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Housing Roadmap
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The Roadmap

In this inaugural issue of ‘Dwellings’, we take pride in sharing with our readers the exciting plans that will take Singapore’s public housing into a new era – one that defines sustainable living at its best.

Having housed more than 80 percent of the population in homes that are second to none in quality and living standards, we aspire to do more in the years ahead. Encapsulating this dream in a nutshell is a framework that will transport us there. ‘The Roadmap for Better Living in HDB Towns’ lays out three strategic thrusts and paths for HDB to achieve its goal of creating well-designed, sustainable, and community-centric towns.

About ‘Dwellings’

‘Dwellings’ is published quarterly by the Housing and Development Board (HDB), Singapore’s public housing authority and a statutory board under the Ministry of National Development.

For over 50 years, HDB has provided quality and affordable public housing for generations of Singaporeans. Currently, more than eight in 10 Singaporean families call an HDB flat their home. Through ‘Dwellings’, we want to share how we create the kind of public housing that is uniquely different, and also uniquely Singapore’s.

We also have a website www.dwellings.sg where you will find more photos and interactive content, and where you can send in your feedback and suggestions.
Housing Roadmap
With housing for Singaporeans no longer the critical issue it was 50 years ago, the sights – and stakes – have been set higher. An exciting new housing roadmap has been mapped out, embracing sustainable urban design, liveability, social mobility and community engagement. The responsibility to carry out this commission now rests on the shoulders of Dr Cheong Koon Hean and her team of officers in HDB.
Cutting a sleek silhouette against the evening sky, she looks out from her office on the 33rd floor of the HDB Hub. The glow of an extraordinary sunset lights up the simple but tidy office of HDB’s Chief Executive Officer, Dr Cheong Koon Hean. Surveying the streetscape below, she sees stretching before her a unique view – HDB’s past and present in harmonious co-existence.

“You know, the view from these windows is also a window to HDB’s development and mission over the years,” says Dr Cheong, as her attention is drawn to the towering 40-storey Central Region residential blocks across Toa Payoh Central. Completed in 2006, they stand side by side with older housing blocks spread across Toa Payoh, one of the first satellite towns that HDB constructed in the mid-1960s to provide new housing for a fast-growing population.

Roadmap To Better Living

It has been only about two years since she took over the helm of HDB, but Dr Cheong has been introducing various changes, culminating in a carefully thought-out roadmap for the next chapter of public housing in Singapore. With more than 80 percent of the population living in HDB flats, she notes that “HDB’s customer base, at more than three million, is diverse and varied. Some are bachelors who want a basic roof over their heads. Others are middle-income families who want a better living environment, and flats with even better designs and furnishings. At the same time, we face the prospect of a burgeoning ageing population, HDB needs to address all these needs and aspirations, and yet ensure that the fundamentals of affordability and quality are not compromised.”

Her innate sense of what the new roadmap for public housing should be draws from her extensive experience and professional background as an architect and an urban planner. She says, “Singaporeans desire a better living environment where they can raise families, and enjoy a lifestyle that suits their varied needs. We need a blueprint that will chart our future course and help realise these aspirations.”

This blueprint is the ‘The Roadmap for Better Living in HDB Towns’. It is underpinned by three thrusts that will realise these key aims: the development of well-designed, sustainable, and community-centric towns that put Singaporeans and Singapore at the heart of it all.
Singaporeans desire a better living environment where they can raise families, and enjoy a lifestyle that suits their varied needs. We need a blueprint that will chart our future course and help realise these aspirations.
The Roadmap for Better Living in HDB Towns will be underpinned by three key thrusts. We aim to develop well-designed, sustainable, and community-centric towns that put Singaporeans and Singapore at the heart of it all.
Well-designed Towns

The Roadmap will also provide a clear working framework for HDB to forge ahead. Keen on harvesting the rich skills set and institutional know-how among the many professionals in the 52-year-old organisation, Dr Cheong is also seizing the opportunity to revitalise HDB’s role as master planner and developer.

Delivering a speech at HDB’s Design and Construction Awards dinner in November 2011, where she introduced the Roadmap, she emphasised how design was crucial in creating a liveable and pleasant environment, especially in a small, compact city state like Singapore.

Dr Cheong drew attention to the need for good design to be pervasive – whether at the master plan macro-level or at a more micro level, like for the flat layout and the detailing work. She also cited the example of how HDB had developed urban design guidelines to steer the designs for the projects along the Punggol Waterway, which was created to realise the vision of waterside living for residents of the town. The guidelines sought to maximise visual and physical access to the water to create more views, and in doing so, more value for residents.

Sustainable Towns

The Punggol Waterway has also incorporated sustainable features, such as floating wetlands, fresh-water tolerant mangroves, eco-drains and biovales. This is part of the Roadmap’s intent to develop sustainable towns, with Punggol being the first to be singled out for an ambitious experiment to turn it into an eco-town.

