

# "Renewal Plan" for the Landscape Renovation of Old Urban Residential Quarters

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## ABSTRACT

With the increasing population aging and the rapid increase in the number of private cars, the space drawbacks of the old residential quarters in the central urban area have become increasingly prominent, and the upgrading and reconstruction of these old residential quarters has become the desire of residents. At the same time, these residential quarters have limited space; when renovating these old residential quarters, on the premise of ensuring economic benefit, "tiny update" in key spaces is one of the effective ways to solve the various problems of the old residential quarters.

**Keywords:** Old residential quarters, Landscape renovation, Chengdu.

## 1. INTRODUCTION: BACKGROUND

Affected by economic development, the speed of urban renewal is getting faster and faster. In the early stages of urban development, the residential buildings in the old communities are relatively dense and lack green space. Residents have various expectations and dissatisfaction with the buildings they live in, the surrounding environment or travel, shopping, entertainment and other life activities, causing many social problems to a certain extent. Based on this, the landscape and space innovation of old residential quarters has become an important measure to fully meet the needs of different groups of people and promote urban development. The innovation of old urban communities is mainly to conduct secondary assessment and innovative design of some landscapes in the urban area that affect the overall appearance of the city. The innovation process requires mutual cooperation among residents, governments and enterprises, aiming to create a better living environment for residents. It is necessary to upgrade and transform old communities to make the city better, and at the same time provide a reference case for the innovation of old communities in more regions in the future. [1]

## 2. PROJECT OVERVIEW

The fourth phase of Hongyun Garden, Wuhou District, Chengdu, was built in 1997. It is a wellness residential quarter built by a state-owned enterprise group for retired employees in the northwestern district. Therefore, the residents there are mostly the elderly and children. The residential quarter is located in the central urban area of Chengdu, and some of residents are also families of retired employees. There are currently 2,800 households, with a total area of 28.8 mu. The design object is the overall landscape inside the residential quarter, with a land area of 6000m<sup>2</sup>. The surrounding areas of the project are all residential quarters, among which there is a newly built high-rise residential quarter on the northwest side of the residential quarter. Due to the early design and construction of the residential quarter, the infrastructure of the residential quarter at this stage has failed to meet the design specifications of the current residential quarter, which affects the later management and construction of the residential quarter. After communicating with the person in charge, the design content of the renovation includes the following:

- Transform the open-air electric wire and pipe network to eliminate certain potential safety hazards.

- Expand the roads in the residential quarter to meet specific requirements for firefighting and rescue.
- Renovate the landscape of the residential quarter to make the overall beautiful and comfortable. There should be reasonable leisure areas for the elderly and children; reconstruct and expand badminton courts and basketball courts; open sports footpaths.

### 3. EXISTING PROBLEMS

After field surveys, it is found that the existing landscape and roads in the residential quarter have the following problems: (see "Figure 1")

- Parking on the main road interferes with the surrounding area, and the experience feeling and safety will be poor.
- The central green space landscape structures are outdated and unused.
- The plant coverage is extensive but messy.
- The cables and electric wires passing through the air are messy, drooping, and crossing with plants, and their safety is poor.
- Poor site utilization.
- The whole green area has no value in use, and the community lacks places for group gathering and leisure and entertainment.



Figure 1 Current status of the residential quarter.

### 4. DESIGN IDEAS

The author visited the residential quarter to conduct a questionnaire survey of residents and communicated deeply with the head of the group. At the same time, the author also analyzed the population structure of the residents in the residential quarter. It is found that the age group of the residential quarter is mainly divided into two groups: over 50 years old and under 12 years old. According to different stages, two major ideas are ensured in the design: creating footpaths and a green area in the center of the landscape for leisure

and gathering; restoring the public leisure space for minors for entertainment, play, and sports. Taking into account the different behavior characteristics of the two age groups and combining the six major problems in the residential quarter, adopting the design techniques of renovation, borrowing, organization and creation in the old residential quarter can create a large leisure and entertainment space suitable for residents of different ages. [2]



Figure 2 Layout plan of the residential quarter's reconstruction planning.

