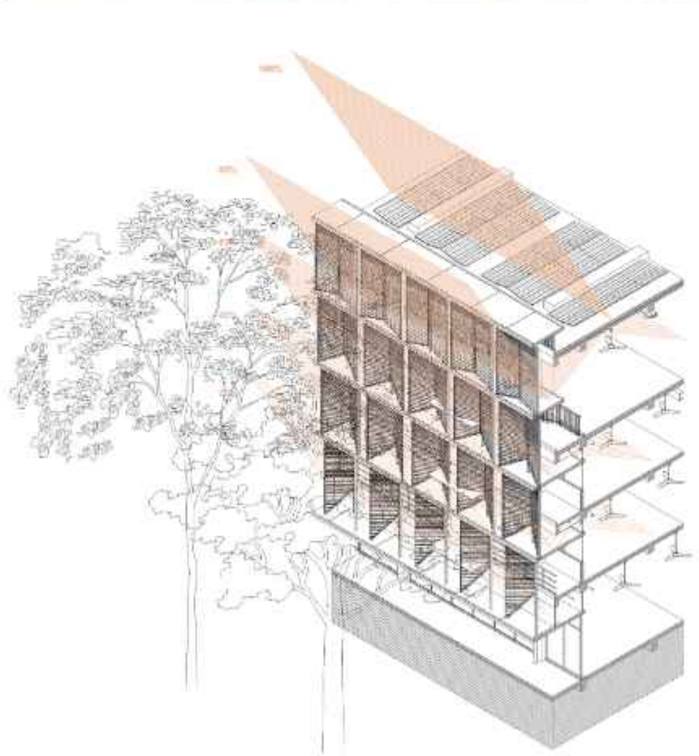
Changing the utilitarian focus to people and greenery

Details clearly a focus and plays a strong role in character. The skin as filter of light, view, atmosphere and modulation of geometry.
Your comments please

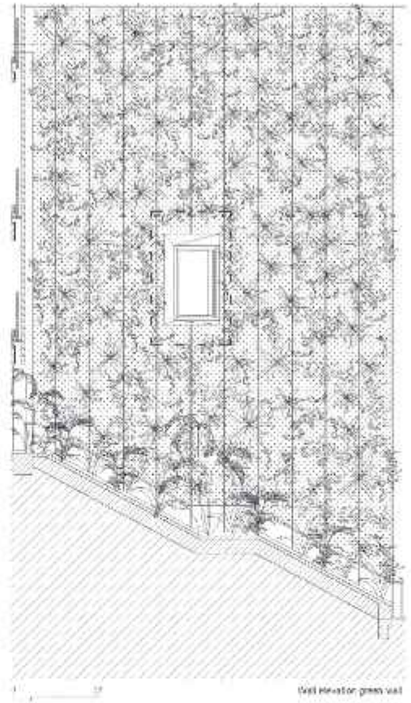
At NUS, adaptive reuse projects are often perceived as second-tier—B-grade efforts aimed primarily at extending a building's lifespan by another decade or two. As such, they are typically assigned modest budgets, with little appetite for significant structural interventions or high-spec finishes. Within this constrained framework, the challenge is not just design—it's care, speed, and ingenuity.
Interestingly, the tender process for such projects often proceeds with minimal detail. The real work of making architecture happens in the shop drawings, where precision and intention must be inserted late in the game. This demands significant commitment: working directly and intensively with subcontractors, resolving every joint, bracket, and edge condition on the fly. It's one of the few remaining opportunities where the architect can exert meaningful agency—and I leaned into that. I treated the shop drawing stage not as an afterthought, but as a core part of the design process.
But the detail wasn't just about negotiating the realities of construction in Singapore—it was also about pedagogy. For me, each joint, connection, and line was an opportunity to teach. How are things attached? How does one turn a corner? What is thickness? What is thinness? These were not abstract questions, but real architectural lessons embedded into the fabric of the building. The details became a form of communication—a kind of text or book that could be read by students learning the language of architecture. In this way, the building itself becomes didactic, offering a legible and intentional expression of how architecture is made, assembled, and understood.

Lessons in geometry

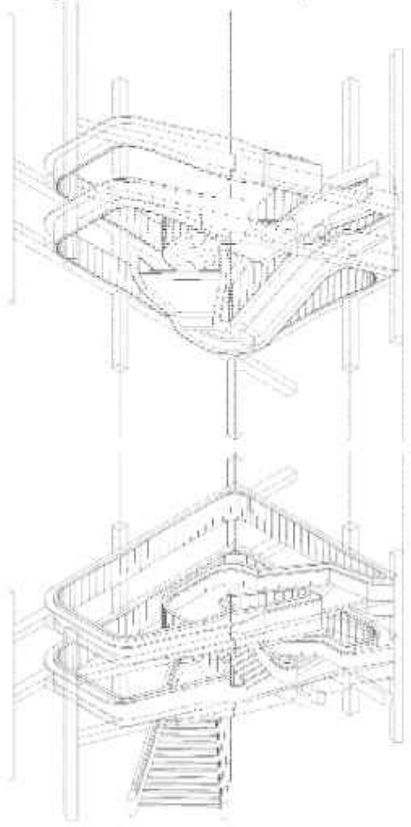
Photo: Finbarr Fallon



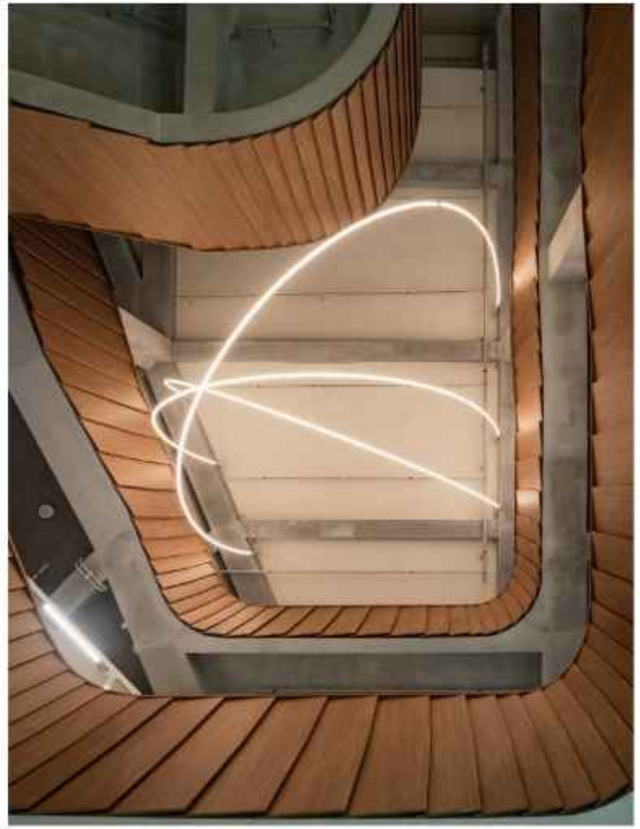
Climatically responsive envelope details



A homage to the Breuer oculus for the Head of Department



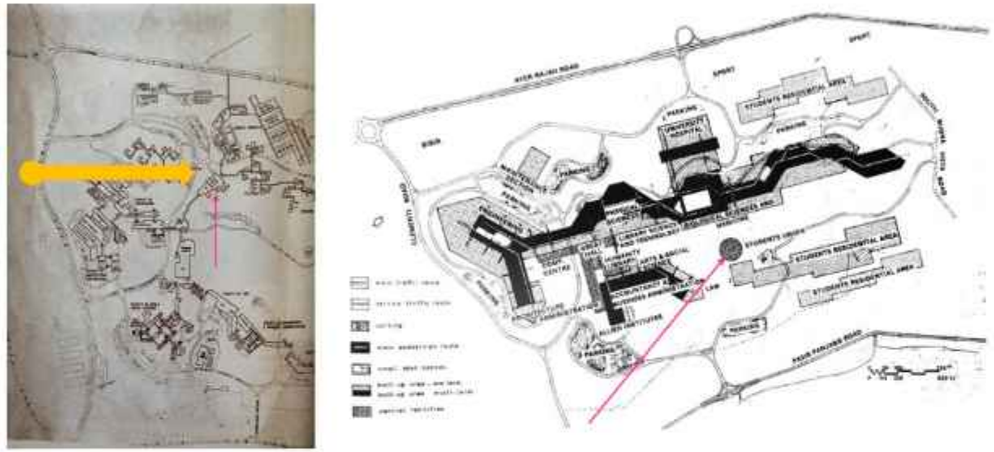
The new central atrium



SDGS New Atrium

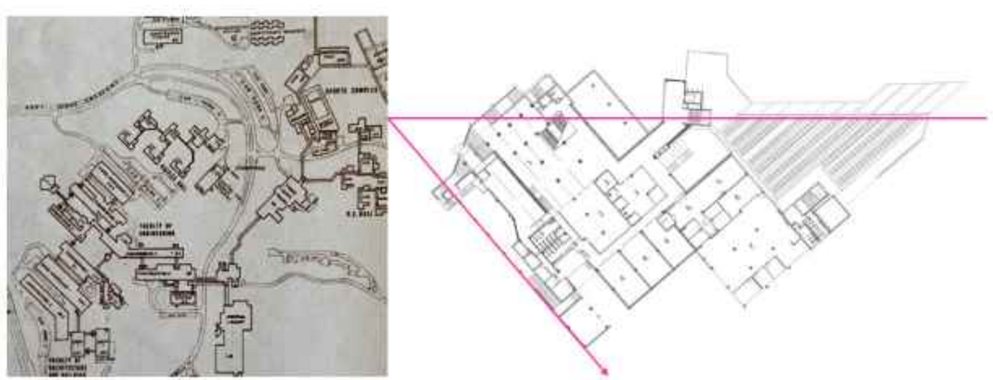
Q *What was the original design by AWP as context for this redesign? Maybe can outline URA concerns for NUS.*
This is particularly interesting as URA had not been seen to intervene in even less sensitive proposals in NUS, yet in YIH, they were concerned. Was it climatic, place-making, or historical concerns in the original proposals?

When the project first landed on my desk, all we were told was that it had already been rejected by URA a couple of times. My sense was that the earlier proposals had transformed YIH too radically—stripping away its symbolic identity and making the renovation appear generic. The proposed glass-and-white palette evoked a laboratory or an office building rather than a civic or student space.
From what I gathered, there were at least two prior submissions to URA. One version obscured the original arches entirely, covering them with a glass canopy. In another, the arches were slightly more visible, but remained purely decorative—detached from the architectural logic of the proposal. In contrast, our scheme brought the arches front and center, using them not only as a visual anchor but as an active part of the new architectural language.
Given YIH's unique historical and political significance, I believe it was entirely appropriate for URA to take a strong interest in the project. There is heritage embedded here—not just in the fabric, but in the building's institutional role and identity—and URA has always shown a sensitivity to that. Our approach aimed to respect and extend that legacy, rather than overwrite it.



Reference: Extracted from 'Kent Ridge, An Untold Story', Kevin P. L. Tan
YIH as a key focal point of student life as conceived in the 1980s master plan

Q *Do speculate. Clearly, the earlier design was sent back and the new one was accepted*



Ed: There was no speculation offered in reply but we can offer a diagram that shows the clear use of regulating geometries which may suggest as stronger tie to the context and the original architecture that may inform why the new scheme is accepted

Q *You seem to be drawing on various heritages here. Please expand this esp in the context of your Indo visits, etc.*

Yes, while the design draws from various geographies, it is more specifically rooted in a strain of mid-20th-century modernism that responded to climate in highly expressive and architectural ways. This period has fascinated me for the past two decades and formed the foundation of my Harvard Wheelwright research travels. It represents a moment when architecture offered a direct, physical response to climate—when environmental performance and formal ambition were deeply intertwined.
Given that much of the NUS campus was constructed at the tail end of this era, it felt both timely and appropriate to mine that architectural lineage. At YIH, I sought to reinterpret these climatic strategies—preserving their spatial and formal intelligence—while transforming the architecture through lighter-weight construction, contemporary materials, and a commitment to decarbonization. The result is a project that acknowledges its historical context while projecting forward, bridging the past and the future through climate-responsive design.

Aesthetics references from the region for the barrel vaults

The original horizontal roofline and arches are amplified and strengthened to form the primary architectural language of the new design. Rather than replacing them, the intent was to mine the existing vocabulary and elevate it—making it more present, more legible, and more significant.

Photo: Courtesy NUS

Please discuss this terrain and climate strategy

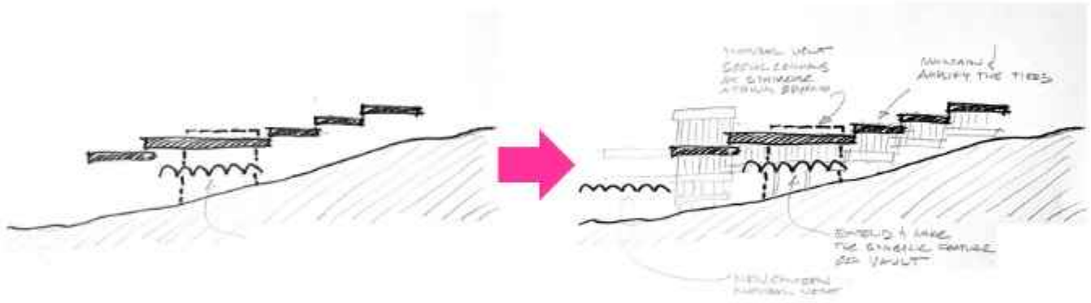
The existing terrain at Kent Ridge is quite steep, and the original design of Yusof Ishak House responded by cascading down the slope with a series of classrooms flanking a central staircase. However, this stepped arrangement rendered the classrooms inaccessible for those with mobility impairments. To address this, a new lift core, egress ramps, and an additional floor were introduced to provide full accessibility. This new floor also serves to link the upper levels of YIH to the lift, enhancing circulation without undermining the building's logic.

At the same time, I was careful not to erase the character of the original design—particularly its distinctive overhanging roofline. Rather than removing it, I reinterpreted the roof profile as a series of horizontal strata along the elevation. These strata integrate accessibility interventions directly into the architectural expression, allowing the overhanging roofline to serve both as a shading device and as a visual register of the building's new inclusive circulation. In doing so, accessibility becomes embedded within the architectural language rather than appended to it.

The initial building was relatively enclosed, with bronze-anodized aluminum frames and bronze-tinted glazing. While a skylight offered some natural ventilation, the building was largely inward-facing and sealed. I reconnected the previously decorative vaults to the central atrium, transforming them into climatic straws that draw in air from the surrounding landscape. These vaults now facilitate cross-ventilation and thermal stack effect, linking the surrounding jungle to the heart of the building. The result is a more breathable, open, and climatically responsive interior that repositions the building in closer dialogue with its equatorial environment.

