

Submitted for  
IFLA AAPME Awards 2024 - Social and Community Health

# WUHAN AVIC PARK

Seamless Landscape Experience with Aviation Exhibition Hall







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## PROJECT TITLE

# WUHAN AVIC PARK

Seamless Landscape Experience with Aviation Exhibition Hall

## PROJECT STATEMENT

"AVIC PARK" is a mixed-use development including an aviation exhibition hall integrated with green hill park. The two towers, which are the new symbol of the area, comprise aviation research offices, and serviced apartments, and also the aviation exhibition hall is located under the green hill park in the middle of the site, connecting the towers. The site is located in Wuhan, China, known as the "City of a Hundred Lakes", a metropolis with a long history of development alongside water. The mirror-like relationship between the sky and the hundred lakes is an appropriate concept for "AVIC PARK", a facility by an aviation research center that stands for progress and environmental excellence.

"AVIC PARK" creates a rich and tasteful experience of the aviation exhibition through a seamless spatial composition that utilises the existing topography continuously linking between the architecture and landscape. The green hill park generates diverse activities of visitors and neighbours. It is also expected to provide a habitat for fauna to create the ecological network in the area. By utilising wind, water, light and heat at various scales, the entire project is an environmental device to cool the urban heat island.

## PROJECT NARRATIVE

### Green Hill Park Regenerated with Surrounding Woodland into a Rich Spatial Experience

The site was located on a hillside with a difference in elevation, with existing flats planned on the north side and a new road planned on the south side. There was a distorted boundary line inside the site that distinguished the state and private sectors in the planning ruling, and it was necessary to plan an office, SA and commercial area on the part facing the road, and an air exhibition centre on the side at the back that bordered the existing residential area. The two high-rise towers were cut at an angle to the tops of the towers, which allowed the air exhibition centre to be located at the rear of the towers. In the two high-rise towers, the tops of the towers are cut at an angle to avoid shading into residential areas, while at the same time creating a distinctive form as a symbol of the city. Furthermore, by passing through two axes, consisting of an aerial axis (approach to the exhibition hall) and a commercial axis (commercial circulation lines), a spatial experience is created that is a rich sequence of indoor and outdoor connections. A green hill that matches the existing topography is regenerated to cover the lower part of the building, and several openings are created in line with the flow lines to meet the fire safety opening area requirements, as well as to deliver light and wind to the interior of the building and connect the lines

of sight and flow up and down. By regenerating the green hill, the building is continuous with the existing green area to the north and the park area to the east, creating a connection with the surrounding environment that is not complete within the development area, and attempting to create a rich public space and ecological system. The green hill, composed of a wide variety of plants, is expected to become a habitat for birds and other organisms and a base for an ecological network in the area.

The natural hills open to the public were so well received by the client and the government that a national park design with an aviation theme has been commissioned for the adjacent park area to the east, which is currently being planned.

### “Cooling“ Hill Decreasing the Heat Island in Wuhan, One of China’s Three Largest Boiler Cities

Wuhan, along with other major cities in the Yangtze River basin such as Chongqing and Nanjing, is known as one of China's three major boiler cities and is famous for its intense summer heat. The humidity is extremely high due to the large number of lakes and the fact that there is not much wind, making the urban heat island phenomenon a serious problem. In this project, efforts were made to create a cooling effect by the entire planning site, including the two towers. By creating a porous hill



that directs breezes to the surrounding area, a comfortable public space is created where breezes flow from the aviation and commercial axes to the artificial ground below and into the respective openings. Furthermore, the evapotranspiration effect of the extensive rooftop greenery contributes to reducing the heat load of the building and mitigating the rise in ambient temperatures. The facade of the high-rise tower also has a curved plan with angled corners to create a smooth flow of wind in any direction along the wall surfaces and to bring it moderately into the room. By utilising wind, water, light and heat at various scales around the green hill, an environmental device to control the urban heat island is realised throughout the plan.

The seasonal colours of the plants covering the green hill and the symbiosis between the soil and the ecosystem nurtured over time express the desire to create an environment where people can feel 'happiness under the blue sky together'.

## Urban 'Community' Hill as Receptacle for Diverse Activities

The emergence of a green hill, a precious urban nature, as a vibrant public space, together with an exhibition centre, a new cultural facility for aviation research representing the high-tech industry in the Kwangtung area, will be a great asset for the community in this area. Particularly since Corona, the creation of 'community spaces' in the

urban environment has also been a priority in China.

The entrance square of the aviation exhibition pavilion has an aviation axis with a runway motif and a symbolic earthwork that gouges out the green hill. The roof of the exhibition pavilion has elliptical lighting and openings reminiscent of the Wuhan Hundred Lakes, creating continuity between the exhibition pavilion and the green hill. Climbing the stairs from the aviation exhibition hall, looking up at the sky, visitors are greeted by a lush green park under a blue sky. The rooftop garden consists of an observation deck, an outdoor theatre, a forest walkway and a wind playground, and serves as a receptacle for various users to come and go and create diverse activities. Inspired by the lake and sky of Wuhan, AVIC PARK is expected to contribute to the promotion of an urban community that symbolises a new urban image and lifestyle in the fast-developing Guanggu District.

