



LANDSCAPE DESIGN OF FUTURE CITY COMMUNITY PUBLIC SPACE
IN TIANJIN POST-COVID-19



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THE MASTER'S PROJECT TITLED

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BY

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HAS BEEN APPROVED BY THE GRADUATE SCHOOL IN PARTIAL FULFILLMENT

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The new crown epidemic in 2020 has had a profound impact on the world and changed people's way of life. In China, under the normalization of the epidemic, people's demand for community shared space has changed. This study aims to explore people's new needs for residential landscapes in the post-epidemic era, and takes the 8A community of Tianjin Future City as a case study. The study will analyze the impact of the epidemic on residents, design a shared space landscape plan that meets the needs of the post-epidemic era, and provide reference for relevant practitioners. The epidemic has made community residents pay more attention to personal safety and health, and have higher requirements for comprehensive activity venues, the needs of the elderly and children, natural landscapes and social needs. This may be the result of the epidemic and the improvement of living standards, showing that they want to improve their living environment and jointly create a better quality of life.

Keyword : Covid 19, Shared space landscape design, Community residents

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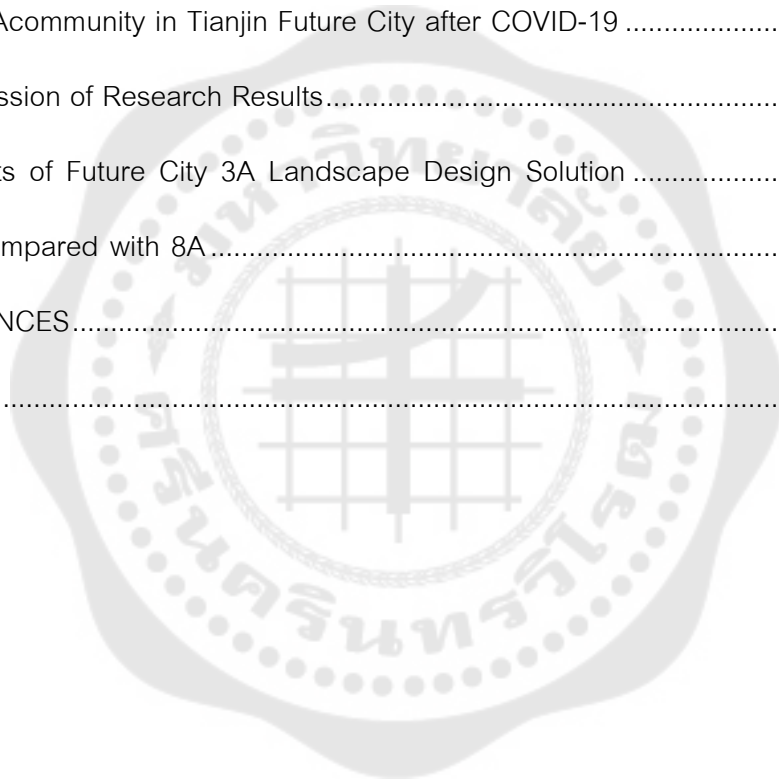
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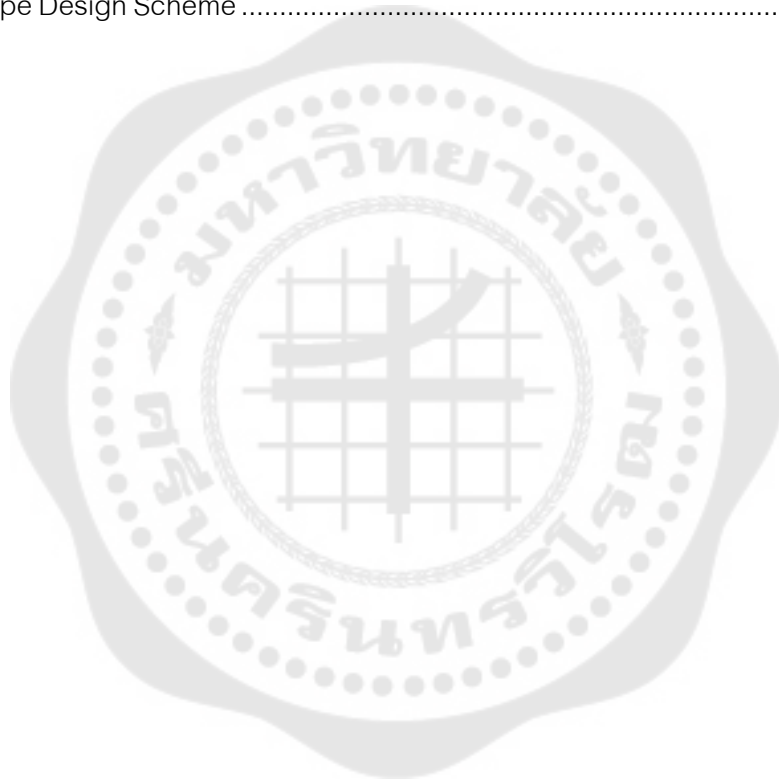
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CHAPTER 1 INTRODUCTION

Background

December 7, 2020 According to foreign media reports, on the 5th local time, Time magazine shared the cover of a new issue of the magazine on social media, calling 2020 "the worst year in history" (China News Network, 2020).



Figure 1 the December 2020 cover of Time magazine

Source: from the Internet (https://world.gmw.cn/2020_12/07/content_34435666.htm)

Economist Thomas Friedman has a new commentary in The New York Times, intriguingly titled "A New Historical Dividing Line: The Pre-Covid Era and the Post-Covid Era." Friedman said the title was meant to say that there is nothing more important right now than the pandemic. We have entered the post-COVID-19 era (Shao, n.d.).

In China, since the announcement of the epidemic notice on January 22, 2020, residents have responded to the national call for epidemic prevention and actively fought against the epidemic. Under the normal situation of the epidemic, people have spent more time at home than before 2020. The social order and lifestyle that people have been accustomed to for a long time have been broken during the pandemic, and the role of "home" has been constantly strengthened. After the normal control of the epidemic, people's main activity areas are indoor homes and outdoor community public landscape space. The "healthy" and "secure" living environment needs of community public areas are the two topics that everyone cares most about.

In The Pre-Covid Era, community landscape was mainly used as a selling point, focusing on material selection and rare tree species, standardized functional space, a main landscape axis, and several named activity venues. Residents' daily activities are not restricted like those after the epidemic control. They go to work on weekdays, go shopping, go for picnic or take short vacations on weekends. They do not share the space in their residential communities, and they do not pay much attention to and require the shared space. Therefore, the community shared space landscape in the pre-epidemic era mainly existed for sales and viewing.

In the post-epidemic era, due to epidemic control, people have been staying at home for a longer time, and travel in the same city has sometimes been affected, so the community shared landscape space has become the home of people's outdoor activities, which is also the closest place to nature. People have to carry out a variety of activities in this space, such as fitness, socializing, accompanying children, walking pets, resting, and even entertainment, but the previous community shared space cannot meet people's needs for landscape in the post-epidemic era.

Tianjin epidemic

In line with the guidelines for epidemic prevention and control in Tianjin (Chen, 2022), individuals are allowed access to different business establishments in Tianjin if they possess a valid negative nucleic acid test result and possess a "green code" on their Tianjin health code. Regarding incoming individuals, a protocol of "7-day centralized isolation medical observation followed by 3-day home health monitoring" is enforced.

On February 18, 2020, the World Health Organization (WHO) officially declared Covid-19 a notifiable infectious disease, and a sudden new crown pneumonia epidemic disrupted the normal life order of the residents of Future City 8A. In the face of the normalization of the epidemic, words such as "routine nucleic acid testing twice a week", "local lockdown", "home observation", "travel restrictions" and "social distance" have been translated into people's practical actions.

Since the outbreak of the epidemic, the residents of Future City 8A have been accustomed to regular nucleic acid testing under the normal situation of the epidemic and the home life that may be closed at home at any time, and their demand for their homes has been amplified, and their desire for an ecological, safe, and well-informed living environment is stronger than ever. In this situation, more and more elements of life and emotional needs, functional balance, and the relationship between man and nature are beginning to be redefined (Liu, 2020).

In the pre-epidemic era, residents went to work early and went to work late on weekdays, went out to visit relatives and friends on weekends, had dinner parties, went shopping, went to parks, went to playgrounds and took remedial classes, and basically stopped activities in the open space of their own residential areas. Therefore, based on the design of the basic functional site under the planning conditions, the community sharing space can meet the needs of daily short time activities and communication. However, in the post-epidemic era, it has become extremely inconvenient to travel in different places, and activities within the same city will sometimes be stopped in a short time due to the epidemic. The time spent in the

community becomes very long, and weekends and holidays are mostly spent in the community. Therefore, the landscape design style of community shared space that meets the needs of the above residents has become a new way for us to think and explore.