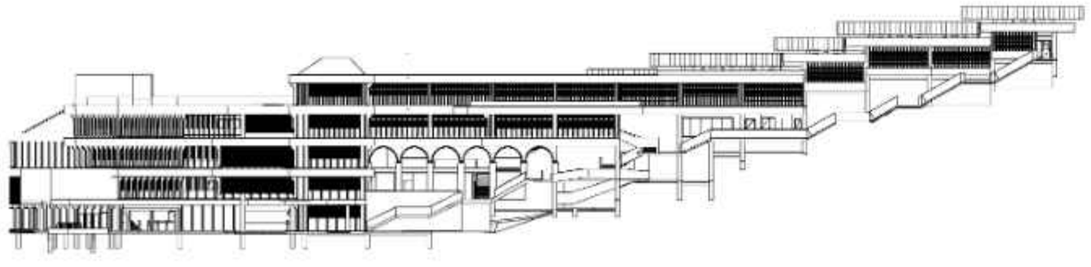
Historical Assets and Symbolic Memory
1. Tiered Horizontal Roof Line
2. Repeating Vaults
3. Centre Atrium

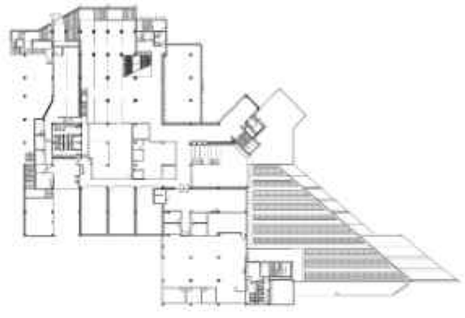
Amplify the Historic Value and Language of YIH
1. Extend Tiered Horizontal Roof Line
2. Expand and Make as Climatic Feature Repeating Vaults
3. Improve Centre Atrium as Social and Climatic commons



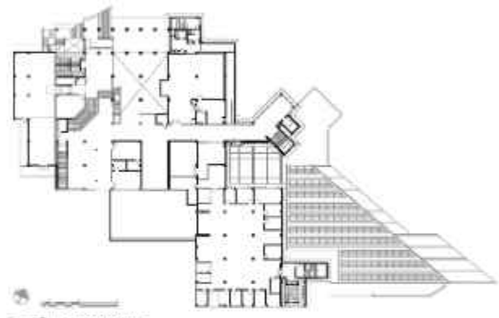
This is a very interesting diagram and drawing. Please expand.

A worm's-eye axonometric illustrates how the climatic straws—repurposed vaults—link the exterior landscape to the building's interior. The drawing highlights the integration of spatial and climatic concerns, revealing the layered environmental strategies embedded within the design.





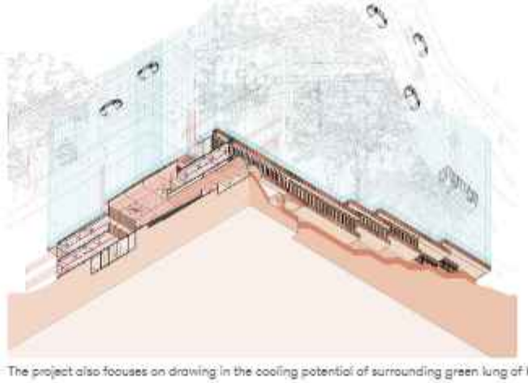
Level 2 Main concourse



Level 3 upper concourse

Level 4

Kent Ridge road level, Level 1

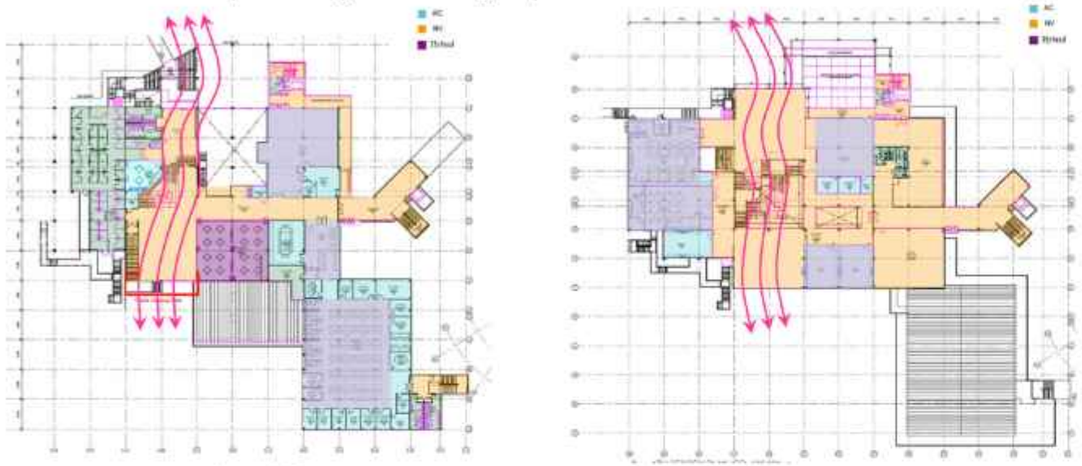


The project also focuses on drawing in the cooling potential of surrounding green lung of Kent Ridge to the south east

This is a very interesting diagram and drawing. Please expand.

A thermal zoning diagram maps the building's varied comfort strategies—natural ventilation, hybrid conditioning, and fully air-conditioned zones—revealing how different thermal states coexist within the floor plate. This layered approach enables cross ventilation where possible, while strategically concentrating energy-intensive cooling only where necessary. The diagram underscores the building's calibrated response to climate, program, and use.

Conversion of AC space to Hybrid Cooling. Improve Cross Natural Ventilation



Level 3

Level 4

The outcome images seem to have a very high level of formal coherence that is imageable, like in SDE 5. Can you make the connecting ideas between the 2 ways of approaching Skin, Climate, screen and shadow?

Formal coherence was a key consideration in the redesign, particularly given the multitude of competing demands placed on the building—including its own layered history of ad hoc additions and alterations. Coherence is something I value deeply, especially on a campus where architecture often reads as a patchwork of styles, scales, and disconnected intentions. I believe buildings should reflect a consistent level of thought and care; in this case, it was important that the new intervention not only resolve the building's internal contradictions but also reconnect it to the broader language of the campus.

This approach aligns with the strategies employed at SDE1 and SDE3, where climate, context, and history are engaged holistically—most visibly through the building envelope. In all three projects, the envelope acts as both an environmental filter and a carrier of architectural meaning, foregrounding the campus's history while calibrating comfort and performance. There is also a deliberate oscillation in these buildings between part and whole, and between lightness and mass. While each project arrives at a different architectural expression, they share a common pursuit: to unify environmental performance with formal legibility and historical sensitivity.

Within this framework, larger social spaces are intentionally created to allow students to gather, engage, chat, and debate. At SDE1 and SDE3, these communal areas were expressed at a more modest, intimate scale. At YIH, however, I took a bolder approach—amplifying the size and presence of these social volumes to foreground civic life at the heart of the building. These spaces not only serve pedagogical and communal functions but also reinforce the building's role as a social condenser on campus.

View form Kent Ridge Road. West corner

Level 2 Main concourse and barrel vaults

Level 3 Upper concourse or point of rotation showing the passage that comes down from Kent ridge

Level 2 Main concourse and new extended barrel vaults

Singa and the Merlion: a Design History

Lai Chee KIEN

Chee Kien is a lecturer and registered architect in Singapore, researching histories of art, architecture, settlements, urbanism and landscapes in Southeast Asia. He graduated from the National University of Singapore with an M Arch. by Research (1996), and a PhD in History of Architecture & Urban Design from the University of California, Berkeley (2005). His publications include Building Merdeka: Independence Architecture in Kuala Lumpur (2007), Building Memories: People, Architecture, Independence (2016) [awarded Book of the Year (2017)], The Merdeka Interviews (2018), and Cords to Histories: Architecture and Life in Southeast Asia (2021, in Chinese as 《歷史的臍帶：東南亞建築與生活》) [One of Asia Magazine's Best Ten Non-Fiction Books (2021)].

Most tourists and even locals identify with the Merlion as a symbol for Singapore in the present day. This was not always the case, as an earlier lion symbol was in circulation before the Independence of Singapore and its use persisted for as long as two decades after 1965. This essay discusses some design aspects of the Merlion, before attempting to delineate the forgotten design history of the lion that first appeared in 1959.

Mr. Lim Nang Seng, a sculptor who had made Singapore his home, designed the Merlion sculpture at Singapore's seafront in 1972. From several sources including interviews with Lim, the present form of the Merlion was undoubtedly created by him, but he had adapted it from an earlier design drawn by Mr. Kwan Sai Kheong, when it was introduced to the public as the logo of the Singapore Tourism Promotion Board in 1964.

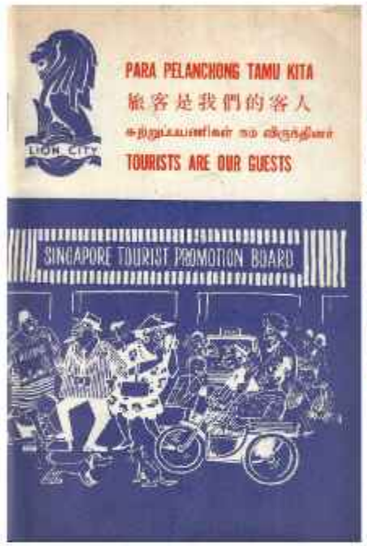
Visual representations of Singapore have consistently used a stylized lion symbol, in whole or in part, since the country attained self-governance. This is due to the city-state's name as well as the moniker "Lion City" that is derived from the Sanskrit words "singa" (lion) and "pura" (city) dating from the 13th century. "Singapura" replaced its prior place name of "Temasek" as the one that endured. The retinue of an ancient prince purportedly spotted a creature on the island that the prince proclaimed as a "singa," an auspicious symbol. Lions are not endemic to the region where Singapore was biogeographically located.

The Merlion at its former location at the mouth of the Singapore River.

For the 1964 version, the then spokesman for the board explained that the root word of Temasek was "tasek" ("sea" in Javanese), and thus "in view of the change of name from Temasek to Singapura in ancient times, the emblem of a lion with a fish tail emerging from the sea would not be an inappropriate emblem with which to perpetuate the Malay legend concerning the foundation of Singapore."

Lim studied the logo and determined that key changes were needed if it were to assume three-dimensional form. The banner at mid-tail bearing the words "Lion City" would need to go. More importantly, the logo creature had a "tail like a sandworm's" that did not make anatomical sense, nor could it be constructed as a top-heavy but freestanding sculpture. He revised his design countless times so that it could be better read as an entity, which was structurally sound, and fastidiously worked out details right down to the number and arrangement of body scales.

When asked if the work should be duplicated elsewhere after it was completed, Lim replied that there was no need and it would be meaningless, as "this is not a representative symbol of Singapore, but merely for tourism purposes." Notwithstanding, there are now facsimiles of the Merlion sculpture on the island itself, as well as in other countries like Indonesia and Japan.

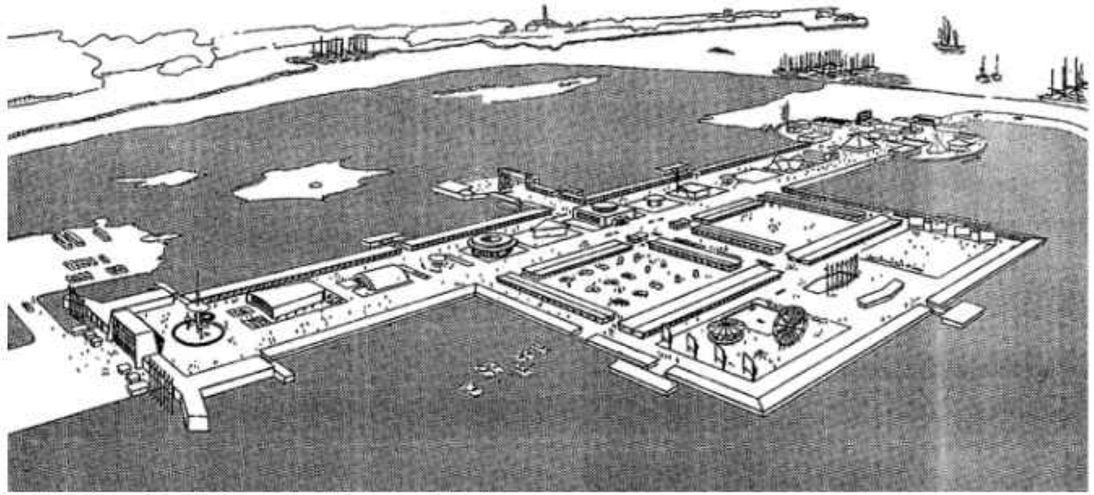


The original logo for the Singapore Tourism Promotion Board at top left of this brochure.


The Merlion at Citraland, Surabaya, Indonesia.

The first lion creature to represent a self-governing Singapore was introduced in 1959 at the Singapore Constitution Exposition. Staged along the former Kallang Airport runway, it was the primary event celebrating the country's attainment of self-governance. The overall architects for the exposition were Mr. Ang Kheng Leng and Mr. Ng Keng Siang, with Mr. Linky Lim as design consultant. Mr. Ho Pak Toe designed the exposition gateways, while Lim designed the notable fountain located just after the landside entrance. Along with government pavilions to showcase state functions, there were also booths of over 450 local and foreign trade and industry exhibitors, a stage for performances, and an amusement ground.

The first lion creature to represent a self-governing Singapore was introduced in 1959 at the Singapore Constitution Exposition. Staged along the former Kallang Airport runway, it was the primary event celebrating the country's attainment of self-governance. The overall architects for the exposition were Mr. Ang Kheng Leng and Mr. Ng Keng Siang, with Mr. Linky Lim as design consultant. Mr. Ho Pak Toe designed the exposition gateways, while Lim designed the notable fountain located just after the landside entrance. Along with government pavilions to showcase state functions, there were also booths of over 450 local and foreign trade and industry exhibitors, a stage for performances, and an amusement ground.


Sketch of the Singapore Constitution Exposition by Ang Kheng Leng and Ng Keng Siang

Fountain just after the Kallang side entrance to the exposition, designed by Linky Lim.