## On-Site Supervision by Remote Working in Covid-19

We visited Wuhan in December 2019. A month later, the pandemic shook the world when the provisional diagnosis of a case of pneumonia of unknown cause reported from Wuhan was announced as being related to a new type of coronavirus. As you know, for the next three years, travel was restricted around the world and we, too, had to stop or restrict our involvement in projects that were in progress in China, South East Asia and the Middle East. The impact on projects where construction sites were in progress was particularly significant, and we



had to devise how to supervise the design of the sites. In this project as well, once the site resumed around the second half of 2022, the project team was forced to check progress through photographs and respond to the site through remote meetings. There was a time before Corona when the site was checked about once every three months, but in the aftermath of the Corona disaster, remote collaboration with the client, construction company and local design office became more important. Even just for the sake of it, it is very important to communicate the design intentions to the site, as in many overseas projects, the site is not progressing according to the drawings. We read numerous photographs sent from the site and checked each detail while communicating with the site via remote meetings. Although they managed to confirm individual details with photographs, it was difficult to get a complete picture of the space, so they devised ways to confirm the details with video and live images.

I visited the site in June 2023, when the project was almost completed, and was able to grasp the whole picture of the project and experience the space under a blue sky. I was very moved when I visited the site in June 2023, when the project was almost completed, and experienced the whole project under a blue sky.



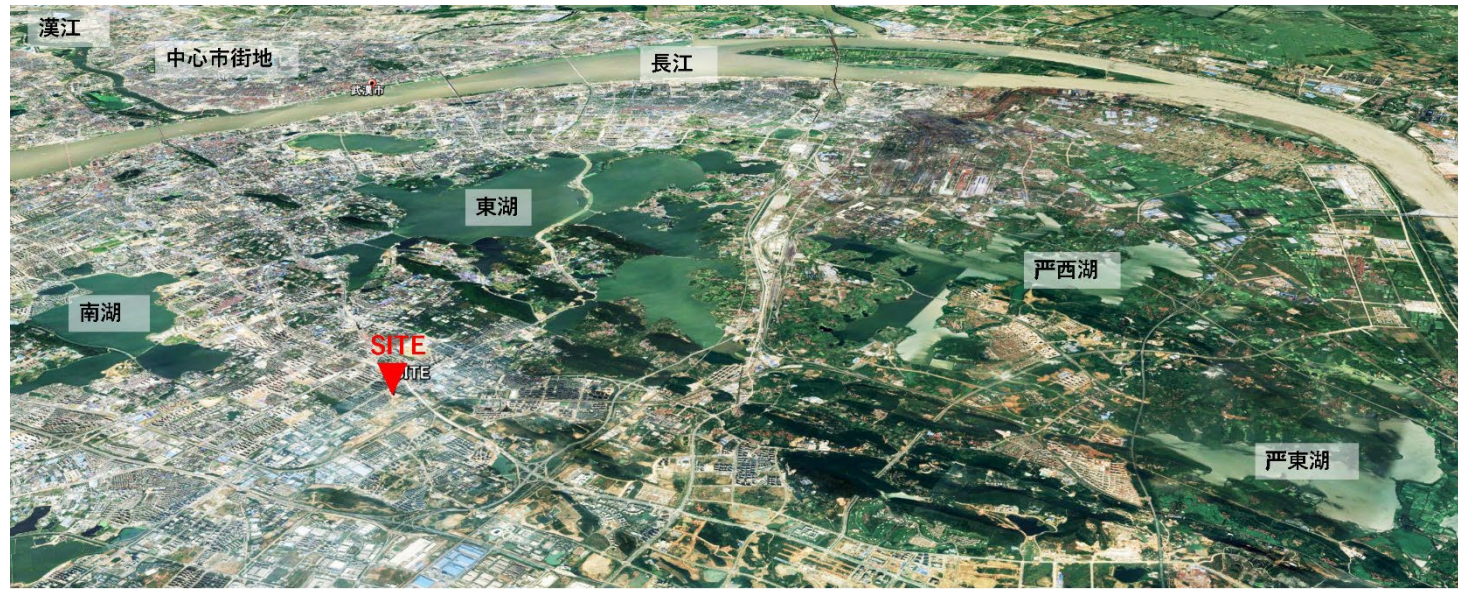
Seamless Landscape Experience with Aviation Exhibition Hall