Based on the above reasons, this paper mainly studies the new needs of residential landscape under the normalization of coexistence between people and Covid-19 new coronavirus pneumonia (hereinafter referred to as Covid-19), and takes the shared space of Tianjin Future City occupied project 8A as the research object, and analyzes and designs the shared space landscape scheme of Tianjin Future City 3A residential project in the post-epidemic era by analyzing the before and after differences for the reference of relevant practitioners.

Location and planning of Future City 8A

Figure 2, Figure 3, and Figure 4 are the background introduction of Tianjin Future City 8A Project, among which Figure 2 and Figure 3 are the geographical location introduction of 8A, and Figure 4 is the current situation of the 8A project. The range shown in Figure 2 and Figure 4 is the entire development range of Future City, and this study only selects one of the residential projects 8A.

Table 1 is the planning indicators of the red 8A projects shown in Figure 3

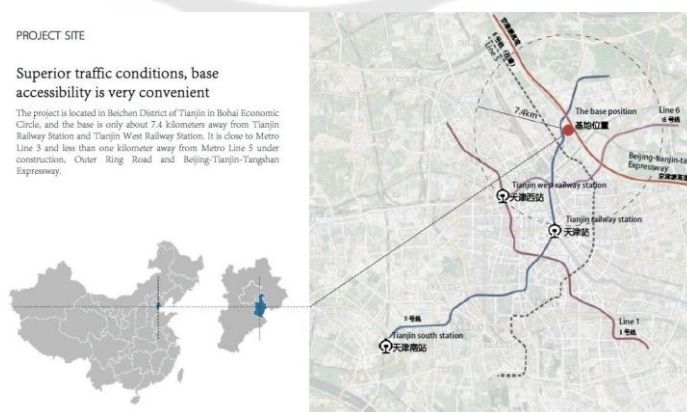


Figure 2 Geographical location of the Future City 8A project in China and within the city limits, from the report document of the Future City 8A project



Figure 3 The geographical location of the Future City 8A project in the Future City development area



Figure 4 A brief introduction of the surrounding businesses of Future City 8A Project

Table 1 The planning indicators of Future City 8A project

Site name	Total area of used land m ²	Construction land area m ²	Aboveground capacity building area m ²	Plot ratio	Ratio of green space	Density of building	Nature of Planned Land
Future City 8A	112046.7	95531.3	200615.7	2.1	40%	30%	Residential land

Objectives of the Study

Research Objective 1. Based on the community needs after the normalization of the epidemic, find solutions for the residential landscape design of Tianjin Future City under the impact of Covid-19.

Research Objective 2. Landscape creation and design of 3A community shared space in Tianjin Future City after the COVID-19 epidemic

Conceptual framework

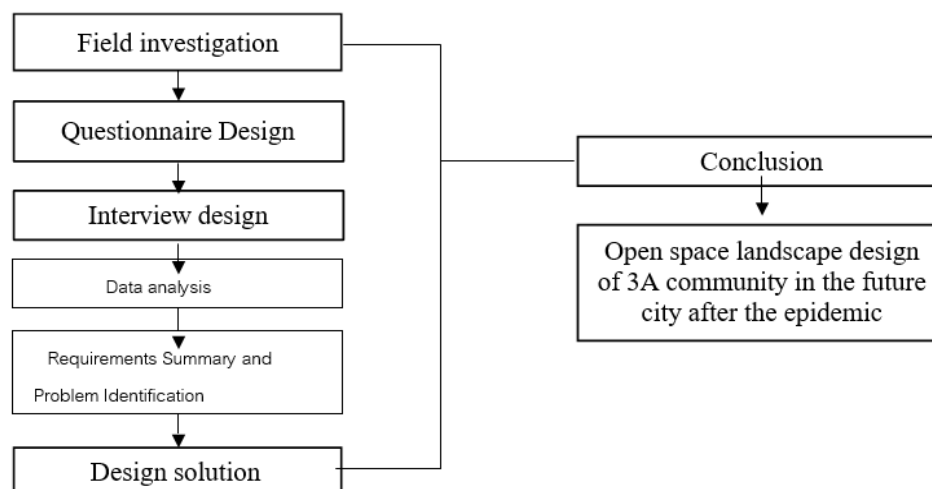


Figure 5 Research Framework

Definition of terms

Community: The community referred to in this study is the Future City 8A project in Beichen District, Tianjin, China

Landscape design: The landscape design referred to in this study refers to the landscape defined in real estate.



CHAPTER 2

REVIEW OF THE LITERATURE

American landscape architect Frederick Law Olmsted, a pioneer of modern landscape development, designed the famous Central Park in New York. As an open public space in the city, Central Park creates a place for local people to relax and communicate. Not only is it notable for being the first park in the United States, but it also holds significance in giving birth to a new field of study and practice called Landscape Architecture during its planning and construction.

Advocates of landscape science hold the belief that public spaces have the potential to serve as a platform for fostering a harmonious relationship between humans and nature. They argue that such spaces can contribute positively to the promotion of physical and mental well-being of individuals, as well as facilitate communication and interaction between humans and the natural environment.

The rapid development of cities has led to a series of social and environmental problems. In the pre-epidemic era, scholars have done a lot of research on the landscape of residential open space and achieved relatively perfect results. However, how to combine the residential open space landscape with the new needs of people in the post-pandemic era is still in the exploration stage. In China, the development cycle of a residential project from land acquisition to occupancy delivery is basically three years, so it will take a long time from design to landing, and then to feedback whether the design concept is effectively combined. This chapter mainly focuses on the keywords of residential open space, residential landscape, the impact of COVID-19 on residential landscape design and landscape case sharing, and conducts a literature review.

The utilization of open space landscapes can serve as a medium to foster a balanced connection between humanity and the natural world. Additionally, they have the potential to positively contribute to the enhancement of both physical and mental well-being in individuals, as well as facilitate meaningful communication and interaction between humans and the natural environment.

The theory of public open space

The profound essence of the public space environment extends beyond its geographical aspect. It primarily encompasses the individuals who inhabit the space and the extensive involvement, communication, and interaction that take place within it. These activities encompass a wide range, from spontaneous cultural and leisure pursuits in people's everyday lives to the work dynamics of the general public. Additionally, it encompasses significant gatherings and events that occur at various scales, involving participants from diverse backgrounds, from grassroots initiatives to organized top-down assemblies (Zhao, 2019). The space environment is a necessary place for people's survival, carrying the development of human society, accompanying the trajectory of social civilization, and witnessing material and spiritual progress. Nature's sunshine, sky, soil, ocean, rivers, trees, flowers, air, and rocks constitute the natural environment that people admire. Now, people take the ecological environment, ecological architecture, and ecological architectural interior space as the mainstream design concept, which stimulates the infinite vitality of designers to create space themes. Regardless of people's perceptions, nature has a direct impact on the world, and it is an unquestionable fact that nature is closely related to design in today's design field (Zhao, 2019).

How to make better use of this promotion, Whyte (2020) argues that the visuals of open space may be the most important, but most open space planning rarely considers how people (on the ground or in cars) perceive it. For this reason, open space acquisitions and zoning need to be combined with a landscape treatment approach. If we are going to design areas, at least follow good design principles. The important design is not a macro view of the land use map, which is what planners should be aware of. Most people don't see this area that way. Planners should see the area in the same light as people walking or driving. In this way, the issue of scale becomes more subtle. Seemingly insignificant spaces on a map can become large in a person's experience. Similarly, some large spaces on the map may actually be insignificant, because few people have ever used them or seen them (Whyte, 2020).

In addition to the visual effect of space, the "emotional" meaning of space is a topic that must be faced. Emotions and the ability to generate emotions are innate to everyone, it is after people and everything in the world intimate contact, the production of the understanding and views of the material world, love and dislike, opinions and suggestions, these spiritual reflection of the material in people's hearts naturally arise, that is, emotions. However, the expression of emotions is an ability. The world's eight major art categories—literature, painting, music, dance, sculpture, drama, architecture, and film—are all forms of expression of emotions, and each of these art forms has its own unique methods and forms of expression, translating abstract and invisible emotions into concrete material forms. Space design as an art form is certainly listed among them. (Fu et al., 2021)

Public space is not only a geographical concept, but more importantly, people's participation, communication, and interaction. The visual effects and emotional significance of open spaces are important aspects of design considerations. The planning of open spaces needs to combine landscape treatment methods, take people's experiences as the starting point, and focus on emotions and emotional expression abilities in order to better meet the needs of the community.

Theories related to residential landscapes

In 2020, despite the strong impact of the epidemic, China's real estate market showed strong resilience. At the end of the year, all indicators recovered to a good level, and some indicators even exceeded the pre-epidemic level. With the successive introduction of relevant policies and measures, the transformation of old communities and urban renewal have become hot spots in the real estate industry. Under the influence of the new crown pneumonia epidemic and the intensification of uncertainty in the macroeconomic environment, urban agglomerations and metropolitan areas will usher in new development. (National Future City Laboratory, Chinese Academy of Social Sciences; China Society of Real Estate Appraisers and Real Estate Agents, ed., 2021, p.7) It can be seen that the epidemic has not affected the development of the city, and

real estate is still active, which has also brought opportunities and conditions for the new development of residential open space landscape design in the post-epidemic era.