The Constitution Pavilion was constructed at the city-facing entrance located near the confluence of the Kallang River, at the other end of the runway. The pavilion with a decodon plan was surmounted by a ten-foot high lion figure made by Mr. Kwan Sai Kheong, then deputy principal of the Teachers' Training College, based on a picture furnished by Raffles Museum director Dr. Carl Gibson-Hill. It was described as follows:

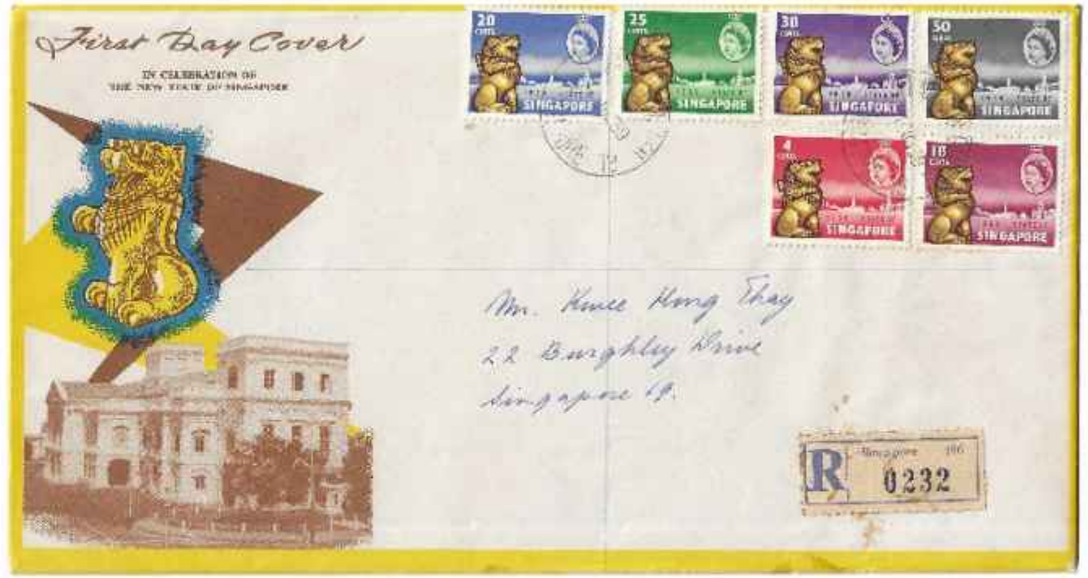
> *"In the centre of its courtyard will be a special pavilion to illustrate the new constitution. It will be surmounted by a Statue of the newly discovered "Singa" of the original Singapura of the 12th to the 14th century. It will rise to a height of 60 feet dominating the view of the Exposition from the sea-ward site."*

The Constitution Pavilion at the seaward entrance, surmounted by the Singapore statue.

The possible provenance of the symbol in the archipelago was significant because of its historical Hindu-Buddhist associations in Southeast Asia. Eminent archeologist Dr. John Miksic is of the opinion that the Singa image was probably inspired by stone lion statues from the East Javanese period, although the lower part of the design was not an accurate depiction of statues known to him and probably created by the artist. The shorter mane of the Asiatic lion, which such stylised forms referenced, differing from the longer-maned ones on imperial British insignia.

The connection between Singa and the island was reinforced with the gift of a gold-plated paperweight presented by the then Chief Minister Lim Yew Hock to the visiting Prince Philip in February 1959. The paperweight featured a gilded Singa, "the Lion of Singapore," affixed to a base shaped as a map of Singapore. The gift from "the Government and people of Singapore" to the Queen's representative encrypted additional meanings that the former colony now had its own symbol, against the British lion symbol used on prior colonial insignia. Stamp labels bearing Singa on a Singapore map were later used to remind citizens to vote in the legislative assembly elections on 30 May the same year.

The Constitution Pavilion at the exposition showcased how self-governance was achieved after a series of Merdeka talks in London. There was also a voter register placed inside it for the public to peruse, in preparation for first election where voting was compulsory. Between the time of the exposition and the elections, Singa made appearances on almost all election paraphernalia including posters, brochures, and the stamp label mentioned above. In one "Our Duty to Vote" brochure encouraging eligible Singaporeans to participate, Singa was portrayed as casting a vote with its right paw into a graphic ballot box. This depiction associated Singa directly with the identity of a Singapore citizen.



First Day Cover issued on 1 June 1959.

Election sticker for the 1959 Legislative Assembly elections.

The voting Singa.

A set of six stamps was issued on 1 June, two days after the legislative assembly elections, to celebrate the new constitution and self-governance status. The stamps bore exact designs except for the background hue and denomination (4, 10, 20, 25, 30 and 50 cents). Described as "Her Majesty and the Singapore Lion against the Administrative Centre," each stamp featured a golden Singa at the bottom left corner of the stamp, and a much smaller portrait of Queen Elizabeth at the top right. It was the only instance that colonial and self-governance symbols appeared together on Singapore stamps.

The expression on Singa's face, unlike the taciturn one used thus far by the Lim Yew Hock government, is a smile, if not seemingly breaking out into a chuckle. Because the two faces are at the same height and facing each other, it might be read that Singa is communicating that chuckle to Elizabeth. The background depicts a grainy worm eye's view across the length of the Padang, with the tower of the Victoria Memorial Hall as the slightly off-centre perspective point in the distance. On the left side, the Esplanade is obscured by Singa, but the old Supreme Court and City Hall can be made out on the right. There is a possibility that an architect drew this background image. In a conversation with Dr. John Seow, son of the late Dr. Seow Eu Jin, he disclosed that he remembered his father submitting a larger sketch of that scene upon a public solicitation for design entries for a new set of stamps in the newspapers.

The stamps were issued on 1 June 1959, but in the meantime, the government that commissioned them had been replaced by another. The photogravure and printing were made by security printers Harrison and Sons in London. Mr. Koh Seow Chuan, an avid collector and president of the Singapore Stamp Club from 1967 to 1976, estimated that the printing and delivery processes during that era would usually take 12 to 18 months. This suggested that the prior government had expedited the two processes from the time the Singa symbol was designed.

The official First Day Cover envelope for this set of stamps has words and images on its left edge. Under the phrase "First Day Cover" are printed: "In Celebration of the New State of Singapore." Further below, a left-facing Singa is portrayed within a blue vignette, and over a brown pointed chevron with one of its tips underlapping a photographic image of the Legislative Assembly Building (now the Art House).

These stamps were in circulation for a year before the next issue of two definitive stamps on 3 June 1960, whose common design was a flapping flag of the new state. The design of the flag was passed in the legislative assembly on 11 November 1959, along with the confirmation of the National Anthem and the State Crest design that introduced another lion and a tiger astride a shield.

First Day Cover issued in 1984.

There was an "afterlife" of the Singa from the 1959 stamps. On 9 August 1984, the 1959 stamp designs with Singa and the Padang area were reused again on a new set of six stamps with the same background tints and Singa design as that of the 1959 ones, but the background extended upwards to create a larger stamp surface. The denominations of the new stamps had increased to a range between 10 cents to 2 dollars.

A previously-issued stamp from the post-Independence era was designed at the top right corner and replaced the Elizabeth portrait, i.e., a stamp placed within another stamp. Respectively, the miniature "second" stamp featured National Service, sport, public housing, wayside trees, Changi Airport, and the Monetary Authority of Singapore. Singa was now "pleased" with the progress of aspects and achievements encapsulated by the added stamps. The Singa figure made a final appearance on a set of 1992 stamps themed "Currency Notes and Coins," but this time as an image engraved on a coin.

The first set of Singapore coins was circulated on 20 November 1967, two years after Independence. It featured six coins of different denominations ranging from one cent to one dollar. The designs on the reverse sides were imprinted the release year, the word "SINGAPORE," the coin value, and two graphic stalks of rice paddy. The obverse sides of the five- to fifty-cent coins depicted different marine-related creatures, while the one-dollar coin featured a lion. These coins were minted annually until another set replaced them in 1985.

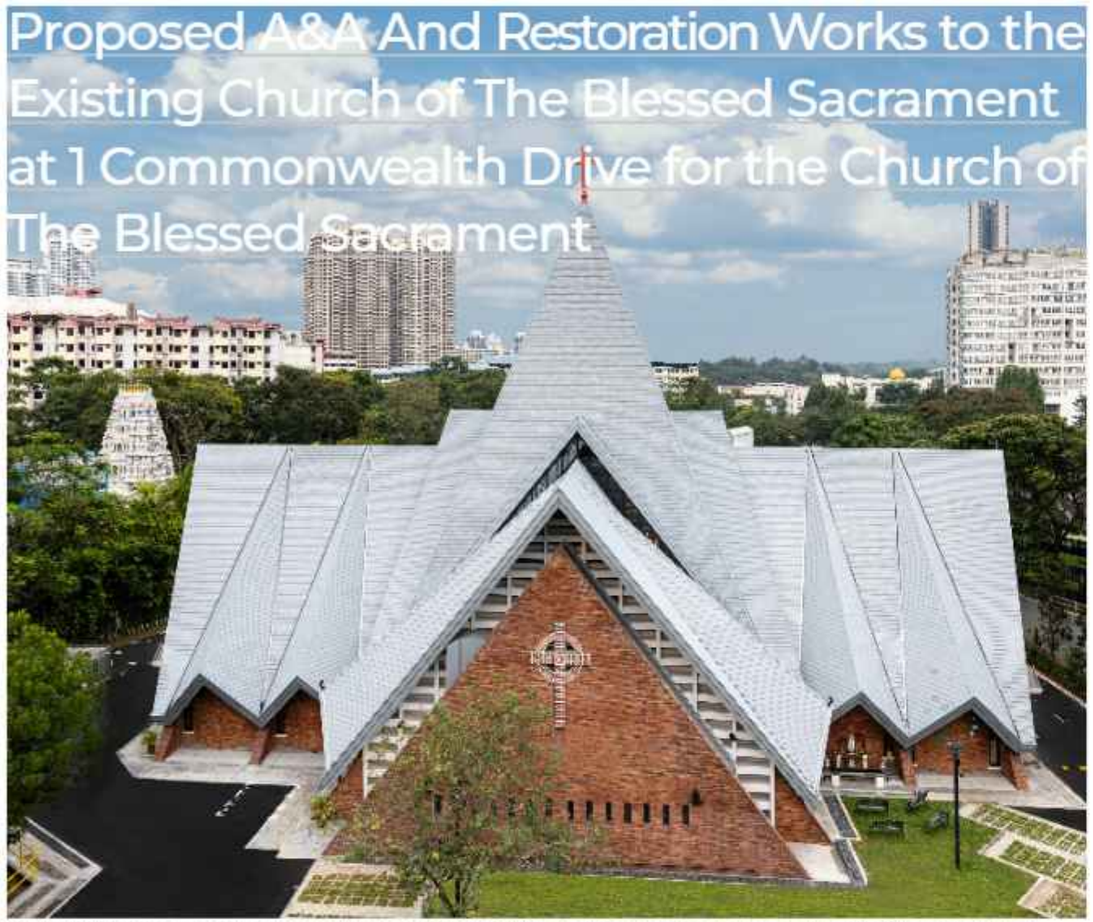
Stuart Devlin, the engraver of these coins, had only ever claimed the five-cent (snakebird) and fifty-cent (lionfish) coin designs as his own work. In an interview, Lim Nang Seng, who would subsequently design the Merlion, spoke at length about his design of the one-cent coin (a block of flats alongside the Hong Lim Park fountain) as well as a set of sketches he had submitted to the coin design committee that included a seagull, seahorse and swordfish, which he believed were subsequently redrawn for engraving. The ten-cent coin featured the seahorse and the twenty-cent coin, the swordfish. It can not yet be ascertained who was responsible for a lion figure to adorn the obverse side of the one dollar coin in that set, but it was likely decided by the committee members as it was the largest coin and of largest value.

Though never officially described as Singa, the lion engraved on the earliest Singapore one-dollar coin bears remarkable similarity to that used on the 1959 stamp designs. For the Expo '70 in Osaka, the first convened in Asia, a set of commemorative coins was one of the Singapore Pavilion's souvenirs. The dollar coin in that set was described as designed "based on a Singapore lion symbol flanked by stalks of paddy." In subsequent commemorative sets minted up to the year 1984, it was described as a "stylised lion."

In 2013, a third series of coins was minted for circulation in Singapore. The Merlion is now engraved onto the obverse side of the one-dollar coin, seemingly suggesting a final replacement of Singa from the first series, as the second series from 1985 featured plant designs. There is an additional lion-head outline at the top rim of all third series coins but both it and the Merlion sport long manes like prior colonial symbols.

There was a representative lion symbol for Singapore in public circulation from 1959 to 1985. In its various uses, Singa the lion was graphically linked with the island, as well as depicted as a citizen with voting rights. Its origins in the Hindu-Buddhist pictorial system associated it with the region besides it being a protagonist in the founding myth of Singapore. More importantly, it was used post-colonially as a different "local" identity to counter prior colonial uses of the lion symbol, which was of a different sub-species. In my view, Singa was a more deserving symbol for Singapore than the Merlion, and it should not be forgotten.

Proposed A&A And Restoration Works to the Existing Church of The Blessed Sacrament at 1 Commonwealth Drive for the Church of The Blessed Sacrament



EXTERIOR VIEW: The distinguishable feature ofthe Church is the Blue Tent Shaped roof, which exemplifies the dedication and communal history of this 50-year old cornerstone of Queenstown Community

Architecture Firm: RDC Architects Pte Ltd
Lead Architect: Rita Soh Siow Lan
Year of Completion: 2024
Land Area: 7606 sq.m
Built-Up Area:1243 sq.m (Only the Church Area)
Photographer: Vernon Leow

Summary

Blessed Sacrament Church (BSC) opened in 1965 by Archbishop Michael Olcomendy, Iversen & Van Sitteren Partners as the Architects. In 2005, URA gave it Conservation Status, its folded Roof Structure, a unique feature over its interiors, creates a transcendent spatial quality. Restoration of the church and interiors took place between 2021 and 2023.

Description

Designed by G.Dowsett, its significant feature was a folded roof constructed to resemble the Tabernacle in Exodus 33:7-11. The Church was granted Conservation Status in 2005.

The architects were tasked to address the building's deterioration and to improve accessibility for the development. On the award, we discovered asbestos mineral fibers in the roof slate, which saw the need to replace it with new materials. Given weathering, water leakages and prolonged dampness in the facade caused damaged plaster and painting discoloration. Internally, lighting & mechanical equipment upgrades and sustainable ACMV systems, better acoustics performance, and improved Audio-Visual systems are required.

The entire roof, early 3-dimensional steel-truss frames rested on 4 main groups of brick piers with no detailed drawings save for the load/m2, meant a new challenge as the roof structure was interconnected, and any replacement needed careful strategizing to avoid a total collapse. Existing timber ceiling timber boards had deteriorated. While it needs to be restored, the current fire code would require fire-rating, hence it means additional load on the flimsy steel trusses.

We decided to use a 3-dimensional LIDAR scanner for the entire roof and reverse engineer the structure to ensure the weight of the new roof system, new aluminium ceiling, and pendent lights can be kept within the structural capacity of the existing structure.

Externally, the unique geometry of the roof folds resulted in complicated rainwater drainage systems, with discharge off the exterior planes; whilst the interior folds within junctions cluttered by Electrical Equipment and fitments that accumulated over time.