“Being the largest developer of housing in Singapore, HDB can do much to contribute to national goals such as sustainability and eco-living,” says Dr Cheong. Hence, HDB’s various initiatives supporting the national Sustainable Development Blueprint, have already translated to a cleaner, greener, and more comfortable living environment for more than 80 percent of the population who live in the HDB towns. For example, well-oriented buildings and micro-climatic modelling help capture cool breezes and improve natural ventilation, and minimise the use of air conditioning. Energy-efficient light fittings have also produced cost savings for households and reduced the upkeep and maintenance bills for the towns.

To drive many of the innovative and sustainability initiatives, HDB has set up a research arm, the Building Research Institute, to pioneer groundbreaking work. Some of the towns are serving as excellent ‘living labs’ for innovative and sustainable urban solutions. Since the first solar photovoltaic system test bed was carried out in 2008 in two HDB towns, the cost has since dropped by 50 percent. “The experiences from such pioneering work will also be useful for other cities with similar high-density, high-rise environments,” notes Dr Cheong.
Community-centric Towns

The first two thrusts on design and sustainability represent the ‘hardware’ elements of public housing. More so than the physical infrastructure, the ‘heartware’, comprising people and community, is what makes a town and place endeared to its residents.

Dr Cheong acknowledges that the third thrust is perhaps the most challenging to achieve and would need concerted effort. Says Dr Cheong: “We will further increase our focus on the ‘people’ factor, the level and quality of social interactions help determine the kind of people and society we become. The Community Relations Group that we recently set up will provide the new impetus to community engagement efforts in HDB towns.”

Many community projects and various activities, designed to have a catalytic effect on neighbourliness and community ties, have been inaugurated since. Taking it to the next level, there are also plans to get more residents to take a stronger interest in and ownership of their surroundings – whether these are the facilities and common areas in the neighbourhood or the town they live in. To this end, the first HDB Community Week was launched in May 2012 to build better ties between neighbours.
We want to further improve the HDB living environment through strengthening HDB’s professional capacity with the help of private sector expertise and the community.

There have been many joint efforts to date. The HDB Architectural Design Panel, comprising architectural professionals and senior HDB professional and management staff, seeks to promote design excellence and innovation for public housing projects through sharing of professional expertise. The academic community is another source that HDB taps on. The benefits are two-way: the students and their professors obtain practical insights while HDB, in turn, derives fresh, novel perspectives.

A New Horizon
Despite the built-up mass, a very practical necessity for a small island state, Singaporeans have taken well to high-rise living as HDB has ensured that its residents enjoy a quality, liveable housing environment, planned to be self-sufficient, sustainable, featuring a comprehensive range of amenities and facilities including shopping and eating facilities, educational, sports and leisure places. HDB towns are vibrant mini-metropolises of their own.

"The people behind these achievements are the amazing reservoir of HDB staff, from the professional staff to those serving at the back and front ends. From town planning, architecture, structural design, R&D innovations to corporate and real estate, the combination of knowledge, expertise and experience has been instrumental in improving the quality of life of Singaporeans," says Dr Cheong even as she sees HDB to take public housing onto its next journey – and perhaps the most challenging by far.
A Jewel
Like
Venice
Dubbed the Venice of Singapore, the Punggol Waterway is actually a man-made engineering feat delighting nature lovers and fitness enthusiasts alike with its rich offerings of green tranquillity and meandering river flow.
n the 1970s, thick green vegetation and mangroves, relieved only by pig and poultry farms, defined the topography of rural Punggol in north-eastern Singapore. Except for the hum of cicadas and the rustling of the village cockerels, life was slow and quiet. Fast forward a few decades later, and the farms are no more. Modern facilities and high-rise housing developments have urbanised much of Punggol, one of the last few bastions of rusticity in Singapore to be ushered into the modern age.

However much one may lament over the disappearance of this rural backwater, the 21st Century town that it has become is something to be celebrated—not least because it boasts an international award-winning waterway that is well-loved by its users and all who chance upon it.

Aspiring to create a modern eco-town in Punggol with a thriving community, population and environment, PUB’s dream for Punggol is encapsulated in this vision, ‘Green Living by the water’. The Punggol Waterway, curving gently through the heart of the town, plays a key role as a recreational, educational and water-based hub for sports and other activities. With the new generation of public housing to be developed along its banks, it will bring to life the promise of waterfront living for the residents.
The Beginning

Dawn breaks and the sky is illuminated by the orange-yellow rays of the sun. One can enjoy this splendid view at the Sunrise Bridge situated at the eastern end of the Punggol Waterway. It is from this bridge that we begin our journey through the waterway and take in the changing sights and sounds as the day progresses.

The waterway was actually never planned for from the start. As Singapore had to increase its water catchment areas to cater to the country’s water needs, the Serangoon and Punggol rivers were dammed up to form two reservoirs. The plan was then to link these reservoirs through a pipeline to allow the transfer of water and to control their water levels. However, the planners, architects and engineers of the various government agencies, including PUB which led the project, felt that they could do more than just create a functional conduit. They decided instead to carve out a waterbody that can serve a wider variety of purposes, stretching 4.2 km long, ranging between 10 to 85 m wide and 3 to 4 m deep, roughly the size of 22 football fields, and a water volume equivalent to approximately 200 Olympic sized pools. This is how the waterway was born.

