The Landscape Design of Qi Cai Yunnan No.1 Commercial District

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Abstract. With the increasing development of the urban commercial pedestrian street, the large flow of people has brought many troubles, such as the conflict between the floating crowd and the static crowd, the crowd crowding, noise and noise in the pedestrian street, these problems can be solved by the layout of the central square of the commercial street. Through the Landscape design of the Qi Cai Yunnan No.1 Commercial District as an example, reasonable road planning and square node partition design are carried out in order to solve the problem of crowd congestion and provide a high-quality activity and communication space for people.

1. Introduction
The central square of the commercial street is the main landscape node of the commercial pedestrian street and it is an important component of the urban public space, even the landmark of the city. Nowadays, shopping plazas, restaurants and cultural entertainment places are mainly concentrated in the pedestrian streets of commercial districts in the cities.

Central plazas of commercial districts can not only improve the internal quality and overall image of commercial streets, but also provide convenient, beautiful and comfortable walking environment for consumers. As the most crowded place in the city, the design of the central square can also relieve the flow of people and traffic congestion. For the design of the commercial street square, landscape nodes of different functions and sizes can be arranged according to the layout of the shops in the pedestrian street, among which the node design of the central square is the most important.

2. Project Overview

2.1 Geographical Conditions
Qi Cai Yunnan No.1 city business district is located in the opposite Gong district municipal administration center, the east side of the district is near Qi Cai Yunnan Road, the green city center, the south side of the district is near the south central urban landscape park, Jinxiu street, the west side is near the Yu road, the north side is near the Yun road. The business district is the core area of Gong district of Kunming and also the administrative center of Chenggong new area, the central part of the business and cultural exchanges. The surrounding road system is relatively perfect, the transportation is convenient, the accessibility is high. It only take half hour to get to the airport, the south city, and also the old city.
2.2 Humanistic Analysis
The spirit of Yunnan’s ethnic cultures, that is inclusive and inclusiveness, the openness of multiple coexistence, the nature of being close to nature and the harmony of cultural ecology, embody a harmonious lifestyle. The colorful ethnic cultural resources in Yunnan include unique ethnic culture and songs and dances, customs, handicrafts, costumes, architecture, food, festivals, etc. which constitute the unique cultural landscape of Yunnan. It mainly includes the following aspects: national songs and dance resources, national folk handicraft resources, national costume cultural resources, national festival cultural resources and national food cultural resources.

2.3 Problems
In the square design, we are faced with the following two problems:

2.3.1. Function
How to integrate the existing urban space and landscape elements through the design of the central square of the business district, on the premise of meeting people's basic needs and functions, to solve the problems caused by the large flow of people in the square, and at the same time create a diversified central square of the business district.

2.3.2. Space
How to partition reasonably to meet the functional needs of viewing, resting, entertainment and etc.

3. Planning and Design
Aiming at the surrounding environment and activity groups, the main targets are ordinary citizens, tourists and shopping customers. According to local conditions and different people, the design meets the needs of different ages and activities of the square. On overall layout, the Qi Cai Yunnan No.1 Commercial District is mainly divided into a quiet area and a dynamic area. The quiet area refers to the lawn recreation area in the west of the square with more green planting, forming a relatively private space and effectively isolating noise. The dynamic area refers to the middle and east of the square. It is a completely open square and is the main entertainment area for people where the flow of people is relatively dense. In terms of pedestrian flow analysis, the square is mainly divided into three types of roads, the square roads interspersed inside, the pedestrian roads surrounding the square, and the surrounding urban roads. In the internal roads of the square, there are direct roads from the north to the south which is convenient for people to pass. In terms of vertical analysis, the central and eastern parts of the square are closed to the urban roads and the three layers of sunlight steps are set up at the leisure lawn in the west so that the overall leisure area is 600mm which is higher than urban roads.

![Figure 1. General layout of the square](image-url)
3.1 Space Node Design

3.1.1 Play Area for Children
As an important landscape node area of the square, the children's play area is located in the eastern part of the square and its outline corresponds to the road shape of the square. In order to enrich the children's activity space, sand pits, climbing nets, slides, balance beams and etc. are designed on the site. In order to enrich the space level, the sandpit adopts the sunken type and the slide can be directly drawn into the sandpit. In order to facilitate parents to take care of their children, tree pool seats, porch shelves and rest benches are set up all around and drinking pool tables are considered to provide seats for parents to take care of their children and improve the interaction between them. Considering the nature of children which they like jumping and their balance is not as good as adults, so the venue uses colorful PU material to improve the safety of children.