#### **4.1 The Design of "Renovation" in the Landscape Renovation of the Residential Quarter**

The most effective way to renovate the green space in the entrance center is to limit the space. The central green space is located on the right side of the entrance. It is the main convergent pass of several units' branch roads. Both sides of it are close to the main roads of the residential quarter, and there is frequent motor traffic. The main roads on both sides are full of vehicles. A large number of plants grow in the central green space, making the central green space inapplicable. If it is used as a leisure and gathering area, the environment of parking vehicles and vehicular roads outside the green space cannot guarantee the safety of using it. In response to this problem, using a renovated method, the leisure footpath around the central green space is transformed into a colored plastic sports footpath. The main roads on both sides of the green space are not allowed to park vehicles, so that vehicles cannot park on the sports footpath, and as a result, the people and vehicles are separated by the colored sports footpath, forming a safety barrier and bringing a sense of security to the residents. At the same time, the sports footpath opens up the original bush isolation, opening up the central green space and maximizing the use of space. Plants are levelled out in the central green space, and the existing large trees are preserved to create a leisure square and a leisure pavilion, and a sports footpath runs through it. (see "Figure 3" and "Figure 4") The sports footpath is designed as a wavy line and used in color, making the overall effect eye-catching and interesting. Through the renovation, it simply and effectively solves the separation of people and vehicles, and also opens up areas for residents to gather for leisure and entertainment. [3] [4]

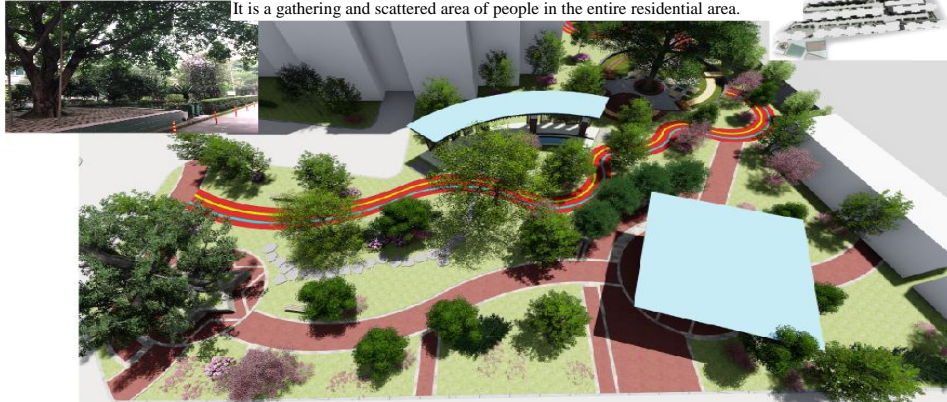
#### **4.2 The Design of "Borrowing" in the Landscape Renovation of the Residential Quarter**

The green area of the whole residential quarter is large but old. Some plants have not been trimmed all the year round, which affects the indoor lighting of low-rise residential users, and the overall landscape is messy from the outside. So how should designers use the existing greening, expand the street width of each unit, and add parking space? In the design, the landscape area of each unit is organized, and on the basis of the existing unit streets, the pavement is widened to both sides to reach the width of the fire engine access. It sorts the overhead electric wires and cables into the ground, and arranges the old drainage pipes in the streets. It then removes the existing tall bushes, opens up the green space on both sides of the block, paves lawns, and trims the tall bushes. (see "Figure 5" and "Figure 6") In the relatively spacious space, it adds parking space and transforms the leisure space in the partial landscape. In addition, it adds a sports footpath along the periphery of the residential quarter, connecting the footpath to the green sports footpath in the center of the entrance. In this way, new functional spaces can be created by making using of the existing conditions; being effectively used and expanded, their greater values can be brought into play. [5]



Entrance main landscape garden

It contains small landscape nodes such as the scenery pavilion, the small living gathering and scattered square, the arc-shaped corridor, and the exercise footpath. It is a gathering and scattered area of people in the entire residential area.



Tree Pool Square

The original big banyan tree is the characteristic feature of the existing green space. The big banyan tree is retained, and the surrounding tree pool is designed according to the Academy Awards, and the surrounding site is expanded to form a small enclosed square.