Where Dawn Breaks

The Sunrise Bridge is found at the Sunrise Gateway at the eastern end of the waterway, where mangroves and floating wetlands hark back to the town’s rural roots. Overlooking the Serangoon Reservoir, this spot with its breathtaking views, is ideal for shutterbugs to capture the sunrise.

Our journey along the waterway continues along a tranquil stretch flanked by plants, shrubs and trees. Other than the occasional jogger or cyclist, the meditative quality of the place offers a welcome respite from the pressures of urban life.

Moving westward now, before long, we see the next bridge – the Wave Bridge. As its name signifies, the structure resembles and echoes the meandering shape of the waterway, and feels right in place. This is the second of five pedestrian bridges along the winding waterway that allows people to cross over to either side of the banks.
Past to Treasure
The waterway gently widens as we reach the halfway mark. While taking in the change in surroundings, the first thing to grab your attention is a unique bridge formed by a careful juxtaposition of stilts and posts. Reminding one of fishing ‘kelongs’ (wooden platforms), the bridge makes a poetic statement of Punggol’s seafaring past. This bridge is at this spot for a reason. Called the Kelong Bridge, it follows the alignment of the old Punggol Road and leads to a heritage trail where people can discover interesting historical facts about Punggol. There is even a lookout pavilion designed like a hut on stilts.

Abdullah is someone who is delighted that efforts have been made to retain a part of the past in the present. “When I was young, I used to cycle here to my friend’s kampong (village). We enjoyed doing many activities like the jetty jump and swimming in the river,” he recalls. “Now I’m living in Punggol and to have these features that remind us of the old Punggol is a great idea, as it retains the identity of this place. My friend who came jogging with me along the waterway finds the Kelong Bridge nostalgic and brings him back to his childhood days.”

On top of making sure the new structures retain certain heritage elements, the planners have also made an effort to conserve bits of the past – an old bus stop just behind this area has been preserved exactly as it once stood along the dusty, windy old Punggol Road.

Playful Fun
Leaving the Heritage Zone and the nostalgic memories behind, we head towards the Recreation Zone. We pass by the Adventure Bridge that resembles a wooden suspension bridge, and sets the mood for the fun atmosphere that is to come. Children are reveling in the sand-play and water-play areas. The dancing finned and mothers meanwhile strike up conversations with the other parents. And the topics run the gamut, from how to soothe colicky babies, to finding the best playschools and eats. It is with this community bonding and interaction in mind that such open-play areas are created, so that the ‘kampung’ spirit is preserved alive in this new town.

“It is a great place for families to go down and relax after work or bond. My family loves to cycle frequently along the waterway as it is very near our home,” says Mdm Ng, a Punggol resident. Her ten-year-old daughter, Rui En, chimes in and says she enjoys playing at the waterplay area and sand pit area with her classmates.

Magical Moments
Just like Mdm Ng’s family, hundreds of other families had gathered at the waterway last October 23rd, to join in the opening festivities for the waterway. The blue skies were dotted with kites of different shapes and sizes, and many families were out in full force exploring the waterway’s facilities. Mdm Ng recalls that her family had just shifted into their new home a few months before the opening and were surprised to see the waterway brimming with people and activities. It was not all play, as people were able to learn a thing or two about Punggol’s history from the heritage panel along the Heartwave Wall. Spanning 280 m long, this wall with interspersed vertical greening, formed an apt backdrop for the festivities for the launch of the waterway that evening.

The setting sun casts a warm evening glow around us and we have reached the western end of Punggol Waterway where the Jewel Bridge stands. This would be the place to catch sunsets as it feels almost magical sitting inside the jewel shaped dome aglow with LED
Revitalising Punggol Town

The Punggol 21 Plus plan to revitalize Punggol Town was announced by Prime Minister Lee Hsien Loong at the 2007 National Day Rally. This was part of HDB’s Remaking Our Heartland (ROH) plans and represented an improved version of earlier plans for the town. The ROH plans aim to realise the vision for new estates, rejuvenate communities in middle-aged estates, and regenerate old estates. The vision of Punggol 21 Plus was to transform Punggol into ‘A Waterfront Town of the 21st Century’ and central to this idea was the Punggol Waterway. My Waterway@Punggol, as it has been named, is Singapore’s longest man-made waterway built at a cost of $225 million. Housing developments and communal spaces are situated next to the waterway to realise the vision of bringing waterfront living to Punggol residents.

The waterway has won many awards including recent ones such as ‘The Global Grand Winner’ for Planning Category, and ‘The Global Superior Achievement Award’ at the 2012 International Water Association Project Innovation Awards. It is notable that this is the first time that the Global Superior Achievement Award is conferred on an Asian country.

Many more have since been to the waterway and enjoyed the expanse of water and greenery, the sights and sounds of people and nature, and bird calls and bicycle sprints. Some affectionately call it Singapore’s Venice. Not just because of the placid flowing waters and the activities it supports, but also because of its magical effect on those who visit – like its namesake that rose from brackish waters to become one of the most celebrated cities of the world.

Keith Tan, another Punggol resident, invites you to visit, “We live nearby and we come here to walk and enjoy other recreational activities. It’s wonderful. Previously, there were not many developments around and the town was pretty quiet. Now, it’s good that they have this waterway. Other Singaporeans should come here and enjoy it too.”