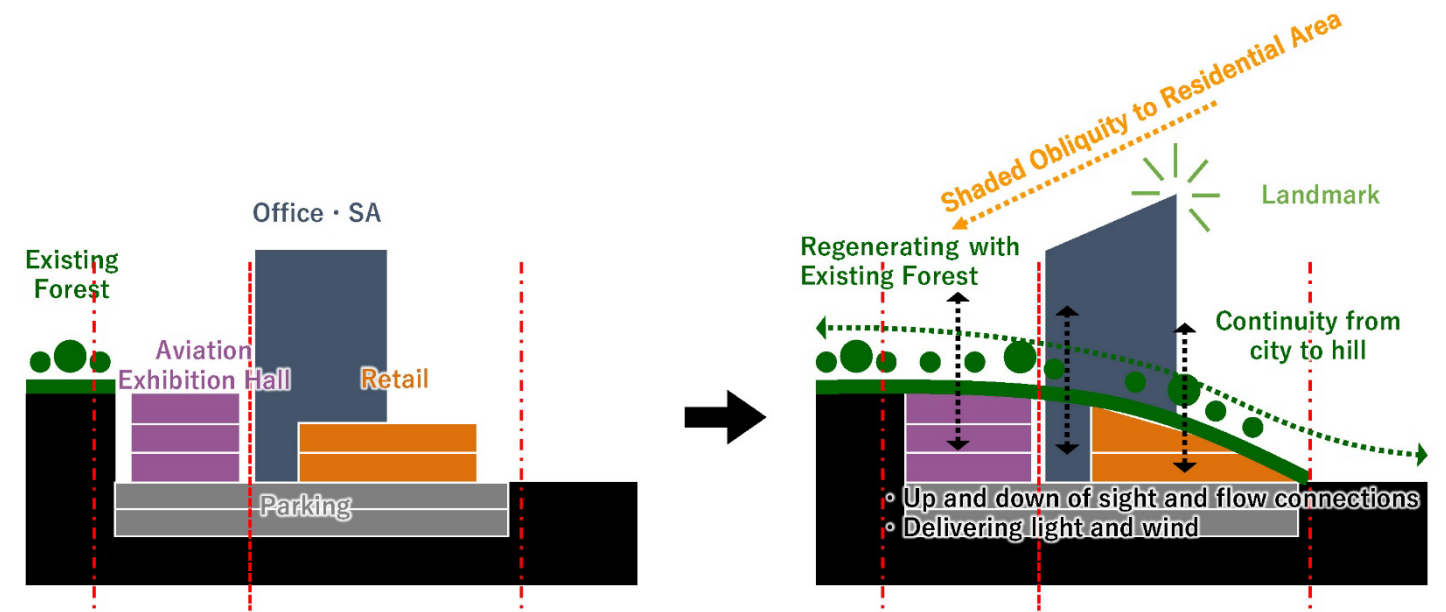
"AVIC PARK" is a mixed-use development including an aviation exhibition hall integrated with green hill park. The mirror-like relationship between the sky and the hundred lakes of Wuhan is an appropriate concept for "AVIC PARK", a facility by an aviation research center that stands for progress and environmental excellence.



# Green Hill Park Regenerated with Surrounding Woodland into a Rich Spatial Experience



The site is located on part of the hillside south of East Lake.



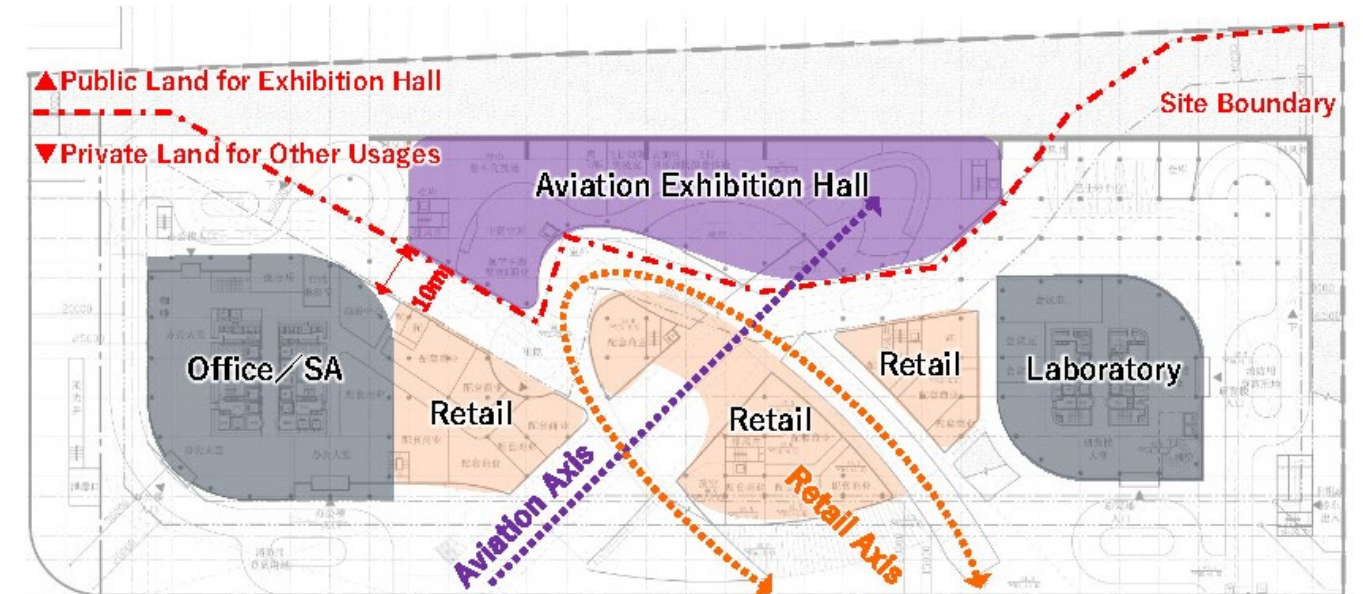
Section for regenerating green hills



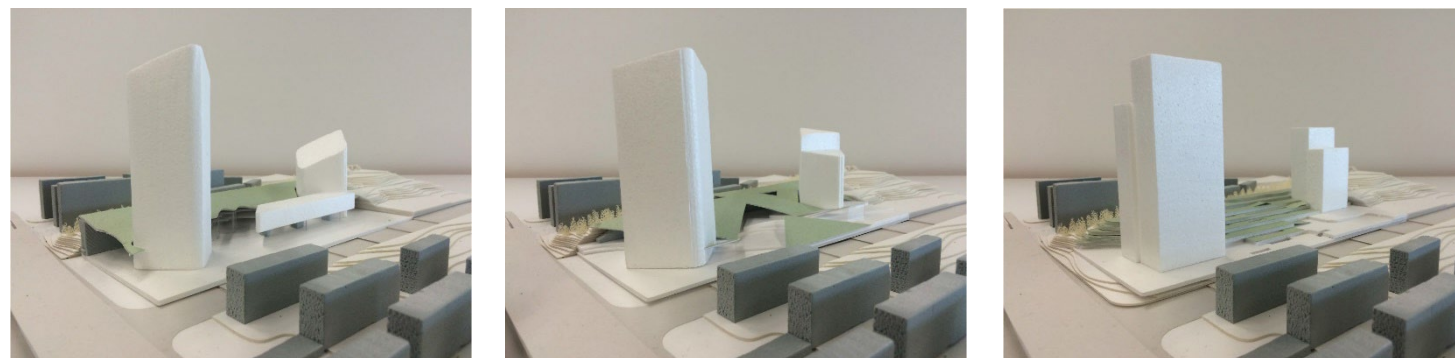
East Lake



Site (2017)



1F Floor Plan



Initial study model to examine building layout and green hill configuration.

