ABUJA INTERNATIONAL AIRPORT HOTEL

(An Expression of Architectural Symbolism)

BY

ONONGHA JONES ERIM

B.SC. ARCH. JOS)

A THESIS SUBMITTED TO THE POSTGRADUATE SCHOOL, AHMADU BELLO UNIVERSITY, ZARIA, NIGERIA IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF SCIENCE IN ARCHITECTURE (MSC. ARCH)

DEPARTMENT OF ARCHITECTURE

FACULTY OF ENVIRONMENTAL DESIGN

AHMADU BELLO UNIVERSITY

ZARIA, NIGERIA

NOVEMBER, 1992

DECLARATION

I hereby declare that this thesis topic the first of its kind has no bearing to any work done by any person or group of individuals which has ever been presented and accepted for a higher degree in the Department of Architecture, Ahmadu Bello University, Zaria. It has been composed by me and is a record of my research work. Sources of information are specifically acknowledged by means of references.



ONONGHA, JONES ERIM
NOVEMBER, 1992.

DEDICATION

This thesis is dedicated to:

God Almighty my creator.

CERTIFICATION

This thesis report titled "Abuja International Airport Hotel: An Expression of Architectural Symbolism" by Onongha, Jones Erim meets the regulations governing the award of the degree of Master of Science in Architecture of Ahmadu Bello University, Zaria, Nigeria and is approved for its contribution to knowledge and literacy presentation.

_____	_____
Chairman, Supervisory Committee	Date
_____	15-3-93
Member, Supervisory Committee	Date
_____	10-3-93
Member, Supervisory Committee	Date
_____	_____
Head of Department	Date
_____	_____
Dean, Postgraduate School	Date

ACKNOWLEDGEMENTS

My sincere gratitude goes to my eldest sister Dr. (Mrs) E.O. Elhassan for her financial contributions. For this same reason, I thank Brig. E.O. Mbeh, and Mr. D.E. Agbor.

I appreciate the contributions of my supervisor Arc. A.A. Mbira, and other lecturers namely Prof. Bunselmeier, Arc. E.E. Ayam, Arc. Yeboah who at different times were instrumental to the progress and completion of this work.

I must also say thanks to Arc. W.B. Qurix the co-ordinator of the MSc. II Architecture class for the right attitude to correction and the correction offered at the right time; an asset which in my opinion God almighty grants to those who are called by his name.

My thanks also go to all my classmates who in various ways aided me in the course of this work.

Lastly I thank my parents Lt. Col. I.N.E. Onongha (Rtd) and Mrs R.A. Onongha for believing in me, in spite of all odds, and my guardians WO (II) and Mrs S.O. Edim.

TABLE OF CONTENTS

	PAGE
TITLE PAGE	i
DECLARATION	ii
DEDICATION	iii
CERTIFICATION	iv
ACKNOWLEDGEMENT	v
TABLE OF CONTENTS	vi
LIST OF FIGURES	xii
LIST OF PLATES	xiii
CHAPTER ONE	
1.0 INTRODUCTION	1
1.1 STATEMENT OF INTENT	1
1.2 MOTIVATION	1
1.3 HISTORICAL BACKGROUND OF PROJECT	1
1.4 SCOPE	3
1.5 RESEARCH METHODOLOGY	3
CHAPTER TWO	
2.0 RESEARCH TOPIC	4
2.1 INTRODUCTION	4
2.2 SYMBOLISM	4
2.3 ARCHITECTURAL SYMBOLS	4
2.4 ARCHITECTURAL SYMBOLISM	7
2.4.1 ARCHITECTURAL SYMBOLISM DERIVED FROM THE SITE	7