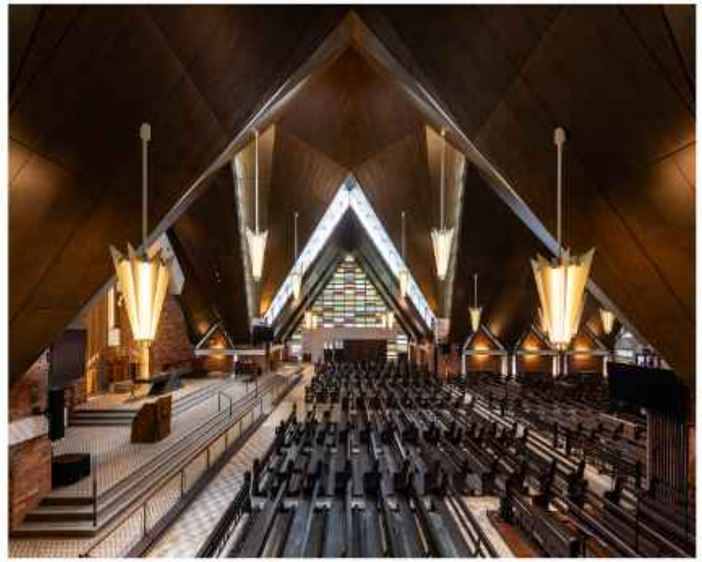
The Architects utilised scanning technology to better appreciate existing construction, and iterative 3-D printing of scaled models of these junctions was deployed to test out possible solutions. The result saw the integration of the new with the existing in a harmonious manner. Existing floor terrazzo and brick walls were cleaned, and new materials were sensitively inserted to blend into the old.

CHURCH OF THE BLESSED SACRAMENT

EXTERIOR VIEW: A Celtic cross adorns the exterior brick faced wall

EXTERIOR VIEW: Triangular folds in the roof create pockets of human scaled spaces within and without

EXTERIOR VIEW: The geometry of the roof's folds dip downwards to wrap the interior with portions touching the ground, reminiscent of anchoring pegs which functionally serve as drainage points for rainwater.scaled spaces within and without



INTERIOR VIEW: An Interior View ofthe Church.The roof, constructed in folds to resemble a tent,makes reference to the"tent of meeting"" mentioned in the Old Testament(Exodus 33:7-11)

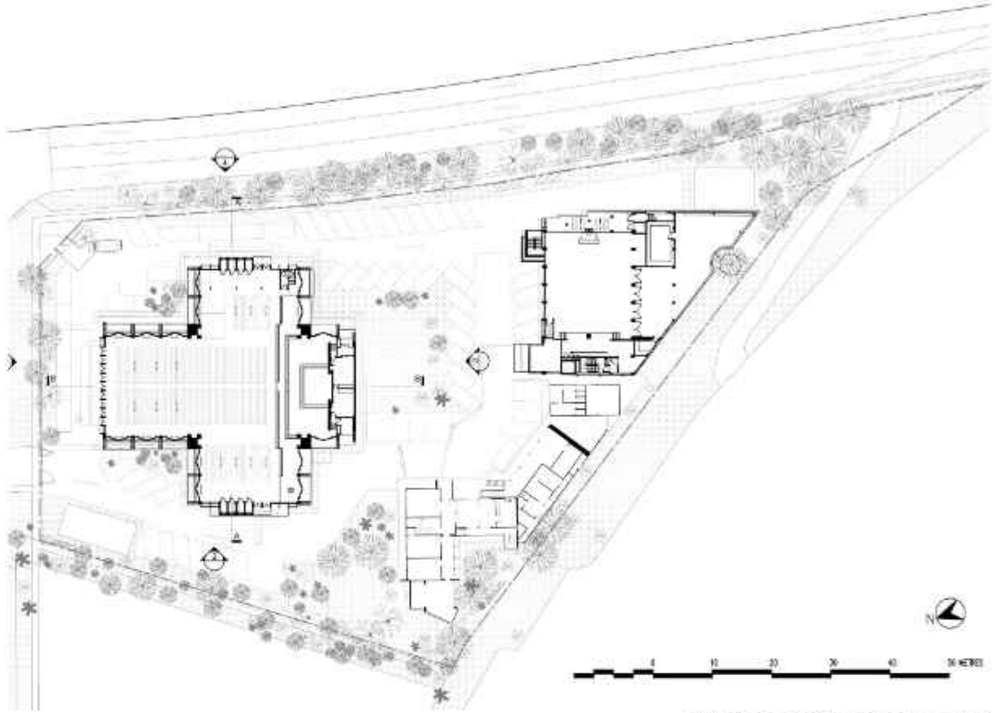
WORSHIP HALL: Colourful window panes and the high timber look-alike ceiling in the interior space give it a transcendent spatial quality.

WORSHIP HALL: Simple construction materials such as fair-faced bricks are thoughtfully utilised to create meaning and significance beyond the mundane.

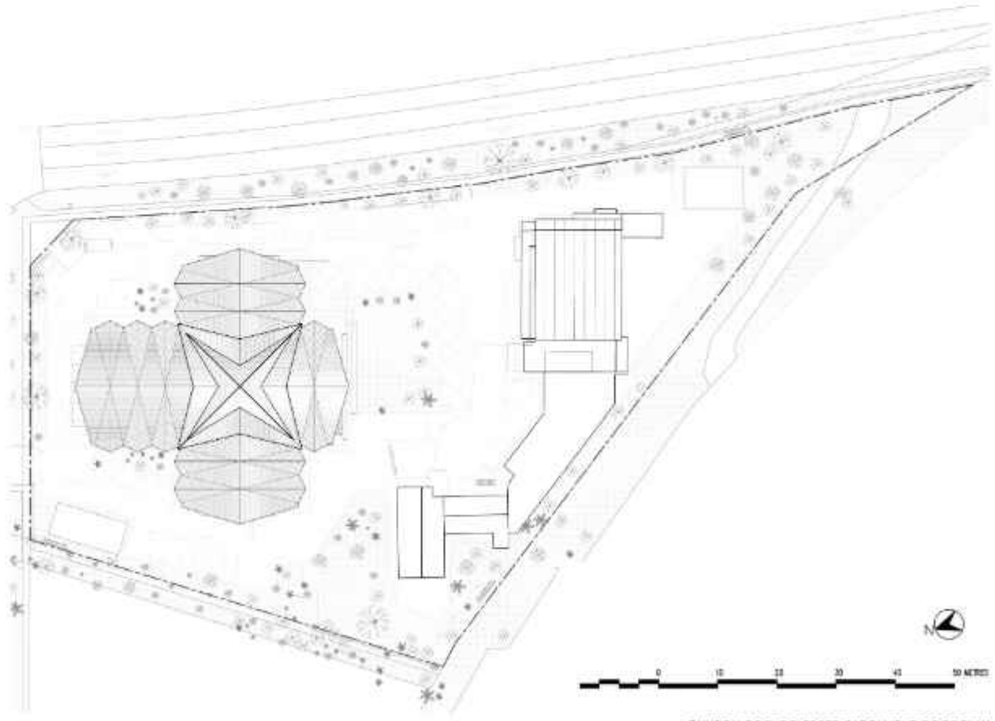
WORSHIP HALL: The original lighting used reflected the influence of modernism and was carefully maintained in the conservation process.

EXTERIOR VIEW: A Modern Aluminum roof replaced the original weathered blue slate tiles to provide a crisp backdrop to the religious artwork.

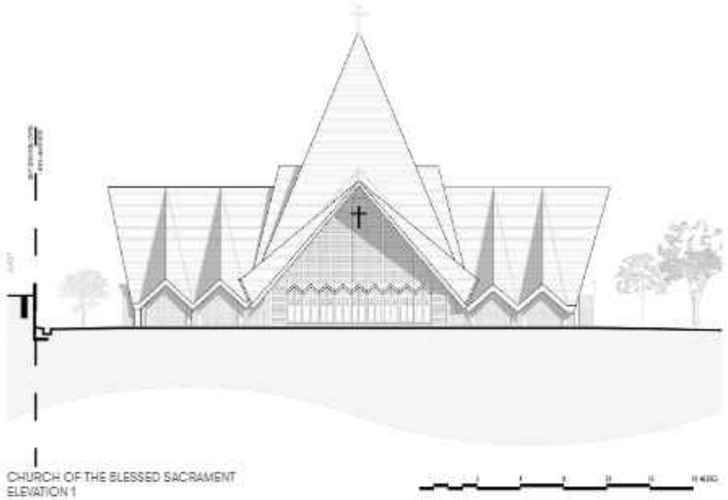
THE CHURCH-BEFORE: Images of the Church prior to the Additions and Alteration work.



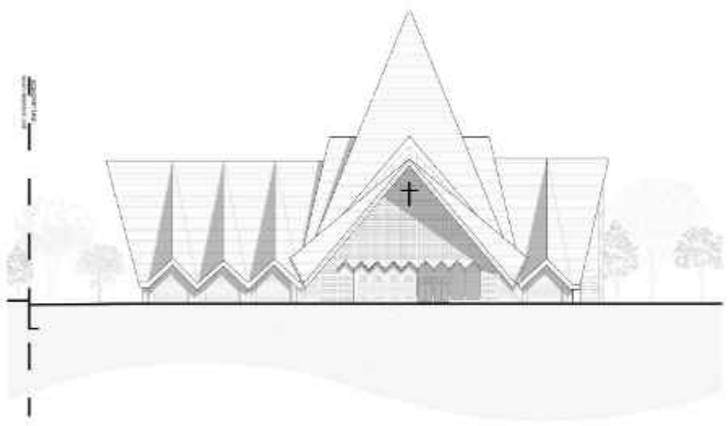
CHURCH OF THE BLESSED SACRAMENT: FLOOR PLAN



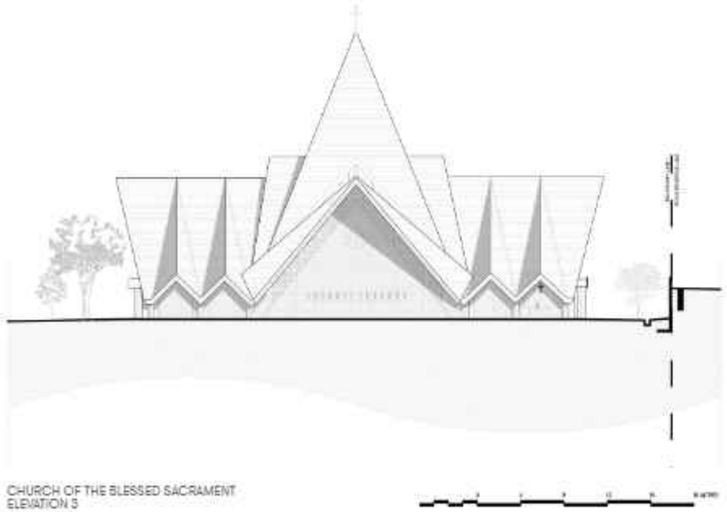
CHURCH OF THE BLESSED SACRAMENT: ROOF PLAN



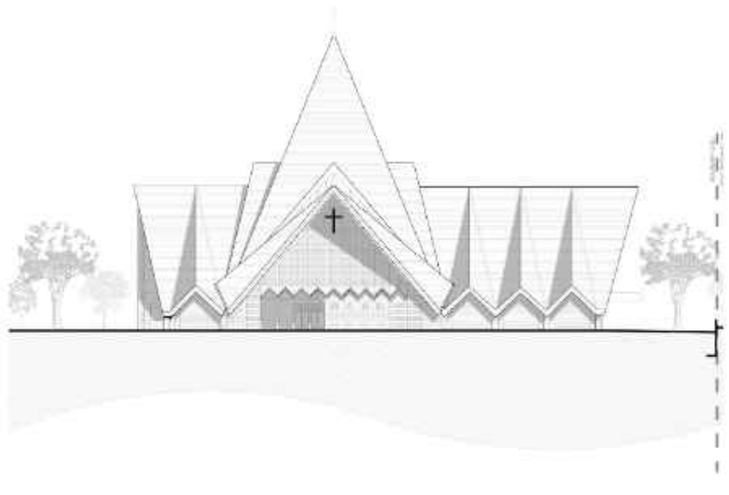
CHURCH OF THE BLESSED SACRAMENT
ELEVATION 1



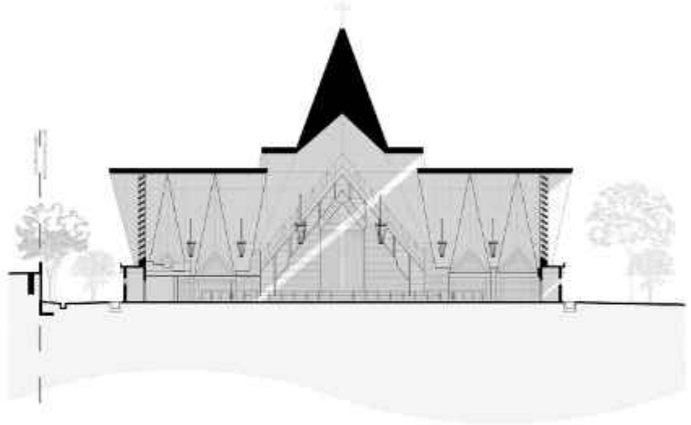
CHURCH OF THE BLESSED SACRAMENT
ELEVATION 2



CHURCH OF THE BLESSED SACRAMENT
ELEVATION 3



CHURCH OF THE BLESSED SACRAMENT
ELEVATION 4



CHURCH OF THE BLESSED SACRAMENT
SECTION AA

CHURCH OF THE BLESSED SACRAMENT
SECTION BB

Bukit Timah Railway Station & 9 Mile Platform

Aerial view of Bukit Timah Station

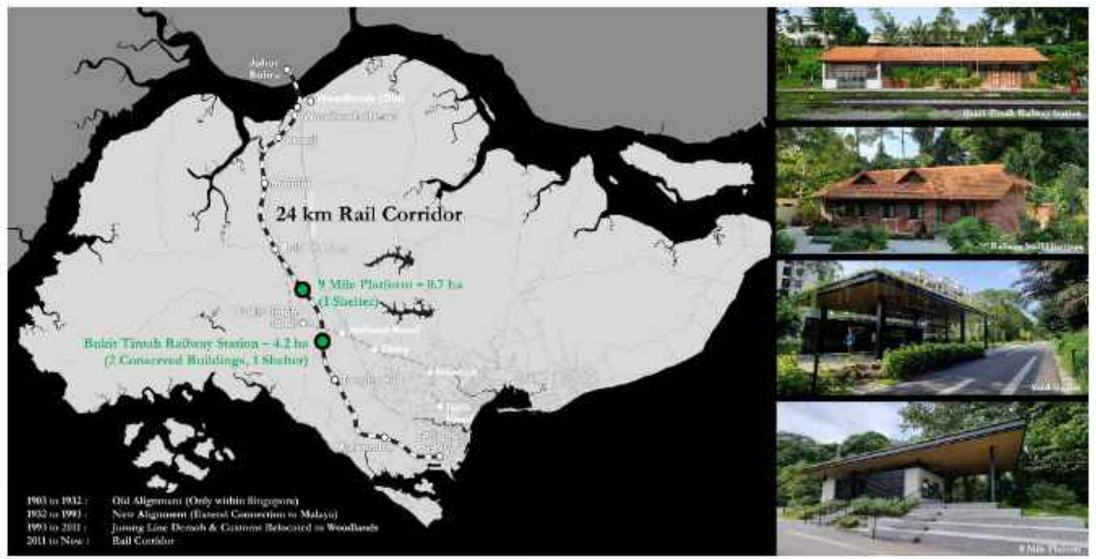
Architecture Firm: Kay Ngee Tan Architects
Lead Architect: Tan Kay Ngee / Phuah Hong Thye
Year of Completion: July 2022
Land Area: 4.3 Ha (Bukit Timah) / 0.7 Ha (Jalan Asas)
Built-Up Area: 700 sq.m (Bukit Timah) / 110 sq.m (Jalan Asas)
Photographer: Nishikawa Masao / Darren Soh / Kay Ngee Tan Architects

Summary
The Bukit Timah Railway Station and Staff Quarters are two heritage railway structures located along the Rail Corridor. The Rail corridor itself is a residual land that was held by neighboring Malaysia as a part of unresolved land ownership when Singapore was declared independent. It returned to Singapore only in 2011 (some 46 years after the two states became independent), a political quirk and a throwback to when rail between states was still relevant.

