

Analysis of Design for Green Landscape Facilities in Outdoor Recreation Space

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Abstract: In the design of urban outdoor recreation space, the green landscape is of great importance to divide the scope of plant landscape and rest it on the green landscape facilities, like, flower beds, tree pools, hedges and other such combinations. By analyzing its functions and current problems, this paper aims to present the principles and key points of this kind of design.

Key-Words: outdoor recreation space; greening; facilities; design

1 Introduction

Among many designs for urban landscape, the design for outdoor recreation space represents an important aspect, such as, urban squares, parks, pedestrian streets, the public areas in community---they are all places with the nature of recreation. Outdoor recreation spaces serve for comfortable and leisure entertainment, which are available to many pedestrians in most cases.

Under this kind of environment, the landscape elements with both practical and aesthetic function and the small sized structures play a huge and important role in creating a comfortable atmosphere like home, which enables the outdoor spaces to become an area for pleasant activities like indoor spaces, thus serving as the material carriers fulfilling the recreational functions in landscape spaces. Because greening plays a leading role, the landscape facilities which help to divide the scope of plant landscapes and rest it upon green landscape facilities become the absolute priority in design [1]. The common green facilities are flower beds, tree pools, flower pots, planting pits, pergolas, hedges and other such combinations.

1.1 Practical Function

It forms the main function of green facilities and serves for the general public, which provides a support for trees, flowers and plants. It divides the size and scope of them, thus creating the atmosphere of nature in the clusters of urban concrete architectures to satisfy the urban dwellers.

1.2 Environment-Improving Intention

Greening facilities supplement and strengthen the environmental spaces through their forms, quantity and compound styles, such as the repetition of arbor tree pools and seats around clearly directing the entrance of square in space (Fig.1). This kind of auxiliary function works through the forms of street furniture and the space environment around.

Fig.1 the arrangement and combination of tree pool and seats has a definite guidance to the square entrance. (Source: author)



1.3 Landscape Decoration

This kind of decorative effect comes from the echoing and rendering effect of the combination of plants and the artistic aesthetics in the facilities (relying on plants) and environment. The combination of plants, elements and architectures complement each other well.

1.4 Comprehensive Functions

The functions of many green facilities are not single, for example, the flower stand has the functions of refreshment or vehicle block at the same time, etc. This plays an effective role in improving the quality of space and utility (Fig.2).

Fig.2 the green facilities complex with the functions of flower bed, rest, recreation and appreciation (Source: author)



2 Existing major problems in the design for greening landscape facilities of the urban outdoor recreation spaces

2.1 Monotonous Forms

It is quite a common problem of neglecting personality in designing and building current urban outdoor space. Similar and monotonous constructions without features can be found everywhere. For example, once the sitting flower beds, tree pools and flower stands with similar style appear somewhere, others will follow suit in China, which is quite lack of personality and innovation.

2.2 Lack of humanized designs

Due to the large streams of people in outdoor recreation space, it must be equipped with rationally structured and abundant facilities to satisfy people's various kinds of demands and to fulfill its multi-functions. However, there are many designs lack of considering for humanized demand. For instance, the areas for lawns and shrubs are so large that they block traffic arteries or are tramped by pedestrians for the sake of convenience, which destroys the greening landscape; the corners of green areas or the flower beds are built with hard materials and the chamfers are not built well, posing a potential hazard to pedestrians, etc [2].

2.3 Rough Construction and Poor Maintenance

Like other urban utilities, the rough construction and lack of final management and maintenance always leave the actual situation of greening landscape facilities unsatisfactory. For instance, there are no relevant fixation and blocking measures for the mud in the tree pool, which will loosen and drop the mud out of the tree pool and accumulate sewage to splash out, causing many inconveniences for the pedestrians; lack of other ancillary facilities, like dustbins, also leads to placing much rubbish around trees, destroying the beauty of the environment, etc.

3 The design Principles for Greening Landscape Facilities in Outdoor Recreation Spaces

3.1 Humanized Design Principles

Green facilities directly face people, function and serve for people. Therefore, its design must be based on the multi needs of the physical, spiritual, physical and mental aspects for people. Firstly, it must provide rational and ample green existences to satisfy the mental and physical needs of people; besides, the size of facilities should accord with ergonomics so as to be felt warm, pleasant and comfortable; thirdly, the greening forms with different sizes and types should create different spaces which are open, semi-private to meet people's needs for different recreational activities; at last, green facilities should be humanization in all aspects: it should be barrier-free to provide convenience for the disabled.

