

The Planning and Design for the Central Green Space in Residential Quarters

Wang, Shouzhuang

China Academy of Urban Planning and Design

ABSTRACT

The planning of the central green space (residential park) in a residential quarter is an effective way of increasing public space in the process of urban development and urban renewal. It is regarded as an important technical project in the detail plan of a residential quarter in order to create a better environment in the residential quarters.

The scale of a residential park, normally not less than 5000m², is defined according to the land-use conditions and the local population. The site should have easy access for the residents, and fit into the surrounding landscape and Fengshui whenever possible. It should also satisfy various leisure needs of the local residents at all ages.

The design of the park should be friendly to the residents' interests, hobbies and aspirations. The artistic style of the landscape is to emphasize on delightfulness, harmony and warmth.

I. INTRODUCTION

In a residential quarter, the central green space (residential park) is the largest public open space. It is categorized as the medium or small leisure park in a city. All public open space in a residential quarter has some common features, e.g. they are indispensable and closely related to the residents' daily life, and are often used by the residents for activities such as body exercise and social interaction. This category of open space, comparing to others, has the most frequent and longest period of use by the residents. Therefore, among all the categories, their ecological effect and service function is much directly and positively linked to the residents.

II. THE DESIGNATION AND FUNCTION OF THE CENTRAL GREEN SPACE

The residential park is a multi-functional medium- or small-size leisure park, of which the major function is to provide the urban dwellers with leisure facilities and space as well as pleasant ecological environment and views. Various leisure facilities are important components of the park design.

The location of the residential parks, being in a residential quarter, allows easy foot or cycle access by the local residents for short period and high frequency use, especially for the elderly and children, who are likely to be the major users of the park.

As the largest green space in the residential quarter, a residential park may be the best outdoor space that has positive ecological effects, which are directly beneficial to the local residents, such as absorbing large volume of CO₂ and generating oxygen through photosynthesis.

The spatial use of a residential park is also flexible, without time limit and less affected by seasonal and weather changes. Spending leisure time in a residential park has become an indispensable part of most residents' daily life. For example, according to statistics, a citizen only visits the municipal park less than 3-4 times a year with an average duration of 4 hours per visit, i.e. 16 hours maximum per year. But he visits the residential park at least a hundred times a year, with an aggregate of 33 hours spent in the park if calculated as 20 minutes per visit. Therefore, the time period served by the residential park is at least twice as much as that served by a municipal park.

III. THE PRINCIPLES OF PLANNING THE RESIDENTIAL PARKS

In China, residential use occupies the largest proportion of urban land use among all the uses, normally being about 30%. The national standard also requires green space at the residential level to occupy more than 30% of the total residential land use and to provide 1-2 m² public green space per capita. Therefore the green space at the residential level actually occupies at least 10% of the total urban land, playing a significant role in urban environment and leisure activities.

The residential park is the major scenic spot, i.e. the most pleasant and beautiful open space of the residential environment. The location, scale and function as well as the theme of the park should be carefully considered upon site selection. While the

living environment is likely to deteriorate in the big cities, there is stronger grass-root appeal for having better urban living environment and artistic landscape. The degree of greening and environmental quality as well as the location of the residential park has more become an important criterion for people to buy new houses.

1. To Determine the Location of a Residential Park, the Following Principles should be Respected

1) Convenient use by all the residents, i.e. location at the centre of the residential quarter is to be prioritised.

2) Close to beautiful natural or human landscape, e.g. lake, pond and woodland etc. To integrate the park with the natural scenery not only satisfies people's needs on pleasant environment and the landscape art, but also reflect the harmonious coordination between human, nature, society, and history and culture.

3) Close to trunk roads. This has two advantages: serving more citizens and playing as a buffer zone to protect residential buildings from noise and dust, and increase pedestrian safety.

4) Close to suburb, seaside, woodland or scenic zone if possible. Linking residential parks with the suburban open space can benefit air ventilation of the residential areas to upgrade their environmental conditions.