Punggol Waterway awaits you – come, stroll its promenades, soak in some zen serenity, experience the past in the present, and also choose to grove along in any which way.
A Revival: From Laid-Back to Lively

From laid-back to lively, the rejuvenation of the core of Clementi Town Centre is now complete. The revival has injected new buildings and infrastructure, giving the place a new, hip vibe, yet keeping the soul of this 1970s town keenly alive.

The Clementi Town Centre of the early days was a favourite hangout for students from the nearby tertiary institutions, both for the good and cheap eats and niche academic bookstores. This, and other distinct features, like a stepped water fountain and even a smog-filled bus interchange, is what folks who have lived a long time in the area will remember fondly.

Yet when the makeover was announced, many Clementi residents were thrilled. It would bring new facilities and amenities and update an ageing town – similar to the transformations being effected in other mature towns as part of HDB’s systemic upgrading plan.
Commanding Sentinel

After undergoing a considerable alteration, the core of the town centre is now distinctly different. The Mass Rapid Transit (MRT) station is still there, but alongside are new structural companions that enliven the place. The new bus interchange is now air-conditioned and a modern public library has welcomed the first of many visitors. But it is a towering edifice that catches the eye first. Clementi Towers, a mega mixed development, is hard to miss. With streaking amber orange on the facade of its twin high-rise blocks and the modern pairing of slate grey and clear white, adding to its strong sense of aesthetics, Clementi Towers screams out to be noticed.

What used to be a simple bus interchange site has been developed into a bustling residential transportation and retail hub, with the completion of Clementi Town Mixed Development. After some six years of design, development and construction, the mixed development has added a new pizzazz to the town. Living up to its promise as a fully integrated complex, it has two 40-storey residential blocks (A and B), and a shopping mall on the lower level of both blocks, all of which have connected and covered access to the bus interchange and the nearby MRT station.

With the pedestrian transitions rendered seamless and contiguous, for long-time residents of Clementi, like Mr and Mrs Murugan, this ease of movement from station to interchange and mall is something to be appreciated. “In the past, it was a hassle to climb up and down, in and out, just to get from the MRT to the bus interchange,” says Mrs Murugan.

“Now that the development is completed, everything is much easier.”

Tan Shih How and Chloe Lau, two new residents of Clementi Towers, add on: “The area is bustling with much more activity. You can see different age groups and activities in the area at different intervals throughout the day. We’ve been here for roughly a year now and we find that getting about is really quite easy.”

In fact, the sense of community spirit has been strengthened through a welcome party and a series of engagement activities organised for the residents of Clementi Towers by HDB’s Community Relations Group. Three multi-coloured large wall murals named ‘Heartland Treasures’, were designed by students from Clementi Town Secondary School to showcase the neighbourhood’s memorable landmarks, bustling sights and activities, and were painted by residents and the students. They now perk up the lift lobby of Block 441A, the cheery outcome of a collective pursuit.

Even those not residing in Clementi Towers are pleased with this new kid on the block, like Mr Wong. Chipping in, he says: “Even though I don’t live in the new flat, I really like their commanding appearance. Seeing them, I know I’m home whenever I alight from the MRT.”

New Vibe

For Shih How and Chloe, who plan on starting a family in a year’s time, it is all of these things that endear them to Clementi— as well as the good school nearby, the availability of the public library, and the wide choice of old and new shops around. “My wife and I are both really happy that we managed to set up our home in this area,” he says.
The positive vibe extends even to the existing businesses in the vicinity. Many of the shop proprietors seem pleased with the new development. Mr Lee, 55, owner of a family-owned art frame business, notices that the new mall has brought an increase in human traffic to his shop. He says, “We are a niche business with regular customers but we are seeing more and more new patrons these days.” While Clementi Towers has a commercial wing, Clementi Mall, that offers a new range of products and services, as well as F&B outlets, these complement the merchandise sold in the shops in the older part of the town centre.

If you were to ask people to describe what they like about the new Clementi Town Centre, they seem hard put to describe which its best feature is. The 40-storey blocks, the mall, the new shops, the bus interchange . . . these invariably crop up. But one thing they agree upon wholeheartedly is how the development has factored in the communal and aesthetic considerations of the area. Mr Wang, a father of two school-going children, says, “The upgraded place is really nice to look at. We can now grab a bite at the eating places in the mall, and the library is so near. Moreover, the bus interchange is clean and new.”

And for families like the Murugans, whose children frequent the rooftop garden and playground that sits on the eighth floor of Clementi Towers, the place has a welcoming feel about it. “We don’t live here, but since we are at the shopping mall, why not bring the children out for a bit of non-tech fun?” Murugan says.
Old Soul

What has not really changed though is the soul of the place. It is still a foodie haven for students from the nearby tertiary institutions. They still frequent the town centre and the crowd that throng the place still go there to shop, eat, relax and chill. And while the old cascading water feature has been removed, in its place, an art-deco water feature with modernistic bent channels the days of the past while placing a firm foot on the present times. Remarkably, the water feature is still a meeting place for many today. “I always tell my friends to meet at this place because it is so iconic and easy to spot,” says Zhang Hian Fai, 29, a post-doctoral research student.