Front elevation of Station house

The view of what the railway represented had changed altogether in the 46 years. Once a mere relic-like means of travel, it has now become a public green. A reassessment of a past asset into a new asset.

The Bukit Timah Railway Station and Staff Quarters are both fully restored to their original charm and nestled amongst the lush greenery alongside Bukit Timah Nature Reserve. These are designated as delightful community nodes with quaint charm.



Rail corridor redevelopment for 9 mile platform to Bukit Timah Station

Rail yard platform integration into surrounding landscape

Description

The Singapore Rail Corridor is a green, connected, inclusive, and endearing community space rich in heritage and nature reserve. As part of the restoration, works were carried out along the central region of the 24 km Rail Corridor, particularly at the Bukit Timah Railway Station and 9 Mile Platform at Jalan Asas.

Built in 1932, the Station was one of the smaller ones built to serve the suburban parts of Singapore. The simple brick building with an open-sided waiting hall is the only remaining station of this group. As an endearing local landmark, this single-storey building follows the style of the traditional small-town stations that were common in the United Kingdom and Malaya in the 1930s. Together with the adjacent Staff Quarters and boarding platform, they were gazetted for conservation in 2011.

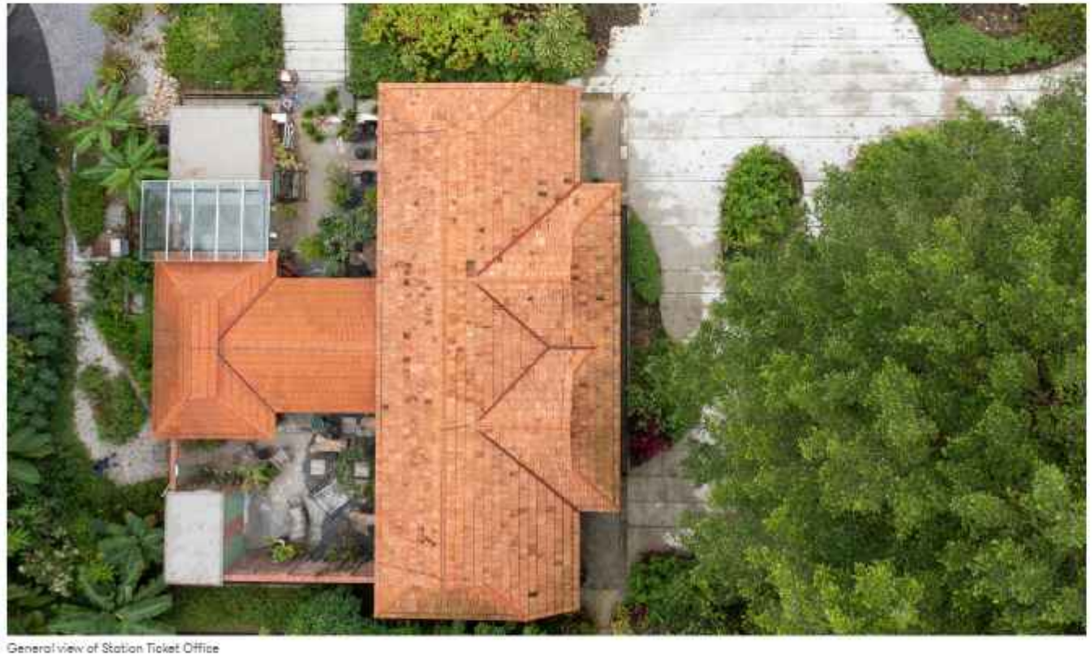
Both buildings have been fully restored today, nestled amongst the lush greenery of Bukit Timah Nature Reserve. The Station has been repurposed as a heritage gallery to showcase rail history, while the former Station Ticket Office has been repurposed as a gathering base for the community to learn and share information on the greater Rail Corridor. The Quarters have been adaptively reused as an informal cafe and community-based photo gallery.

The exterior green space has been enhanced as a delightful community node with quaint charm. A new lightweight standalone shelter with a lush green roof, in the spirit of kampong and rustic palette, was also introduced sensitively to house amenities, with another at Jalan Asas as "9 Mile Platform".

The exterior paths with linear strips are reminiscent of lights and sound left by a passing train, oriented in a familiar north-south train direction. Like graphic light streaks found in time-lapse photography, the notion of frozen lights and sound is visually translated into distinctive paving patterns.

Explanatory panel on conservation intent and considerations

Conserved details of eave corbels and vent ports



General view of Station Ticket Office

Conserved interiors

9th mile platform as rest stop and heritage board

General views of the integration of contemporary details into the rail line

Community engagement, heritage, and conservation of nature and city

Joint Collaborative Project with URA, NParks, Friends of Rail Corridor (FoRC), Heritage Experts, Consultants, Contractor, Specialists & Tenants

The GEAR

Kajima Lab for Global Engineering, Architecture and Real Estate KAJIMA is building for the next 100 years. The GEAR is that catalyst.

Architecture Firm: Surbana Jurong Consultants Pte Ltd in collaboration with Kajima Design, Tokyo
Lead Architect: Ar Siah Puay Lin
Year of Completion: 2023
Land Area: 5,236 sq.m
Built-Up Area: 13,061 sq.m
Photographer: Daici Ano

Summary
The GEAR is Kajima's regional headquarters, integrating office, R&D, and open innovation functions. Its skeleton-and-infill design concept with exposed structural frames along the perimeter assures a flexible deployment that accommodates spatial future changes. The GEAR is envisioned as a "smart wellness office" that also functions as a living laboratory.

Description
The GEAR is designed as Kajima's Asian regional headquarters, and seamlessly integrates three functions: office, research and development (R&D), and open innovation. Here, Kajima Technical Research Institute Singapore (KaTRIS) runs its laboratories for leading construction technologies like robotics, and fosters open innovations in collaboration with external entities, governmental institutions, universities, and startups. The GEAR is designed to evolve as a smart wellness building that envisions the future of the environment, city, and living. It is a living laboratory for validating development results and collecting feedback.

The GEAR is located in Changi Business Park and conforms to its Urban Design Guidelines and height constraints posed by its proximity to the airport. Each floor plan is divided into three equal-span zones of 13.5m. K/SHAFT, a vertical light court that penetrates throughout the floors, is set in the middle zone with a gradual spiraling staircase. Office and laboratory spaces are strategically located on the north and south zones, with a thorough skeleton-and-infill concept that incorporates balconies and exposed structural frames along the entire perimeter. This allows a flexible deployment of space and accommodates future changes in usage and occupancy.

SKY GARDENS are featured on the north side facing a park. They are framed in deep grids that block direct sunlight, while visually embracing the greenery. K/PARK, a double-volume semi-outdoor working space, is on its fifth and sixth floors. This green-filled environment also acts as an experimental space for biophilic design. By employing elements of nature and computer simulations to optimize the interior environment, the building achieves aesthetic and functional excellence while standing as an icon for sustainability. The GEAR received BCA's Green Mark Platinum (SLE) and the first WELL Certification v2 Platinum for the newly built structure.

The GEAR is not just a structure, but an ever-evolving system.

North Facade. / As a "Living Laboratory", the Grid Design is adapted to accommodate changes as the functions evolve while maintaining an intact exterior.

East Facade.

The well-proportioned structural frame captures the rich landscape.

View from the main entrance to the gallery with the park beyond.

1st storey gallery adjacent to K/LAB.

K/LAB, showcases the research and development of the advanced construction technologies.

K/SHAFT, a vertical light court set in the center of The GEAR.

The gentle stairway of K/SHAFT encourages movement between floors and fosters communication between occupants.

K/PARK, a two-storey atrium workplace where the shift between semi-outdoor and indoor space is achieved through movable partitions.

K/PARK is an experimental space for biophilic design with natural breeze, natural light, natural material and green devices.

Office interior, with high-performance radiant cooling panels, vertical lighting panels, and glare-free linear downlights.

SKY GARDEN, a two-storey semi-outdoor workplace with expansive views and pleasant breezes.

SKY GARDEN as the place for well-being. / The GEAR is the 1st newly built building which achieved WELL certification v2 Platinum in Singapore.

A meeting room facing the green of SKY GARDEN with the distant green of surroundings.

Testing the Untested

KAJIMA's Regional Headquarters overseeing the Asia-Pacific region

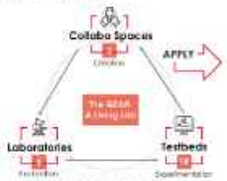
The GEAR, located in Changi Business Park adjacent to Singapore Changi International Airport, is Kajima's regional headquarters, overseeing the Asia-Pacific region. It seamlessly integrates 3 functions: office, R&D, and open innovation. Collaborating with external entities, governmental institutions, universities, and startups, KaTRIS (Kajima Technical Research Institute Singapore) runs its lab for research and development of leading construction technologies fostering open innovations in Singapore and Asia-Pacific region.

Skeleton Infill approach for Flexibility and Adaptability

The grid design is adapted to accommodate changes and transformations as the building's functions evolve while preserving the integrity of its exterior. The grid presents a confluent and simultaneous expression of beauty and technology, characteristic of Japanese architecture. Aligned with the concept, a thorough skeleton infill approach was implemented, eliminating decorative elements and focusing on installing only the essential functional components within the exposed structural frame, allowing for flexibility and adaptability.

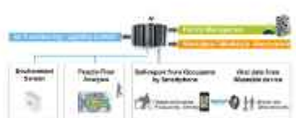
Test-Bed Office / Living Laboratory

In concordance with the Urban Design Guidelines by Jurong Town Corporation (JTC), which requires allocating 60% or more of the floor area for R&D purposes, The GEAR incorporates not only the 5 KaTRIS labs but also envisions the entire building as a Test-Bed Office, functioning as a Living Laboratory for workspace-related experiments. The concept entails utilizing the building as a perpetual experiment, continuously evolving without reaching a final completion.



Ever-evolving "Smart Wellness Building"

Utilizing wearable devices and cameras, vital and positional data are collected from visitors worldwide, enabling people flow analysis. The information is stored in a newly developed digital platform, facilitating AI-aided integrated workplace analysis, feedback to physical spaces, and other future experiments within the building to provide new insights. The GEAR serves as a testing ground for unprecedented challenges in this fast-paced Singapore's dynamic business environment, envisioned to be a self-learning building that evolves with each experiment, constantly offering fresh perspectives on architecture.



The GEAR has 2,400+ devices and 9,000+ data points.

Building Configuration for Harnessing the Power of Nature

The site is located at one degree north latitude, experiences high temperatures complemented by pleasant breezes throughout the year. Utilizing the natural attributes of the site, our objective was to create spaces that engage all the human senses while concurrently minimizing energy consumption. Spaces like K. / SHAFT and K. / PARK were designed to lead natural light and air in, introducing fluctuation effect to the interior environment.

Sponge Complex

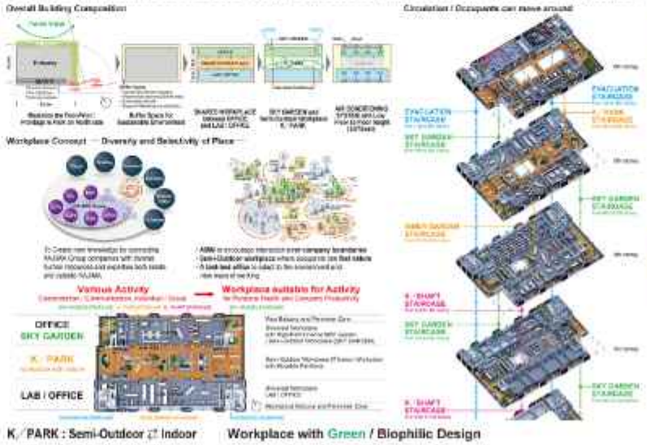
In the spatial depth created in the grid facade, we incorporated ingenuity to capture the power of nature, creating a porous building abundant in greenery that resonates with the surroundings. This porous architecture, akin to a sponge, responds to the intense and rapidly changing surrounding climate in the tropical environment by absorbing its force, ultimately creating a comfortable space for the occupants. We believe that this "Sponge Complex" is fitting for this location.

Smart Wellness Building

The GEAR is the 1st newly built building in Singapore received WELL Certification v2 Platinum.

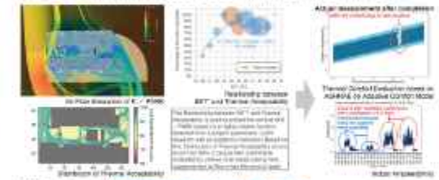
Spaces that engage all the human senses while minimizing energy consumption and explore new ways of working

The site experiences pleasant breezes throughout the year. Utilizing the natural attributes of the site, our objective was to create spaces that engage all the human senses while concurrently minimizing energy consumption. Spaces like K. / PARK, SKY GARDEN and K. / SHAFT were designed to lead natural air and light in, introducing fluctuation effect to the interior environment. Space where occupants can wander around using gently rising stairs and find favorite spaces also functions as a testing ground for exploring new ways of working.



Workplace with Natural Breeze

The building shape and plan are carefully designed to leverage the prevailing wind direction, based on air flow simulations and planning based on collaborative research with an academic institution. Thermal Acceptability is assessed based on SET* calculated from air flow simulations, predicting the comfort of K. / PARK and incorporating it into the design.