"AVIC PARK" creates a rich and tasteful experience of the aviation exhibition through a seamless spatial composition that utilises the existing topography continuously linking between the architecture and landscape.



## Green Hill Park Regenerated with Surrounding Woodland into a Rich Spatial Experience

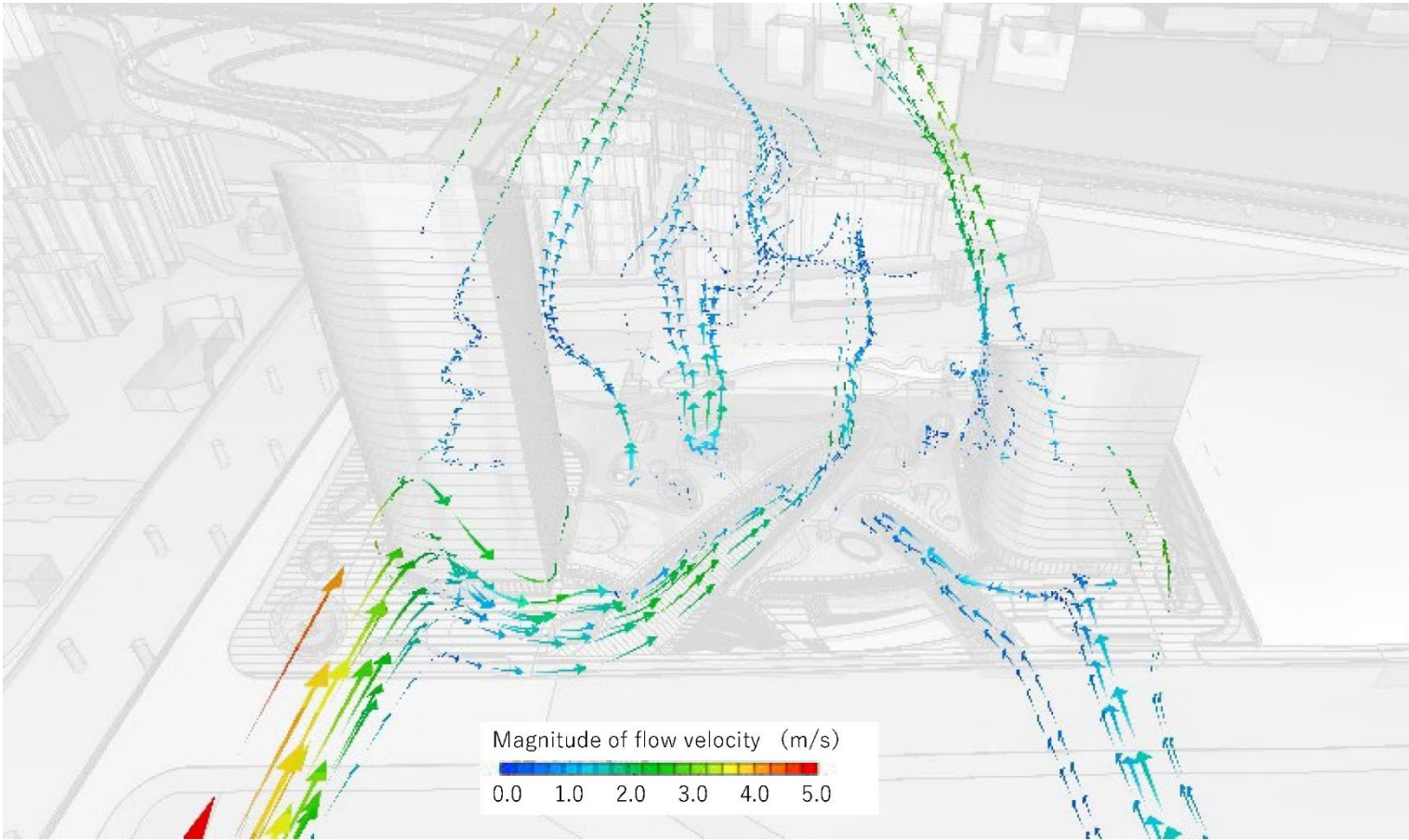