Landscape is a captivating and complex concept that proves challenging to define both in Western and Chinese contexts. Geographers view landscape as a scientific term, encompassing surface features or comprehensive physical geographic areas. It is also used as a general term for specific types of surface landscapes, such as urban, grassland, or forest landscapes. Artists perceive landscape as subjects of artistic expression and reproduction, equivalent to the physical scenery. Architects consider landscape as a complement or backdrop to architectural structures. Ecologists define landscapes as ecosystems or collections of ecosystems. Tourism experts treat landscapes as valuable resources. In urban contexts, landscapes are often associated with beautification efforts, involving elements like streetscape facades, neon signs, landscaping, sketches, and fountains. A broader and more literary definition refers to landscapes as scenes that can be captured in a single picture and observed in their entirety from a specific viewpoint, especially natural scenes (Thompson, 2021). In the context of this research, the term "open space landscape" refers to the landscape defined in the realm of real estate. Landscape design, in this context, involves a scientific and artistic approach to analyzing land use and outdoor spaces, developing solutions to specific problems, and overseeing the implementation of the designed solutions (Thompson, 2021).

China's landscape design has made great progress in the past two decades, especially the country's vision of ecological civilization and the construction of a beautiful China in the past decade. Nature-based design ecology and "sponge city" theories are the foundation of contemporary residential open space landscape design (Thompson, 2021). In the middle of the period, "Sponge City" will design a special sponge article at the land planning stage, which will be reviewed by professional departments to make it in line with the science of landscape ecology. This is consistent with Ian McHarg's "landscape suitability analysis," sometimes called "sieve mapping" technique.

The science of landscape ecology allows landscape architects today to advise on a development project not only to a solution for human aesthetics and convenience, but also to consider the impact on habitats and ecosystems (Thompson, 2021). In this way, the project can sustainably serve the residents living in the middle of the period. When it comes to landscape architects wanting to serve humanity – it's hard to imagine a project that doesn't involve this to some extent – that requires the ability to empathize. Design must consider not only the people imagined in your mind, but also real people. In other words, take a collaborative or participatory approach (Thompson, 2021).

In 2020, the Chinese real estate market showed resilience, with the renovation of old residential areas and urban renewal becoming hot topics. Under the epidemic situation and the uncertainty of the macroeconomic environment, urban agglomeration and metropolitan area will usher in new development (Zhao & Wang, 2021). This has brought opportunities and conditions for the landscape design of residential open spaces in the post pandemic era. Landscape design is the scientific and artistic analysis and solution of land and human outdoor space problems, while supervising the implementation of the design. The design ecology based on nature and the "sponge city" theory are the foundation of contemporary residential open space landscape design. Landscape designers need to consider the impact on habitats and ecosystems in order to sustainably serve the residents living in them. Landscape design serves people and is a multidisciplinary science that integrates nature, ecology, and other disciplines. It requires scientific methods to solve problems and present them in artistic form.

The impact of the coronavirus pandemic on residential landscape design

Following the pandemic, the imperative for change extends beyond public health and healthcare systems. It encompasses knowledge, concepts, organizations, social actions, and ways of life. The virus looms over human society like the sword of Damocles, posing a tangible threat. While it may be deemed "evil" for humanity today, it may not necessarily be evil for nature or the future of both humanity and

nature. It is crucial to find a sustainable way to coexist with such a "malevolent" virus in the long run. Apart from hospitals and vaccines, there are more advanced approaches available, including new norms, ideas, and actions. Clearly, these advanced approaches necessitate social innovation (Li, 2020). Residential landscapes represent one such form of social innovation, as humans are subjective and dynamic beings. When faced with significant natural and social challenges, individuals exhibit diverse vitality and resilience (Li, 2020).

Since the outbreak of the epidemic, more than 20,000 pocket parks have been built across the country, and more than 1,600 wetland parks of various types. The relevant person in charge of the Department of Urban Construction of the Ministry of Housing and Urban-Rural Development introduced that in the next step, China will continue to build a well-distributed park system, allowing residents to go out of their homes to "see the green in 300 meters and the garden in 500 meters", and constantly improve the comprehensive functions of urban green space service for residents' leisure and recreation, sports and fitness, disaster prevention and risk avoidance (People's Daily, 2022).

Pocket parks are also called pocket parks, from the block scale, its scale may not be counted as "tiny", but on the urban scale, they are indeed some insignificant small spaces, but from the overall significance of the city, the renewal of these small spaces has an important and positive effect on the urban structure and quality of life.

Urban renewal is a continuous and lengthy process. While the renewal of certain small-scale plots within a city may appear to have limited investment and a narrow scope of influence, the enhancement of the living environment can be significant. Such an update is closer to the community life itself, often accompanied by the extensive participation of community residents, from the perspective of ordinary people, paying attention to the lives of ordinary people, more respecting the internal order and laws of urban development, and easier to maintain the sense of belonging and inherent characteristics of the neighborhood (Wang, 2019).

There is an interesting experiment on the design technique of pushing the window to see the green and going out to see the scene. According to a study by the Department of Landscape Architecture at the University of Illinois, high school students perform better in classrooms with green views than classrooms with no windows or architectural spaces. According to William Sullivan, the chair of the Department of Landscape Architecture, this study is groundbreaking as it is the first to establish a causal link between exposure to green landscapes and student achievement. The researchers believe that their findings have the potential to positively impact student well-being and enhance learning outcomes. Designers, planners, and policymakers can utilize this knowledge to make improvements. For instance, when planning new schools, they can choose locations that already have trees and vegetation or actively incorporate greenery into the school grounds. Architects can strategically position windows in classrooms, cafeterias, and corridors to provide views of green spaces. Additionally, adjusting school schedules to include short breaks can help students regain focus and recover from stressful tasks (ScienceDaily, 2016). There is an allusion in ancient China called "Three Years Without Peeping into the Garden", which tells the story of Dong Zhongshu in the Han Dynasty. Dong Zhongshu's study is next to the garden, but for three years in a row, he did not look at the garden, for fear of being distracted by the flowers and plants in the garden. However, Dong Zhongshu may have taken a detour, and a few more glances at the scenery may make him famous earlier and achieve greater achievements (Li, n.d.).

Psychologists at the University of Rochester asked the volunteers to sit down and watch a series of biophilic slides, and when the volunteers immersed themselves in it, the psychologists found that volunteers who watched the natural scenery treated others very differently from those who watched the city skyline. Natural viewers are more likely to say they value deep relationships with others, while urban viewers are more focused on extrinsic goals, such as making more money. The real test was that the researchers gave each volunteer student \$5, telling them that they could choose to share it with other students or keep it for themselves. The results are

striking: the more students who come into contact with nature, the more generous they are. These results are also continuously confirmed outside the laboratory. A study in Los Angeles showed that people living in more park areas were more willing to lend a hand and be more trustworthy, regardless of income or ethnicity. Nature is not only good for us, but also taps out our own "inner good" (Montgomery, 2020).

Much research has been done on the possible benefits of nature, showing that green spaces in cities should not be seen as an optional luxury, but as a necessity. If human beings want to live healthily, nature is an important part. It's key to be natural every day. If you can't see and touch nature, you can't enjoy the benefits of nature. Proximity to nature is important, even sporadic greenery can be helpful (Montgomery, 2020).

After the epidemic, in addition to hospitals and vaccines, society needs to explore more advanced ways to coexist with the virus for a long time. The residential landscape design is one of the social innovations. Through the construction of pocket park and urban green space, residents can go out of their homes to "see green within 300 meters and garden within 500 meters" to improve the quality of life. The design techniques of pushing windows to see green and going out to see the scenery can improve students' learning ability and sense of happiness. Meanwhile, research has shown that nature is an important component of human health and habitation, and daily exposure to nature is crucial, as proximity to nature can bring benefits. Therefore, residential landscape design needs to focus on urban green space construction, allowing people to coexist with nature for a long time.

Residential environment landscape design

The design of residential green space in Tianjin is based on the Guidelines for Residential Environment and Landscape Design (2006). The residential park is required to set up flower and wood lawn, flower bed water surface, pavilion sculpture, tea house, facilities for the elderly and children, parking lot and paved ground, etc.