Although rejuvenation with the promise of new things can sometimes rob a place of its essence, the makeover of Clementi Town Centre has shown how things can change yet stay familiar even with the injection of mega malls and modernity.

So if you happen to perch yourself on the 40th storey of Clementi Towers to catch the breeze and catch a glimpse of life down below, what you will see are a stream of buses pulling in and out of a brand new bus interchange and endless throngs of commuters spilling out from the adjacent Clementi MRT station, all headed purposefully, many towards the town square. People meet up at the water fountain, then part ways. Some head to the roof garden for restful respite, while parents accompany their children to the playground. Students make their way to the Library, and later on, as evening sets in, people have dinner at the food centre. Except for the brighter lights and thicker crowd, you would not know it is not the Clementi of old.

Inventive Solutions

While everything seems to fall in place easily and almost so naturally now, the entire development came with its own set of unique challenges. The irregular ‘polaroid’ shaped site required inventive solutions and the extensive involvement of various parties in order to fully optimise the space.

With the construction, there were two main considerations, namely building within the space constraint without disrupting public access to the amenities in the area and cutting down on construction time so as to reduce overall inconvenience to residents of Clementi.
To achieve this, a combination of the top-down and bottom-up construction methods (see box-story on left page) were deployed, something that had not been done in other public housing developments before.

The benefits of using a combination of these two construction methods meant that the tower block and basement could be built concurrently, thus saving time and production cost. Also, soil movement and disturbance to the surrounding buildings could be minimised and the ground slab cast in the early stage of the construction process could be used as construction access, working area and storage area.

Another challenge involved the transfer of the tower crane foundation from the 1st storey to the 8th storey environmental deck. This was to enable the concurrent construction of one of the residential blocks, the 6th and 7th storey of the multi-storey car park, as well as the commercial mall to facilitate early handover of the shopping mall to the commercial developer.

Award-winning

The Clementi Mixed Development has won a string of awards for its ingenuity in overcoming challenging site constraints and for its imaginative approach to town planning. The top accolade was from Federation Internationale des Administrateurs de Biens Conseils et Agents Immobiliers (French International Real Estate Federation) on the FIABCI on 15 May 2012.

The FIABCI Prix d’Excellence Award recognised HDB’s master-planning achievement. Receiving the runner-up award in St Petersburg, Russia, HDB’s Group Director (Development and Procurement), Fong Chun Wah commented, “With good planning and design, we have added vibrancy and improved the living environment for residents in Clementi.”

Alongside this were other national and international awards:
• BCA Design and Engineering Safety Excellence Awards 2012 (Merit Award)
• Land Transport Excellence Awards 2012 (Merit Award for Best Design Transport Integration)
• FIABCI Singapore Property Awards 2011 (Winner of Master Plan Category)
a metaphorical mountain

A red dot on the map, nevertheless punching above its weight, Singapore boasts many firsts even though it has no vast natural resources. Neither has it breathtaking scenery and mountains to show off. But somewhere in the heart of this city-state rises a metaphorical mountain that is the pride of its citizens – The Pinnacle@Duxton, a unique development that has redefined the typology of public housing and creatively reclaimed spaces in the sky.
The Pinnacle Up Close

Rising serenely above the red-tiled roofs of quaint shophouses, The Pinnacle@Duxton feels right at home in an area steeped in Singapore’s history and heritage. With seven towers, each 30 storeys high, and connecting curvilinear sky gardens that link all seven blocks in an unending chain, The Pinnacle@Duxton is a first for Singapore’s public housing, and possibly the first of its kind in the world.

Urban Windows

Despite its large mass and form, one does not get the feeling of being hemmed in because of the elegant simplicity of its design that seeks to communicate in an open and porous way with its surroundings. The blocks are juxtaposed in a hooked layout, creating “urban windows” that provide spatial relief while picturesquely framing the city skyline.

Keyboard Exterior

This same design aesthetic is played out throughout the entire development. The interplay of bay windows and balconies for instance, has added an interesting new twist to the facade and reduced its perceived mass. The team behind the design of The Pinnacle@Duxton, ARC Studio Architecture + Urbanism, explained how they were inspired by the movie, The Matrix, to design the block façades after a circuit board. The building’s bay windows and balconies are “plugged-in” in a seemingly random manner like that of computer codes or even piano keys, depending on how you look at it.

Adaptive Layout

The creative configuration has also resulted in a variety of flat designs and layouts, with the interiors displaying similar precision and inventiveness. A compact, rectilinear floor plan has made the interior more functional. And the column-free units and removale interior lightweight concrete walls give residents the flexibility to change the layout and adapt their home to suit lifestyle changes over time.
Decked Recreation Space
Look outside, and you will find facilities and open spaces concentrated on three main decks. There is the elevated vehicle-free environmental deck, which nearly hides from view several levels of parking space below. On this spacious, uncluttered deck, large and small activity areas such as playgrounds, pavilions, basketball court and outdoor heritage gallery, are organized in a lush, landscaped setting. This deck also spills over seamlessly onto the streets below. Peeling up from the surrounding sidewalks and the nearby Duxton Plain Park, it provides a natural connection to the existing urban network and becomes a public space for all to enjoy.