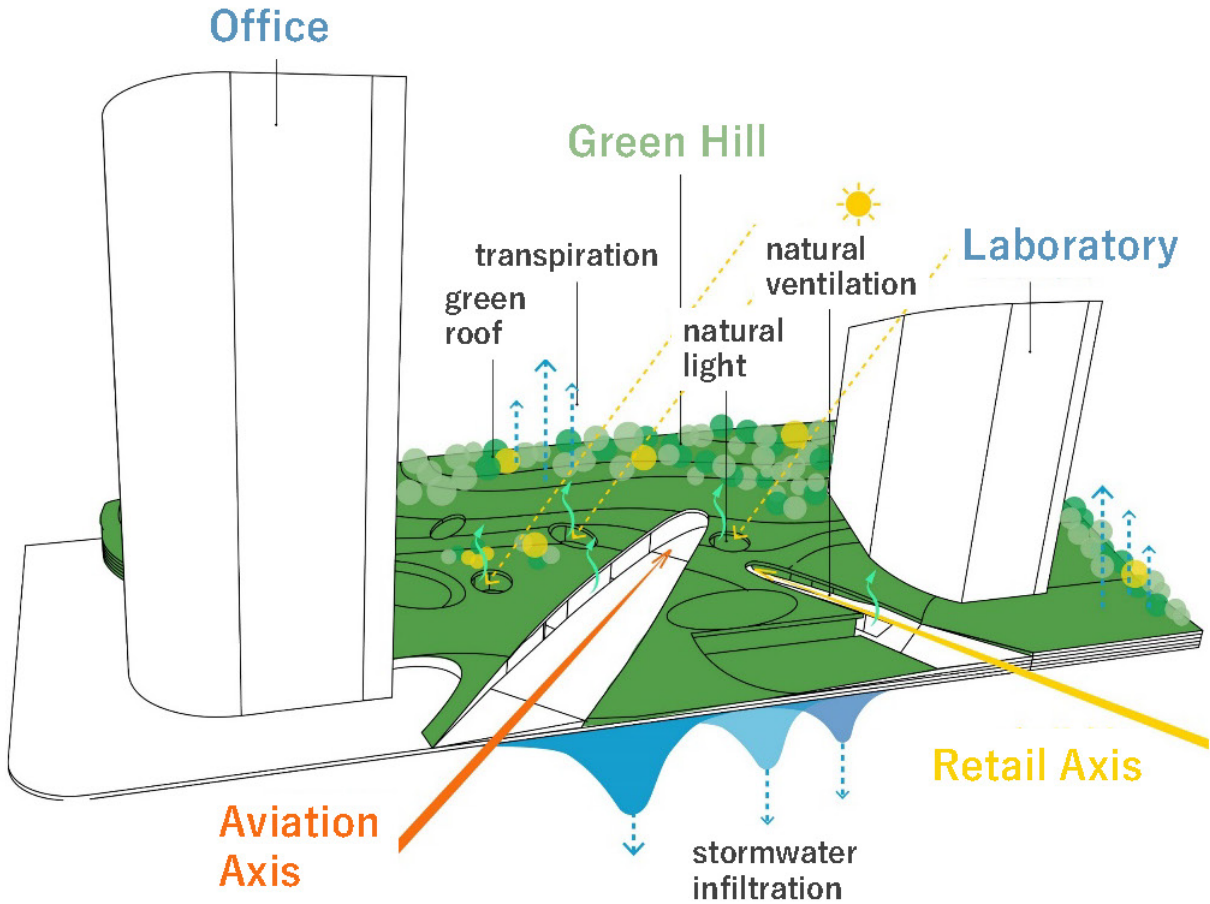




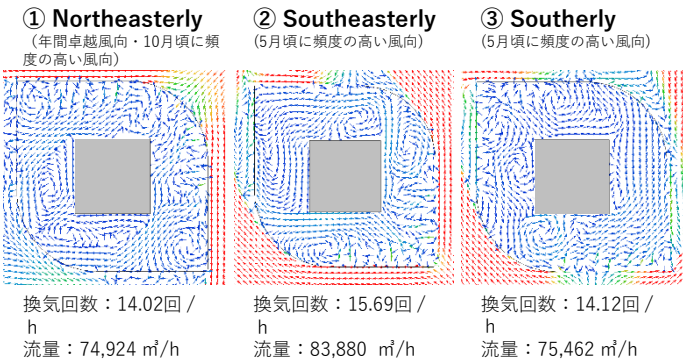
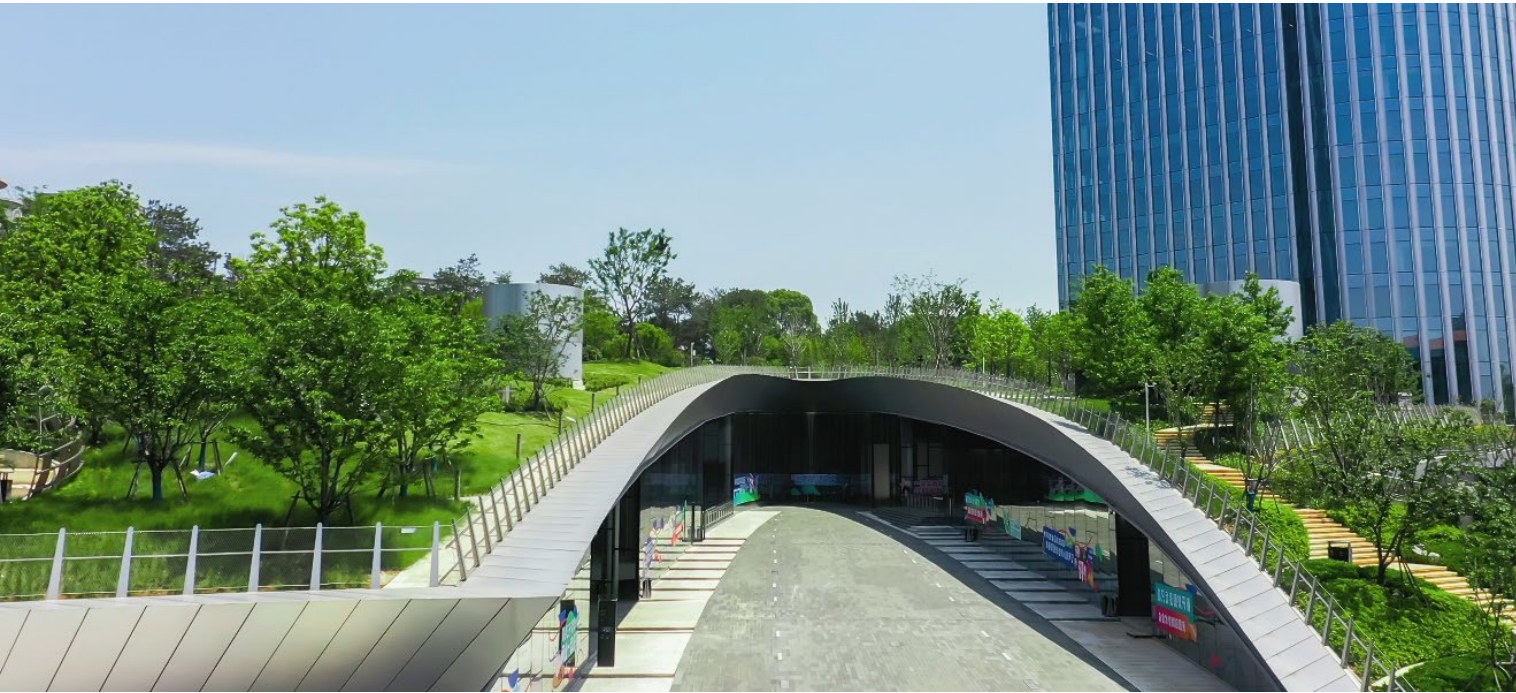
# Environmentally Friendly Park to Decrease Urban Heat Islands by Utilising Wind, Water, Greenery, Light and Heat at Various Scales