China has officially entered a comprehensive era of aging. Based on data from the Ministry of Civil Affairs, as of the end of 2015, the elderly population aged 60 or

above had reached 222 million, constituting 16.1% of the total population. Within this group, the population aged 65 or above accounted for 144 million, making up 10.5% of the total population. Projections suggest that by the year 2035, the overall number of elderly individuals in China is expected to reach 400 million, with an average annual growth rate of about 10 million, among which the number of people over 80 will increase by more than 1 million annually. Actively dealing with the aging of the population is a major event that the whole society needs to face together. To improve the overall health level of the elderly population and let them live a quality old age is not only related to the individual elderly, but also crucial for reducing the burden of family and promoting the harmonious development of society (Yuan, 2017).

After retiring from the role of social producer, most of the elderly can gradually and naturally make corresponding adjustments to their lives, and try their best to live independently in the "Immediate environment" with residence and community as the core. And the "Primary groups" of family, neighbors, friends, classmates, co-workers, and so on. This means that intervention from the perspective of planning and design of facilities for the elderly must also pay attention to the interaction law and potential of these two elements (Yuan, 2017).

Landscape design has begun to pay attention to the spiritual world of the elderly. According to research findings, whether through direct interaction or simply observing their activities, can bring immense comfort and joy to the emotional and spiritual well-being of the elderly. During the investigation, some pension facilities not only provide interactive space for the elderly and children in the rehabilitation landscape design, but even attract children to use the pension facilities as interesting activity "gathering point" through the design.

The landscape around the facilities for the elderly also pays attention to the arrangement of interesting elements such as sketches to stimulate the interest and exploration desire of the elderly. Constantly stimulate the freshness and interest of the elderly (Yuan, 2017).

Nowadays, more and more attention is paid to the creation of intergenerational space between the elderly and children in public space. The elderly are eager to talk and accompany, and need to be cared and cared by others. Often getting along with young children can make them hale and cheerful. Actively create an environment for the elderly and children to coexist, so that the elderly and children can enjoy the deep feelings of "grandparents and grandchildren", in order to improve the spiritual life of the elderly, and strive to alleviate the elderly's sense of loneliness and abandonment. The space for the elderly and children can be designed in two ways: interactive space and viewing space. The interactive space provides an environment for the elderly and children to coexist. The elderly and children can participate in various forms of activities together, and use the initiative of the children to drive the initiative of the disabled elderly. The viewing space is adjacent to the activity space of the children and the elderly, and the joy of the children can also affect the elderly watching and make them happy (Yuan, 2017). It is particularly important in contemporary China that children are brought from different generations.

Statistics from the National Bureau of Statistics show that the country's per capita spending on education, culture and entertainment rose from 1,398 yuan in 2013 to 1,723 yuan in 2015, accounting for 11 percent of the total consumption expenditure. With the "post-80s" and "post-90s" gradually becoming the main force of families, the young generation of families pay special attention to early childhood education, and the children's market is increasingly becoming "just people just need".

Children from 0 to 3 years old spend most of their time in their families and communities. Therefore, educational facilities and equipment in communities directly affect the growth, health and psychological development of infants. The study investigated the educational facilities and equipment in the community where the children lived, and asked parents whether the children's amusement facilities, books and toys in the community could meet the needs of the children. The results showed that 41.5% of parents believed that the children's amusement facilities in the

community were insufficient and could not meet the needs of their children; 37.4% of parents think that children's amusement facilities in the community can basically meet the needs of children; 7.2% of parents think that the needs of their children are adequately met. In addition, 13.9% of parents report that there are no children's amusement facilities in the community. 54.2% of families live in communities that do not have enough public space to meet their children's activity needs, but can still carry out activities; 25.4% of households live in communities with insufficient public space to carry out activities; 20.4% of households live in communities with sufficient public space (Shenzhen Women and Children Development Research Institute, 2021).

In 1996, the United Nations Children's Fund (UNICEF) introduced the concept of building child-friendly cities. The essence of child-friendly cities revolves around four key aspects: granting children the right to participate in decision-making processes, establishing a comprehensive social service system for children, ensuring the safety of children's living environment, and meeting the diverse needs of children's activities (Shenzhen Women and Children Development Research Institute, 2021). Our residential development research and endeavors are specifically focused on achieving the goal of "ensuring the safety of children's living environment and meeting the needs of children's various behavioral activities."

The elderly and children are more important factors to consider in the design of residential open space. In addition to meeting the requirements of the housing code, it is necessary to keep pace with The Times, according to the new environment and new needs, to improve and build the landscape space to meet the residents' behavior habits and emotional communication needs.

CHAPTER 3

METHODOLOGY

According to the purpose of the study, the current situation of the landscape and the problems found were summarized through the investigation of the community open space landscape of the Future City 8A project. In addition, the opinions of residents, builders, property management personnel, community service personnel, couriers and designers were collected through online questionnaires and interviews.

The whole research process is as follows:

Data collection

Research template selection and functional site research

Study Case The geographical location of 8A community of Future City, the research area is north to Guifu Road, south to Yibai Road, east to Tingjiang East Road, west to Yiguang Road, the area is located in Beichen District, northeast of Tianjin.



Figure 6 The location of the 8A project of the Future City, is derived from the 8A plan report text

Table 2 are from the field investigation of Future City 8A project

Name of Venue	Site area	Facilities	Main user group	Remark
children playing space	1500	Combination slides, swings, rocking horses, rolling terrain	All age child	
Activity area for the elderly	350	Tai chi wheel, leg press, walking machine, etc	Middle- aged and elderly	
Activity space before the unitenters the home	670	Leisure seats, ground colored lineactivity venue	Resident of this unit	Combined with fire climbing surface design

Table 2 (Continue)

Viewing platform	50~100	Seating, ornamental plants	Middle- aged and elderly	Linear & point-like space, multi- point distribution
Circular running track	1800	Stretch area, warm up area, rest seat	Young and middle- aged	The runway is 1200m long and 1.5m wide

Note: The survey results of the main landscape status nodes and functional modules of the 8A community open space in Future City are analyzed.

Population and sample of the study

The community population of the Future City 8A Project is about 3253, and about 200 people are selected as the research object, mainly the residents of the Future City, including builders, property management personnel, community service personnel, express delivery personnel and designers.

Table 3 Figures come from the planning indicators of Future City 8A project

Target population and subgroups			
serial number	Future City 8A Project	Planned quantity	Unit
1	Number of households	1162	Household
2	Average population per household	2.8	Person/household
3	Number of residents	3253	Person

Table 3 (Continued)

		200			
4	Sample population	Number of groups	Person	Number of Interviewers	Person
		Resident	Person	190	2
		Builder	2	2	1
		Property management personnel	2	2	1
5	Included	Community service personnel			Person
		Courier	2	2	1
		Designer	2	2	1

Data analysis

Analysis of online questionnaire results

The results of the questionnaire are expressed in the form of tables for statistical analysis. And find out the key factors of the problem, so as to get the solution strategy.

Analysis of online interview results

The interviews are classified by content and sorted into tables to analyze different opinions corresponding to different functional spaces.

Based on the relevant landscape design literature in Chapter II, the data results of online questionnaire and interview are analyzed correspondingly.

According to the online questionnaire and interview data, combined with the survey table of the current situation of the 8A open space landscape.

In Futuretown, this paper analyzes the residents' current situation of the open space, the people who use the space, the activity facilities and the possible problems in the use of the facilities. Based on the analysis of the current situation, the nodes and reasons for the future urban 8A community landscape improvement are proposed. The improvement suggestions can be applied to the 3A project community open space landscape design.

Design process

Based on the results of online interview and online interview data analysis, the open space landscape plan of Tianjin Future City 3A Project will be designed. Finally, the open space landscape improvement strategy of the 3A project is presented in the form of program text (pdf).

Result analysis

The completed text of the open space landscape design scheme of the 3A project will be fed back to the interview group members in the target group, and the feedback of the above target groups will be collected to complete or revise the design scheme and form the final draft.

CHAPTER 4 FINDINGS

Data results and analysis of online questionnaire

Questions 1 to 9 of online questionnaire are represented by Q1 to Q9.

Table 4 The figures come from the survey results of Q1 about occupation in the online questionnaire of Future City 8A project

Question 1	Option	Number of selections	Percentage
Q1: Occupation	Resident	190	95.00%
	Builder	2	1.00%
	Property administrator	2	1.00%
	Community service worker	2	1.00%
	Deliveryman	2	1.00%
	Designer	2	1.00%
	Number of respondents		200

Collecting people's needs for residential landscapes after the epidemic from relevant personnel in the 8A residential area and personnel of different professions can gain various perspectives and experiences. People with different occupations have different needs and experiences of the living environment, so collecting data from multiple angles can obtain more comprehensive and accurate information.

It can be seen from the people who answered the questionnaire that in order to make the data more concise and clear, the number of people who answered the questions was filtered. As shown in Table 4, 190 residents, 2 constructors,

2 property management personnel, 2 community service personnel, 2 couriers and 2 designers responded, and the number and proportion were consistent with the sample population.

Table 5 The figures come from the online questionnaire Q2 of the Future City 8A project, the survey results of the age groups of the residents interviewed.

