

《Research on Outdoor Landscape Design of Urban Elderly Care Centers under the Concept of Wellness》

Master's Graduation Project

Name: 赵御名 (Zhao Yuming) English name: Justin Student ticket: S24101357079

Full name of the supervisor: Світлана Кривуц

LET' S START

Kharkiv State Academy of Design and
Arts/Changzhou University

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Research Background And Technical Route

研究背景及技术路线

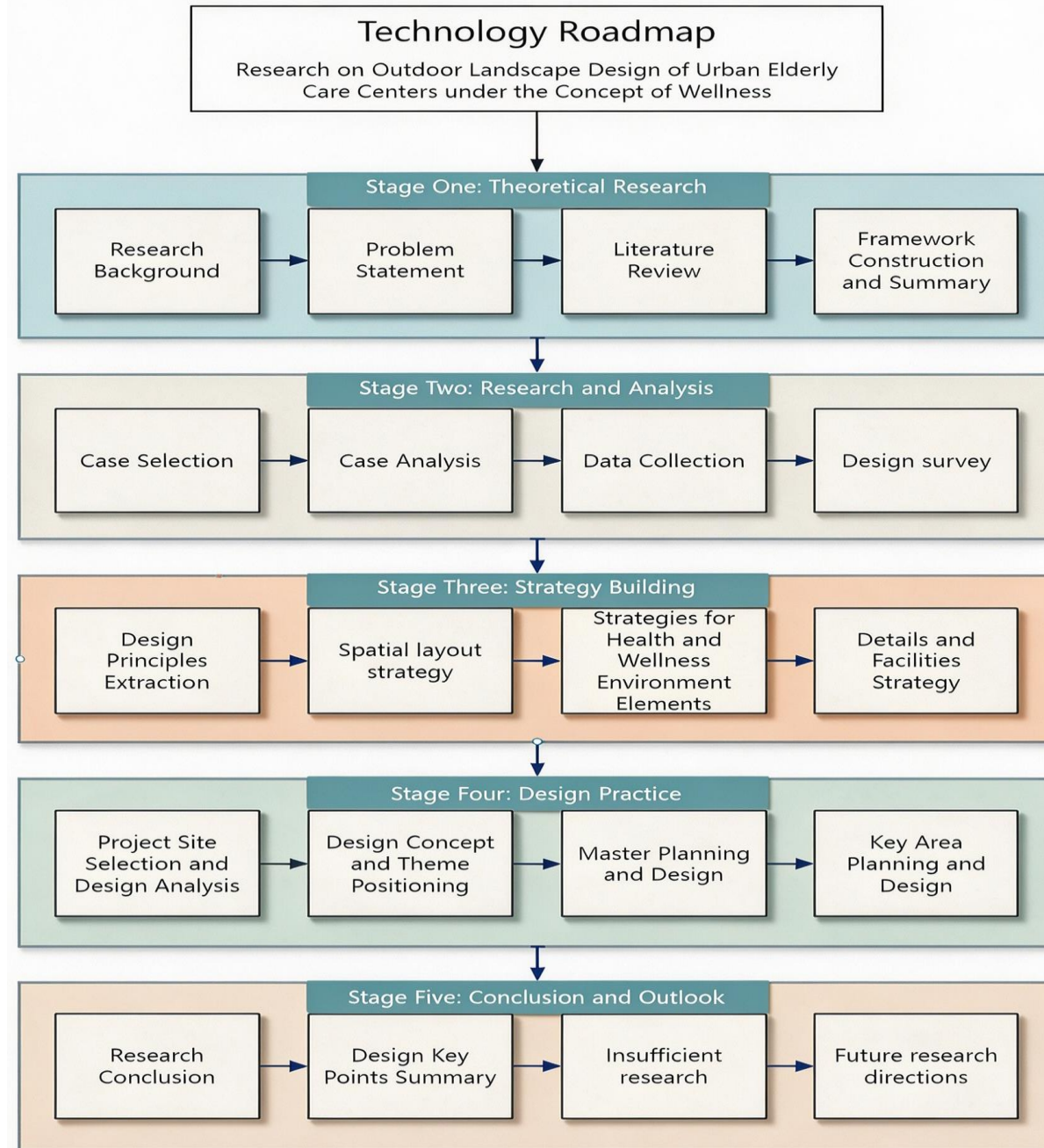
PART.01

Research Background



With the continuous deepening of population aging globally and in China, the pressure on urban elderly care services is increasing significantly, making senior care centers the core venues for elderly health maintenance and leisure activities. As a vital component of these centers, outdoor landscapes directly impact the physical and mental well-being, daily activities, and quality of life of seniors, serving as key spaces for social outings, rehabilitation exercises, and emotional relaxation. Currently, most landscape designs for urban senior care centers overlook the specific physiological and psychological needs of the elderly, exhibiting issues such as limited functionality, insufficient age-appropriateness, and a lack of health-promoting features, thereby failing to meet the demands of modern elderly care development. Therefore, conducting research on outdoor landscape design for urban senior care centers with a wellness-oriented approach holds significant practical importance.

Technical Route



Existing Design Cases

现有设计案例

PART.02



Introduction

Taikang Community Ouyuan is situated along the banks of the Sanyang Wetland in the Ouhai District of Wenzhou City, Zhejiang Province. To the north lies the Sanyang Wetland Ecological Park – a 10.67-square-kilometer urban "green lung" – while to the south it is adjacent to the Wenzhou University Town; moreover, it is separated from the First Affiliated Hospital of Wenzhou Medical University by merely one street, creating an exceptional location that combines premium medical and educational resources with outstanding ecological landscapes. The project encompasses a total construction area of approximately 80,000 square meters; its design phase commenced in the spring of 2020, and the project officially opened for operation in October 2024, capable of accommodating around 1,000 households.