Figure 3 Design drawing of landscape green space in the center of the residential quarter.

Arched gallery frame

The arched gallery frame set next to the sunken square adds a sense of agility to the entire green space, echoes the exercise footpath, and connects the sunken square with the exercise footpath along the outer wall.



Figure 4 Partial design drawing of landscape green space in the center of the residential quarter.

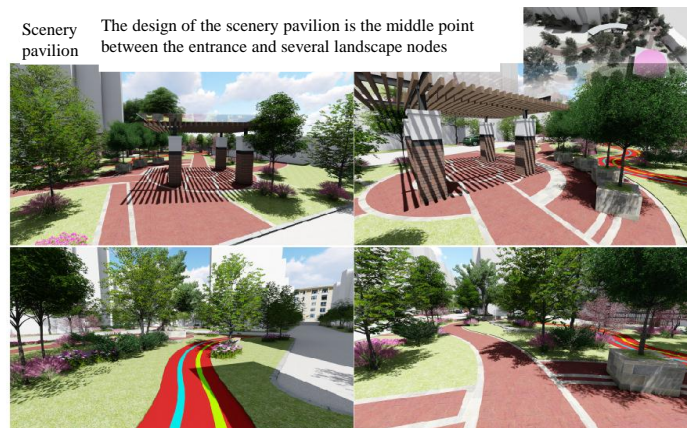


Figure 5 Partial design drawing of landscape green space in the center of the residential quarter.

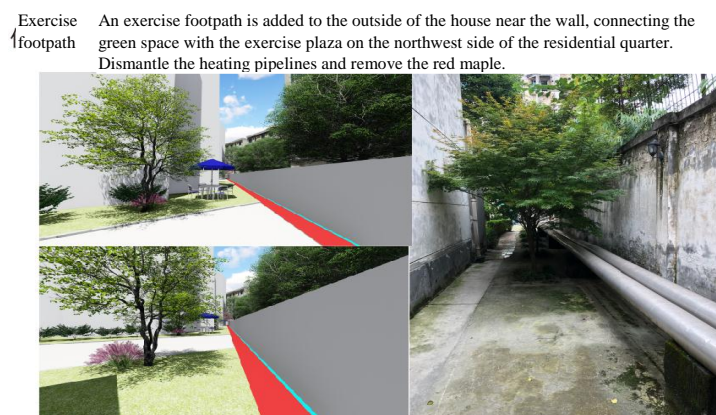


Figure 6 Partial design drawing of the landscape footpath in residential blocks.

#### 4.3 The Design of "Organization" in the Landscape Renovation of the Residential Quarter

The whole residential quarter has a large green landscape area of more than 6,000 square meters. There is an original exercise and leisure space on the southwest side of the residential quarter, but it has been in disrepair for a long time, and the hardened ground has cracks and moss, which is not conducive to the activities of the elderly and children. Therefore, it divides this space into 2 areas, and from west to east are the growth area and the play area. The growth area is the area for young children. There is a plastic floor and three gentle slopes with ups and downs are created. Toddlers can walk on it with the assistance of adults. Some places are flat, some places are high, and some places are low, so that toddlers can experience a lot. Older children can play and run freely in areas with slides and sandpits. The play area is designed as a basketball court, where older children can participate in basketball activities and run and jump

together. (see "Figure 7") This area is dominated by colored plastic ground, with no obstacles and only slightly ridgy localized terrain. So the organization here is to organize and connect the various areas well. [6]



