

Application of Sponge City Theory in Road Greening Landscape Design

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Abstract: The construction of sponge city road greening landscape design is a main direction in the future development in China. By constructing a sponge city landscape, the function of urban greening landscape can be enhanced, and the internal water loss of the city can be reduced. At the same time, it will greatly help the greening landscape. Therefore, the development of domestic cities follows the path of sustainable green construction. This paper aims to develop the design of related schemes based on the theory of sponge city, the related application of road greening landscape design and the specific implementation. Meanwhile, the relevant role of sponge city theory in road greening landscape design is further carried out to relevant theoretical analysis.

1. Introduction

The development speed of cities in China is getting faster and faster, mainly because industries and buildings have caused certain damage to the surrounding environment. At the same time, people's activities have become more and more frequent. Urban water-use has also been seriously damaged. It has not only greatly affected the image development of the city, but also has caused great damage to the greening of the city, so that China advocates the strategic goal of sustainable development. With this phenomenon, the sponge city design standard is proposed. Enriching and further promoting the urban road greening landscape design can enhance the city's landscape image, optimize the city's internal system, and enhance the city's water storage function. At the same time, it is also a practical and effective role for the sustainable development of the sponge city theory.

2. The Purpose of Road Greening Landscape Design

The purpose of road greening landscape design is mainly to carry out sustainable development work based on the concept of green development, and then rationally carry out relevant green landscape design based on actual water resources, and show the development of the city from different artistic perspectives. Meanwhile, it can promote people's economic development, make people's living conditions and environment more comfortable, and give people a better experience in life. At the same time, greening landscape design not only plays a certain practical significance to the environment, but also brings a certain sense of comfort to people's lives. From the perspective of ecological environment protection, it realizes the reasonable allocation of urban resources for

sustainable development. Through the management and control of rainwater, the coordinated and sustainable development of the humanities of the city is ensured, and a natural and fresh environment is created.

3. The Basic Content of the Sponge City Theory

The relevant content of the sponge city theory is mainly to build a city that can promote the storage and effective use of water resources within the city. By constructing a green landscape, optimizing the content, increasing the green area of the city, and effectively improving the image of the city, then it can consolidate the use of urban land resources and water resources, protect the land and environment inside the city, and enable residents to live better. At the same time, it is also an important goal to ensure the stable and sustainable development of the city. The second is to build a sponge city to increase the supervision of the city's internal water resources, through functions such as water storage and release. For the centralized management and sustainable development and regulation of urban water resources, it is also necessary to ensure the rational use of water resources. During the entire internal recycling process, it is also possible to ensure that the supply of urban water resources is fully satisfied, and to realize the rational recycling of water resources, promote the same urban sponge and promote the new direction of the modern development of sponge properties.

4. Specific Application of Sponge City Theory and Technology in Road Greening Landscape Design

4.1 Application of Interception Technology

For road landscape design and the theory of sponge city design, the first specific application is the application of interception technology. This application is mainly formed through precipitation. Once high-speed circulation occurs, it will operate through urban underground passages, resulting in urban underground waterways. Excessive bearing capacity may even bring some damage. At the same time, the ground is washed to a certain extent, the ecological environment will also be severely damaged, and the sewage in the city will increase. Therefore, it is necessary to use the sponge city theory to design related road greening landscapes and sinking greening design models. Among them is the width and depth of the overall isolation of the green belt, which is mainly to carry out a certain evolution of sewage and ensure that the sewage can flow into it correctly, and the interception technology reduces the impact pressure generated by urban pipelines. Meanwhile, the use of vegetation for irrigation and washing to reduce the amount of water on the ground can improve the purification of the city, and then has a certain protective effect on the urban environment. It is also of relatively important significance for the green sponge urban landscape design. This interception technology is still quite mature, through this interception technology to ensure the rational application of water resources.

