HIGHER TECHNICAL INSTITUTE

ELECTRICAL ENGINEERING DEPARTMENT

DIPLOMA PROJECT

DESIGN OF THE ELECTRICAL SERVICES OF A LUXURY HOUSE

E1428

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JUNE 2008

DESIGN OF THE ELECTRICAL SERVICES OF A LUXURY HOUSE

PROJECT SUBMITTED BY:
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TO THE DEPARTMENT OF ELECTRICAL ENGINEERING OF THE HIGHER TECHNICAL INSTITUTE
NICOSIA-CYPRUS

IN PARTIAL REALISATION OF REQUIREMENTS FOR THE DIPLOMA OF

TECHNICIAN ENGINEER
IN
ELECTRICAL ENGINEERING
JUNE 2008

PROJECT SUPERVISOR: Mr George Kourtellis
LECTURER OF THE ELECTRICAL ENGINEERING DEPARTMENT, H.T.I

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SUMMARY

The purpose of this project is to examine and study the design of the electrical services of a luxury house. The project is carried out with responsibility and as real is possible as it is directly involved with the safety of people, livestock and property.
The whole design is carried out in accordance to the IEE wiring regulations 16th edition EAC and CYTA regulations.

The design of the electrical servises of a luxury house is explained in detail to the various chapters of this project. The main body of the project is divided in 13 chapters in order to simplify the study of the project.
At the end of the project appendices are included giving specifications for the devices and equipment used. Also the detailed architectural drawings are provided showing the locations of the equipment used.

INTRODUCTION

The house is consisted of a basement, a ground floor and one floor.

At the basement there is a parking place, the boiler room. The swimming pool engine room, one warehouse and two small rooms.
At the ground floor there are four rooms, three verantas, two bathrooms, one ware house, and the swimming pool.
The first floor is consisted of four bedrooms, one office, two bathrooms and two ware houses.

Objectives of the project:

1. To design the complete electrical installation of a Luxury House which includes the following :

(i) Illumination Design
(ii) Lighting Design
(iii) Power Design
(iv) Telephone, TV and Data distribution
(v) Lightning Protection Design

2. To provide all necessary diagrams schedule of materials and costing including labour.

Terms and Conditions:

1. Three-phase 415Vrms 50Hz T.T. earthing system
2. Ze: external earth fault loop impedance=0.22Ω
3. Ca: Ambient Temperature 30 degree Celcius
4. General purpose PVC Copper
5. Method 3 Cables in Conduit
6. Architectural drawings will be provided
7. The IEE Wiring Regulations 16th Edition as currently amended and the local EAC conditions of supply must be complied.
8. The illumination design must be in accordance with the CIBS code
9. CYTA requirements to be taken into consideration.

Distances shown on the schematic diagram include:

Height of Distribution Boards=	1,6m
Height of Cooker unit=	1,2m
Height of water heater switch=	1,5m
Height of Double pole switch=	0,5m
Height of socket outlet=	0,5m
Height of switches=	1,5m
Height of auxiliary boxes=	0,5m