Workplace with Natural Light from K. / SHAFT

K. / SHAFT, the vertical light court, penetrating through the first floor to the rooftop, introduces natural light fluctuations into otherwise homogeneous workspaces, to help activate people's senses. While consuming direct sunlight scattering to the private office, K. / PARK receives light reminiscent of sunlight filtering through the leaves of a tropical rainforest.

K. / PARK : Semi-Outdoor ⇵ Indoor

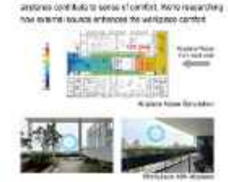
K. / PARK is a two-storey atrium workplace where the shifting between semi-outdoor and indoor environment is achieved through movable partitions.

Workplace with Green / Biophilic Design

For SKY GARDEN and K. / PARK, total plant species in Singapore are chosen. Each SKY GARDEN adheres to specific themes like RELAXATION, COLLABORATION, and INSPIRATION, with corresponding landscaping ideas. For K. / PARK, natural light from K. / SHAFT and high-value lights was evaluated through simulation, guiding the selection of tree species.

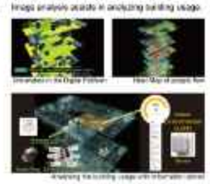
Workplace with External Sounds

We planned to utilize the lift core to protect K. / PARK from ambient noise, as in the simulation. Yet, in the semi-outdoor workspaces, we found the sounds of trees, birds and airplanes contribute to sense of comfort. We're researching how external sounds enhances the workplace comfort.



Digital Twin and Image Analysis

Data from wearables (devices worn by occupants) and sensors, capturing temperature, humidity and air quality, are consistently stored in a digital platform. Image analysis assists in analyzing building usage.



Super Sustainable Building

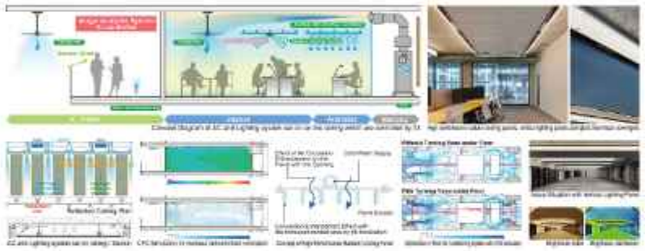
The GEAR received Green Mark Platinum SLE (Super Low Energy Building).

Building with aesthetic and functional excellence while standing as an icon for sustainability

The GEAR integrates established and accumulates Japanese knowledge and technology, adapted to Singapore's context and implements newly developed technologies for the first time. It has achieved Green Mark Platinum SLE (Super Low Energy) and WELL certification x2 Platinum. By harnessing elements of nature and computer simulations to optimise the interior environment, The GEAR achieves aesthetic and functional excellence while standing as an icon for sustainability.

MEP systems responsive to regional, climatic, and spatial characteristics

MEP systems are designed to optimise comfort closely aligning with human perceptions. Systems include high performance radiant cooling panels providing an even and silent flow, cloudless dehumidified outdoor air ventilation, vertical lighting panels for brightness control within the field of vision, newly developed glare-free linear downlights, and ceiling fans enhancing the sense of airflow while circulating air flow in an oasis space. They are centrally controlled and tuned through a building-wide communication network, employing logic that sensing external and internal environments and human flow.

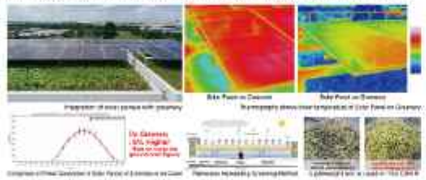


Solar Shading with Grid Frame

The building perimeter, enveloped by exposed structural frames, incorporates multi-functional balconies that facilitate communication, evacuation, and equipment placement for experiments. These balconies effectively block direct sunlight without the need for blinds, while maintaining the expansive views of the surroundings.

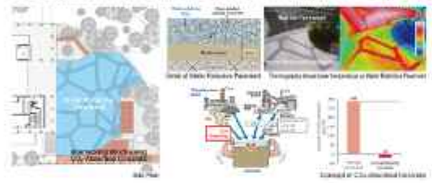
Integration of Solar Panels with Greenery / Rainwater Harvesting Greening Method

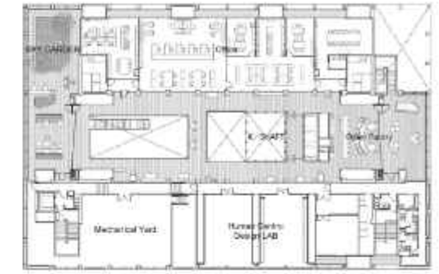
Installing solar panels on top of greenery can enhance power generation efficiency through thermal regulation. Joint research with a local academic institution is ongoing for this integration at the roof top of The GEAR. Additionally, The GEAR integrates rainwater harvesting greening methods to recycle water usage and mitigate the heat island effect.



Water Retentive Pavement and CO_2-Absorbed Concrete

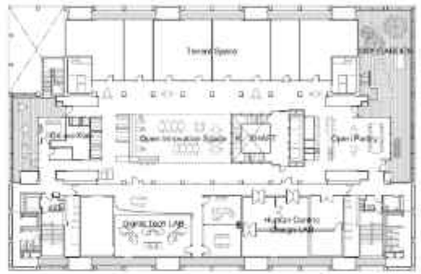
CO_2-Absorbed Concrete developed in Japan fixes CO_2 during the concrete curing process, resulting in a carbon dioxide emission level below zero. At The GEAR, CO_2-Absorbed Concrete is applied for the first time in Singapore. Additionally, water retentive pavement technology is introduced for the first time in Singapore. Absorbing and storing rainwater, it serves as a countermeasure mitigating heat island.





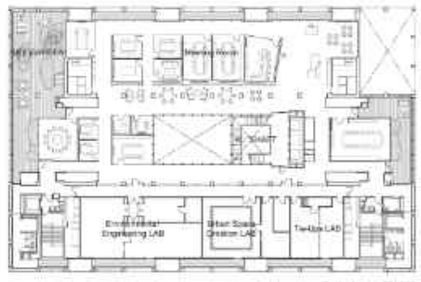
6th storey PLAN

5th storey PLAN

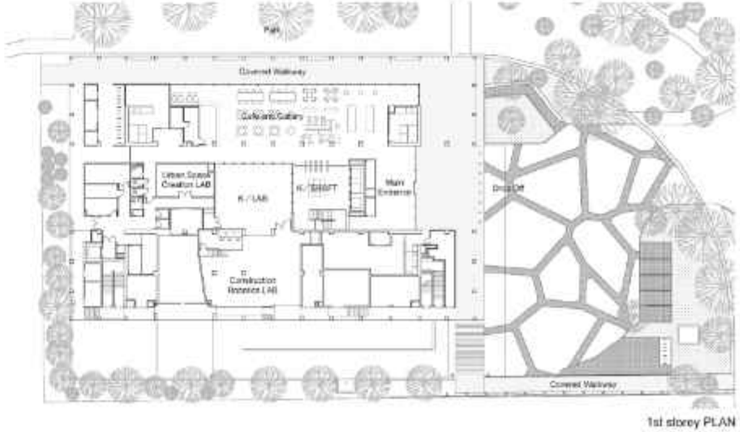


3rd storey PLAN

4th storey PLAN



2nd storey PLAN



1st storey PLAN

0 5 10 20m

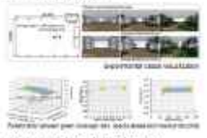
More Details

Architectural Details to facilitate movement

Occupants can move seamlessly throughout the entire building using the gently rising stairs that connect K. / SHAFT to K. / PARK and the SKY GARDEN staircases. The intention is to create a spatial experience where individuals can feel the flow of natural air while walking through the building, experiencing visual and sensory changes with the greenery from both inside and outside the building.

Green Coverage Ratio and Speciousness

To explore the correlation between Biophilic Design and intellectual productivity, experiments are being conducted to evaluate the effects of green coverage ratio and speciousness on physiological and psychological responses of individuals in The GEAR. Preliminary testing using VR indicates that greenery and speciousness enhance visual comfort, mood, and self-reported productivity.



Stone Garden

A Karesansui stone garden designed by a renowned Japanese garden master is situated on the 4th storey. The rock formations were originally designed in Kyoto, Japan. They were digitally scanned in 3D, dismantled, wrapped, and shipped to The GEAR and reassembled.

Construction Intelligence

To realise digital transformation and practical use in development, design, construction, and facility management, we challenge to build a management system with integrated data and digital platform, construction method by automation and robots.

Human Interactive Robots

To enhance Smart building, Human Interactive Robots are deployed. They offer hospitality, safety, and security while interfacing with the building through The GEAR Digital Platform.

Laboratory and Open Innovation

5 KaTRIS (Kajima Technical Research Institute Singapore) Laboratories

The 5 KaTRIS labs in The GEAR explore Construction Robotics, Human-Centric Design, Digital Twin, Environmental Engineering, and Urban Space Creation, pushing the boundaries of knowledge and enhancing our understanding. They drive technological advancements, fostering the development of new products, processes and technologies that enhance quality of life for individuals and societies.

Construction Robotics LAB

Human Centric Design LAB

Digital Twin LAB

Environmental Engineering LAB

Urban Space Creation LAB

Co.worXlab

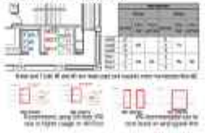
The GEAR features Co.worXlab, created in collaboration with a cutting-edge Japanese organisation. It is located on the 1st floor and consists of 3 free spaces : Solo-Work Booth, Meeting Room, Open Space Zoning, Air Creation, and Air Cocoon.

Open Innovation Space

The GEAR features OPEN INNOVATION SPACE at the 3rd storey. It is a collaborative and inclusive space where organizations, individuals, and stakeholders from different backgrounds gather to bring diverse perspectives, expertise, and resources to generate new ideas, develop solutions, and drive innovation forward. Here, various activities such as industry events, workshops, and pitch sessions are conducted.

WC Optimization

Co.Research with a Japanese sanitary ware firm to understand user behavior & habits to create better user experience while supporting more efficient & effective facility cleaning practices and implementation.

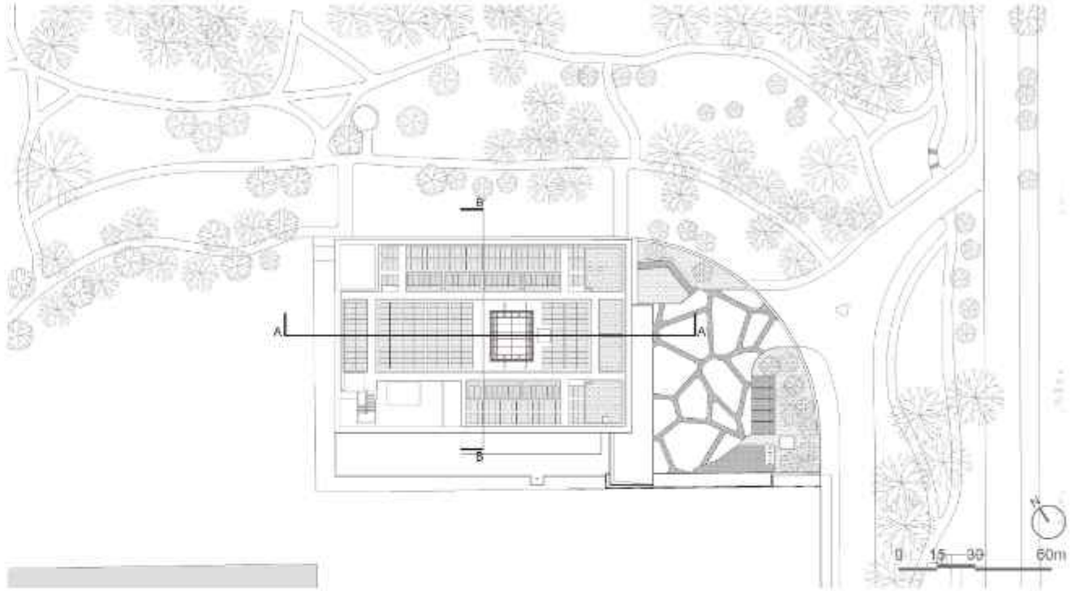


East Elevation

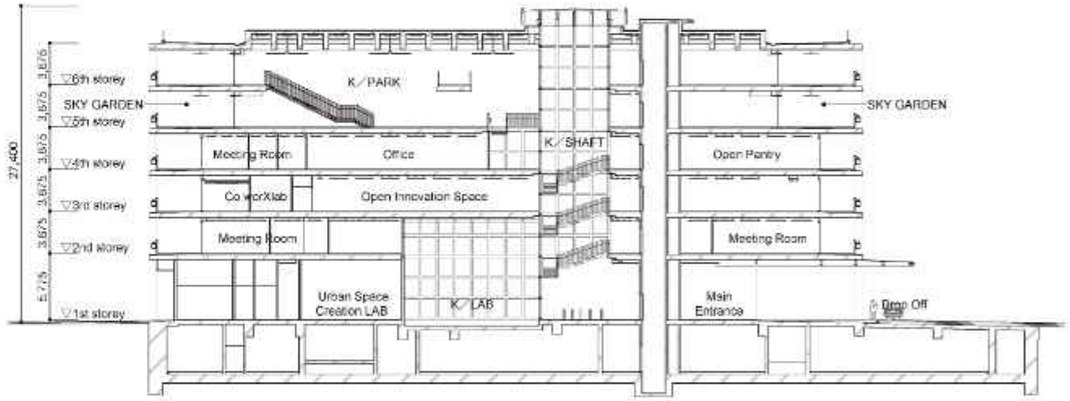
North Elevation

West Elevation

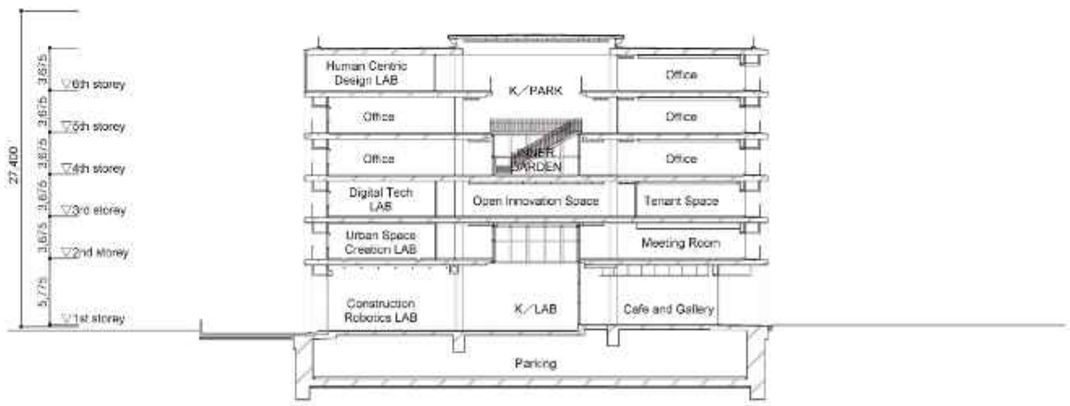
South Elevation



Site Plan



A-A' Section



B-B' Section

House of Parts

Entry and Living area

A composition of lines and geometries

Architecture Firm: L Architects
Lead Architect: Ar Lim Shing Hui . Can mentioned also my colleague who worked on this project with me Mr Tse Lee Shing
Year of Completion: 2022
Land Area: 198 sq.m
Built-Up Area: 231 sq.m
Photographer: Jovian Lim

Summary
House of Parts is a renovation project for a couple and their two young children, where function meets art, injecting bursts of delight into everyday functions with nature-filled corners and nostalgic references. It is always the little things, the tiny minutiae of detail, that ultimately make spaces beautiful and memorable.