As one of the high-quality senior care communities part of the Taikang Insurance Group's nationwide portfolio, Ouyuan is positioned as an innovative elderly care community that integrates healthcare services with human-centered ecological design. In 2025, thanks to its exceptional architectural design and age-friendly spatial planning, Ouyuan was awarded the Excellence Award in the Healthcare category at the German Iconic Architecture Award and was shortlisted as a Finalist in two categories at the World Architecture Festival: "Completed Buildings – Municipal and Community" and "Completed Buildings – Health," establishing itself as a benchmark case in international elderly care community design.

The core philosophy behind the design of Ouyuan lies in the deep exploration and reinterpretation of Wenzhou's local culture. Drawing inspiration from the regional cultural symbol "Oujiang Fishing Boats," the design team established an overarching visual motif of the "Water Town Ark." This cultural interpretation is manifested in the architectural form as a "repeatedly layered arched boat canopy motif." The community's central building – the "Bailing Home" Longevity Living Room – features an arched structure that outlines a silhouette reminiscent of an ancient black-canopied boat, making it a prominent visual landmark throughout the entire complex. The design team transformed Zhou Zuoren's literary depiction of the "Black Canoe" into architectural language—through a combination of semicircular arcades, translucent "Mingwa" -style glass roofs, and a well-arranged sequence of arches—creating a tangible and perceptible memory of the water town.



01 Domestic Case

Taikang Community · Ouyuan

Locate
and
Picture



Introduction

The Allegheny Valley Hospital Healing Garden is located in Harrison, Pennsylvania, adjacent to the hospital's main entrance along Carlisle Avenue, covering an area of approximately 5,000 square feet (about 465 square meters). The project was completed and opened in the spring of 2025, funded by donors including the Allegheny-Kissick Medical Center Trust Fund and the Shawb Family; the construction period was approximately three months.

Unlike Ouyuan, which is a large-scale senior living community, this Healing Garden is classified as an "Hospital-Associated Rehabilitation Garden," serving inpatients, outpatients, healthcare professionals, and residents of the surrounding community. Jeff Carlson, the hospital's Chief Operating Officer, noted that this space is designed to allow people to "take a temporary break, connect with nature, and maintain robust mental health." This "open-to-all" approach reflects the evolving trend in rehabilitation landscaping—from being "dedicated solely to patients" to becoming "shared by the entire community."

The design of the Healing Garden adheres to the core principles of Ulrich's Stress Reduction Theory and Kaplan's Attention Restoration Theory. Although the space is small (less than 500 square meters), it features clear functional zoning and a rich sensory experience.