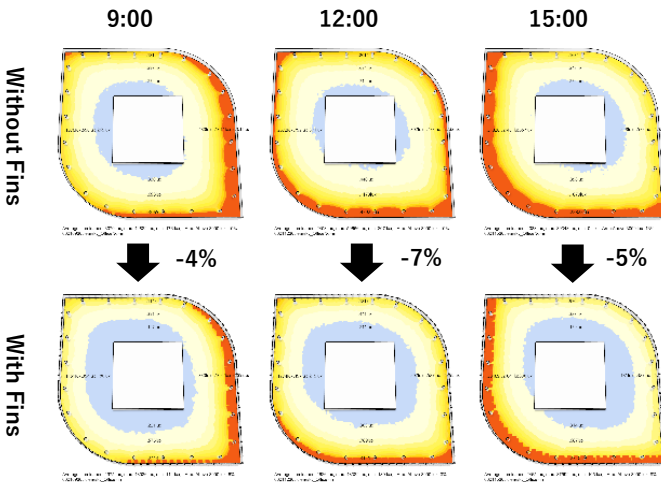
Porous hills directing wind around them (Wind simulation based on frequent southerly winds in July).



Breathing hills to cool buildings



Cool breeze passing evenly through the office

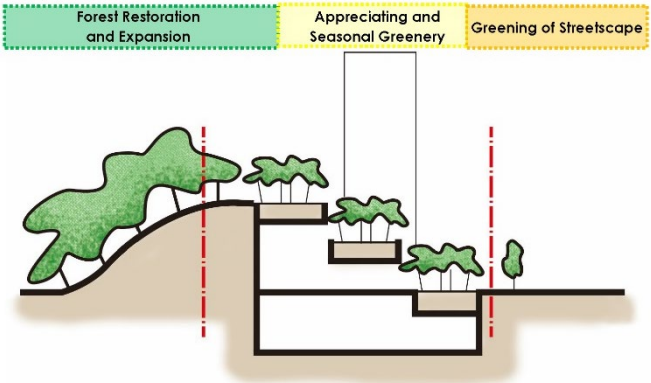


Fins controlling wind and light

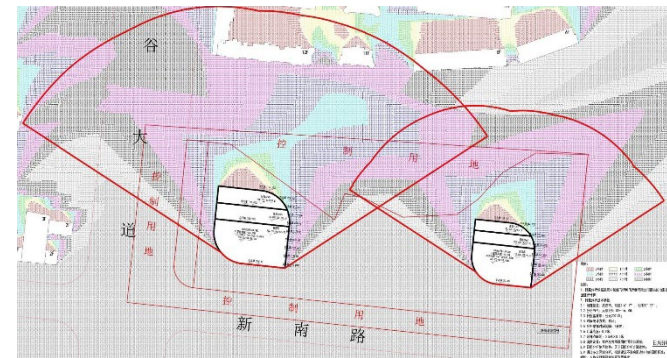
By utilising wind, water, light and heat at various scales around the green hill, an environmental device to control the urban heat island is realised throughout the plan.