2.4.2 ARCHITECTURAL SYMBOLISM DERIVED FROM FORM 9

2.4.3 ARCHITECTURAL SYMBOLISM DERIVED FROM MATERIALS 9

2.4.4 ARCHITECTURAL SYMBOLISM DERIVED FROM PHILOSOPHY 10

CHAPTER THREE

3.0 LITERATURE REVIEW 14

PART ONE

3.1 HOTEL DEFINITION 14

3.2 HOTEL CLASSIFICATION 14

3.2.1 CLASSIFICATION BY MARKET ORIENTATION AND FUNCTION 14

3.2.2 CLASSIFICATION BY STARS 17

3.3 SITE DEVELOPMENT 20

3.4 PLANNING STANDARDS 20

3.5 CAR PARKING 21

3.6 LANDSCAPE AND AMENITY SPACE 22

3.6.1 INDOOR LANDSCAPING 22

3.6.2 LIGHTING 23

3.7 DIRECTIONS AND ACCESS 24

3.7.1 SIGNS 24

3.7.2 ACCESS PLANNING 24

3.7.3 GOODS AND FREIGHT DELIVERIES 25

3.7.4 STAFF ENTRANCES 25

3.8 CIRCULATION AND TRANSPORTATION 25

3.8.1 CIRCULATION PLANNING (FLOW PATTERNS) 25

3.8.2 SEPARATION OF ROUTES 25

3.8.3 CORRIDORS TO GUEST ROOMS 25

3.8.4 CORRIDORS FOR GOODS AND SERVICES 28

3.8.5 STAIRCASES 29

3.8.6 RAMPS 29

3.8.7 ELEVATORS 30

PART TWO 32

3.10 HOUSEKEEPING OFFICE 32

3.11 MAINTENANCE SERVICES 32

3.12 ROOM NUMBERING 33

3.13 REQUIREMENTS OF HOTEL ROOMS 33

3.13.1 DIMENSIONS OF HOTEL ROOMS 33

3.13.2 BED REQUIREMENTS 35

3.14 BATHROOM PLANNING 36

3.14.1 BATHROOMS ON EXTERNAL WALLS 36

3.14.2 BATHROOMS INTERSPACED BETWEEN 39

3.14.3 INTERNAL BATHROOMS 41

3.15 DINNING AREAS, LOUNGES, BARS, CONVENTION ROMMS AND BALLROOMS 43

3.15.1 PLANNING CRITERIA 43

3.15.2 FUNCTION ROOMS 44

3.16 MECHANICAL ENGINEERING SERVICES 45

3.16.1 WATER SUPPLY 45

3.16.2 STORAGE DISTRIBUTION AND PRESSURE 46

3.16.3 WATER SUPPLIES FOR FIRE FIGHTING 46

3.16.4 WASTE AND SOIL PIPES 47

3.16.5 DRAINAGE AND SEWAGE 48

3.17 ELECTRICAL ENGINEERING SERVICES 48

3.17.1 PRIMARY AND EMERGENCY SUPPLIES 48

3.18 MAINTENANCE PLANNING 48

3.18.1 MAINTENANCE WORK (TERMINOLOGY) 49

CHAPTER FOUR 51

4.0 CASE STUDIES 51

4.1 INTRODUCTION 51

4.2 CASE STUDY ONE: STERLING HOTEL HEATHROW AIRPORT, LONDON 52

4.3 CASE STUDY TWO: HOBBY AIRPORT HILTON, HOUSTON, TEXAS, U.S.A. 55

4.4 CASE STUDY THREE: DUBLIN AIRPORT HOTEL, NORTHERN IRELAND 59

4.5 CASE STUDY FOUR: ABUJA SHERATON HOTEL NIGERIA 63

4.6 CASE STUDY FIVE: PORT HARCOURT INTERNATIONAL AIRPORT HOTEL, NIGERIA 68

CHAPTER FIVE

5.0 THE SITE 72

5.1 SITE LOCATION 72

5.2 SITE SELECTION 72

5.3 SITE NATURE/ANALYSIS OF STUDY AREA 72

5.3.1 PHYSIOGRAPHY 74

5.3.2 GEOLOGY 74

5.3.3 SURFACE WATER 74

5.3.4 CLIMATE 75

5.3.5 VEGETATION 79

5.3.6 SOILS 79

CHAPTER SIX

6.0 DESIGN REPORT 80

6.1 ARCHITECTURAL BRIEF 80

6.1.1 ADMINISTRATION 80

6.1.2 ACCOMMODATION 82

6.1.3 CATERING FACILITIES 83

