PLANT, EQUIPMENT AND METHODS USED IN THE CONSTRUCTION INDUSTRY

by: Demos Alexandrou

Project Report Submitted to the Department of Civil Engineering of the Higher Technical Institute Nicosia Cyprus in partial fulfilment of the requirements for the Diploma of **TECHNICIAN ENGINEER** in

CIVIL ENGINEERING

June 1992

1962

HIGHER TECHNICAL INSTITUTE Nicosia - Cyprus

CIVIL ENGINEERING DEPARTMENT

Academic Year 1991/92 Diploma Project Number: C/607

Title: Plant, Equipment and Methods used in the Construction Industry

Objectives:-

- 1. To write a report on the different types of planning and equipment which are used by building and civil engineering contractors.
- 2. To discuss the methods of construction which are used by building and civil engineering contractors.
- 3. To comment on the above methods and give your opinion on how these can be improved.

Terms and Conditions:-

- 1. To visit various sites and take photographs to support your report.
- 2. To discuss the above objectives with local contractors.
- 3. To check with the Ministry of commerce and Industry and the Ministry of Labour and Social Insurance on the Safety of plant and equipment at building sites.

Student	:	Demos Alexandrou	(3CE2)
Supervisor	:	Andreas Kkolos	
External Assessor	:	P. Vasiliou	

AK/ML

PLANT, EQUIPMENT AND METHODS USED IN THE CONSTRUCTION INDUSTRY

DEMOS ALEXANDROU

Project Number: C/607

SUMMARY

The purpose of the project is to describe the mechanical plant and methods used by the contractors in the construction industry.

The project report is divided into four chapters.

The first chapter deals with the description of the contractors mechanical plant like small power plant, cranes, earth-moving and excavation plant, transportation plant and mixing concrete plant.

The second chapter deals with the methods of construction used by the contractors.

The third chapter deals with some comments and improvements for the above methods. This chapter was discussed with the local contractor on site.

The last chapter deals with the safety of planning and equipment at building sites.

Some photographs were taken during my visit in the various sites, to support the report and to show the different types of plant, to help the reader to distinguish them.

By reading this book the reader will understand what happens in the construction industry, what methods and plants are used and how a project proceeds through the different methods and techniques the contractors used.

iv

Table Of Contents

ACKNOWL	EDGMENTS	iii
SUMMARY	(iv
INTRODUC	CTION	1
CHAPTER	1	3
CONTR	RACTORS MECHANICAL PLANT	3
А.	SMALL POWER PLANT	3
В.		11
C.		21
D.		25
Ε.		30
CHAPTER	2	58
METHO		58
А.		58
В.		63
C.	APARTMENT FORMWORK SYSTEMS	69
D.		69
E.	TRANSPORTING MATERIALS	72
F.	MIXING, MOVING AND PLACING CONCRETE	73
CHAPTER	3	95
	IENTS ON THE ABOVE METHODS AND IMPROVEMENTS OF	
	ЕМ	
А.	METHODS OF EXCAVATIONS	
	FORMWORK	
	MIXING, MOVING AND PLACING CONCRETE	

CHAPTER 4
SAFETY OF PLANT AND EQUIPMENT AT BUILDING SITES 100
CRANE AND LIFTING GEAR
HOISTS
CONCRETE PUMPS
OTHER PLANTS
SMALL POWER TOOLS
CONCLUSIONS
REFERENCES

.