Environmentally Friendly Park to Decrease Urban Heat Islands by Utilising Wind, Water, Greenery, Light and Heat at Various Scales



Section showing planting strategy



Sunshine Condition Analysis

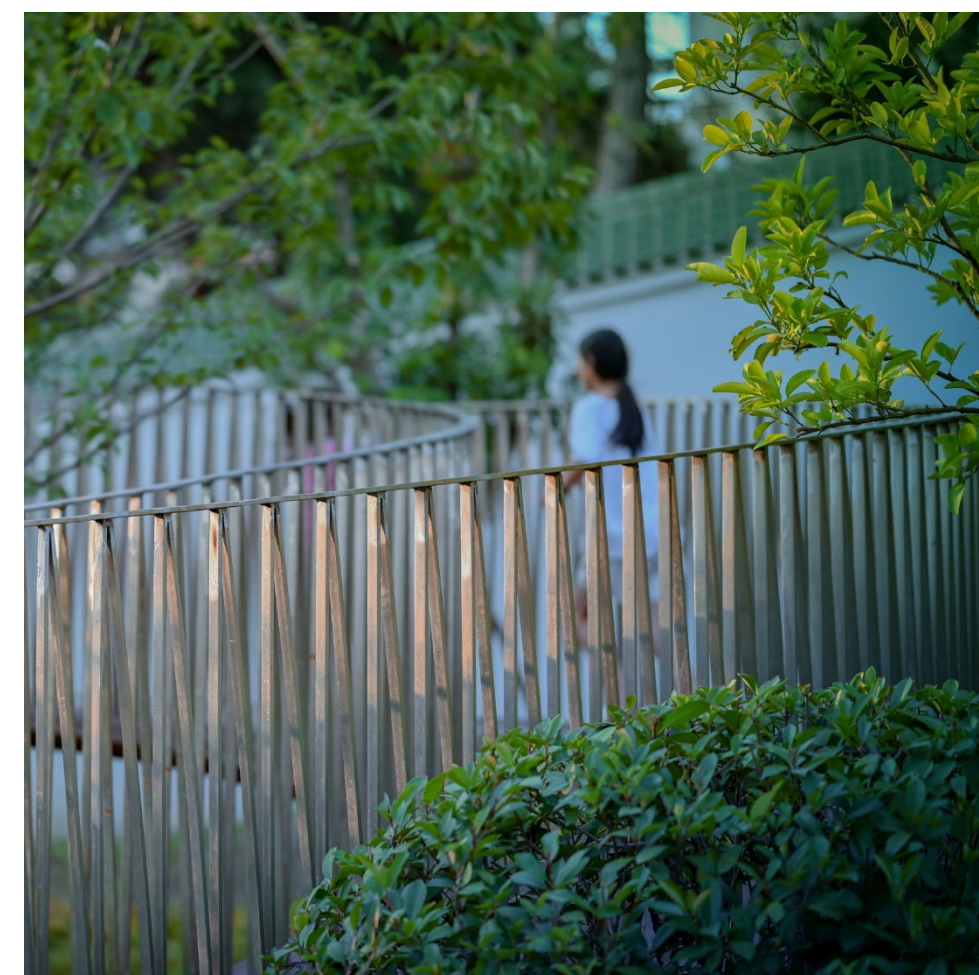
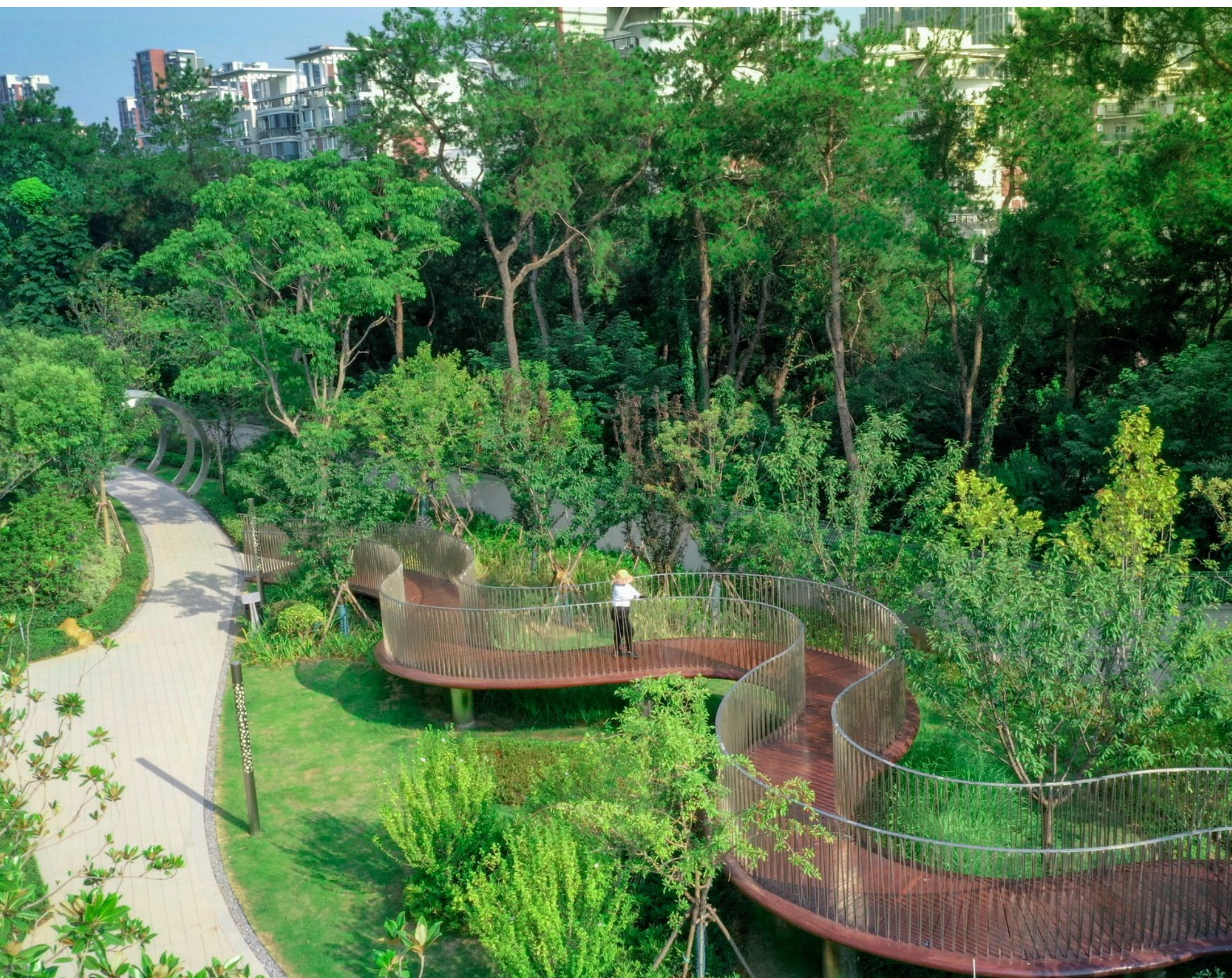