6.1.4 LEISURE/ENTERTAINMENT/RECREATIONAL FACILITIES 85

6.1.5 BUSINESS/COMMERCIAL FACILITIES 86

6.2 DESIGN CONCEPT 85

6.2.1 INTRODUCTION 86

6.2.2 DESIGN FORM CONCEPT 87

6.3 SCHEDULE OF FALCILITIES 88

6.4 SITE EXTERNAL WORKS 91

6.4.1 GUEST CAR PARKING 91

6.4.2 LANDSCAPING 93

6.4.3 SWIMMING POOLS 94

6.4.4 OUTDOOR GAMES AREA 94

6.5 SERVICES 95

6.5.1 HOUSEKEEPING OFFICE 95

6.5.2 ROOM SERVICE 95

6.5.3 ROOM ATTENDANTS 95

6.5.4 MECHANICAL ENGINEERING SERVICES AND EQUIPMENT 96

6.5.5 ELECTRICAL ENGINEERING SERVICES 99

6.5.6 MAINTENANCE SERVICES 100

6.5.7 COMMUNICATION AND CONTROL EQUIPMENT 101

CHAPTER SEVEN

7.0 CONCLUSION 103

APPENDICES 105

APP. I. INTERVIEW WITH PERSONNEL MANAGER OF PORT HARCOURT INTERNATIONAL AIRPORT HOTEL 105

APP. II INTERVIEW WITH MARKETING MANAGER OF IKEJA AIRPORT HOTEL 109

THESIS DESIGN DRAWINGS 112, 117

BIBLIOGRAPHY 118

LIST OF FIGURES

Fig. I	Gross areas for typical 2-Bed units in Hotels –	21
Fig. II	Corridors to guestrooms	28
Fig. III	Bathroom on extekrnal walls	38
Fig. IV	Bathroom interspaced between bedrooms	42
Fig. V	Internal bathrooms	42
Fig. VII	Site temperature	76
Fig. VIII	Site humidity	76
Fig. IX	Site, Sun and Cloud cover	76
Fig. X	Site Rainfall	77
Fig. XI	Site wind conditions	77

LIST OF PLATES

Plate I	Edgar Kaufmann House "Falling Waters" (by F.L. Wright)	6
Plate II	Sterling Hotel in Heathrow Airport, London (by Manser Associates)	6
Plate III	The Chapel of Holy Cross, Sedona, Arizona U.S.A. (by Anshen and Allen)	6
Plate IV	Civil Eng. Dept., O.A.U. Ile-Ife (by Niger Consultants)	8
Plate V	Hyatt Regency, SanFrancisco California U.S.A. (by John Portman)	8
Plate VI	Mosque for His Highness Agakhan in Egypt (by Interplan, Arch & Planning, Rome Italy)	8
Plate VII	Eiffel Tower Paris, France (by Engr. Eiffel)	9
Plate VIII	Aoshima Town Hall, Japan (by Kenji Tanaka)	9
Plate IX	Head Office of Japan Redcross Society (by Kisho Kuro Kawa)	9
Plate X	Intercontinental Hotel, Iran (by Interplan, Arch & Planning Rome, Italy)	12
Plate XI	Abuja Sheraton Hotel, Nigeria (by Towry Coker & Ass).	12
Plate XII	Country House in America (by Walter Greaves)	12
Plate XIII	Sterling Hotel Heathrow Airport London	53, 56
Plate XIV	Hobby Airport Hilton, Houston Texas	56, 57
Plate XV	Dublin Airport Hotel, N. Ireland	60, 61

Plate XVI Abuja Sheraton Hotel, Nigeria 64, 66

Plate XVII Port Harcourt International Airport Hotel 69

CHAPTER ONE

1.0 INTRODUCTION

The title of this thesis is: Abuja International airport Hotel; an expression of architectural symbolism.