The other two recreational decks are the sky gardens found on the 26th and 50th storeys. The 26th storey deck is an activity centre housing an outdoor gym, a clubhouse, an 800 m jogging track and playground. In contrast, the deck on the 50th storey offers more contemplative space with unfettered, open views. Conceptualised as an outdoor living room, it has ample seating areas, pavilions, viewing platforms and stargazing pods for one to enjoy the solitude and company of the night sky.

Lofty Aspirations
It should come as no surprise to those with a keen design eye that The Pinnacle@Duxton would be an excellent candidate for industry accolades. It has since garnered nine international and local awards. The latest is the Urban Land Institute (ULI) Global Awards for Excellence 2011.

In its 33rd year running, the prestigious ULI Awards celebrates outstanding urban projects from around the world, recognising the full development process of a project as well as its design. For its radical housing solutions addressing social, physical and economic issues, The Pinnacle@Duxton secured the ULI Award for Excellence for both the Asia-Pacific chapter and the Global chapter, outshining 16 other regional winners.
Pushing Boundaries

In his acceptance speech at the UIA award ceremony held in Los Angeles in October 2011, HDB’s Deputy Chief Executive Officer (Building), Sng Cheng Keh said, “In redeveloping the site, we wanted to push the limits of public housing. We also wanted to keep faith with the historic location, which is close to Singapore’s Chinatown and heritage district, and also where the first two high-rise public housing blocks once stood.”

Until the Pinnacle, the tallest public housing that HDB had ever built, reached 60 storeys, the Pinnacle’s seven towers stacked up another 10 levels so that the entire development could hold 1,848 apartments, and house more than 7,000 residents. A self-sufficient development, it has metaphorically reclaimed spaces in the sky.

The innovative solutions offered by The Pinnacle@Duxton have successfully addressed the social, physical and economic issues that beset housing developments in the city. Through it, HDB was able to inject more affordable housing on a prime piece of real estate and revitalise an ageing precinct. In this, The Pinnacle@Duxton may well provide useful learning points for cities facing the challenge of housing large urban populations.
**Inspirations From The Past**

It actually took 10 years for the Pinnacle project to come to fruition. It was conceived as part of a long-term, visionary solution to a perennial challenge facing land-scarce Singapore – that of providing sufficient housing for a growing population which has exceeded five million.

It stands on a site where two old public housing blocks once existed. These were also landmark developments in their heyday. The tallest public housing built in 1963 in that locality, their historic significance is also tied to the social ideals of then Prime Minister, Lee Kuan Yew, who provided the direction for the young nation’s housing policies. He set up HDB, and because of the strong foundations he laid, public housing is now home to over 80 percent of the country’s population.

The redevelopment of the Duxton site was meant to maximize the potential of the land parcel, and inject a new and younger community into a matured, ageing estate. An International Architectural Design Competition was held in 2001 to uncover the best design proposal for high-rise living in the city that would also preserve the site’s heritage and introduce a new public housing typology.
The winning design came from a young, almost untested, Singaporean firm and team, AUR Studio Architecture + Urbanism. By challenging the conventions of public housing as an architectural typology, architects Khoo Beng Beng and Belinda Huang have created an aesthetically pleasing development that is understanding of its past at the same time.

The beautiful matured trees nearby, including two trees planted in the 1960s by Mr Lee, have also been retained and conserved. This and the footprint of the original housing blocks preserved in an art installation that glows softly at night remind the younger generation of its roots in the past.

**360-degree Views**

The Pinnacle@Duxton has won a string of awards perhaps because it inspires all who see it. The magic of its seven towers that stand as sentinels over Singapore’s city and heritage district is electrifying.

More than 300,000 locals and visitors, including tourists, have made their way to the top of the building for the stunning views that stretch over the city and across to Sentosa Island beyond. The current Prime Minister of Singapore, Lee Hsien Loong, has also trekked up this ‘mountain’ to broadcast his 2010 National Day Rally Speech.

Engineer Xie Shu Wang, who visited the sky garden with his family, likes the openness and vastness of the garden that give him ample space to explore and roam freely. Another visitor to the sky gardens, Lin Peixuan, is pleased that she could linger as long as she wanted to take in the scenic views. Some have even suggested that the Pinnacle@Duxton be elevated to a national icon—writing in to the Sunday Times, Daniel Koh was one of those who put forth this suggestion.

Engineer Raghu Veer recollects how his relatives in France called him to comment on how lucky he is to be staying in the Pinnacle. For sure, this sentiment is equally shared by his fellow neighbours and residents.