3.2 The Design Principle of Integrity

The repetition of the same design element in some recreational space can run through the whole design, which presents people with sense of vision and touch on the whole, creating an integral spaciousness. For example, in a large-scale recreational space, the green facilities in every landscape area are designed with mutual-independent style and the similar materials with the seats and street lights in this area, which put the whole area in an integrity tone and is easy to separate from other spaces (Fig.3). Besides that, integrated designs can also be made between greening facilities and artificial rockeries, landscape walls, seats and vehicle barriers to develop integral and multi-functional recreation space [3].

Fig.3 the greening facilities and seats with the same materials and



3.3 The Design Principle of Flexibility

In most cases, outdoor recreation spaces are crowded with people. If the facilities for rest are integrated in the design of green facilities, then the crowdedness of seats can be greatly improved. For example, the seats around plants can be designed by using the tree pools and with flower beds surrounded (Fig.4). Compared with special seats, this kind of seats adds the flexibility of green facilities in form and improves its functions, which provides people with multiple choices at the same time.

One should consider the update and mobility in use when designing other green facilities. For example, the design of pulleys at the end of large flower pots can vary according to arrangement and combination, which gives people freshness for recreation space. If there are some activities in need of a large space in this area, the convenience of moveable greening facilities can be seen clearly. It is the moveable greening facilities that makes it possible to transform flexibly.

Fig.4 the tree pool designed in the form of seats



3.4 The Design Principle of Regional Style

Every country, every nation and every region boast their unique local customs; likewise, different climates, terrains and customs create different regional symbols, such as the paper-cut in northwest

and Sizhu (traditional stringed and woodwind instruments) in the region south of the Yangtze River, etc. People will have instinctive connections and deduction out of seeing these things for a long time. Therefore, designers should integrate this kind of regional symbols into the design of green facilities with representative patterns, colors and materials and other decorative forms, which will play its role in improving charm of culture, business, tourism and other aspects in this landscape space.

3.5 The Design Principle of Aesthetics

Apart from the utility in the design of greening facilities, it should also accord with the general rules for form beauty in terms of unity, balance, proportion and rhythm to bring the feeling of beauty to people's mind and body. In design, one should perform the inner design by ingenious patterns, styles and space combinations, in which the aesthetical effect in integral form can be achieved by combining the different forms of shrubs, arbors, flowers, hedges and grasses with plants in different colors.

3.6 The Design Principles of Combination of Decoration, Manufacturability and Science

Modern greening facilities are a part of industrial products, the designers of which should integrate decoration, manufacturability and science into the design of greening facilities. In the design of cellular structured facilities with the function of ornament, one should be exquisite and fine in choosing materials and be more delicate in manufacturing than the relatively-large facilities, only by which the balanced decorative effects can be achieved.

4 Conclusion

Compared with the design for facilities in other spaces, the designs of greening facilities in outdoor recreation spaces have much common with the former one but many differences in design. For example, the greening facilities on ordinary roads is comparatively large in size and concise and outstanding in style and color, which can leave impression on the fast moving people. However, people in recreation space are mainly walking slowly or staying, which is necessary to provide small sized and exquisite street furniture for tasting.

Therefore, one must consider the speciality of recreation space in specific design.

In the space with hard ground as major materials, flower beds and flower pots are important means for greening, whose positions are always the focus of attention. Other decorations cannot compare with the colorful and vigorous flowers. As decorations at both sides of the roads or corners, flower beds and flower pots can also divide space in square. The flower stands can be built with a 30-50 cm height which is convenient for people to sit on. The street trees can provide shelter and shade for people in the walking space as well as cover the unsatisfactory building façade and beautify the environment in this space [4]. If the facilities for rest are set around trees, its utilization rate will be higher than in other positions. A special pavement, metals or concrete grate is used on the surface of tree pools, whose obstruction for raindrops escaping into the ground is relatively small, helping trees to grow. Its advantages are to fix earth and level off the ground.

In arranging greening facilities, designers should first consider the plants in terms of different forms and features, color variation in four seasons and the effect of combination among different breeds to satisfy the environmental needs. Or to arrange some movable flower plants alternatively according to their characteristics in different time to maintain an ever-green landscape. From the design for greening landscape facilities and the quantity and arrangement of flowers and trees, people can feel that the environment designers and administrators pay much attention to the quality of landscape spaces and humanized concerns for urban dwellers.

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