1.1 STATEMENT OF INTENT

This thesis addresses the issue, of an airport hotel for Nigeria's new capital city; Abuja. Bearing in mind that the international community is expected all year round in Abuja for various function such as conferences, tourism etc., nothing short of a 5-star hotel is befitting.

Using a Y-form this thesis intends to solve problems of hotel design with the addition of other forms to arrive at an eventually interesting form.

1.2 MOTIVATION

The motivation to carry out this thesis evolves form the following reason:

Abuja international Airport, an airport in the nation's capital city does actually need a hotel as the nearest 5-star hotel, (Abuja Sharaton Hotel) is 39 kilometres from the airport.

1.3 HISTORICAL BACKGROUND OF PROJECT

When the Federal Government of Nigeria decided as a policy to move the seat of the government from Lagos,

to Abuja, the need immediately arose for an international airport in Abuja. The airport hotel is a facility allied to the airport for the airport to function efficiently and effectively. A land use proposal for the Aviation Village in the Federal Capital Territory was drawn for the Federal Capital Development authority by Alheri consultants of N19 Junction Road Kaduna, Kaduna State.

One of the main functions of the Aviation Village was to provide adequate and comfortable accommodation for transit passengers. The site allocated for this purpose is accessible to the airport and equally removed from the hub of the Aviation Square, for obvious reasons of reduction, of the nuisance of airport and aircraft noise, and liability to accidents in case of any crash landing of aircraft. An area of approximately 9.75 ha was earmarked for this purpose being approximately 1.5% of the total land area of the Aviation Village.

The government's stand on sponsorship is that Abuja has had it's fair share of 5-star hotels with government support, hence the design and construction of this hotel is to be handled by the private sector. However whoever is given authority to proceed on such a venture, has to submit a feasibility report to the F.C.D.A. for approval before construction may begin.

Interested persons from the private sector may

acquire from the F.C.D.A. The following information about the F.C.T. Aviation Village.

(i) Site location map

(ii) Topography map

(iii) Constraints plan (showing natural and man-made constraints).

(iv) Slop analysis

(v) Draft master plans-landuse, transportation and infrastructural facilities.

(vi) Cross-sections of road types in the Aviation village premises.

1.4 SCOPE

For reasons of economic viability, the scope of this project, shall not be limited to the use of air-transit passengers only. Attempts shall therefore be made to include/the following.

(i) Business/commercial facilities

(ii) Leisure recreational facilities

(iii) Other facilities to attract non-resident guests and tourists etc in addition to basic requirements of 5-star hotels.

1.5 RESEARCH METHODOLOGY

The methodology of research applied in the course of this work ranges from oral interviews (see appendix), books, journals, magazines and unpublished thesis from the department of Arch. A.B.U., Zaria.

CHAPTER TWO

2.0 RESEARCH TOPIC

The research topic is: An Expression of Architectural symbolism.

2.1 INTRODUCTION

Under this chapter this writer intends to address the issue of architectural symbolism, it's meaning, the various ways by which it can be achieved as well as the objects and materials which can be used to achieve it.

2.2 SYMBOLISM

To fully understand the meaning of the term symbolism, it is proper to firstly define what a symbol is. A symbol is a mark, sign or object etc looked upon as representing something (A.S. Hornby, Advanced learners dictionary). Symbolism therefore is "a representation of ideas by the use of symbols; it is a system of symbols used to represent a particular group of ideas" (A.S. Howby, Advanced learners dictionary).