The Pinnacle@Duxton is unique for how it has dared to use prime city space for public housing when other competing uses could have easily staked a higher claim to the site. By opening up such an opportunity, it has demonstrated the value of social design that goes beyond housing, urban renewal and regeneration. This is also how public housing in Singapore pays out – to provide more than average homes for the average Singaporean family.
Awards

2011
- Urban Land Institute (ULI) Global Awards for Excellence
- Urban Land Institute (ULI) Awards for Excellence (Asia Pacific)
- FIABCI PRID d’Excellence 2011 Award (Runner-Up)
- 11th Singapore Institute of Architect (SIA) Architectural Design Awards (Residential Category: Design Award)

2010
- Best Tall Building (Asia & Australasia Region) – Council of Tall Buildings and Urban Habitat
- ‘World’s Best Housing Development’ – The World Architecture Festival Award
- ‘Design of the Year’ – President Design Awards
- Singapore Structural Steel Society Design Awards (Merit)
- HDB Design Award 2010 (Completed projects - Housing (New Built))

Panoramic Views

Up the 50th storey sky garden of the metaphorical mountain, the noise and bustle of the city fades away along with the day’s worries. A boulevard, following the shape of the blocks, opens up vistas and changing angles as one walks along the sinuous path. Young couples and families spend many quiet evenings stargazing and enjoying the views. Come Singapore’s National Day and New Year’s Eve Countdown celebrations, they get a further treat – the splendid fireworks display that light up the night sky with an explosive blaze of colours. Had the Pinnacle been a private development, a gem like this would not have been accessible to the public.
Sky Gardens

The Pinnacle’s unique silhouette is attributed to the continuous sky bridges linking all seven of its blocks at the 26th and 50th storeys. More than just architectural and engineering marvels, they have created almost two hectares of green and open space as a relief from the density of the tower blocks and provided an ideal setting for community interaction.

The draw factor for residents and visitors alike would have to be these connecting sky gardens, an avenue for recreational activities as well as a platform to take in breathtaking views of the city, residents have nothing but praises for these gardens in the sky.

For Ng Beng Yew, the sky gardens hold a special meaning for him. He and his wife chose to have their wedding solemnisation there because of the picturesque setting and panoramic views. They are also particularly impressed with the jogging track and outdoor gym facilities. “We are now able to experience city living with access to the sky gardens and jogging tracks which was not possible at our previous home,” he says.

Sharing similar sentiments, another resident, Christopher Lee adds, “The jogging track is well-designed and well-planned. It comes in very handy especially on rainy days.”

Rejuvenation

Stepping outside their home, residents mingle freely in the planned, open spaces. The environmental deck resounds with the happy sounds of children playing at the playgrounds, a not uncommon encounter. The eating house, shops, a kindergarten, an education centre and two Residents’ Committee centres are also well patronised, and add to the lively ambience.

The influx of a younger generation of residents to a mature precinct has enlivened the Duxton area. True to the design and planning intents of HDB’s vision for the Pinnacle, the resident profile tips towards younger families who make up about 42 percent of the total number of residents.
Practice Makes Perfect

To be a master of your craft takes patience and practice, plus experienced mentors to guide you on the right path. HDB’s Professional Practice Scheme aims to be all these, and more, to its stable of young professionals.
In any field of expertise, practice does make things more perfect. HDB developed its Professional Practice Scheme (PPS) with this key purpose in mind. Through coaching, mentoring, and a structured pathway, it aims to help its young professionals hone their skills and prepare well for an exciting career in their chosen field. As the PPS upholds high standards of professionalism, this will also ensure that the core of HDB’s building expertise is kept intact through any organisational change.

**Upholding Professional Standards**

The PPS is a collaborative effort between the Corporate Development Group (CDG) and the HDB Building Research Institute (HDB BRI). It will play a key role in developing and retaining the talent needed to uphold the professional standards that HDB must maintain as a leading housing developer. PPS was implemented in April 2011, with a plan to have about 54 staff participating in this scheme.

Under the PPS, young talents are coached under experienced Qualified Persons (QPs) through targeted project work. This project experience will expose them to the work of public housing implementation, provide opportunities to hone their design skills, and aid them to attain sufficient experience as building professionals.

The HDB BRI, which seeded the PPS idea, has set up the Centre of Excellence for Professional Practice to support this initiative. Its Director, Wan Khin Wai, says that the Centre aims to build up professional competencies and cultivate interdisciplinary learning among the young building professionals. It will also serve as a platform to bring BRI’s applied research and innovations to reality by implementing pilot projects. Khin Wai adds that this scheme “creates more competent officers with professional capabilities. In this way, HDB can maintain its expertise in the area of sustainable building solutions which will benefit HDB and, more importantly, residents through better quality homes.”

**Developing Talent**

Khin Wai, who previously worked mainly on project management, found the switch from project-based work to this new portfolio both challenging and stimulating. “My job is to ensure that the young professionals are engaged constantly and intellectually on top of their technical training,” he says. “The guidance they receive will not only help build their technical competencies, but also cultivate mindsets that encourage innovative problem solving through collaborations across professional disciplines.”

As the PPS is also able to leverage on BRI’s research opportunities within their other Centres of Excellence, such as sustainability and innovations studies, young professionals are able to get involved in applied research projects. “It’s an excellent platform for young minds to experience both practical and applied research projects early in their professional careers,” says Khin Wai.

Explaining why this was becoming an important field of research, Khin Wai says that increasing demands for green urban solutions and better quality living called for more creative solutions that traverse different fields of knowledge and expertise.