In terms of spatial layout, the garden is divided into the following zones: First, the Entrance Pavilion Area (Pergola), which serves as the garden's visual focal point and entrance landmark, while also providing a shaded and sheltered resting space; Second, the Central Pedestrian Loop, featuring paved surfaces suitable for wheelchair access, forming a circular walkway approximately 100 meters in length, designed to facilitate progressive walking training for patients in the rehabilitation phase; Third, multiple seating areas distributed under trees, beside flower beds, and within the pavilions, catering to various needs such as solitary reflection; Fourth, commemorative features, including a flagpole and a memorial plaque, honoring the contributions of Dr. David Shob, who has served at the hospital for many years.

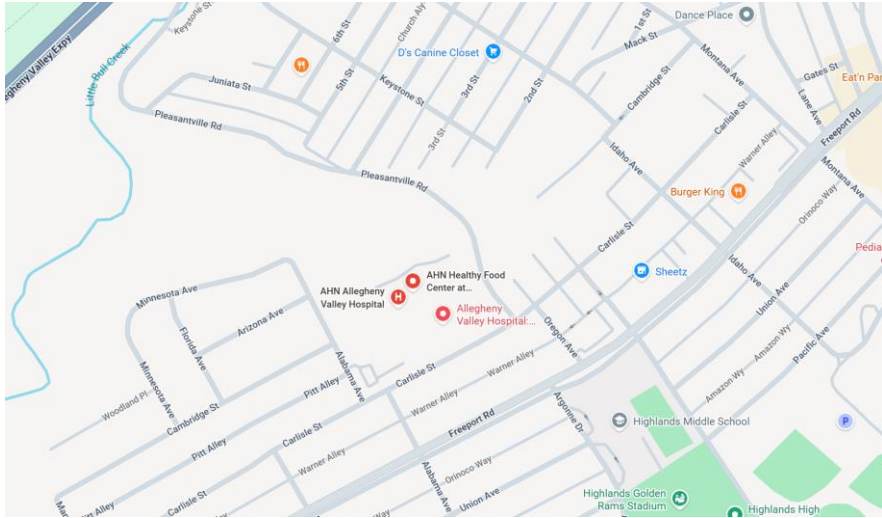
The plant selection reflects the design intent of "sensory stimulation" and "year-round visual appeal." The garden features extensive lily beds, which are expected to create a vibrant floral landscape during the summer; these are complemented by perennial herbaceous plants, establishing a stable plant community structure. Rosmarie Musolin, Vice Chair of the Hospital's Auxiliary Volunteers, remarked in an interview: "Here, vast stretches of lilies will bloom, providing everyone with a place to sit down, enjoy a cup of coffee, and relax their minds and bodies."



