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Application of Land Engineering Technology in Land Ecological Land Reclamation

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Abstract

Land consolidation is an important way to effectively increase the area of arable land and improve the quality of arable land. It is also an effective way to ensure the national red line of 1.8 billion mu of arable land and ensure national food security. In recent years, the land consolidation model has gradually shifted to ecological land consolidation, especially in the context of the requirements of ecological civilization construction in the new era, focusing on ecological land consolidation is also a product of conformity to the times. Through the application of land engineering technology in ecological land remediation projects, this paper analyzes the importance of land engineering technology to promote the sustainable development of rural ecology in our country, hoping to provide the necessary reference for the continuous improvement of ecological land remediation project models.

Keywords

Engineering technology; Ecological type; Land improvement; Technology application.

1. Introduction

With the continuous strictness of the arable land protection policy, the focus of land improvement work has gradually shifted from focusing on the quantity of arable land to focusing on quality, ecology and continuous improvement of arable land production capacity. Under the background of the life community of "land, lake and grass", the ecological land remediation model has gradually become an inevitable requirement for the development of the new era. Land remediation is an effective way to improve the agricultural ecological environment. The economic development of modern agriculture not only pays attention to the growth of agricultural output, but also pays more attention to the impact of agriculture on the ecological environment. Ecological concepts and concepts of land remediation should be developed in a coordinated manner. Ecological land remediation plays an important role in maintaining land remediation. The sustainable development of the project is of great significance. The smooth implementation of land ecological improvement projects requires a complete land engineering technology design plan, as well as different design plans for land ecological improvement of different scales. It is necessary to provide a scientific theoretical basis for land ecological improvement and allow land engineering technology to innovate independently. Develop land engineering technology according to local conditions, so that its technology can be comprehensively upgraded to achieve the goal of sustainable development. Strengthening the ecological improvement of the land can improve the agricultural ecological environment, improve the production and living conditions and the appearance of the village, and effectively promote the revitalization of the village.

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2. The Concept and Main Content of Ecological Land Improvement

Ecological land remediation mainly refers to land remediation and ecological restoration carried out in accordance with the concept of "landscapes, forests, fields, lakes and grasses are a community of life". It not only refers to the restoration of natural ecosystems, but more importantly, in accordance with the background values, attributes, and attributes of natural resources. The rectification model established by the concept of boundary and other concepts is to realize the harmonious coexistence of rural revitalization, urban prosperity and natural resources. The ecological land improvement currently carried out more reflects the integration of the concept of unified restoration of landscapes, forests, fields, lakes and grasses with existing work content. In 2019, the pilot project of comprehensive land consolidation implemented by the Ministry of Natural Resources aims to implement the strategic plan for rural revitalization, involving agricultural

Three aspects: land consolidation, construction land consolidation, and rural ecological protection and restoration. In 2016, the first batch of pilot projects for ecological protection and restoration of mountains, waters, forests, fields, lakes and grasses implemented by the Ministry of Finance, the Ministry of Land and Resources and the Ministry of Environmental Protection set the contents of mine environmental management and restoration, land remediation and pollution restoration, biodiversity protection, and watershed water. Five aspects of environmental protection governance, ecosystem restoration and comprehensive improvement.

3. Ecological Land Engineering Technology

3.1. Soil Organic Reconstruction Technology

The soil organic reconstruction technology must be implemented as a key project content. First, construct an environmental landform suitable for vegetation growth and provide a good environment for vegetation growth. In the process of soil reconstruction, make full use of the surrounding environment and existing conditions to reshape the soil in order to ensure the stability of the soil structure. Secondly, on the basis of ensuring compliance with the principle of adapting measures to local conditions, different integrated projects are used to reshape the soil, and the continuous stability of the topography and soil erosion and other issues must be paid attention to when the soil is reconstructed. All the problems are reorganized and finally built into a good ecological environment.

3.2. Plant Remodeling Technology

In the ecological reconstruction design work of the land improvement project, plant reconstruction should be an important content. Therefore, the intensity of vegetation reconstruction must be particularly enhanced to help the land restore its original topography and create a good growth environment for the growth of plants. In this regard, plants must pay attention to several issues in the growth process: First, we must combine the differences in regional climate or reclaimed soil conditions, and choose plant planting types reasonably. This can meet the growth conditions of a variety of plants to a certain extent. In addition, the completeness and diversity of plants must be ensured in the process of plant reconstruction. Some vegetation with high survival rate, stress resistance and strong resistance ability can be selected appropriately from the local vegetation. These plant systems can attract more animals. Form a good ecological chain and build a good ecological environment. Secondly, if the plant is in the recovery stage, it is necessary to comprehensively consider the composition, structure and level of the plant, as well as the surface coverage, to increase the intensity of work and remediation, so that it can gradually form an ecological cycle. At the same time, strengthen the water storage function, which is more conducive to the growth of surrounding plants, and

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reduces or reduces the probability of soil erosion problems. Finally, the vegetation growth space must be considered comprehensively when the plant is reconstructed. If the land restoration area is close to the existing large-scale vegetation, then a corridor connecting with these vegetation should be constructed to provide a good environment for the growth of vegetation.

3.3. Ecological Function Reconstruction Technology

The ecological reconstruction design of the land remediation project should be regarded as the core content of the ecological function reconstruction of the land. The purpose of this link is to better protect the ecological environment and build a relatively complete ecological environment system to improve the functionality of the ecological environment. The specific reconstruction work can be carried out by the following work contents: First, construct a complete water conservancy ecosystem based on the actual situation of the project area, improve the irrigation capacity of the water conservancy ecosystem, and enhance the self-repair function of the land project. Moreover, it is necessary to improve the terrain and road ecosystem according to the local geology and topography characteristics to ensure the maintenance of a good ecological environment. Secondly, if we are based on the perspective of sustainable development, we must combine the actual conditions of land engineering implementation and reasonably divide different functional areas to build a relatively complete land ecosystem. In addition, it is also possible to make full use of the relevant theories and techniques of plant physiology and landscape ecology to reorganize different vegetation types, thereby constructing a more reasonable combination or ecological space to complete all ecological materials or ecological energy. In addition to improving the utilization rate of land resources, it can also extend the sustainable development model of the ecological environment.

4. Conclusion

Land remediation refers to making full use of existing land resources to maximize and plan the utilization rate of land, and to continuously work towards this fundamental work goal. It is specifically embodied in the complete destruction of the original ecological system and the redesign or reconstruction of the existing ecological environment. In the work, we must find the established balance between interests and sustainable development, carefully analyze various problems or contradictions reflected in actual work, carefully study the main factors that affect the construction of the ecological environment, and then make targeted predictions or work Planning, in turn, lays a solid work foundation for the subsequent ecological reconstruction of land engineering, and comprehensively promotes the continuous progress of my country's land reclamation and ecological construction.

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