2.3. ARCHITECTURAL SYMBOLS

An architectural symbol is that sign, mark, object or thing which the architect or designer uses to symbolize the idea or concept behind his/her design. Form, materials, philosophy and to a lesser extent colour, sculpture space etc can be used in various combinations and proportions to express the symbol

behind the work of an architect. These symbols can be used to express harmony or disharmony, unity or disunity, revolt etc depending on the desire of the architect.

2.4 ARCHITECTURAL SYMBOLISM

This writer classifies, for the purpose of this thesis, Architectural 'Symbolism into four groups, admitting that the possibility of classifications of this issue via other methods also exist. These four groups are:

(i) Architectural symbolism derived from the site.
(ii) Architectural symbolism derived from form.
(iii) Architectural symbolism derived from materials.
(iv) Architectural symbolism derived from philosophy.

2.4.1 ARCHITECTURAL SYMBOLISM DERIVED FROM THE SITE

What strikes an architect first in the character of a site and its immediate environment form the architectural symbol of such a site. "Falling Waters" designed by Arch. Frank Lloyd Wright is the best example of architectural symbolism derived from a site. This design, in appearance depicts the nature of the site. (See plate I).

Sterling Airport Hotel in Heathrow Airport London, designed by Manse Associates in Britain, located in an environment characterized by hangers etc, takes after the environment, hence it exposes its structural

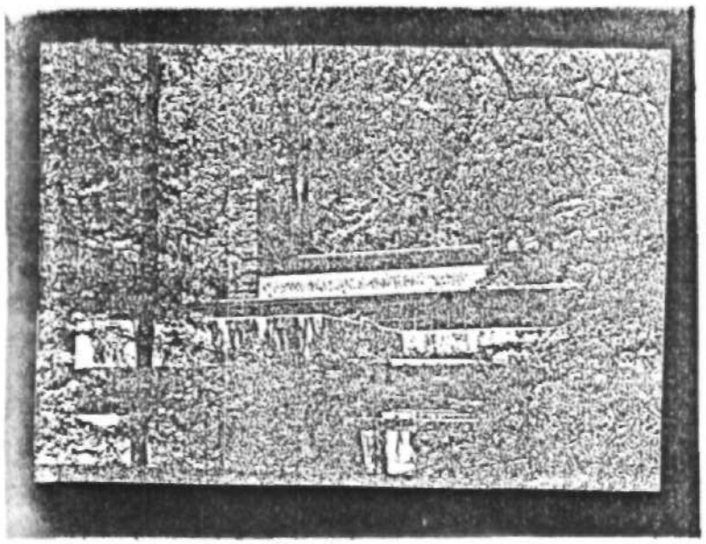


PLATE I

EDGAR KAUFMANN HOUSE "FALLING WATERS" (By F.L. WRIGHT)