The PPS, therefore, strives to achieve a balanced combination of such innovative and collaborative thinking on top of mastering the important technical competencies of one’s profession. In fact, the young officers interviewed expressed their satisfaction with PPS, especially with this key aspect of the scheme.

Given the ample cross-learning opportunities available, nascent interests could be nurtured, and bloom under the right tutelage and exposure.
In the hands of talented architects, mere buildings become works of art to be admired and yet, are practical and functional. The aspirations of young architects to emulate such masters are given a stimulus under PPS, which encourages them to lay strong technical foundations to help them make that great leap forward.

An architectural degree is only the first step towards becoming a full-fledged architect. To be certified as an architect in Singapore, like doctors, lawyers and engineers, there are certain requirements to be met.

To be a Qualified Person (QP), architecture graduates need to have at least two years of working experience before they can submit a case study and log book of experience, followed by an examination. This process will equip them with the knowledge of the field as the design responsibilities extend beyond the aesthetics of a building. As QPs, architects must know what their design considerations entail, and exercise skill and care in executing them. They must be at ease with authorities’ requirements, contracts, building materials and construction techniques.

Jonathan Chua joined HDB in September 2009. As someone who had worked previously in a private architectural firm, the main draw for him was the stimulating multi-disciplinary work environment. “Compared to working with consultants from different firms, architects and engineers in the multi-disciplinary studios of Centre of Excellence for Professional Practice collaborate closely and effectively to address design issues,” he says, “and the result is greater synergy of efforts.”

Since joining the Centre of Excellence for Professional Practice, Jonathan has been involved in several projects such as Build-To-Order flats, solar roofing and mechanised carparks, all of which offer a spectrum of design challenges and exposure to different projects.

By providing such a platform that allows him to think in broader terms, and to look at issues from different angles and perspectives, the PPS is also creating opportunities for him to go through the entire building development process – from planning to design and calling of tender, and contract administration. He feels he has developed better as an all-rounded professional and enjoys the rush of satisfaction when his work is translated into well-designed homes for residents.
Dealing with the nuts and bolts, engineers tend to be logical thinkers. The PPS is designed to help them explore creative solutions outside of their comfort zone that also have real, practical impact.

Liu Lihui studied Civil and Structural Engineering at the National University of Singapore (NUS), and had always been keen to join HDB. The PPS was an added incentive for her. “The instant I read about the newly set-up Professional Practice Scheme under HDB BRI, I knew at that moment that it was a job I had always dreamt of,” she says.

Now with the Centre of Excellence for Professional Practice, she says an added draw of PPS was the door of opportunities it opened for further education and participation in research in HDB BRI. Through her mentor, she is not only learning more, but is also applying the knowledge she acquired in school to the building industry.

Liu observes that the sharing among colleagues also helped the staff under the PPS to think out of their comfort zones to come up with practical ideas. However, she says that sometimes this could prove especially challenging, given the different viewpoints and constraints that working within a team brings. “One of the biggest challenges I face is to come up with integrated solutions that take into account the constraints and viewpoints of all the different parties,” she elaborates, “However, the encouragement from my supervisors and the friendship with my colleagues back me up with strong support.”

A year into her job, yet already feeling part of the HDB family, Lihui is pleased that the PPS provides the necessary support for staff to look beyond the present and plan for the future. At the moment, her sights are set first on becoming more skilled and obtaining a professional engineer licence.
Contracts managers are involved in a building project from start to end. Theirs is often the unseen hand that holds every detail together to make sure a project is built on time and within budget.

Contracts managers are often associated with calling tenders and balancing the accounts for a project. In effect, they do much more.

Lim Ee Fong who joined HDB slightly more than a year ago as a contracts manager points out that they look after a project end to end, from pre-to post-contract. This involves “looking after the planning, project specifications and costs,” she elaborates, “To do a good job of it, she has to be knowledgeable about building products and design, as well as develop people skills in handling a multi-disciplinary professional team. It is a normal routine for her to be advising and consulting with architects, engineers and other such building professionals.

Previously from a private consultancy firm, she says the PPS has given her added opportunities and a better work environment, especially the collaborative nature of the work. She says that through this arrangement, she is able to discuss issues with the related professionals quickly.

She also adds that she enjoys working as a team with fellow professionals in HDB B1E. She is glad that she has colleagues who are from other Building Groups who were able to guide and help her at times too. “We still have a lot to learn from them,” Ee Fong says.

Apart from this, she feels that the scheme’s added value is its innovative element. As an example, she points out how this has helped them inject sustainability even into basic projects. She highlights an example of one of such projects in Depot Road, which is situated close to Singapore’s Southern Ridges. “This is where we learn how to merge greenery and bio-diversity with structure,”

PPS Objectives

- Preserve HDB’s institutional knowledge through developing a knowledge management system in public housing planning, design and construction.
- Build HDB’s technical expertise in young professionals (i.e. Engineers, Architects and Contracts Managers).
- Serve as an avenue for Engineers and Architects to gain the requisite practical experience, in order to apply for professional registration with the Professional Engineers Board and the Board of Architects respectively.
- The HR department assumes the role of recruiting suitable Young Professionals (YPs) and Qualified Persons (QPs) into PPS and facilitating the rotation of existing staff to participate in this scheme.
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