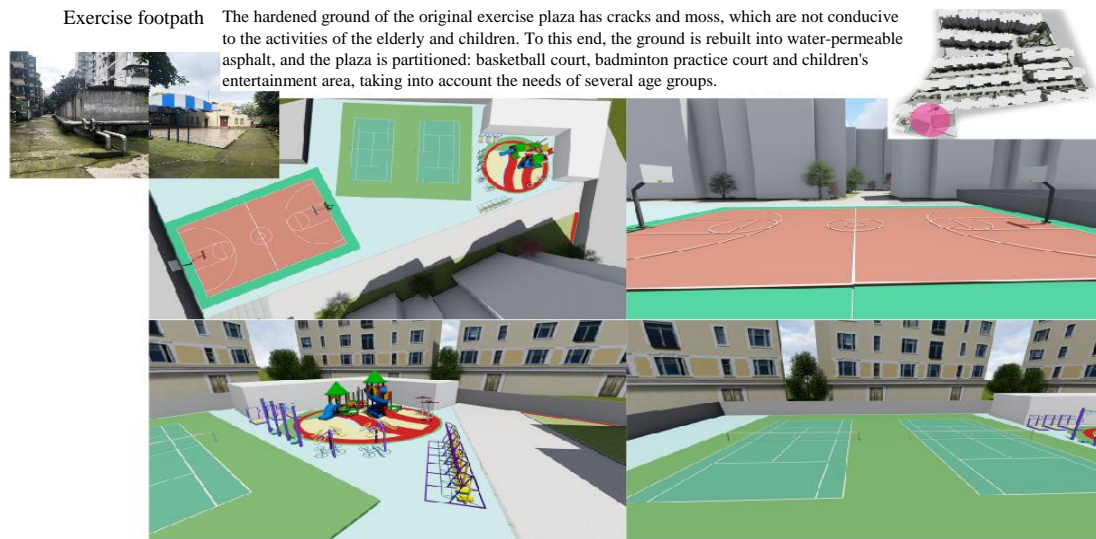


Figure 7 Design drawing of the exercise plaza of the residential quarter.

#### 4.4 The Design of "Creation" in the Landscape Renovation of the Residential Quarter

Some conventional finished facilities are set up in the landscape renovation of the entire residential quarter. It is equipped with sports facilities and leisure seats in the sports space, as well as staying and communicating pavilions and seats in the existing small scenes of the residential blocks. It sets up a lower-level square in the central green space to form a quiet space and a space for communication and sharing. It removes over-density, poor-growth, and dangerous tree species in the green space, and increases planting levels and colors. In the old residential area green space, vegetation often grows too densely, and the vegetation in the green space is closed, which affects the ventilation in the green space and the ventilation effect of the green space between buildings. It adjusts the location and scope of the existing paving site, and the total area of hard paving doesn't increase. It designs a well-lit location as a rest and activity space; at the same time, combined with the characteristics of the population that most of the residents are old Beijingers, it uses gray bricks and gray tiles as the main elements in the design of the landscape sketch to increase the sense of belonging of the residents. (see "Figure 8" and "Figure 9") The paving of all walk-in green spaces in the community are designed in accordance with barrier-free requirements. The original green space above the ground is presented in a combination of steps, ramps, and flower ponds. It relines and sorts out the

parking spaces in the residential quarter, cancels the bicycle parking room, adjusts the road level of the residential quarter reasonably without affecting the fire control and traffic, uses orderly on-street parking to increase part of the parking spaces, and demolishes the bicycle rooms that have low usage and affect the lighting of low-floor residents and designs them as parking spaces. [7][8][9]

#### Leisure pavilion

There are leisure seats on the side of the original road of the main road, but the distance of the green space will be affected by the reconstruction of the road in the later period. The part of the green space is removed and the green plants are completely opened to open up a leisure pavilion.



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Figure 8 Partial design drawing of landscape green space in residential blocks.

#### Sunken garden

The original plants of the green space are used to renovate the green land parcel and are designed as a transit point for exercise footpaths, which is a space for people to rest and entertain.



Figure 9 Partial design drawing of landscape green space in the center of the residential quarter.

## 5. CONCLUSION

In view of the unreasonably landscape green spaces in some old residential quarters in the city, when renovating, designers must first find out the existing problems, actively listen to the demands of the residents, then sort out and clean up the site according to the actual situation, keep available resources as much as possible, and organize static and dynamic landscape space through reasonable planning and use of space, so as to let the old and the new produce new changes, hoping to bring some inspirations and certain reference to designers. [10]

## AUTHORS' CONTRIBUTIONS

This paper is independently completed by Lu Tan.

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