Question 2	Option	Number of selections	Percentage
Q2: Age of groups	Children	21	10.5%
	Old man	79	39.5%
	Young and middle-aged	100	50%
	Number of respondents	200	

Because people of different ages have different living habits, ways of thinking and ways of behavior, in order to better understand the needs and behaviors of residents, it is necessary to investigate three sample groups according to age. Moreover, people of different age groups have different needs for some functional sites and services. Therefore, the survey of three sample groups according to age can better meet the needs of residents of different age groups.

From the analysis results in Table 5, it can be seen that the number of respondents in the sample is 190, of which 100 young and middle-aged people answered the questionnaire, 79 elderly people, and 21 children, accounting for 50%, 39.5%, and 10.5% respectively.

Table 6 The figures are from the online questionnaire Q3 of the 8A project of the Future City, the survey results of the biggest impact of the COVID-19 on the work and life of the sample population

Question 3	Option	Number of selections	Percentage
Q3: What has been the biggest impact of COVID-19 on your work and life ?	Spend more time at home	176	88.00%
	Decreased social activity	189	94.50%
	Desire for outdoor activities	198	99.00%
	More hope for green	163	81.50%
	Number of respondents	200	

From the analysis results in Table 6, it can be seen that the greatest impact of the new crown epidemic on the 200 sample population is the desire for outdoor activities, 198 people choose it, accounting for 99%.

Followed by the reduction of social activities, 189 people choose, accounting for 94.5%. In addition, 176 people chose to spend more time at home, and 163 people chose to be more green, accounting for 88% and 81.5% respectively.

Table 7 The figures come from the survey results of property management in the onlinequestionnaire Q4 of Future City 8A project

Question 4	Option	Number	
		of selections	Percentage
Q4: What do you think the following property management needs to be improved	Park sanitation and timely cleaning	145	72.50%
	Garbage disposal and transportation	157	78.50%
	Increase security monitoring	169	84.50%
	disinfect	148	74.00%
	Number of respondents	200	

From the analysis results inTable 7, it can be seen that for property management, the sample population is most concerned about increasing security monitoring, and 169 people choose it, accountingfor 84.5%.

Secondly, 157people were involved in garbage transportation and transportation, 148 people were involved in disinfection, and 145 people were involved in sanitation and cleaning of the park, accounting for 78.5%, 74% and 72.5% respectively.

Table 8 The figures come from the survey results on the use of landscape functional space in the online questionnaire Q5 of Future City 8A project

Question 5	Option	Number of selections	Percentage
Q5: Which space in the community landscape do you use frequently	Children playing space	174	87.00%
	Fitness equipment area	189	94.50%
	Outdoor meeting room	125	62.50%
	Unit entry space	186	93.00%
	Water square district	133	66.50%
	Repose area	89	55.56%
	Loop running path	56	28.00%
	Entrance square	102	51.00%
	Basketball court	136	68.00%
	Number of respondents		200

According to the analysis results in Table 8, the space with the highest utilization rate of the sample population is the fitness equipment area, which is selected by 189 people, accounting for 94.5%. In addition, there are 186 people in the unit entrance space, 174 people in the children's activity area, 136 people in the basketball court, 133 people in the water square area, 125 people in the outdoor reception hall, 89 people in the quiet rest area, 102 people in the entrance square, and 56 people in the

circular runway, accounting for 93%, 87%,68%, 66.5%, 62.5%, 55.56%, 51%, and 28% respectively.

Table 9 The figures come from the survey results of the online questionnaire Q6 of theFuture City 8A project and the items that need to be improved in the community landscape

Question 6	Option	Number of selections	Percentage
Q6: What do you think needs to be improved in thecommunity landscape?	Add spot seating	172	86.00%
	Plan social space	169	84.50%
	Add a sink	189	94.50%
	Plant more healing plants	109	54.50%
	Pet section	52	26.00%
	Interactive sports facilities	167	83.50%
Number of respondents		200	

From the analysis results in Table 9, it can be seen that the community landscape that the sample population most wants to improve is to increase the sink, and 189 people choose it, accounting for 94.5%.

Others, 172 people added point-like rest seats, 169 people planned social space, 167 people in sports interactive facilities, 109 people planted with various

healing plants, and 52 people in pet zone, accounting for 86%, 84.5%, 83.5% and 54.5% respectively, 26%.

Table 10 The figures come from the survey results of the online questionnaire Q7 of theFuture City 8A project on what is the most important content of community safety

Question 7	Option	Number of selections	Percentage
Q7: Which do you think is most important for community safety?	Security monitoring	186	93.00%
	Air quality detection	85	42.50%
	Outdoor broadcast	102	51.00%
	Community entrance and exit epidemic prevention design	121	60.50%
	Number of respondents	200	

From the analysis results in Table 10, it can be seen that the sample population thinks that the most important thing for community safety is security monitoring, and 186 people choose it, accounting for 93%.

There were 121 people for epidemic prevention at the entrance and exit of other communities, 102 people for outdoor broadcasting, and 85 people for air quality inspection, accounting for 60.5%, 51% and 42.5% respectively.

Table 11 The figure comes from the survey results of the online questionnaire Q8 of the Future City 8A project on the content of concern to the community government management department

Question 8	Option	Number of selections	Percentage
Q8: What concerns you most about community government management	Safety	187	93.50%
	Community hospital service	166	83.00%
	anti-epidemic measures	75	37.50%
	Living allowance for residents during special periods	169	84.50%
	Elderly care service	139	69.50%
	Child care service	156	78.00%
	Number of respondents	200	

From the analysis results in Table 11, it can be seen that for community government management, the sample group is most concerned about safety issues, and 187 people choose it, accounting for 93.5%.

In addition, the number of people who choose the option is 169 for residents' living security during special periods, 166 for community hospital services, 156 for child care services, 139 for elderly care services, and 75 for epidemic prevention measures, accounting for 84.5%, 83%, 78%, and 69.5% respectively, 37.5%.

Table 12 The figures come from the survey results of the intelligent community application content in the online questionnaire Q9 of the Future City 8A project

Question 9	option	Number	
		of selections	percentage
Q9: For emerging intelligence, what do you feel is necessary to apply to the community	infrared temperature measurement	102	51.00%
	Entrance space automatic kill system	139	69.50%
	face recognition	177	88.50%
	speech control	177	88.50%
	Outdoor self-service gym	129	64.50%
	Outdoor self-service library	131	65.50%
	Number of respondents	200	

From the analysis results in Table 12, it can be seen that for intelligence, the sample population most hopes that voice control and face recognition can be applied to the community, and 177 people choose it, accounting for 88.5%.

In addition, the number of people selected for the option, 139 people for the automatic disinfection system at the entrance, 131 people for the outdoor independent library, 129 people for the outdoor self-service gym, and 102 people for infrared temperature measurement, accounted for 69.5%, 65.5%, 64.5%, and 51% respectively.

With the help of the customer service department of Futuretown 8A residential project development company, the above interviewees were interviewed. The interview content is detailed in the table below:

Table 14 Interview content record

Code	Question	Interview content record
A	Q1	I don't usually have any hobbies, so I just like to take my family's little dog for a stroll. I just feel like there's nowhere to play.
	Q2	There is a small open space in the community that can be exposed to the sun, but sitting for a while becomes boring and empty.
	Q3	I hope this place is close to the basketball court, game field, or something. Watch young people play basketball and children play.
B	Q1	When I was not a child before, buying a house with my husband and looking at the community environment were all about looking at the environment and greenery. Now that we have children, my husband and I have basically focused our lives on children. Now, with the current pandemic, it's impossible to take children out to play. It's only now that I understand the importance of community construction. The child goes out to play loudly every day, but the buildings in the community are all for viewing, and there is really no place for him to play.
	Q2	I believe that every family focuses on children, and the community is a place for the elderly and children. They stay longer, but there are not many things that serve them.

Table 14 (Continued)

Code	Question	Interview content record
	Q3	I hope that in the future, more consideration can be given to the elderly and children in the community. For example, sports venues and places where children play, but safety must be considered to provide a happy growth environment for children while ensuring safety.
C	Q1	I believe that the epidemic has brought significant changes to the landscape of open spaces in communities, making people pay more attention to health and safety. Community open spaces have become an important place for people to relax and exercise, as well as a main platform for communication and interaction among community residents. In such a situation, we builders need to pay more attention to the design and construction of community open spaces, providing residents with a safer, healthier, and more comfortable environment.

Table 14 (Continued)

Code	Question	Interview content record
Q2		I believe that the landscape design of community open spaces after the epidemic is insufficient in terms of public health facilities, as well as insufficient vegetation and greenery. Another issue is insufficient security.
Q3		One is the need for more public health facilities, such as trash cans, hand sinks, etc. The second is to increase more greenery and vegetation to improve the environmental quality and aesthetics of community open spaces. Thirdly, more comprehensive safety measures are needed, such as monitoring and outdoor broadcasting to enhance the sense of security among community residents. In addition, it is necessary to pay more attention to the needs and opinions of community residents, actively carry out community participatory design, and involve community residents in the design and construction of community open spaces.