2. The Scale of the Residential Park

A standard residential quarter normally contains 3-4 neighbourhoods, with a total scale of 20-30 hectares. According to the actual land use and

environment conditions, 1-2 residential parks and 3-4 neighbourhood parks may be allocated. Normal population density of a residential quarter is about 500 people per hectare with a total population of 10,000 to 20,000. The area of public open space is about 2-4 hectares if calculated as 2 m² per resident. As the residential park is the largest and well-equipped open space in a residential quarter, occupying about half of the total public open space, its scale is normally between 1-2 hectares.

3. The Facilities of the Residential Park

The residential park has relatively capacious space in facilitating various leisure activities including children's playground, and space for body exercise, jogging, board games and gathering. Many residential quarters have their club, swimming pool, elderly centre and kindergarten located near the residential park to take advantage of its pleasant environment.

The basic facilities of a residential park, according to the scale of funds and leisure requirements, may include a body-exercise square, a children's playground, footpaths, trellises, pavilions, verandas, kiosks, lavatories and dustbins. Other facilities, when appropriate, may include an outdoor swimming pool, telephone boxes, springs, ponds, trails for the disabled, and sculptures and gardens.

IV. THE DESIGN CONCEPT FOR A RESIDENTIAL PARK

The residential park, in addition to providing necessary leisure facilities for the residents, should also satisfy the cultural needs of the community, which may well be required to mirror the theme of the contemporary urban life, and science and technology. The rationale of the design concept is to

transform the park as a legible essay with concise and friendly rhetoric.

There has been rapid residential development in China's cities in the recent years. For example, there are about 2,000 real estate companies in Beijing. It has been more recognised that the real-estate market is largely sustained by providing quality living environment. Therefore, the notion of enhancing the open space has been widely accepted by many of the developers. Open space and the degree of greening has become a selling point of the housing market. Various kinds of residential parks are designed through interpreting customers' psychological demands. The most prevailing style at the present is the Euro-style gardens, which reflect the mood of blindly worshipping the West, with subsided piazzas and Roman columns and sculptures. In fact people's knowledge develops according to the development of science, technology and culture. They would like to enjoy and relax in the beautiful environment to recreate themselves for their aspirations. Therefore the applied environment for residential use is desirable. The residential park is the most attractive place of outdoor activities for the local residents. The design concept therefore would include the followings:

1. To Disseminate Knowledge of Modern Science and Technology

For example, the children's playground in a residential park in Beijing is designed with the computer keyboard pattern to allow children to play games on it, which facilitates them to familiarize keyboard operation. (Figure)

2. To Develop the Traditional Culture

A nation's traditional culture often deposits several hundred or even several thousand years of

history and art. Some new fields may be developed through efforts made by artists and designers to upgrade the traditional culture to a new level that is easy to be apprehended and appreciated by the citizens, e.g. the Pavilion Garden in Beijing's Taoranting Park, the stone scenes in Hefei's experimental neighbourhood Amber Villas, and the Board Game Garden in Beijing's Xishangyuan neighbourhood.

3. To Emphasize Integrating the Western Design Concept

The integration of the Western and Eastern culture is a tendency in China especially after 20 years of reform and opening to the world. The so-called "integration" means that of the design theories and methods rather than simply copying, e.g. ecology applied into gardening, and the traditional Chinese style planting arrangement into western style lawns.

4. To Reflect Local Culture

China is a country with many minorities who have their own traditional culture, e.g. the bold and

generous style of the Tibetan architecture, the Mongolian yurt, and the Flower Bridge and fineries of Chuang and Yao, etc. The designers must not ignore these excellent traditions and cultures in park design, and should further integrate these features into the modern gardens to manifest the local identity.

5. To Embrace the Harmonious, Peaceful and Warm Feeling of Home

"Home" is a comfortable and peaceful place that permeates an atmosphere of safety, quietness and happiness. It is appropriate to make effort to construct an unpretentious, quietly elegant, and easy style and feature for designing the landscape style of a residential park.

In a word, it is very important to apply and develop the contemporary design concept and to create gardens that fit into the modern life in terms of designing a residential park, because it is closely related to the daily life of the urban dwellers and has the most potential of flexibility and creativity in inventing a new garden environment in an urban setting.

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