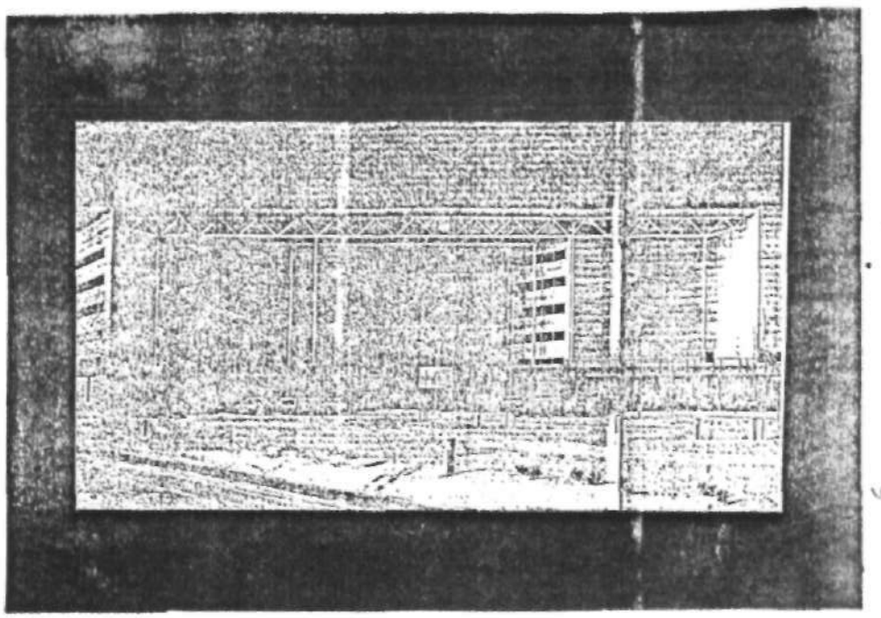


PLATE II: STERLING HOTEL IN HEATHROW AIRPORT LONDON (By MANSER ASS.)

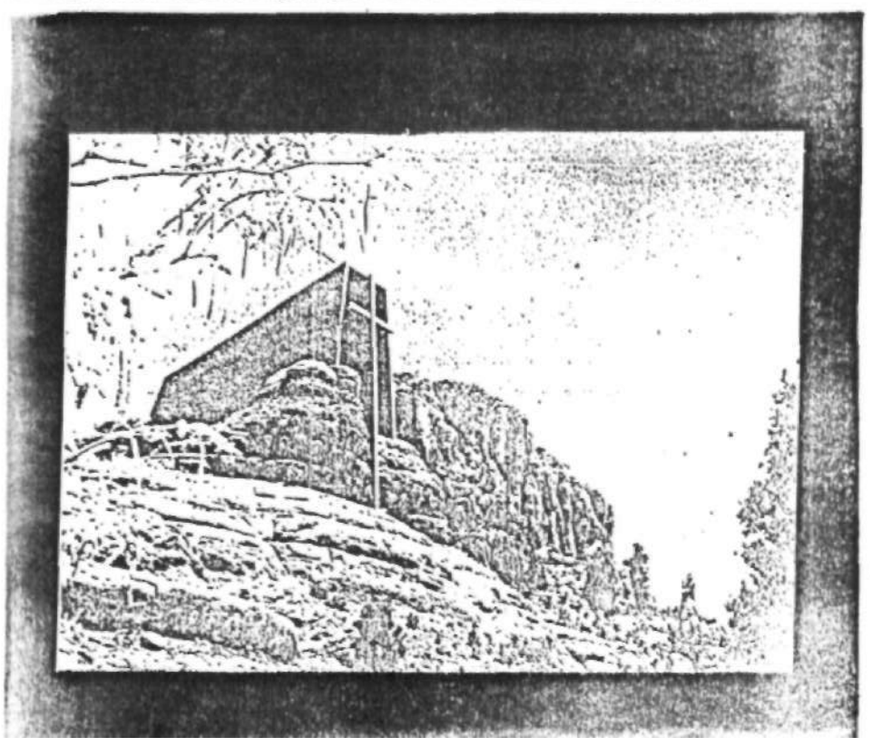


PLATE III: THE CHAPEL OF HOLY CROSS, SEDONA, ARIZONA U. S. A.

framework reminiscent of the aeroplane hangers surrounding it. (See plate II).

Thirdly, the chapel of the Holy Cross, Sedona Arizona, a church designed by Architects Anshen and Allen of America, takes it's character from it's immediate environment, the rocky terrain (See plate III).

2.4.2 ARCHITECTURAL SYMBOLISM DERIVED FROM FORM

Form is about the most interesting manner in which architectural symbolism can be expressed. A local case that comes readily to mind is the Civil Engineering Department of Obafemi Awolowo University Ile-Ife in which an A-form has been beautifully combined with another A -form to arrive at an architecture that is very appealing (See plate IV)

The Hyatt Regency Hotel, San Francisco, California designed by Arch John Partman is another edifice where form has been successfully used to express architectural symbolism. Rectangular, square and angular forms have been combined successfully in this hotel to achieve excitement to users of this place (See Plate V).