Table 14 (Continued)

Code	Question	Interview content record
D		Thank you for your question. The epidemic has had some impact on us. I think our community is already making positive changes, such as adding some outdoor fitness equipment and leisure facilities, so that people can enjoy natural air and sunlight outdoors. At the same time, we have also strengthened cleaning and disinfection to ensure the hygiene and safety of the community environment. Overall, I believe this is a positive change that can better meet people's needs.
	Q1	
	Q2	This is a good question. I believe that after the epidemic, there are still some shortcomings in the landscape design of open spaces in our community. For example, our community may need more shading facilities to provide more shade and sun protection during hot summers. Also, there is always traffic congestion at the entrance of the community.

Table 14 (Continued)

Code	Question	Interview content record
	Q3	<p>I believe that after the epidemic, residents in the community have put forward more demands for open space landscapes. They pay more attention to safety and hygiene, and need better cleaning and disinfection services. In addition, many people also hope to have more outdoor leisure facilities in the community to enjoy the fun of outdoor activities near their homes.</p> <p>Also, due to the epidemic control measures, it is not possible to enter or leave the residential area at will, resulting in congestion at the entrance. I hope there is a solution in terms of design.</p>
E	Q1	<p>Hello, as community government service personnel, we have found that more and more people are paying attention to outdoor activities and leisure, and community open spaces have become their preferred place. Therefore, during the epidemic control period, we are fortunate that modern communities have reserved some opening activity spaces to serve residents through difficult times.</p>

Table 14 (Continued)

Code	Question	Interview content record
Q2		<p>Regarding this issue, I believe there are still some shortcomings in the design of community open space landscapes after the epidemic. Some communities have relatively single spatial designs and limited facilities, which cannot meet the diverse needs of residents. In addition, some spaces may have issues such as delayed maintenance and outdated facilities.</p>
Q3		<p>We believe that after the epidemic, the demand for open spaces among community residents has become more diverse and personalized. Some residents prefer to have independent private spaces, such as small healing gardens or enclosed small venues. In addition, some residents hope that community spaces can provide more entertainment facilities, such as sports venues and children's amusement facilities. We will need to strengthen the services and construction of community open spaces based on the needs of residents, so that residents can better enjoy the beautiful life of the community.</p>

Table 14 (Continued)

Code	Question	Interview content record
F	Q1	My feeling is that people are paying more and more attention to green communities.
	Q2	I think some neighborhoods may have good greenery, but they lack seats and rest areas. When I was delivering packages in the neighborhoods, I found many elderly people sitting on the doorsteps of the unit. Another issue is that the monitoring scope is not complete.
	Q3	It's best to monitor more. Sometimes when you go upstairs to deliver the package, there may be things lost or scratches on the car. With more surveillance, no one dares to do bad things.
G	Q1	Hi, hello! The importance of community open spaces has become even more prominent after the epidemic. Due to the epidemic, people cannot go out and can only stay at home, which requires a comfortable, safe, and healthy open space in the community, allowing people to breathe fresh air and relax.
	Q2	I think more attention and improvement are needed. For example, some community open spaces may lack activities and leisure facilities suitable for different age groups, or may not fully consider factors such as personnel flow and social distance, which has brought certain difficulties to community management during the epidemic.

Table 14 (Continued)

Code	Question	Interview content record
	Q3	<p>The demand has become more diverse and complex. In addition</p> <p>to activities and leisure facilities suitable for different age groups, people also need more green plants, natural landscape and well lit space, so that people can feel the comfort and beauty of nature. At the same time, there is also a need for more digital facilities and intelligent management to facilitate residents' various community activities and management. Overall, the landscape of community open spaces needs to pay more attention to humanized, intelligent, and sustainable design, so that residents can enjoy a safe, healthy, and beautiful community life.</p>

Table 15 Summary of interview results

Code	Question	Summary of interview results
	Q1	no place to play
A	Q2	Get some sun, but it's boring.
	Q3	Close to the basketball court and game field, watching young people and friends playing.

Table 15 (Continued)

Code	Question	Summary of interview results
B	Q1	Close to the basketball court and game field, watching young people and friends playing.
	Q2	The community is a place for the elderly and children. They stay longer, but there are not many things to serve them.
	Q3	Consider for the elderly and children, such as sports venues and safeplaces to play.
	Q1	People pay more attention to health and safety.
	Q2	Public health facilities, vegetation and greening are insufficient, and there is insufficient security.
	Q3	<ol style="list-style-type: none"> 1. Public sanitation facilities, such as trash cans, sinks, etc. 2. Add more greenery and vegetation. 3. Complete security measures, such as monitoring, outdoor broadcasting and sound, can improve the sense of security of community residents.
D	Q1	Residents pay more attention to fitness and the health and safety of the community environment.
	Q2	There are insufficient sunshade facilities, and the traffic at the gate of the community is always congested.

Table 15 (Continued)

Code	Question	Summary of interview results
	Q3	1.Cleaning and sanitizing services and increased outdoor recreational facilities. 2.Solve the congestion problem at the gate from the design point of view
E	Q1	Residents began to value the outdoors and recreation.
	Q2	The space design of the community is relatively simple, and there are few and old facilities.
	Q3	The needs of open space are more diversified and individualized. Provide more entertainment facilities, such as sports grounds, children's play facilities, etc.
	Q1	More and more attention has been paid to the shared space landscape.
F	Q2	There is a lack of seats and resting places, and the scope of monitoring is incomplete.
	Q3	Increase monitoring.
	Q1	After the epidemic, residents need a comfortable, safe and healthy open space in the community, so that people can breathe fresh air and relax.
G	Q2	Lack of activities and leisure facilities suitable for different age groups, or insufficient consideration of human flow and social distance.
	Q3	1.Activities and leisure facilities suitable for different age groups. 2.More greenery, natural views and well-lit spaces. More digital facilities and intelligent management facilitate residents to carry out various community activities and management.

CHAPTER 5

CONCLUSION AND DISCUSSION

This study analyzed relevant information on the landscape design of the public space in the 8A community of Tianjin Future City after the epidemic, and conducted research on relevant community personnel through online questionnaire surveys and interviews. After analysis and research, the results of learning and research can be summarized as follows.

Summary of research results for the shared space landscape creation design of 3Acommunity in Tianjin Future City after COVID-19

Summarize and analyze the results corresponding to the research objectives. Analyze the community needs for the shared space landscape design in Future City 8Acommunity in Tianjin under the impact of Covid-19. Based on the survey questionnaire and interviews, it can be concluded that the issues regarding open space landscape in Future City 8A community are consistent with both the percentages of options selected by residents in the questionnaire and the summaries of the interview questions. The research indicates that the following needs are more positive in the post-pandemic era:

1. Emphasize the demands for personal safety, sanitation, property safety, and traffic safety in the community.
2. Increase the design of comprehensive activity venues integrating resting spaces with basketball and gaming courts to enhance the interest and interaction of the venues. children.
3. Pay attention to the activity and exercise needs of the elderly and
4. Expect closer proximity to nature, diversified landscape design elements, and increased quantity of greenery species within the residential area.
5. Strengthen social interactions and social needs.

Objectives1: Find solutions for the residential landscape design in Future City Tianjin under the impact of Covid-19 based on the community needs after the normalization of the pandemic. The following measures can be taken to enhance the landscape design:

1.Increase monitoring equipment and security personnel in the community to improve safety for residents in terms of personal, sanitation, property, and traffic. Simultaneously, design non-motorized vehicle parking areas outside the mainentrance of the community to meet the demands of express delivery, takeaway, and temporary parking, ensure the safety of transportation and items, as well as enhance the image of the main entrance of the community.

2.Design comprehensive activity venues by integrating resting spaces with basketball courts, gaming courts, fitness equipment areas, etc. to increase interest and interaction of the venues, meeting the leisure and entertainment needs of community residents.

3.Focus on the activity and exercise needs of the elderly and children by increasing the activity areas and facilities, such as elderly squares and children's playgrounds in the community, providing suitable activity areas for different age groups. The majority of children in the community are taken care of by the elderly, so there is a need to design intergenerational space where the elderly and children can simultaneously engage in activities.

4.Increase the green areas within the residential area, ensuring it meets the required planning ratio. Increase the quantity and diversity of greenery, such as adding flowers, trees, vegetable and fruit gardens that can be observed in all seasons. Create natural landscapes and use natural materials, such as wood, stone, and natural lawns in landscape design. Increase residents' closeness to nature.

5.Design social areas, such as garden seats, outdoor cafes, and leisure squares, to provide a place for communication and socializing for community residents, increasing interaction and sense of belonging among them.