4.2 Application of Permeation Promoting Technology

The so-called permeation-enhancing technology mainly has strong water permeability for the construction of urban greening landscape design, through the substitution of materials to increase the area of the crevices of the landscape, and at the same time, the permeability of rainwater can be greatly guaranteed. Rainwater can reach the underground through permeable materials or crack, and then through the function of evolution or water storage, and further through the sidewalk, driveway, green belt and other functions to reach the corresponding permeable area. The main purpose is to

ensure that the water can be stored in a permeable manner to increase the water storage capacity of the city. On the other hand, because the rainwater is stored for a long time in the area with a large amount of rainwater, it can use the water storage function. Concentrate rainwater in one place, and it can also get a certain degree of pressure for the long-term brewing of the road, reduce the damage of urban roads, and enhance the image of the city. Therefore, this permeable material includes asphalt, mixed materials, water, bricks, etc. Through such materials, the water permeability of the city can be improved, while ensuring the further development of urban landscape design, and improving the level of the city's internal ecological environment and the direction of sustainable development.

4.3 Application of Regulation and Storage Technology

The application of regulation and storage technology is to reduce the impact of rainstorm. Due to the high water-flow caused by rainstorm, it can effectively reduce the pollution of water-flow. In the road greening landscape, through sunken greening, reservoirs, etc., rainwater management can be achieved through regulation and storage technology, which is mainly due to the large rainwater runoff. When the green belt is saturated with rainwater, this water will easily overflow, and then the regulation and storage technology is used to store rainwater. For example, the amount of water in the green belt of municipal roads has reached saturation, and the water flow will flow to the road. How to further store the water flow is to realize the reasonable application of water resources in the surrounding arid areas through regulation and storage technology.

5. The Basic Principles of Using Sponge City Theory to Design Road Greening Landscape

5.1 Reasonable Planting

The relevant principles of designing road greening landscape through sponge city theory. Reasonable planting is one of the basic conditions for road greening landscape. The main consideration of cultivation design through sponge city theory is to ensure that the sponge city theory is applicable to urban road landscape design. The conditions that must be selected are water storage and the rationality of the growth of green plants, among which climate is also one of the very important principles. When choosing a position, vegetation with strong adaptability and growth should be selected. Optimizing the development level of landscape design and its reasonable cultivation are mainly through the sponge city greening landscape design. The cultivation of green plants must be rationally selected. This design is very necessary and also important.

5.2 Focus on Differences

Regarding the development of green landscapes to sponge cities, we must pay attention to the differences. Our country is vast, most of which are cities in climatic zones with a wide distribution area. The climate difference between the north and the south is relatively large. For the design of green urban landscapes, for sponge city theories and its various climate, temperature, humidity and other differences brought to the plant growth environment. The road design landscape is mainly based on the season and climate, and the corresponding problem analysis is carried out by considering the absorption of water by the vegetation, and the relative difference must be paid attention to in the selection process. For example, drought resistance, temperature and cold tolerance, different growth conditions at different altitudes, etc., should be based on different growth measures and breeding measures to further improve related differences and growth

differences, to ensure the rational growth of plants, and at the same time to improve the process of city sponge action.

5.3 The Relationship between the Road System and the Overall System

The rainfall and snowfall conditions in different regions and cities are different. In the urban road landscape design, it is necessary to fully consider the natural conditions such as climate change in different regions. For cities with low rainfall, it should increase road water storage functions, build reservoirs, and realize comprehensive utilization of rainwater resources. For cities with heavy rainfall and flood disasters, it should scientifically use permeable materials to relieve waterlogging pressure, so that urban roads can pass normally.

6. Conclusion

To sum up, the relevant proposals for the sponge city theory, the sustainable development strategic goals achieved by Chinese cities, and the improvement of green landscapes and the overall design of green landscapes within cities can not only comprehensively improve the effective balance of urban ecology, but also manage the regulation and storage of water resources in a large part of importance, promotes the development of sponge city theory in road green landscape design, and related applications can also promote the effective development of the entire city.

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