

Research on the Characteristics and Development of Construction Technology of Highway Road Engineering

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Abstract: With the continuous development of the socialist market economy in China, the quality of highway engineering is more and more concerned by the whole society. High quality highway engineering is not only conducive to the development of modern transportation industry, but also the public security of the whole society. Road construction quality not only affect the service life of the road, but also ensure the quality of the road, it is the basic premise of modern urban road planning. Therefore, it is very important to ensure the quality of highway engineering construction, improve the construction technology of highway engineering, promote the development of road engineering, and have a very important role in the social and economic development in the new period. In this paper, the problems and the reasons of the common highway roads construction, carries on the elaboration and analysis of the current stage of road construction technology and characteristics by which conducted in-depth study of our country road engineering construction technology and development.

Keywords: Highway road; Road engineering; Engineering construction; Construction technology

1. Introduction

The highly developed economy of the new era of transport vehicles also have a new requirement of modern transportation net mainly high-speed railway, aviation and road, and highway transportation because of its flexibility in the transportation network plays a fundamental role, also occupies a very important position in the construction of socialist modernization. With the construction quality of Highway Engineering in recent years, more and more widespread concern of the whole society, the state of highway engineering construction department has increased the importance of the degree and management. Thus, in the new development situation, our country road engineering construction quality problem is to play a new role, the whole city planning and construction to the scale, standardization development. Therefore, to improve the quality of highway construction and construction technology is an important part of the new era of urban development strategy.

2. Common Problems in Road Engineering Construction at the Present Stage

In our country at present stage of highway engineering construction, there are some influence the normal construction and construction quality question. The first is the problem of engineering construction and the attitude of road construction personnel, due to profit driven by some road project developers, in order to obtain the max-

imum profit, the construction costs dropped to the lowest point, so not only affects the overall quality of the road, and in the construction of ability construction technology of small scale engineering team will have very low the construction, due to cost constraints, the project team building materials are generally low in price, but the quality is not guaranteed, and in the construction of the machine, will use the part does not meet the national standard production, not by the national special testing machine, and the engineering construction management is not strict, it is difficult to ensure the normal the quality and standard of the construction project.

In addition, in the current stage of highway construction process, there are a lot of objective factors leading to the quality of the project problems on. For example, affected by topography, the bearing capacity of highway subgrade is too low, resulting in road engineering road surface is not smooth or crack. Such problems, mainly caused by the objective factors, the general lack of strength of the roadbed, the support is not enough, by the strong extrusion is easy to happen road degeneration. The overall situation will be more severe frost pavement, resulting in road can not be used normally.

There is the choice of materials in the construction of road construction, the actual situation of the construction of road, the road is different, the to in the selection of a variety of materials to really adjust measures to local conditions, material using specific differences and characteristics play a role in road construction, reflecting

different materials need to process, achieve the best highway road construction results.

3. Construction Technology and Characteristics of Cement Concrete Pavement

In the present stage, the construction of road engineering in our country is mainly the construction of cement concrete pavement. Because of cement mixed concrete pavement has high compressive strength using long life, water stability and repair maintenance costs low, is widely used in road construction in our country, with the current cement mixed soil pavement construction technology continues to mature and improve, the construction of cement concrete pavement has become more and more popular development is very quickly, especially in the important traffic facilities and municipal roads, access to greater development. Although, the cement concrete pavement is a rigid pavement, the hardness is stronger, in the road and the comfort of the road is not as flexible as the asphalt pavement, but in the smoothness, cement coagulation the smoothness of the soil is much more than the asphalt pavement. The roughness aspects, a new construction technology is widely applied to the construction of cement concrete pavement, namely slipform paving technology, this technology is mainly based on the road flat, to ensure smoothness of cement concrete pavement. However, this sliding mode paving technology is still a new technology in the construction of China's road engineering, there are many problems in the construction, to be further improved and developed, and because it is new technology, in terms of construction equipment needs to be invested again, where the funds invested in the larger, so, in most of the road construction is not put into use.

In addition, the construction technology of highway road project also has a very prominent economic characteristics. First of all, highway road engineering Construction is a kind of technical activity and economic activity. It should be subject to economic, technical and regulatory aspects. And you'll need to consider the specific natural and geographical conditions and the material conditions of life, according to the actual situation, the highway construction scale, structure, input and the use of material are different, so different in road engineering construction with the corresponding standards of construction. Its program has a series of complex systems engineering, needs a lot of departments of mutual cooperation and common, so the road construction technology management is a kind of high requirements of the activities.

