

**HIGHER TECHNICAL INSTITUTE
ELECTRICAL ENGINEERING DEPARTMENT**

DIPLOMA PROJECT

DESIGN OF THE ELECTRICAL INSTALLATION
OF A LUXURY HOUSE
AND ALTERNATIVE ENERGY GROUPS
FOR DOMESTIC USE

by
MYLONAS PANAYOTIS
E.1084

JUNE 1997

HIGHER TECHNICAL INSTITUTE

ELECTRICAL ENGINEERING COURSE

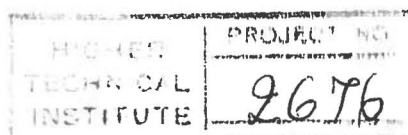
DIPLOMA PROJECT

E.1084

*DESIGN OF THE ELECTRICAL INSTALLATION
OF A LUXURY HOUSE
AND ALTERNATIVE ENERGY RESOURCES FOR
DOMESTIC USE*

MYLONAS PANAYIOTIS

JUNE 1997



Project Report submitted by, Mylonas Panayiotis in part satisfaction of the award of Diploma of Technical Engineering of the Higher Technical Institute, Cyprus.

Project Supervisor: Mr A. Georgiou
Lecturer in Electrical Engineering H.T.I.

External Assessor: Mr G. Hadjihannas

Type of project: Individual

June 1997

HIGHER TECHNICAL INSTITUTE	PROJECT NO 2676
----------------------------------	--------------------

To,

All my family and especially to my parents.

For all their help which they offered me with love and understanding throughout my years at the S.T.J. and especially throughout this project.

ACKNOWLEDGEMENT

I would like to express my thanks to my project supervisor Mr.A. Georgiou for his guidance and assistance given me throughout the project period.

My thanks also go to all those who in anyway helped me and gave me courage during the design period of this project.

ABSTRACT

This project deals with the design of the electrical and telecommunication services of 'A Luxury House'.

The project work includes specifications and tender drawing as well as typical calculations of the design carried out.

The whole design is made according to the relevant for each system regulations.

INTRODUCTION

This project deals with the design of the electrical and telecommunication Luxury House services for which will include the following:

- (i) Electrical services
 - (a) Lighting
 - (b) Power
- (ii) Telecommunication services
 - (a) Telephone System
- (iii) Lightning Protection facilities
- (iv) Burglar Alarm System facilities

The design was carried out according to:

- (i) The 16th edition of the I.E.E. Regulation and the local EAC conditions of supply.
- (ii) The CYTA requirements for telephone installations
The Luxury House consist of:
 - Ground Floor
 - First Floor

TABLE OF CONTENTS

ACKNOWLEDGEMENT

ABSTRACT

SYMBOLS & APPREVIATIONS

INTRODUCTION

CHAPTER I	- Illumination	1
CHAPTER II	- Lighting Design	23
CHAPTER III	- Power Design	32
CHAPTER IV	- Supply Cables	61
CHAPTER V	- Telephony	70
CHAPTER VI	- Earthing	74
CHAPTER VII	- Inspection Anc Testing	79
CHAPTER VIII	- Burglar Alarm & Lighting Protection	84
CHAPTER IX	- Costing	92
CHAPTER X	- Alternative Energy Resources For Domestic Use	95
CONCLUSION		97

DRAWINGS

APPENDICES