Description
Quotidian elements such as steps, windows, tables, and lamps have been deliberately elevated into art pieces. It begins with a miniature loose-pebble garden at the entrance of the corner terrace house. The design intent was to bring nature closer into the interiors, incorporating a curvy bench in the corner threshold, with loose pebbles and a Cyperus plant.
The living and dining are on different levels, and the transition between them is marked with layered travertine steps with a timber bench embedded into the raised section. There are many other details that question both the function and emotive quality of furniture and joinery. For example, a bespoke limestone dining table has a curved cut-out at one corner with a lithe plant peeping out to literally bring a touch of nature to mealtimes. The client wanted a kitchen island, but due to spatial constraints, we designed an equally interesting, curved kitchen counter with its form emphasized with a round sink.
Following the artistic spirit, the first-storey flooring has a crafted quality. We cut the large-format tile into organic shapes, laying them with different grout spacing to give a tactile feel. The treatment was inspired by a personal memory of the architect's childhood home, where she had crinkled dark-brown floor tiles with a lot of grout lines. We wanted to give the client something unique. Having a strong memory of your first home is very comforting and precious.
A gridded timber window softens the light filtering into the living, a large sedimentary rock adds a sense of ceremony to the shower in the master bathroom, and the miniature zinc roof on the custom desk lamp is a nod to Southeast Asian traditional houses. These are but some of the other soulful and elemental components that bring so much joy to the quotidian domestic environment.

Clockwise: Borrowed view from servery to stairs up to next level. Servery from dining table. Main entry way from living area

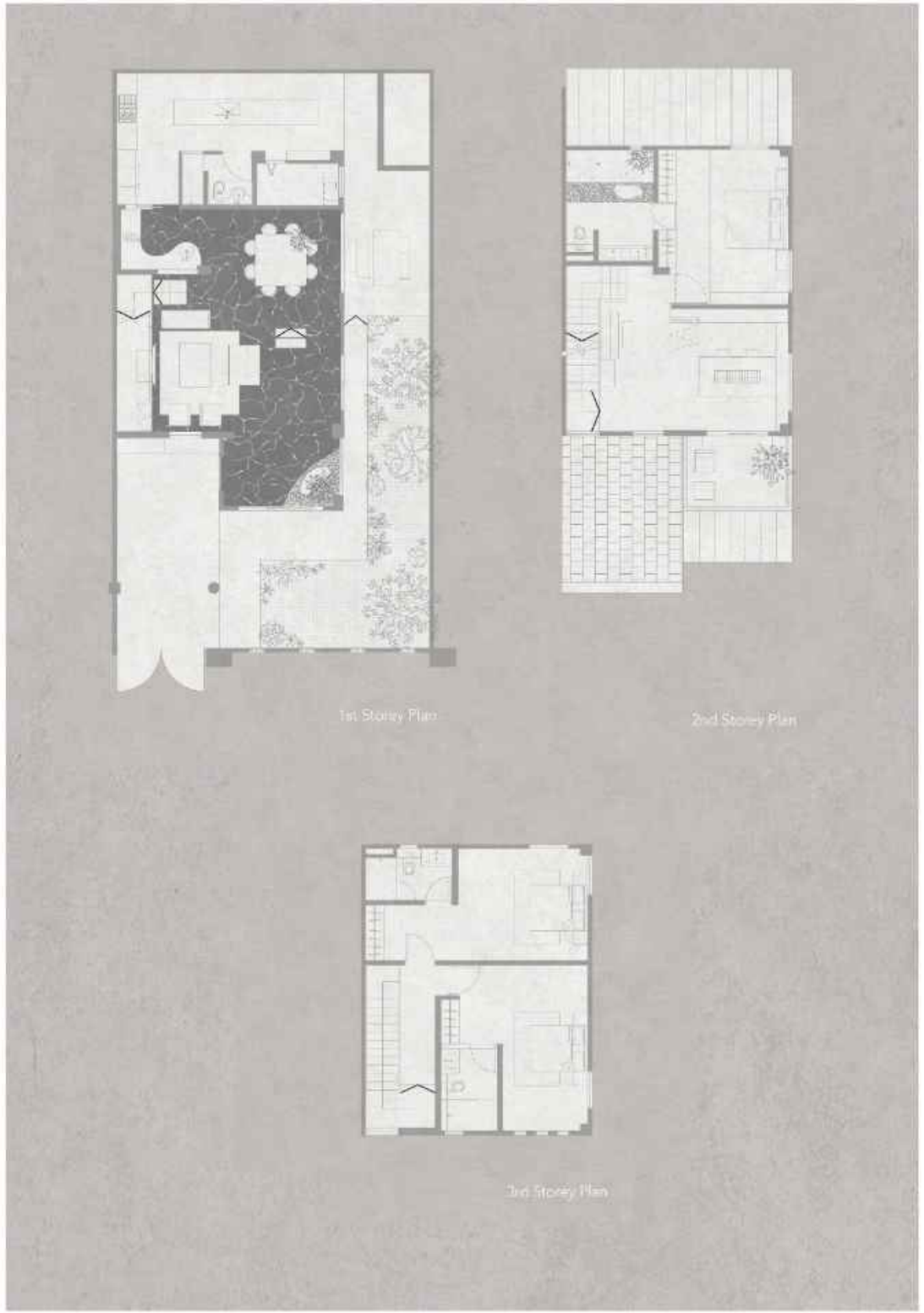
Details anchored in wood and natural patterns.

2nd storey study

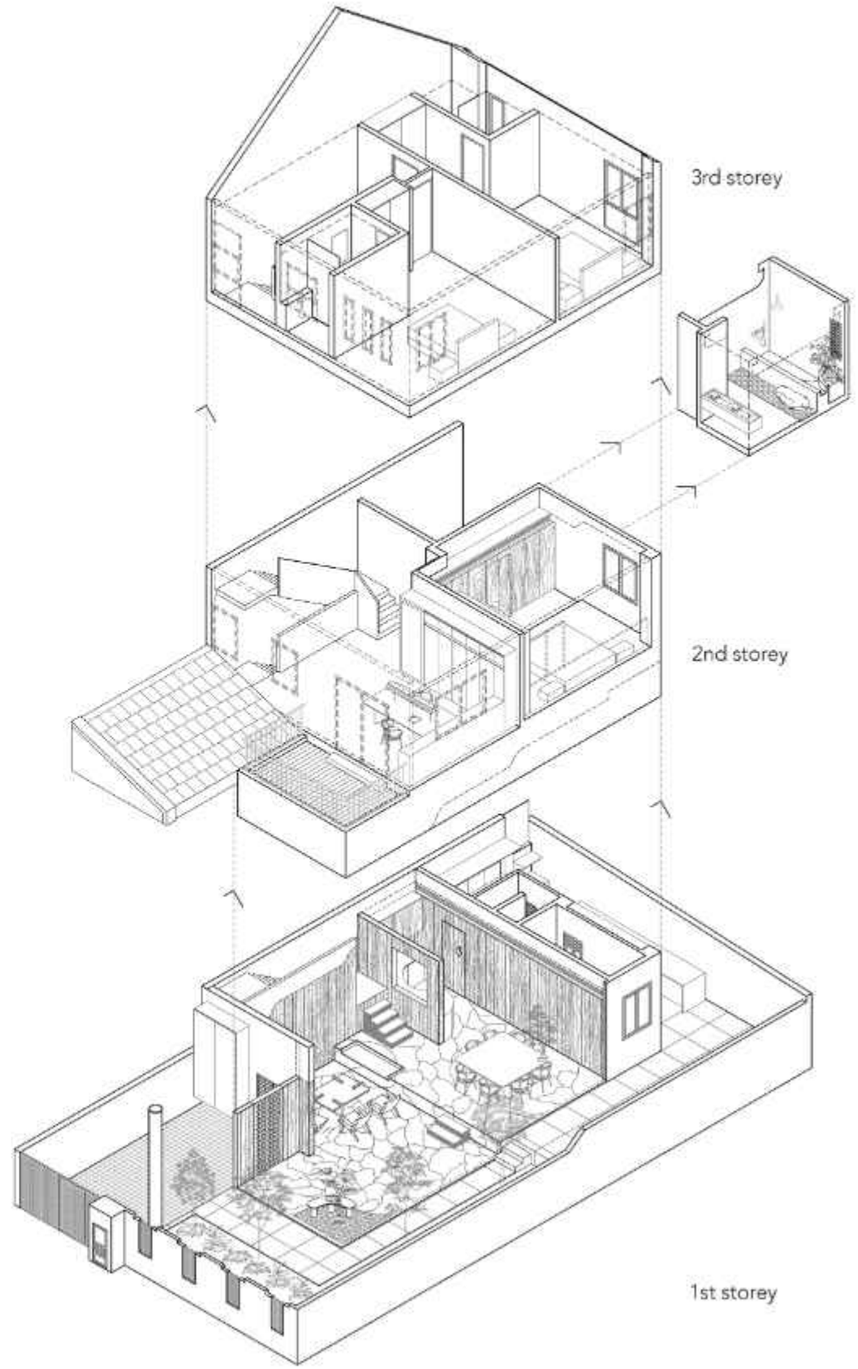
Borrowed view from entryway

Bedroom from main toilet

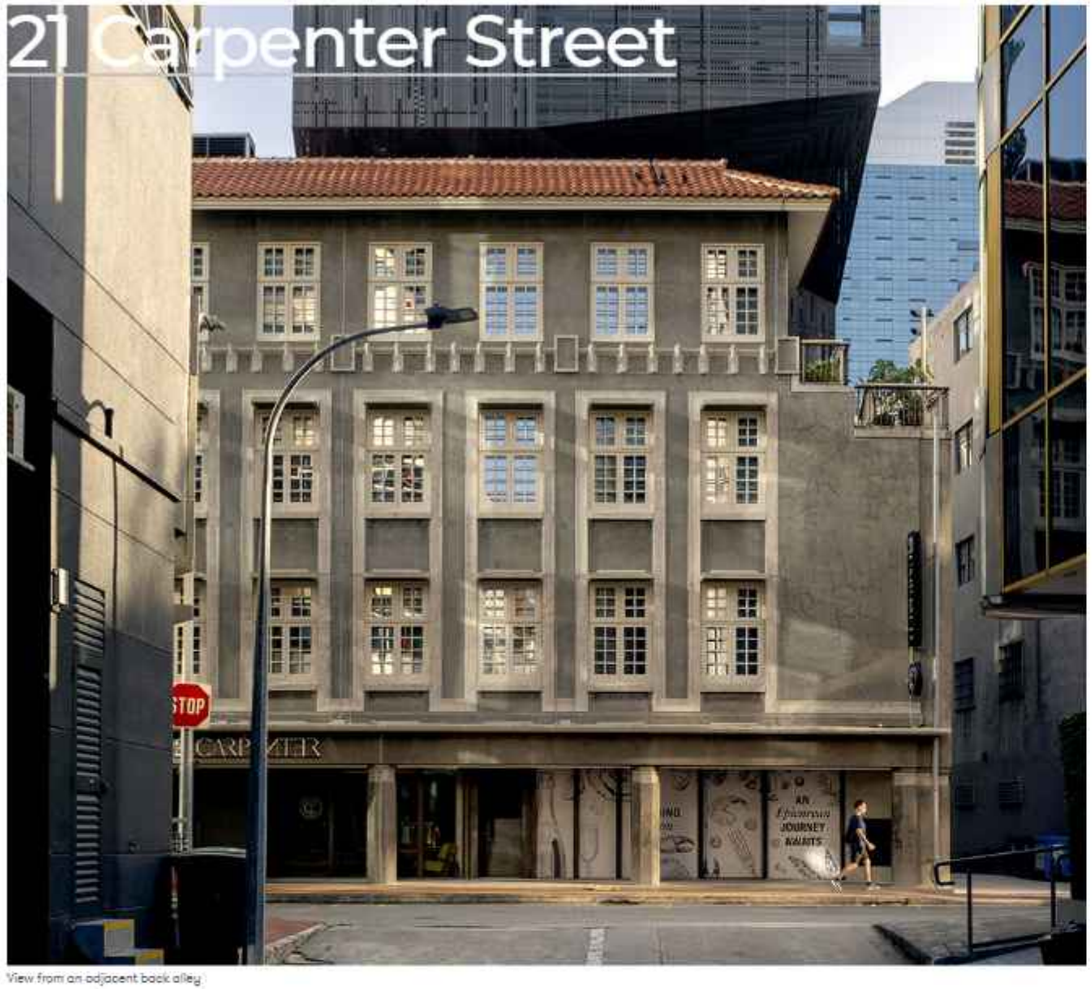
Main Bedroom



axonometric - House of Parts



21 Carpenter Street



View from an adjacent back alley

Architecture Firm: WOHA
Lead Architect: Richard Hassell
Year of Completion: December 2023
Land Area: 664.3 sq.m
Built-Up Area: 3392.66 sq.m
Photographer: Darren Soh / WOHA

Summary
21 Carpenter is a heritage boutique hotel at the gateway to the historical Chinatown district. It extends to four conserved shophouses from 1936, adding a contemporary rear block. The design seeks to incorporate history, art, and sustainability in delightful and effective ways within the envelope-controlled heritage property.

21 Carpenter was awarded the 2025 President's Design Award, Design of the year.

South East corner view showing how the new form arches over and articulates the conserved section

Description

At 21 Carpenter, the client's brief called for the conversion of 4 conserved 1936 shophouses into a boutique hotel, adding a contemporary rear extension. The buildings were built for the headquarters of the Chye Hua Seng Wee Kee / Chye Soon Long remittance office - one of the founders of Singapore's international finance sector. The new design emphasizes history, art, sustainability, comfort, and community. Great effort went into researching the history of the heritage building and its context, then communicating this through design.

