
Discussion on Problems and Countermeasures of Construction Engineering Data Management

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Abstract

As the current society is developing at a high speed, this has not only changed people's lifestyles and quality, but also promoted the development and progress of the construction industry to some extent. The development and progress of the construction industry is closely related to the effective management of engineering materials. The role of engineering materials in construction projects is irreplaceable. It is an indispensable part of engineering projects. It not only fully reflects the development process of the project, but also undertakes all responsibility for inspection, maintenance, reconstruction and expansion. obligation. Therefore, attaching importance to the management of engineering materials can effectively improve the quality of construction. This paper gives an overview of the management of construction engineering data, and analyzes the problems existing in the current stage of data management in China. Then, through in-depth thinking, summing up daily experience and understanding the advanced practices of foreign countries, this paper puts forward relevant countermeasures to deal with current data management.

Keywords

Construction engineering, Data management, Synchronous management.

1. Overview of Construction Engineering Data Management

1.1 The meaning of construction engineering data management

The construction engineering data is an original record of all the things in the construction project. It covers the whole process of the project from decision-making, construction, use, and the entire construction stop [1], which is the legal status of the construction project. Qualified documents with quality are the basis for handling quality problems and maintenance problems during construction, and are also an important part of engineering quality. The contents of the project materials are various, and all the materials and drawings involved in the project are proposed from the initial stage of the project, various preparations for the project construction, and the design and construction of the project until the project is completed and accepted. Various forms of information such as icons, computing materials, and audio-visual materials belong to engineering materials[2]. Construction project data management is to compile, fill, collect, classify, and organize engineering materials according to relevant regulations and relevant laws and regulations, and then archive and save the collected data.

1.2 The importance of building engineering data management

Complete engineering data is the basis for schedule, quality, and safety control

With the continuous change of construction schedule, the construction engineering materials are also increasing, so the two are closely related, so the engineering materials can react to the construction progress in a disguised degree. The quality control involved in the construction management process of construction projects is mainly reflected in the quality control of the construction organization and construction site. The control content includes process control and product control, and the factors

affecting quality control are various. But it can be roughly divided into five categories, namely human factors, various materials involved in construction, various construction machinery, construction methods, construction techniques and construction environment[3]. In terms of the safety control of the project, the construction enterprise shall, in accordance with the relevant regulations, form a large number of materials that should be preserved and archived in the process of implementing the safety production of the construction project, which is the safety data of the construction project. It not only reflects the management effect of the contractor, but also guides its future work direction in safety and lays a solid foundation for building safety.

Architectural engineering archives are an integral part of construction engineering

Before the implementation of the project, construction engineering materials have begun to form and continue to increase. The actual record generated in the process of project approval before the implementation of the project is the construction project establishment document, which includes research report, project proposal, project report, etc[4]. It is the original basis for the preparation of the project budget and the bidding and other work. The various materials generated in the future not only become the basis for the investigation and design of the project, but also lay the foundation for the future construction. The information generated during the entire period from the preparation of the project to the completion of its acceptance is the content of the project file. It is indispensable in construction engineering and plays a significant role in construction engineering.

Construction project files directly reflect the quality of construction projects

The project archives are continuously generated at various stages of the construction project. It records various information in the construction project. The quality of the management of the enterprise will directly affect the project quality of the project. Only by putting an end to the bad behaviors in the management of construction engineering archives can we be responsible for the quality of the project and the credibility of the enterprise, so that its management significance can be reflected in the progress of the project.

2. Problems in the management of construction engineering data

2.1 Timeliness of data collection is relatively poor

Because it takes about one year to complete a general-scale construction project, the time required to complete a core project or a large-scale project is one to several years, and the time required for the project to be intermittently affected by other factors will be more. More, so the construction project data generation time is quite long. Since a construction project takes a long time from start to finish, it has some negative impact on data collection. At the current stage of construction of China's engineering projects, the number of full-time information staff is too small, and there are many construction companies sharing a single information worker[5]. Because the number of construction sites and the number of information staff are not one-to-one, so many materials are temporarily kept by the staff on site, because these people do not understand the knowledge of data management, and the management process and management mode of the data are not particularly clear. Therefore, it often leads to poor timeliness of data.

There are many construction engineering construction procedures, and some engineering projects are completed by multiple contractors in the order of construction. The contractor who completes the task first will often "clear the person", but since the engineering data is not collected on time, after the completion of the project, the data collection will be incomplete and the accuracy will not meet the requirements. Moreover, many engineering informants have not been trained in the system's professional knowledge or lack of knowledge about construction, so they cannot collect, sort and summarize the information in a timely and complete manner, resulting in frequent problems in the collection of engineering materials.

2.2 Engineering data management system is not standardized

At this stage, the data management of most construction companies is very confusing. When the project is completed, the materials are compiled to cope with the inspection, and the intention is to pass the customs. Such work attitude directly affects the collection of engineering data, which is not conducive to the management of the project by the construction engineering management unit.

In the construction unit, the engineering informant's work attitude is not rigorous, and the collection of data is not strict. The modification of the data without modification is not uncommon, and the phenomenon of typos is serious and the writing is confusing. The compilation of data after completion has brought considerable difficulties. Moreover, many of the supervisors did not conduct a rigorous review of the completeness and accuracy of the information when signing the information, and signed or sealed the engineering materials; and the signature phenomenon was very serious, which led to the quality inspection and completion acceptance. Many problems have had a negative impact on the reputation and image of construction companies.