Another very interesting architectural edifice is the Mosque for His Highness Aga Khan in Egypt. this edifice symbolic of a dome is actually a geodesic dome, a technology of dome construction introduced by Arch. Bukminster Fuller. (See plate VI).

2.4.3 ARCHITECTURAL SYMBOLISM DERIVED FROM MATERIALS

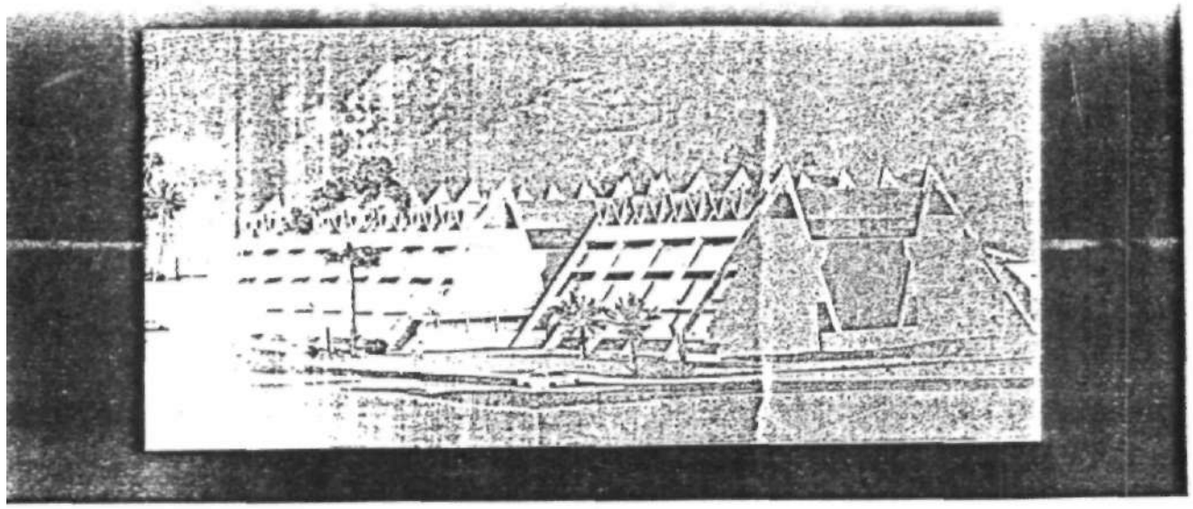


PLATE IV: CIVIL ENG. DEPT. O. A.U. ILE-IFE (By NIGER CONSULTANTS)