Figure 3. Play Area for Children

3.1.2. Central Fountain Square
The central fountain square is located in the center of the square. In order to highlight the center and enrich the spatial levels, the fountain plaza uses a 900×300×300mm finely ground granite surface. In the height difference treatment, the place rises two steps, each step is 150mm high and the overall lift is 300mm. At the east and west ends of the fountain square, two shading wooden seats are designed and the music leisure seat is designed at the north end to provide people with rest and viewing. Overlooking the center of the site, there is a flower pattern composed of leaves. Some leaf patterns are designed as small fountains. In addition, a strip fountain and light stripes are set at the south end of the square. In the daytime, the transparent fountain can be seen and in the evening, a colorful outdoor activity space can be provided for people to increase interest and appreciation.

Figure 2. Analysis chart of human streamline
3.1.3. The Shallow Water Pool Area

This area is set on the side of the road that leads to the square quickly. The pool is semi-circular and sinks 200mm relative to the road. Rockery fountains are placed in the pool to increase the appreciation along the road. At the main fast access point, a wavy wooden bridge is set above the pool and landscape lights are installed around it. During the day, you can see the transparent fountain and the pool and during night, you can see the illuminated fountain and the shallow pool. The wavy wooden bridge is a characteristic landscape sketch. The curved wooden bridge can not only increase the appreciation of the water scenic area, but also play and take photos, thereby increasing the interaction of people in the square. The water area on the west side serves as a node connecting the road in the square and the leisure green space. The characteristic wave-shaped wooden bridge can attract people’s attention. The two ends of the bridge are connected by the square road and the large sunny steps of the leisure green space which can attract people involuntarily into this space. A curved corridor is designed next to the water area on the east side which echoes the shape of the road in the square. The main function is to provide people with a place to rest and give people a considerable view.

3.1.4. Leisure Green Area

In order to create an ecologically breathable local space on the square, a leisure green area is designed in the west of the square which is the quiet area of the square the overall area is 600mm higher than the road. There are three entrances and exits along the sidewalk. The interior of the square is entered by the three-story sunny steps and the whole space is semi-open. The leisure green area is surrounded by lawns and planted trees which can isolate the noise better. Four gentle slopes are designed on the large sunny steps on the third floor to facilitate the passage of all kinds of people and visually attract people to enter the space involuntarily. Four corridors are set up in the leisure area and the central lawn is an open lounge. The other three places are semi-private retreats. Landscape sketches are designed at the gallery, such as fountains, shallow ponds, pavilions, and tree-lined paths. The large shade of leisure green square provides people with a comfortable and pleasant space to enjoy cooling and breathing.
3.2 Plant Configuration Design
The plant configuration in this project mainly adopts enclosing and grouping methods for landscaping. The square is surrounded by commercial areas and all sides are close to urban roads. There is a large traffic volume and more exhaust emissions. For plant configuration, tree species with strong resistance to exhaust gas and smoke are mostly used. Holly with a height of 900cm is planted in these two places as the first-level tree species, the second-level tree species is Magnolia grandiflora and the third-level tree species is Hongye plum. The height of the three-layer plants is uneven and tree species of different colors appear in different seasons. For example, in summer, magnolia trees are full of white flowers and red leaves and plums are red in autumn, providing people with a beautiful and comfortable square environment.

The surrounding plants on the lake shore in the leisure green area are planted with clusters and clusters of skeletal trees such as pond fir and metasequoia to form a natural skyline with trees that are resistant to water and humidity, such as cypress and willow, etc. On the shore, the skyline undulating changes which have a profound sense of depth. The plants in the lake include calamus, cattails, lythrum, etc, forming a rich water surface landscape and avoiding the monotony of the water surface cleverly. At the same time, it also provides a better space for people who relax here.

3.3 Lighting Planning and Design
The entire square uses three different types of lighting. The first is street lights which are set every 10 to 15meters on the sidewalks around the square. The second type is landscape lights which are symmetrical on both sides of the main roads of the square. The lighting method is arranged at an interval of about 20 meters and the landscape lights in the square landscape and the trails and green belts are arranged in a cross-lighting method on both sides or a single-sided lighting method, with an interval of 8 to 15 meters. The third type for floor lights, used high-purity aluminum alloy materials located in the central fountain square and the straight passage of the square with an interval of about 2m, such as LED floor lights. At the same time, it can also be placed on the large sunny steps of the seat and the leisure green area.
4. Conclusion
In summary, with the rapid development of our country's urbanization process, the development of urban commercial streets has become more and more prosperous and the central square has played an important role in smoothing the flow of people. While satisfying people’s daily work, leisure and entertainment, it also further enhances the interaction and participation between people and the landscape, creating a green and ecological central square in the business district and seeking a place that integrates viewing, leisure and culture. The comprehensive square interactive space allows people to fully feel the breath of nature.

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