At this stage, China's file management level is backward, and most of the units are still in the paper age. The paper version of the project file is cumbersome to store and use, easy to break, and can not achieve effective management and utilization of archives by enterprises[6]. The management of engineering materials has begun to enter the informationization stage. Although electronic files have been used in some areas with advanced science and technology, the electronic file management system is still not perfect and lacks unified management, which makes the file management quite messy and reduces the efficiency of management of engineering materials. Moreover, most construction companies have not used electronic files for some reasons, and the data workers still use manpower to find information in the data management work, which not only takes time and effort, but also leads to irregular work results.

2.3 The utilization rate of engineering materials is not high

Because the data management work is quite cumbersome and its system is very poor, and the construction engineering materials stored at this stage are not very complete, and there is no guarantee in its authenticity, so when the relevant units want to obtain certain information from the data When information is used, it is often due to the defect of the data, and every effort is made to find the responsible person and technician of the project to understand the actual situation, which makes the data useless and makes its utilization rate relatively low.

Although it is a good phenomenon to find experienced engineers and technicians, the information obtained only from the staff is not able to solve the problem well. To truly solve the problem, it is necessary to fully understand the engineering materials. This has a great effect on the construction of the building. Moreover, the information provided in the materials placed in the urban construction archives is generally ignored, so that it is impossible to provide guidance for projects that are already in use but require maintenance, and cannot be well managed.

3. Countermeasures for Strengthening the Management of Construction Engineering Materials

3.1 Pay attention to the collection and organization of materials

Because the senior leaders and informants of construction companies have neglected the role of materials in engineering projects, the effective management of engineering materials has encountered many obstacles. As construction companies neglect the importance of engineering materials, the quality of the project is reduced, which has a great negative impact on the image, reputation and economic benefits of the company. Therefore, the primary measure to change the status quo of engineering data management is from senior management to Grassroots employees should change their own ideas, fundamentally attach importance to data management, and strengthen their sense of responsibility for the collection and collation of engineering materials. This requires enterprises to increase capital investment and manpower investment in engineering data management, and

continuously innovate. Set up a full-time data management agency, dedicated staff. It is necessary to fundamentally strengthen the serious and rigorous awareness of employees, and re-educate employees on a regular basis, strengthen the sense of responsibility of the incumbents, and avoid the lack of certain theoretical knowledge of the staff, and the omission, loss, fraud or typesetting in the work. Bad phenomena such as chaos.

In the daily work, the data officer should pay more attention to the details, and should strictly follow the actual situation of the project when managing the data. More attention should be paid to the details of data collection and collation, and each stage will be completed, so that the true and complete data will be guaranteed, so that it can reasonably reflect the actual situation of construction engineering, improve the efficiency of data management work, and build for future buildings. The use and management of the project has laid a solid foundation for the role of construction engineering materials to be reflected.

3.2 Establish and improve data management mechanisms

Leaders at all levels of construction enterprises should attach importance to the establishment and management of the archives mechanism and set up a full-time full-time staff. With the progress of the construction project, the project archives will be formed step by step to ensure the accuracy and perfection of the construction project files. Participants in the project should plan the project archives in detail so that they can establish a sound file system and implement it into their daily work. After the establishment of the file management mechanism, we must continue to improve the management and collection of archives, and encourage the archives management institutions to keep pace with the times according to market demand[7].

It is necessary to further increase the training of relevant staff in the preparation of archival materials, and to encourage data administrators to efficiently write engineering archives and materials, so that their business capabilities have been greatly improved. Moreover, we must vigorously promote the application of electronic files in the data management process, adopt high-tech management technology, create an archive search system based on the actual situation of the company, improve the work ability of the company's staff, and make the company stand out in the daily competition process. . At the same time, file management personnel should always pay attention to the relevant laws and regulations of the country and the relevant regulations of the competent authorities, and continue to learn and master new knowledge, skillfully apply it to daily work, grasp the quality of engineering files, improve the archives mechanism, and improve the project. Data management mechanism.

3.3 Make full use of the value of construction engineering materials

When the project has not been completed, the engineering materials are constantly changing over time as the construction project. The information does not change in quantity but also in content. Well-managed and well-organized information can show people a lot of important information, for example, it can reflect the actual situation of construction projects at a certain stage. In the process of repairing and improving the later stage of the project, the perfect data has an important guiding role. After the construction project is completed and delivered, the construction engineering materials will be handed over to the Urban Construction Archives for preservation. This information is of great value to the daily management, maintenance, maintenance, repair and renovation of the construction project, and for future property management. Work also has a very important impact[8].

In daily work, people not only generally ignore the use value of engineering materials in the construction process, but also people rarely use the construction engineering materials of the urban construction archives effectively, so that the construction engineering materials can not play their due role. Construction companies should timely disclose the use value of engineering materials to employees, so that engineering materials can play their intended use value, so that the meaning of engineering materials can be reflected.

4. Conclusion

Engineering data will be generated at various stages of the project, which is constantly increasing as the project construction progresses. Engineering materials are a long and tedious task. It not only reflects the construction progress of the building from the side, but also has a great influence on the reputation and income of the participants of the project. Therefore, the relevant units should strictly require the information staff to complete the management of the data in a serious and responsible manner, and ensure the comprehensiveness and accuracy of the project data management. At this stage, China's construction market is facing severe challenges and fierce competition. If you want to stand out from the construction industry, you need to standardize the management of construction engineering materials. Only the participants of the project parties work together, and actively learn and use advanced management methods, so that the management materials can fully display the project, and the construction engineering data management work will be more perfect.

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