Evergreen			Deciduous		
桂花	Osmanthus fragrans	モクセイ	红枫	Acer palmatum 'Atropurpureum'	イロハモミジ
杨梅	Myrica rubra	ヤマモモ	金边黄杨	Koeleruteria bipinnata Franchet	オオモクケツジ
广玉兰	Magnolia Grandiflora Linn	タイサンボク	银杏	Ginkgo biloba	イチョウ
石楠	Photinia serrulata Lindl.	オオカナメモチ	乌桕	Sapium sebiferum	ナンキンハゼ
杜英	Elaeocarpus decipiens Hemsl	ホルトノキ	榉树	Zelkova serrata (Thunb.) Makino	ケヤキ
红果冬青	Ilex purpurea Hassk	ナナミノキ	金枝槐	Sophora japonica cv. Golden Stem	エンジュ
乐昌含笑	Michelia chapensis Dandy	オガタマノキ	多头朴树	Celtis sinensis	エノキ
山茶	Camellia japonica	ツバキ			
黑松	Pinus thunbergii Parl	クロマツ			
崖柏	Cinnamomum camphora	クスノキ			
			花石榴	Punica granatum 'nana'	ザクロ
			八棱海棠	Malus robusta Rehd	イヌリンゴ
			结香	Edgeworthia chrysantha	ミツマタ
			西府海棠	Malus micromalus	ミカイドウ
			樱花	Cerasus sp	リクラ
			紫叶李	Prunus Cerasifera Ehrhar f. atropurpurea	紅葉スモモ
			紫薇	Lagerstromia indica	サルスベリ

Planting Plans

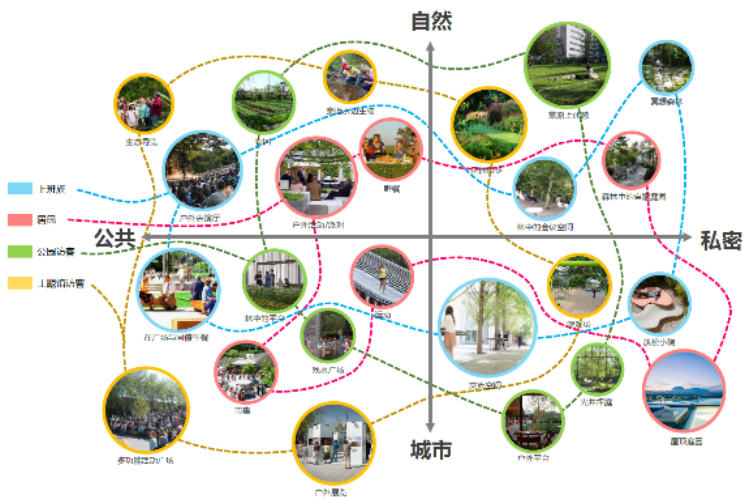
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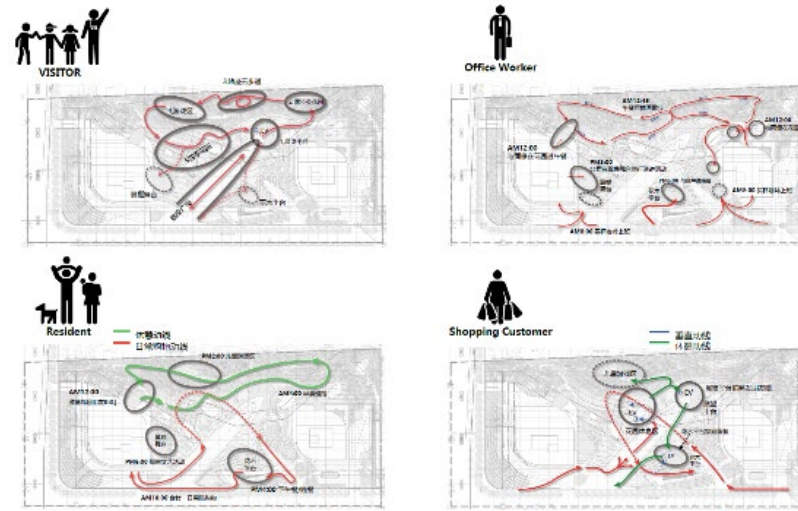




# Urban 'Community' Hill as Receptacle for Diverse Activities to Promote People's Communication



Hill linking diverse spaces and activities



Diverse sequences by different users



Various range of activities enhancing the community bonding under the blue sky



Seasonally changing activities



AVIC PARK is expected to contribute to the promotion of an urban community that symbolises a new urban image and lifestyle in the fast-developing Guanggu District.



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