02 Overseas Case

Allegheny Valley Hospital Healing Garden

Locate
and
Picture



View of the Project

项目概览与介绍

PART.03



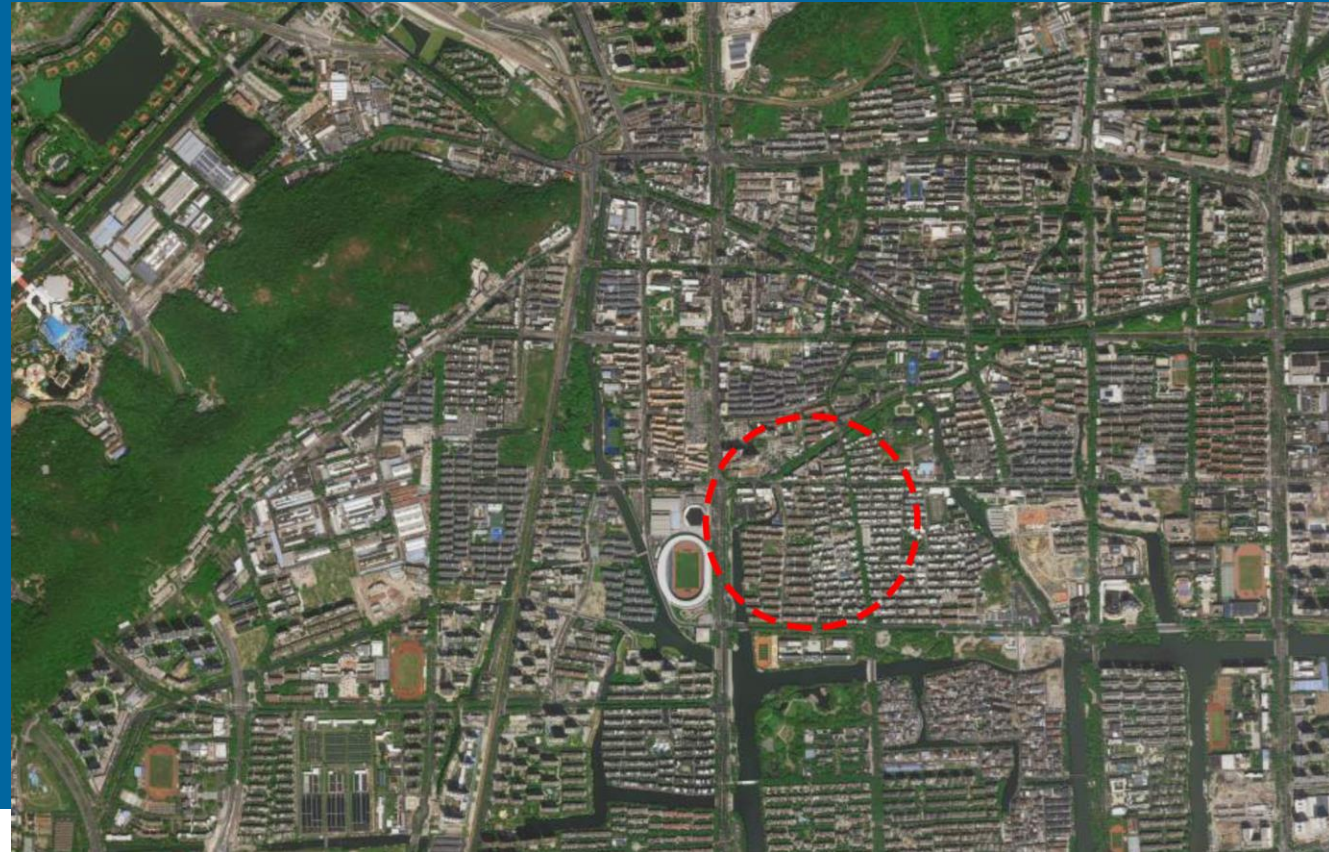
Site Selection of Virtual Plot



Yangtze River Delta Basin, Hangzhou



Southeast Urban Area Plot



Surrounding environment

The site is situated on the alluvial plain of the Yangtze River Delta, featuring generally gentle terrain with natural elevations ranging from 4.2 meters to 6.8 meters above sea level – representing a slight slope where the northwest is slightly higher than the southeast. This mild topography provides a natural advantage for implementing barrier-free design, enabling the horizontal alignment and accessibility of all garden pathways without the need for large-scale earthwork adjustments. The site retains a small number of low-rise industrial buildings and hardened ground surfaces; the soil conditions are favorable, with a surface soil thickness of approximately 80–120 cm, making it ideal for the growth of garden plants.



Climatic conditions

Regarding climatic conditions, the project site is located within the East Asian monsoon climate zone, characterized by distinct seasons and a pattern where rainfall coincides with high temperatures. The annual average temperature is approximately 15.5°C; the average winter temperature ranges from 3°C to 8°C, with extreme low temperatures reaching around -5°C; the average summer temperature ranges from 26°C to 30°C. Annual precipitation amounts to approximately 1,100–1,300 mm, with the majority of this rainfall occurring during the Meiyu season (June–July), accounting for about 30% of the annual total; this makes high-quality sheltered facilities for outdoor activities particularly necessary. The dominant winter wind direction is from the northwest, while the dominant summer wind direction is from the southeast; the average annual wind speed is approximately 3.2 m/s. Relative humidity is high, with an average annual value of about 78%. Overall, the climatic conditions in this region are quite suitable for elderly residents – there is no severe cold in winter nor extreme heat in summer, and the annual average number of sunshine hours is approximately 1,950, providing an ideal natural foundation for conducting outdoor activities throughout all four seasons.





Site Selection of Virtual Plot



This project is designed as a virtual plot; the yellow area depicted in the image illustrates a relatively suitable site location.

The project is situated in the suburban area of a renowned historical and cultural city within the Yangtze River Delta basin in China, specifically on a polygonal plot located to the southeast of the city's main urban area. This plot is bordered by a major urban arterial road to the west and is adjacent to a landscape watercourse approximately 30 meters wide; its southern and northern sides are designated as planned urban ecological green corridors. The site selection adheres to the principle of "being close to the city without being fully integrated into it" —thereby avoiding the issues associated with constrained land use and noise pollution that often accompany full incorporation into high-density old urban areas, while maintaining convenient access to the city's core medical resources (a Class III Grade A hospital is approximately a 15-minute drive away) and transportation hubs (the subway station is within walking distance).