Objectives 2: Create a shared space landscape design for Future City 3A community in Tianjin after the Covid-19 pandemic. The landscape design of the open space in Future City 3A community will focus on residents' needs and design a safer, more humane, and healthier community based on the summarized design solutions and infrastructure planning in the community.

Discussion of Research Results

The development focus of modern urban residential landscape design is people-oriented, and the ultimate goal of people-oriented is people's overall feeling of the residential landscape environment, that is, the sense of home, garden and security that the landscape of the residential area brings to people. A safe residential landscape can bring a sense of home, a quiet residential landscape can create a sense of garden, and a safe residential landscape can create a sense of security (Ou & Xia, 2017). This epidemic has caused more people to stay at home, confined to the interior of the community. The landscape environment inside the community has become the only area where residents can stop for a walk and exercise healthily. Therefore, health protection in outdoor landscape design has become very important. This requires practitioners to stand on the perspective of different customer groups to a greater extent to meet different needs. In the future, the design of community landscape combined with health protection should be based on the principle of people's physical and mental health, and a service system for health functions should be established; the landscape space and functions of the community need systematic planning, and the activity areas of all age groups must truly implement the health complex module to create a healthy environment., natural activity areas and comfortable, humanized space scenes (Ren, 2020).

After the epidemic, the needs of community residents have changed. The residential area corresponds to the three elements of modern city people's work, life and entertainment, and its unique natural and tranquil landscape environment becomes a buffer for those reinforced concrete office environments. A close and pleasant living environment is the inner demand of urbanites. After all, urban residents spend half or

even 2/3 of their time in residential areas, and the quality of landscape environment in residential areas directly affects people's physical, psychological and spiritual life (Ou Yali, Xia Wanshuang, 2017, p.51). They pay more attention to the needs of personal safety, health safety, property safety, and traffic safety. They hope to increase the design of comprehensive activity venues in the community, pay attention to the activity venues and sports needs of the elderly and children, hope to get close to nature, and increase the natural landscape in residential areas. The number of elements and greenery, variety of species, and enhanced social needs.

Through the study of the target case, an improvement plan was found, and this improvement plan was basically consistent with the planning and design mentioned in the book "Urban Landscape Design". The book mentions:

1. Combination and collocation of dynamic recreational activities and static recreational activities.
2. Pay equal attention to public open places and individual private places.
3. Pay equal attention to open space and semi-open space.
4. Three-dimensional spatial processing. For example, the ground floor is elevated and used as a public event space to provide ample outdoor public event venues.

Residential activity venues should meet the various needs of residents of different ages and hobbies. Therefore, it is of special significance to properly supplement recreational facilities in community building. Relatively small activity facilities can be scattered and landscaped; large-scale entertainment projects are suitable for centralized construction, and then set up a landscape buffer zone to conceal them; for the landscape design of public activity spaces, it is necessary to ensure that there is an appropriate amount of hard work. Quality venues and beautiful and practical outdoor furniture should also be reserved for quiet places with a certain sense of privacy (Ou Yali, Xia Wanshuang, 2017, p.52).

These changes may be due to the emergence and spread of the epidemic, making community residents more aware of the importance of their own safety and health, or it may be due to the improvement of living environment and living standards, and the corresponding attention to leisure and entertainment, ecological environment and social needs improve. These changes indicate that community residents have higher requirements for the quality of life and environment, and hope to jointly create a better living environment through their own efforts and the improvement of the community.

Results of Future City 3A Landscape Design Solution

According to the demand of the residents in the Future City 8A community in Tianjin for community landscape after the epidemic, the landscape plan for the Future City 3A community will be improved and upgraded. The specific plan is as follows:



Figure 7 Future City 3A Community Landscape Plan Floor Plan

Table 16 Functional Analysis of Landscape Nodes in the Future City 3A Community Landscape Design Scheme

Number	Site name	function declaration
01	Homecoming Hall (South Gate)	<ol style="list-style-type: none"> 1. Welcome and receive visitors, design a waiting area. 2. It is only a pedestrian gate, and there is no mixed traffic of people and vehicles, which is convenient for residents to travel safely. 3. Social space for residents. The lobby is designed with sofa seats and a tea area, where residents can meet and communicate, increase social interaction, and enhance the sense of community belonging. 4. The home lobby is also designed with a security monitoring function. By installing surveillance cameras, access control systems and other facilities, the safety of residents can be guaranteed.
02	The Green Gallery	Closely connected to the home lobby is a green-wrapped corridor, which on the one hand serves as a shade and shelter from the rain, and at the same time allows one to experience the pleasant natural environment surrounded by greenery.
03	Electric bicycle charging pile	The design of the charging pile on the ground improves the safety of living outdoors, and at the same time promotes a low-carbon and environmentally friendly lifestyle.

Table 16 (Continued)

04	Forest light tunnel stream	The waterscape design that simulates nature not only improves living comfort, but more importantly, improves the microclimate of the open space in the community.
05	Forest stairway	The forest ladder design is a comprehensive design that combines a variety of under-forest activity venues to meet the rich life needs of residents for social interaction, healthy exercise, and rest.
06	Sky Exploration (Children's activity area)	Sky Tour is the theme name of the children's activity area. Combined with the promenade bridge, children's activity venues of all ages are designed in a simple and complex form. At the same time, the design of comprehensive facilities promotes the communication space between children and caregivers.
07	Landscape corridor	This landscape corridor is not only a passage, but also a shelter from the sun and rain. Different forms of rest seats are placed underneath to provide a comfortable and natural social space.

Table 16 (Continued)

08	Amphitheater	<p>1. Enrich the cultural life of the community: The stepped theater can become a place for community cultural activities, such as concerts, drama performances, film screenings, etc., to enrich the cultural life of community residents and improve the quality of life.</p> <p>2. Promote communication among community residents: The stepped theater can become a place for communication among community residents, allowing people to meet new friends while appreciating literary works, increasing social interaction and community cohesion.</p>
09	Event lawn	<p>1. Provide places for outdoor activities, such as picnics, sports, entertainment, etc., and also a place for communication among community residents.</p> <p>2. Increase the community green area.</p>

Table 16 (Continued)

10	Terraced green valley	<p>1. Provide leisure and entertainment venues: the woodlands, lawns, seats, activity squares and other facilities in the stepped green valley allow residents to relax while enjoying the sunshine and fresh air outdoors.</p> <p>2. Enhance community cohesion: Residents can participate in various collective activities here, such as outdoor fitness, square dancing, and community cultural activities, etc., to promote communication and interaction among community residents and enhance community cohesion.</p>
11	A forest of dense shadows	<p>The undergrowth grassland is designed as a community public space to feel the beauty and tranquility of nature. At the same time, increase the green area of the community and improve the urban environment and ecological environment.</p>
12	Healing garden	<p>As a kind of green therapy, the plant healing garden relieves residents' negative emotions such as stress, anxiety and depression through watching and contacting nature. Secondly, the plant healing garden can promote the physical health of residents, because many plants help to purify the air, relieve allergy symptoms and so on.</p>

Table 16 (Continued)

13	Neighborhood fitness area	<p>A multi-purpose, all-ages neighborhood fitness venue can provide residents with multiple positive impacts. First of all, it is a fitness place, allowing residents to perform various exercises at their doorsteps, lowering the threshold for fitness and promoting physical health. Secondly, this kind of venue can promote communication and interaction among residents, because people of different ages can exercise here, which can increase community cohesion. Especially the elderly prefer to be active with young people to increase their vitality.</p>
14	Shared vegetable and fruit garden	<p>The shared fruit and vegetable garden can provide residents with fresh and healthy fruits and vegetables. Second, shared fruit and vegetable gardens can promote communication and interaction among residents, as people can enhance their connection and friendship with each other by planting and harvesting fruits and vegetables together.</p>
15	Casual Reading Room	<p>The shared book house design provides residents with a small library at their doorstep, where they can read, study and communicate. At the same time, the shared library can also promote communication and interaction among community residents and relieve residents' stress and fatigue.</p>

3A compared with 8A

1. Temporary parking spaces for non-motor vehicles have been added to the north gate of 3A community to solve traffic congestion and safety problems.