Secondly, in view of the large flow of highway construction, the construction of a wide range, and uneven distribution, resulting in the construction of the construction process is not conducive to the construction of mobile. So in the construction process of highway alignment and construction parts and processes will continue to change, forcing the construction personnel must also continue to

flow, from time to time to transfer the construction site, so the construction management and construction efficiency is greatly affected.

Moreover, the road construction of the road is a long period of construction, but also by the impact of natural factors, a long time, highway road construction is the main consideration is the problem of technology and capital, and with the progress of the development of economy and technology, the modern road engineering more need to consider the factors that may appear in the construction process of the impact on the environment and the process of the construction of irresistible natural factors and influence of the many social problems. Such as construction, poor working environment, but also by the climate varied greatly, meet the warm and cold weather and snow and frost conditions will the normal construction road effect.

4. The Development of Highway Construction Technology

With the continuous improvement of the level of science and technology, new technology has been put into the construction of highway road projects. In the road engineering construction technology continues to mature, original traditional construction technology has gradually be replaced and new technology not only in construction efficiency compared with the original technology has made great progress, but also reduce the total cost of road engineering, shorten the project cycle, more to strengthen the construction of safety.

First of all, our country at this stage of the foundation reinforcement technology is more advanced, basically reached the international level. According to the specific land based on the soil condition, the composite foundation reinforcement is made by using the appropriate reinforcement material and the reinforcement method. Such as cement gravel pile and lime and other materials mixed reinforcement. Of course, reinforcement form is still pile foundation reinforcement, but traditional concrete pile foundation has been replaced by pile, in the wall to throw mud.

Secondly, concrete technology has reached a very high level, to a large extent, the development of. Mainly manifested in coagulation improvement of soil properties and the use of high performance concrete. The overall strength of the road pavement has been an unprecedented increase. Moreover, in order to improve the quality of concrete pavement, cast in situ template has been paid great attention and strong R & D, in order to reduce the cost of road construction, the Construction Department of the reasonable design of the template. And the development of mixing concrete, the use of mechanical integration of concrete mixing, the development of high performance concrete, to ensure the quality of road construction. The high development of waterproof technology

also makes the road engineering construction quality has been greatly improved. Mainly high marks the development and application of the sub materials, in the waterproof project reached an unprecedented height, so that the waterproof technology has been greatly improved. In order to make a series of construction quality have been improved. As the technology upgrade, one of the most difficult problems in the process of the conversion process. Different drawing platform under graphic data symbols are not compatible with the. This is because different software symbol library and symbol method is different, so to solve the data transformation between different platform style loss problem, only through the elements of the code of the different elements correspond to, that is, the corresponding symbol library, style can be achieved on the conversion. Style check is also an examination of the elements of the code.

Some data models support the topological relations, and other data models do not support the topology, and the topological relations of different software support may not be consistent. When from the support topological relation data model to does not support topological data model into data and topological relationship will be lost: when never support topological data model to support topological data model into the data must be re establishment of topological relations. The topology of the reconstruction is correct, whether it is missing or not, and the information should be obtained by topology checking. Measurement is a set of operations carried out by the surveyor. The measurement itself is a process. The input of the measurement process is measurement information or data that is unknown or not very accurate to the measured object before it is measured. After the investment resources, such as by qualified personnel of the measurement, after calibration or verification of qualified measurement equipment, in accordance with the provisions of the measurement process, under controlled environment conditions of measuring operation using, and realize the measurement process, by the object to be measured into with quasi accurate and reliable measurement information products. Each task in the project is a

process, so the key to the quality management of the project is to control the measuring process. Each process has three stages: input, operation, output. Therefore, a reasonable quality management is the input error, the correct operation, the output of qualified. The project must comply with the rules for measuring mapping control points and data acquisition. In the field of the original records of the measurement process should be signed by the operator, the party is effective. Measurement process through self-examination, check, review of control, eliminate the measurement of product identification records, data input, data calculation, data output and drawing errors, prevent the emergence of substandard products. All "Surveying and mapping records" shall be implemented in accordance with the provisions of the form.

5. Conclusion

In this paper, through the establishment of quality assurance system, analysis of the quality management system elements, set the quality management point, to carry out quality management system. The system control of quality management in the engineering is discussed.

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