The cultural and human environment surrounding the virtual plot

Regarding the surrounding environment, the site is located within an emerging urban residential area; within a radius of two kilometers, there are several newly developed residential complexes, one secondary general hospital, two community health service centers, and one senior citizens' university. The proportion of the elderly population within this area—approximately 22% of the total resident population—is higher than the citywide average. The planned urban ecological green corridor, situated to the north and west of the site, is currently under construction; in the future, it will connect multiple community parks to form a continuous green slow-traffic system, providing a spatial interface for the integration of this project with the surrounding communities.

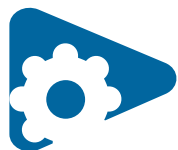


Sketch and Design Rendering

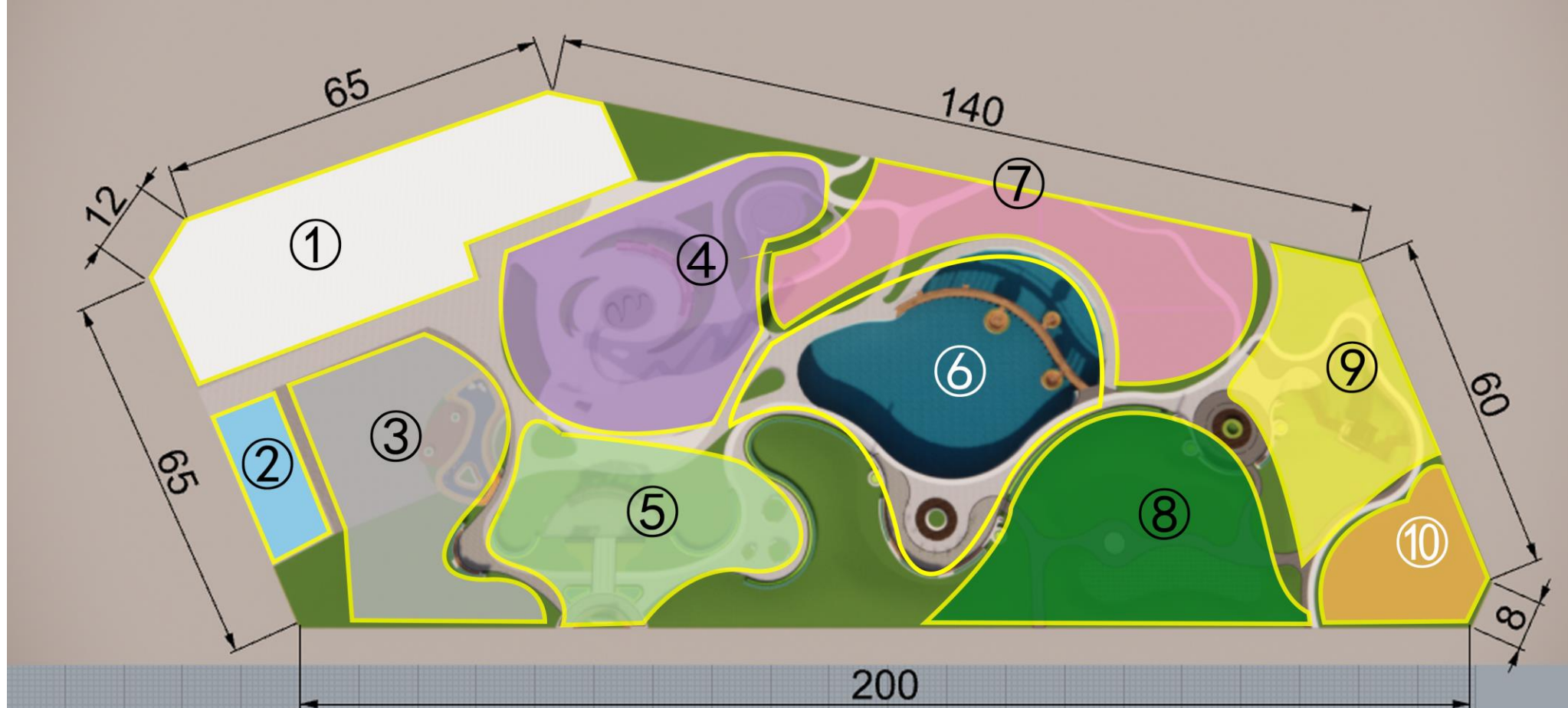
设计草图与设计渲染

PART.04

Concept Reference Images



 Sketch



regional plan—— Unit: Meter

- ①Senior Housing Apartments and Health Service Centers ②Parking Lot and Security Guard
③Senior Fitness and Exercise Plaza ④Senior Leisure Plaza and Entertainment Center
⑤Social and Leisure Area for Seniors ⑥Binhu Recreation Area
⑦The Five Senses Healing Garden Area ⑧Silent, Restorative and Healing Area
⑨Senior Citizens' Walking and Heightening Experience Area ⑩Plantation land

Sketch:Site Plan





Rendering: Master Bird's-Eye View



Entrance:

Adjacent to the left side of the entrance is the main building; on the right side is the parking lot.

The main entrance serves as the starting point for the distribution system and performs distribution functions.



Entrance:

Parking Lot
View 1



Entrance:

Parking Lot
View 2



Senior Citizens' Leisure Plaza and Cultural and Recreational Center:

seniors can admire a small landscape waterfall and pond, chat over an outdoor stone table, play chess, or read, savor tea, and engage in conversation from a seat along the glass corridor. This area is also adjacent to another social space; in the lower section of this social area, seniors can chat or enjoy the view from the seating area.



Senior
Citizens'
Leisure Plaza
and Cultural
and
Recreational
Center:

View 2



Senior
Citizens'
Leisure Plaza
and Cultural
and
Recreational
Center:

View 4



Senior Citizens' Fitness Plaza

The facilities in this area will provide elderly-friendly fitness equipment as well as flat, spacious plots of land designated as activity zones for seniors; they will also offer activity spaces suitable for China's social context—such as those required for activities like square dancing, social dancing, Tai Chi, or Baduanjin—and will include seating areas for rest.



