

THESIS

**CONSTRUCTION PLANNING OF  
GREATER THAL CANAL PROJECT  
BY USING PRIMAVERA PROJECT PLANNER P3**

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Submitted by:

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## ABSTRACT

Construction of projects is an ultimate objective of any design. In the past, the Romans and the Egyptians had created miracles by construction, even when the construction industry was not so developed. This had not been possible without better planning and execution.

However in the present day world, old practices have been replaced by better planning and modern management techniques. In the era of computer, its widest current application in industry is, in the collection and processing of data in order to provide management with more complete information upon which it can base decisions. To handle complex projects with large amount of activities allocated with a variety of resources, it is wise to take help from computer for successful application of construction management techniques.

The main objective of this study was to utilize modern construction management software, in the construction planning of water resources projects. To exercise this effort, a latest construction management software "Primavera Project Planner P3" was used. And for the purpose of construction planning, "Greater Thal Canal Project" was selected for this study.

In Punjab some link canals have been constructed in recent history of irrigation, but a complete irrigation network of distribution channels has not been constructed since many decades. This was one of the main reasons that "Greater Thal Canal Project" was chosen for this study.

Since the responsibility of construction of "Greater Thal Canal Project" is now given to WAPDA and its name is also changed to "Thal Flood Water Canal". In this study, the data of the project and other related information was taken from feasibility study carried out by NESPAK in 1995 (comprising four volumes), PC-1 Performa 2001, prepared by the Irrigation and Power Department, Government of Punjab and "Greater Thal Canal Project - Detailed Engineering Studies and Tender Documents", prepared by NESPAK in 2002.

Using the available information about the “Greater Thal Canal Project” a construction planning schedule was prepared. Since the ‘Demo’ version of “Primavera Project Planner P3” was used so it can handle limited number of activities but actual software can manage thousands of activities. Since this project is very huge so in order to reduce complex and lengthy task, the construction planning schedule of main activities of the project is prepared. According to latest reports, the project is divided into nine stages. In the construction planning schedule prepared in this study these nine stages are divided into main activities only. And for further explanation of these activities’ only two activities are further divided into detailed activities.

Due to the non-availability of some data of “Greater Thal Canal Project” and to reduce complex analysis in demonstration of the features of the software, a problem was used from a book [Polts 1995]. The purpose to use this problem was to explore the features of “Primavera Project Planner P3”, especially about scheduling, allocation of resources and resource levelling.

The results of the present study are encouraging and intend to attract both contractors and consultants to utilize “Primavera Project Planner P3” not only in this project but for other construction projects too, as it offers powerful and versatile features for project scheduling and monitoring. Especially in the preparation of reports and charts, it provides dozens of different patterns of a single report. In brief, the present study was a contribution to the future work on construction management and hopefully, it would be helpful for engineers and managers in management of water resources projects.