Repurposed finance offices into food and beverage establishments

Poolside, terrace and lobby views

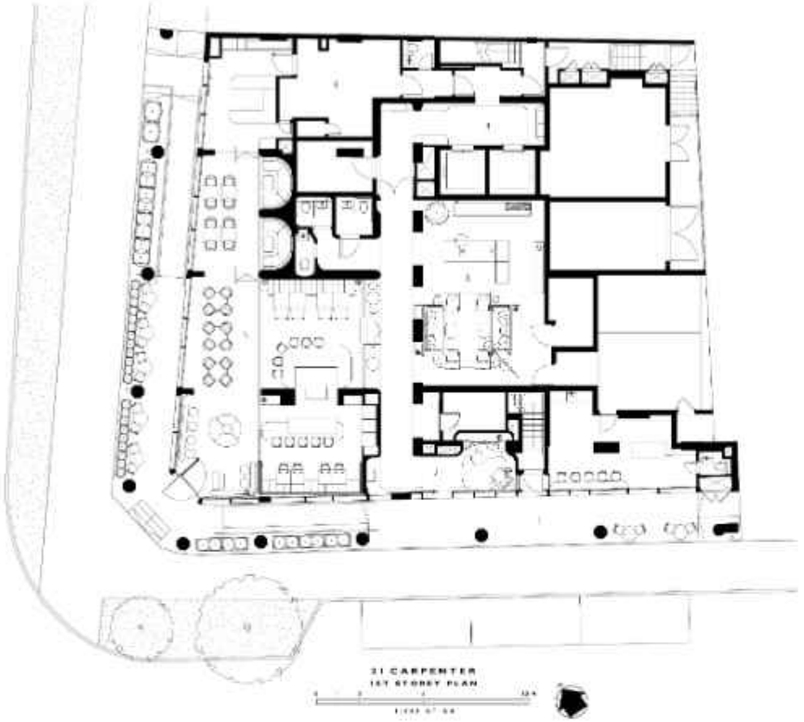
21 Carpenter is the only Depression-Era building in the precinct, and as such, the project had stricter heritage constraints than other post-war shophouses in the neighbourhood. Under the conservation guidelines, the street frontages of the building were to be preserved; however, the design additionally preserves the entire side block and reveals the back facade of the building, enabling the original building extent to be appreciated.
A rare three-tone Shanghai plaster was uncovered during restoration works and carefully restored over 3 years, including the original signage, railings, and relief panel. The Chengal floorboards, joists, and beams of the original structure were retained and reused in the project as flooring for the guest rooms and upcycled into furniture, paneling, and railings. The contemporary extension is wrapped in an aluminium art facade that includes poetic fragments from historical remittance letters, an emotional connection to modern travelers.

21 Carpenter is infused with plant life, bringing greenery into the neighbourhood and making the site greener than it ever had been in its 200-year history. The hotel has two landscaped terraces, greenery on its balconies, and planting along the covered walkway. Conservation harmonizes with other ambitions: the plants, solar panels, perforated facade, and hybrid cooling using fans maximize the environmental performance of the building, despite its restricted envelope.

Archival image of the original finance house versus the contemporary screen details on top of preserved Chengai flooring

Conserved elements of balconies and raised calligraphic signage

Restoration of the reveal Shanghai plaster work and Calligraphic signage



LEGEND

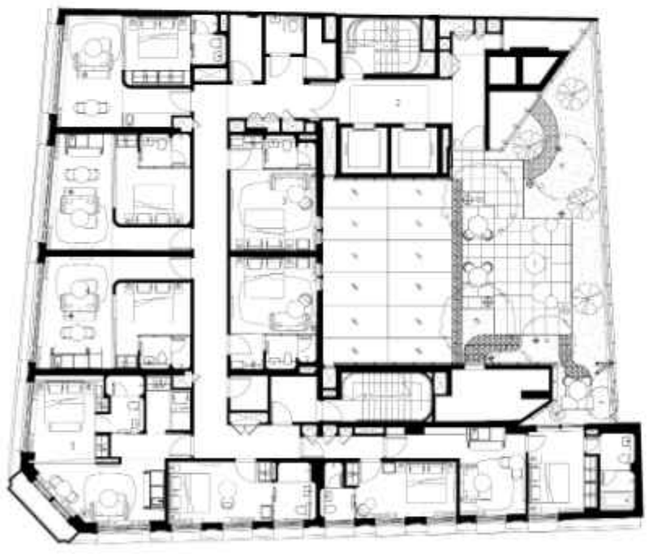
1. COVERED WALKWAY
2. ENTRANCE FOYER
3. RECEPTION
4. LIFT LOBBY
5. RESTAURANT
6. KITCHEN

21 CARPENTER
1ST STOREY PLAN

LEGEND

1. LIFT LOBBY
2. 1 BEDROOM SUITE
3. STUDIO

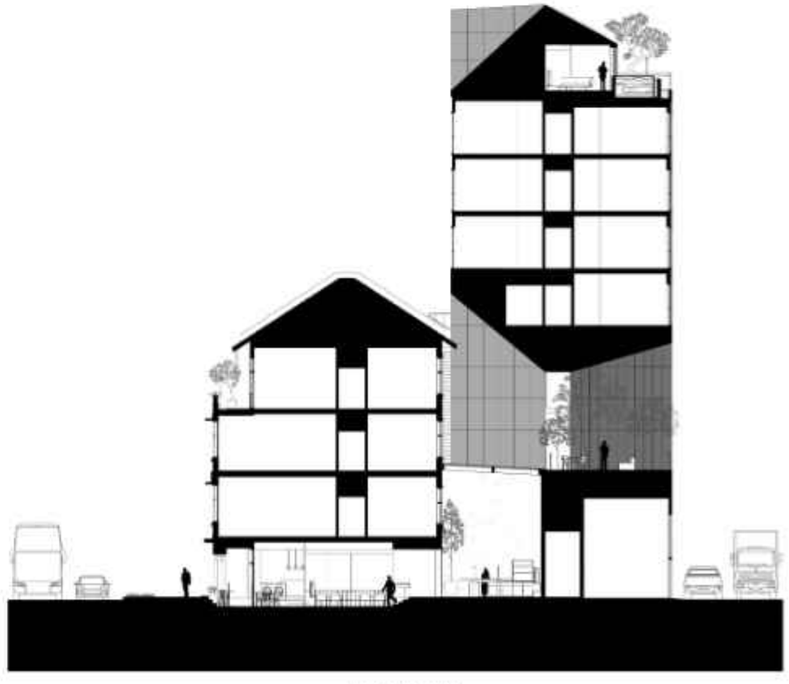
21 CARPENTER
4TH - 6TH STOREY PLAN



LEGEND

1. GARDEN TERRACE
2. LIFT LOBBY
3. STUDIO
4. 1 BEDROOM SUITE
5. 2 BEDROOM SUITE

21 CARPENTER
3RD STOREY PLAN



21 CARPENTER
SECTION

Goodlife Studio (Bukit Purmei)

Goodlife Studio (Bukit Purmei) serves as a social living room for residents, both young and old. Image: Mazterz, courtesy of DP Architects

Architecture Firm: DP Architects
Lead Designer: Seah Chee Huang
Year of Completion: 2023
Built-Up Area: 300 sq.m
Photographer: Mazterz

Summary

Goodlife Studio (Bukit Purmei) converts a void deck space into a social living room for residents. The design intervention creates an inviting and inclusive environment, while providing opportunities for various programs, and also empowering seniors to take charge of their learning and health.

The centre is designed with movable and collapsible furniture that allows the centre to accommodate events and celebrations of different scales, creating an open and inviting setting which encourages participation from the seniors. Image: Mazterz, courtesy of DP Architects

Active Studio is designed such that daily exercise classes can be held, focusing on preventive healthcare, and encouraging seniors to remain active and refreshed. Image: Mazterz, courtesy of DP Architects

Niche seating built into the modular furniture, as well as removable seating are introduced to allow spontaneous gathering and learning to take place. Image: Mazterz, courtesy of DP Architects

Description

Situated within Bukit Merah HDB flats, an existing void deck space is repurposed into a 300 sqm communal space for lifelong learning headed by Montfort Care, a social welfare organisation.

Recognizing the importance of tapping into subjects that seniors are familiar with, such as craftsmanship, the centre is subdivided into 3 zones to be suited to 3 learning studio settings.

Kayu, which means wood in the Malay language, is often used colloquially to describe making a mistake. Recognizing that seniors may face physical limitations as they age, the main studio, Kayu Artisan, offers a fun and light-hearted environment where they can freely express themselves, understand that making mistakes is a normal part of the journey, normalising imperfections along the way. In this dynamic setting, the more experienced senior artisans will become stewards of the learning community, allowing a continuation of wisdom and knowledge while forging meaningful camaraderie among peers.

The site is located in mature Bukit Merah heartland of Singapore, at the void deck of 4-room and 3-room HDB flats. The demographic makeup of the surrounding residents predominantly consists of multi-generational family units. Image: DP Architects

Situated within Bukit Merah HDB flats, existing void deck is repurposed into a 300 sqm communal space encompasses of 3studios, namely Carpentry Studio, Active Studio and Culinary Studio to create a fun and vibrant setting for lifelong learning. Image: DP Architects

Existing vacated void deck space with irregular boundaries. Image: DP Architects

Fun and light-hearted environment where users can freely express themselves, and understand that making mistakes is a normal part of the journey, normalising imperfections along the way. Images: Masterz, courtesy of DP Architects

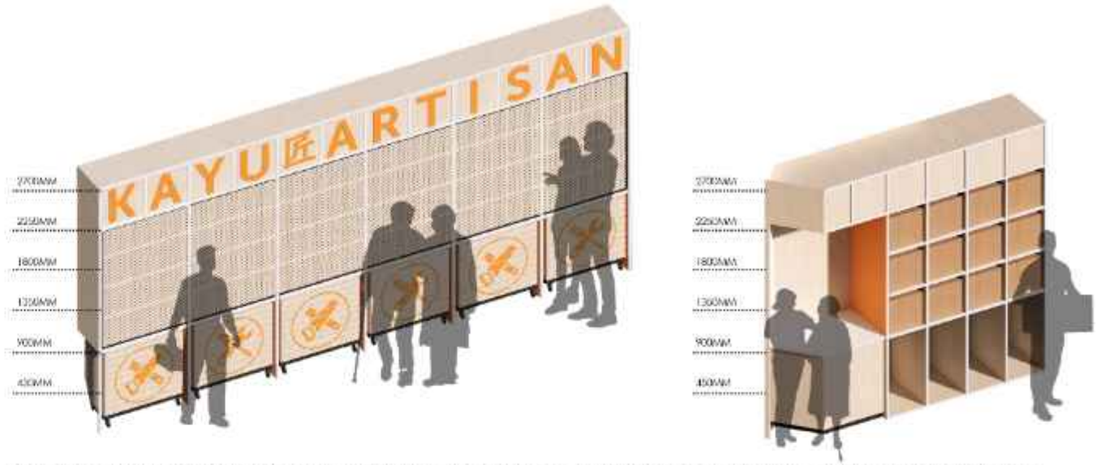
Image: Masterz, courtesy of DP Architects

In this dynamic setting, the more experienced senior artisans will become stewards of the learning community, allowing a continuation of wisdom and knowledge while forging meaningful camaraderie among peers. Image: DP Architects

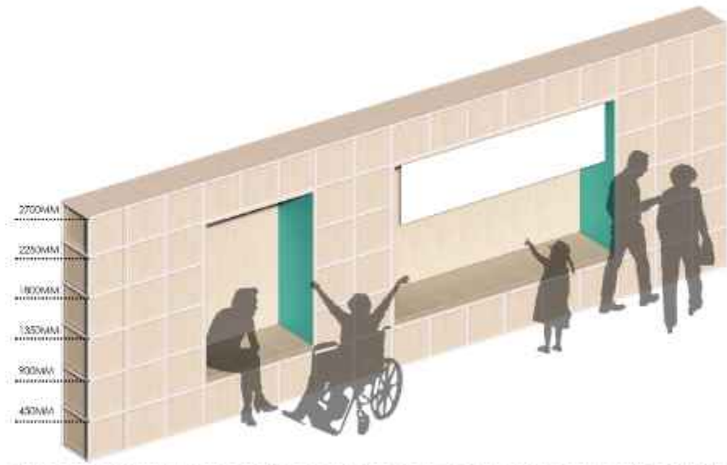
Centre is fitted with full-height glass doors, blurring the boundary between interior and exterior spaces, breaking away from the conventional gated and inward-looking senior care centres, ushering in a new model of active aging centre. Image: Masterz, courtesy of DP Architects

Bright solid hues are paired with muted timber tones to infuse liveliness into the warm toned spaces.
Image: Masterz, courtesy of DP Architects

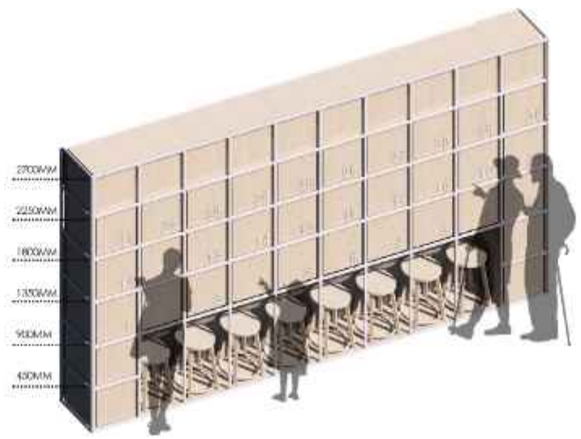
As the centre has an irregular-shaped space, a grid system is overlaid through the modular furniture system, as a means of navigation while providing a cohesive element which runs through the entire centre. This intricately detailed modular furniture system comes with various modules which are catering to the different zones. Images: Masterz, courtesy of DP Architects

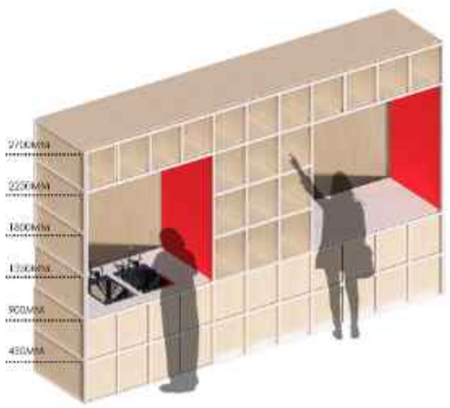


With workshop setting that requires ample storage, the modular furniture in the Carpentry Studio is used to define the storage of materials and equipment. Image: DP Architects



With an open concept, modules such as seating and projection area are used for large-scale events in the Active Studio. Image: DP Architects





Modules such as lockers for social workers and seniors are used at transitional areas, and modules with built-in sinks and display areas used in the Culinary Studio. Images: DP Architects

Title: SINGAPORE ARCHITECTURE AT 60 – A snapshot and reassessment
ISSN: 1675-6886

Cover project: Proposed ASA And Restoration Works to the Existing Church of The Blessed Sacrament at 1 Commonwealth Drive for the Church of The Blessed Sacrament