Senior Citizens' Fitness Plaza

View 2



Lake Shore Recreation Area:

In this area, elderly residents can take a leisurely stroll around the lake, enjoying the rejuvenating atmosphere and ambiance created by the water; they can also observe the fish or simply admire the water, ensuring that their time spent relaxing is never monotonous or dull.



Lake Shore Recreation Area

View 2



Social and Leisure Area for Seniors:

This area serves as a secondary leisure zone extending outward from the central district, comprising a network of trails of varying lengths and various leisure facilities.



Social and Leisure Area for Seniors:

View 2



Social and Leisure Area for Seniors:

View 3



Five Senses Healing Garden:

In this garden, elderly visitors can experience the vibrant colors of various plants and the gentle fragrance of nature, listen to the sounds of flowing water and rustling wind, enjoy the tactile pleasure of picking flowers, and benefit from an open layout combined with winding paths that extend their overall experience.



Social and Leisure Area for Seniors:

View 2



Social and Leisure Area for Seniors:

View 3



Quiet Recovery and Healing Zone

This area is encircled by dense yet breathable bamboo, creating a sense of privacy and tranquility. It also features a shallow fish pond, with small waterfalls installed along its edges to introduce dynamic water elements, thereby fostering an overall atmosphere of comfort and serenity. In this space, elderly residents can enjoy a relatively independent and private environment.



Quiet Recovery and Healing Zone

View 2



Quiet
Recovery and
Healing Zone

View 3



Strolling through the elevated area

In this area,
elderly residents
may engage in
light uphill
activities; atop a
small mound
stands a quaint
pavilion where
they can
socialize, rest, sip
tea, and engage
in casual
conversation.



Strolling
through the
elevated area

View 2



Strolling
through the
elevated area

View 3



Orchard
picking area:
This area is
planted with fruit
trees that bear
fruit three times a
year, allowing
elderly residents
to visit the
orchard to pick
fruit for most of
the year.



Gardening Experience Zone:

In this area, elderly individuals can select suitable gardening plots based on their individual circumstances to engage in gardening activities, thereby enriching their lives and enhancing their physical and mental well-being.





I would appreciate it if Professor could provide
constructive feedback and corrections.

Thank you for your time.

Name: 赵御名 (Zhao Yuming) English name: Justin Student ticket: S24101357079

Full name of the supervisor: Світлана Кривуц



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