

HIGHER TECHNICAL INSTITUTE

ELECTRICAL ENGINEERING

DEPARTMENT

DIPLOMA PROJECT

DESIGN OF THE ELECTRICAL SERVICES OF
A LUXURY HOUSE

E, 1445

PAVLOS PAVLIOU

JUNE 2009

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SUMMARY

The purpose of this assignment is to examine and study the design of electrical services of a house. The whole design must be carried out with care and responsibility as it directly involved with the safety of people, livestock and property.

The whole design must be carried out in accordance to the IEE wiring regulation 16th edition and EAC regulation.

The design of the electrical services of the building is explained in detail to the various chapters of this project. The main body of the project is divided in 12 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 equipments used also detailed architectural drawings are provided showing the locations of the equipment used.

INTRODUCTION

The House is consisting of a ground floor and two basement studios. In the ground floor there is a parking place.

Objective 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. Telecommunications Design
 - v. Lighting Protection
 - vi. Fire Alarm System Design
 - vii. Burglar Alarm System Design

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

Terms and Conditions:

- Tree-phase 415 Vms 50Hz T.T. earthing system
- Z_e : external earth fault loop impedance = 1Ω
- $I_{s/c}$: 5KA at 0.8p.f (power factor)
- Scale 1:100
- C_a : Ambient Temperature 30 degree Celsius
- General Purpose PVC Copper
- Method 3 Cables in conduits
- Architectural drawings will be provided
- The IEE Wiring Regulation 16th Edition as currently amended and the local EAC condition of supply must be complied with.
- CYTA requirements to be taken into consideration