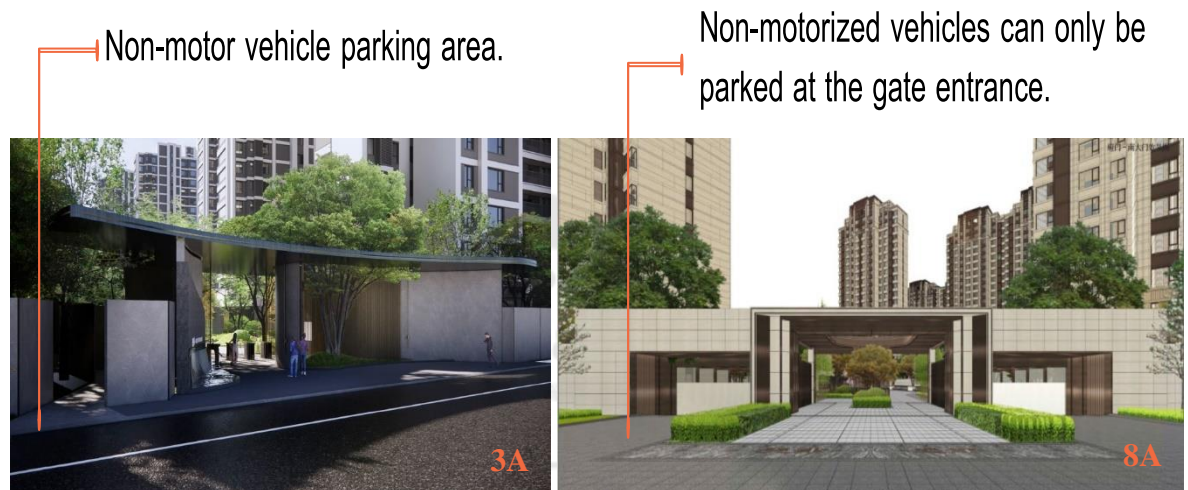


Figure 8 The comparison between Future City 3A and 8A

2. 3A Community has designed a comprehensive activity venue to increase interactive space and meet residents' outdoor fitness needs. Use the fire-fighting climbing surface and Figure 9 The comparison between Future City 3A and 8A



Figure 9 The comparison between Future City 3A and 8A

3.3A community increases the area, number and facilities of children and other comprehensive activities.



Figure 10 The comparison between Future City 3A and 8A.

4. The 3A community designs shared fruit and vegetable gardens to increase the diversity of greening and vegetation while providing social space.

Using the open space in the house to design multiple planting spaces, the vegetable and fruit

garden not only enriches the types of greening, but also enhances the good interaction between residents, and has certain scientific

and educational significance.



3A

Relatively single, conventional lawn + shrubs.



8A

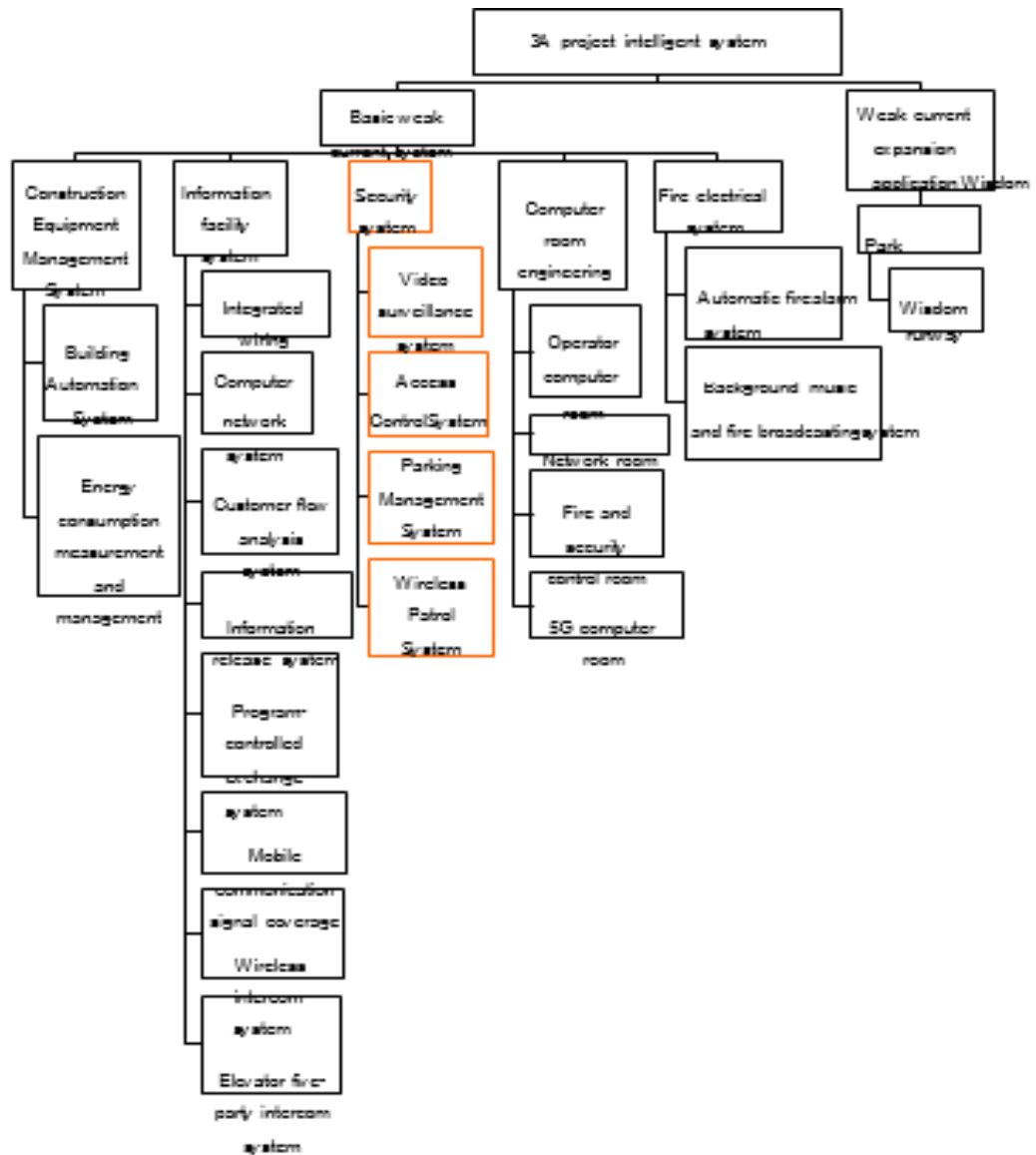
Figure 11 The comparison between Future City 3A and 8A

5. The 3A community designs multi-point comprehensive activity venues, adding sunshade and rest facilities.



Figure 12 The comparison between Future City 3A and 8A

6. According to the questionnaire and interview results, the target group attaches the most importance to the community's personal safety, health safety, property safety, and traffic safety needs. According to this demand, the 3A community of the future city will design the system framework for the basic weak current system design and weak current expansion. Among them, the orange box is the security system, as shown in the figure below



The landscape design of the 3A community in Future City is based on the concept of micro-vacation, aiming to provide residents with a relaxing and natural place to enjoy. Through landscape design techniques, a series of relaxing and comfortable landscape spaces are created.

After the pandemic, as mentioned in the research results above, people's demands for communities have changed significantly. Therefore, the landscape design of the 3A community in Future City pays more attention to the safety, hygiene, and health of the community, and improves the overall environmental quality. At the same time, greenery and vegetation in the community should be strengthened to increase the

natural atmosphere and beauty of the landscape space. In the design of comprehensive activity areas, diverse facilities and spaces should be provided to meet the needs of residents of different ages, interests, and demands.

Finally, it is hoped that future community landscape designs will also focus on green construction, advocate environmentally-friendly, energy-saving, and sustainable building and facility design concepts.



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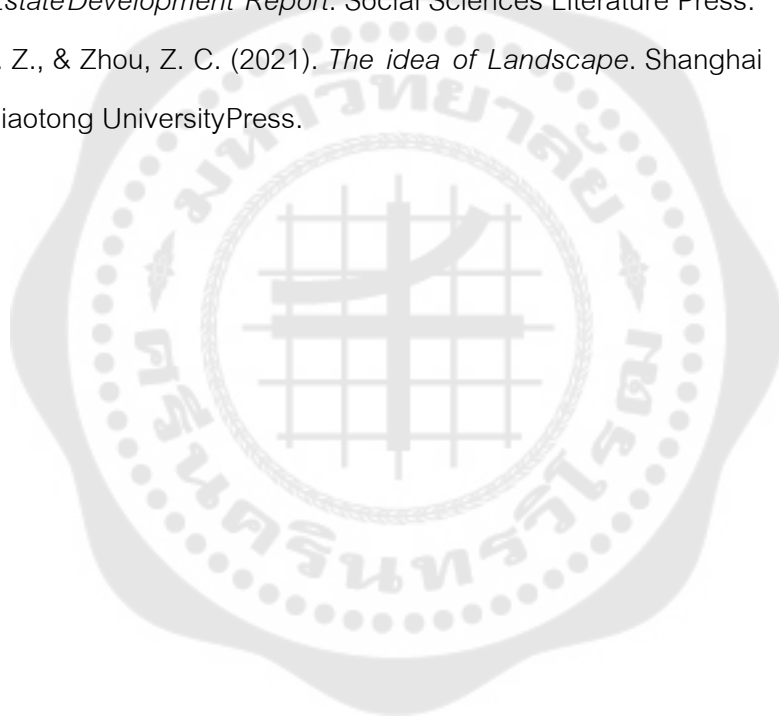
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