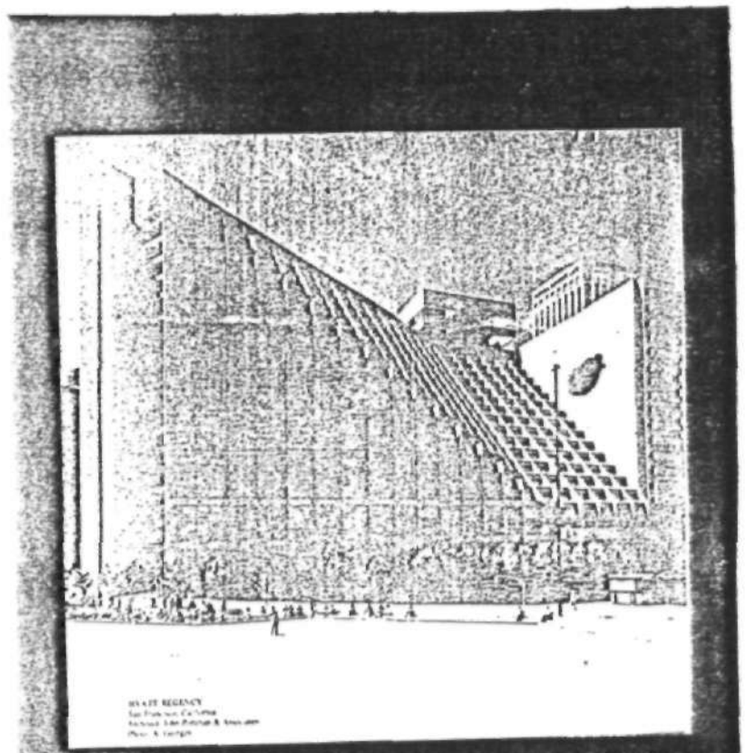


PLATE V: HYATT REGENCY HOTEL, SAN FRANCISCO U.S.A. (By JOHN PORTMAN

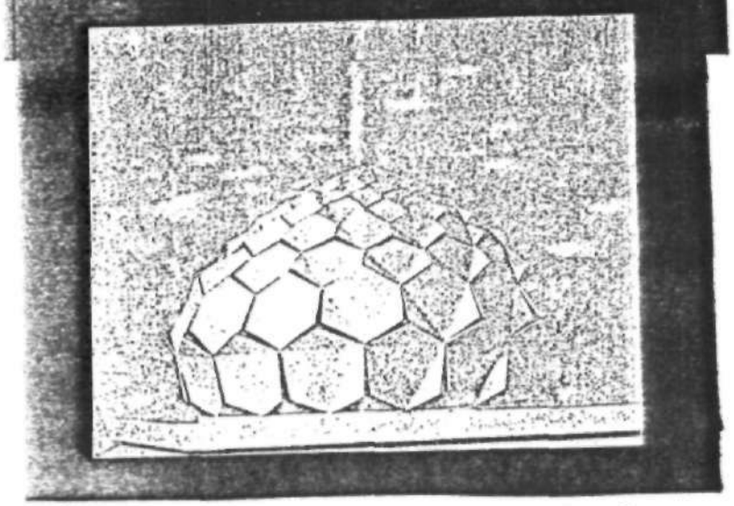


PLATE VI: MOSQUE FOR HIS HIGHNESS AGA KHAN IN EGYPT (By INTERPLAN. ARCH. & PLANNING)

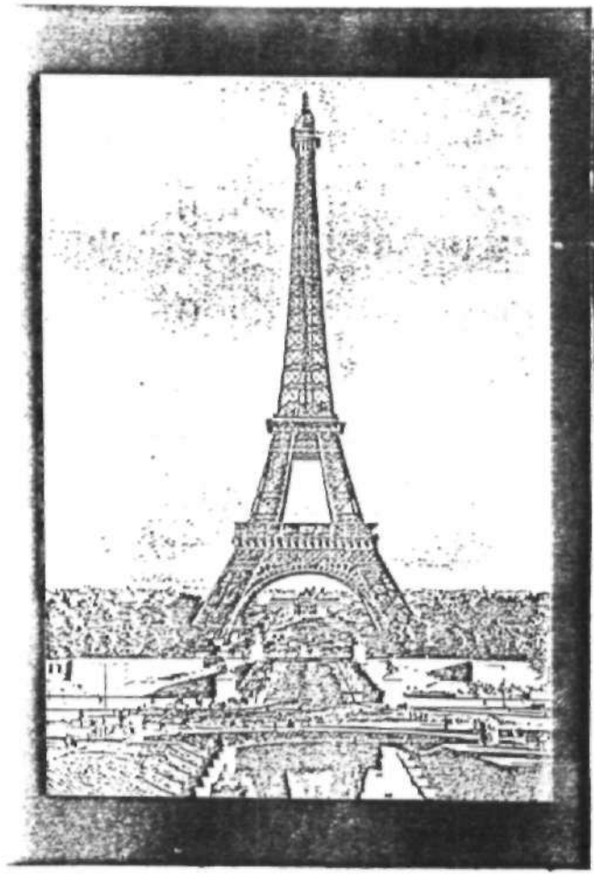


PLATE VII: EIFFEL TOWER (By ENGR. EIFFEL)

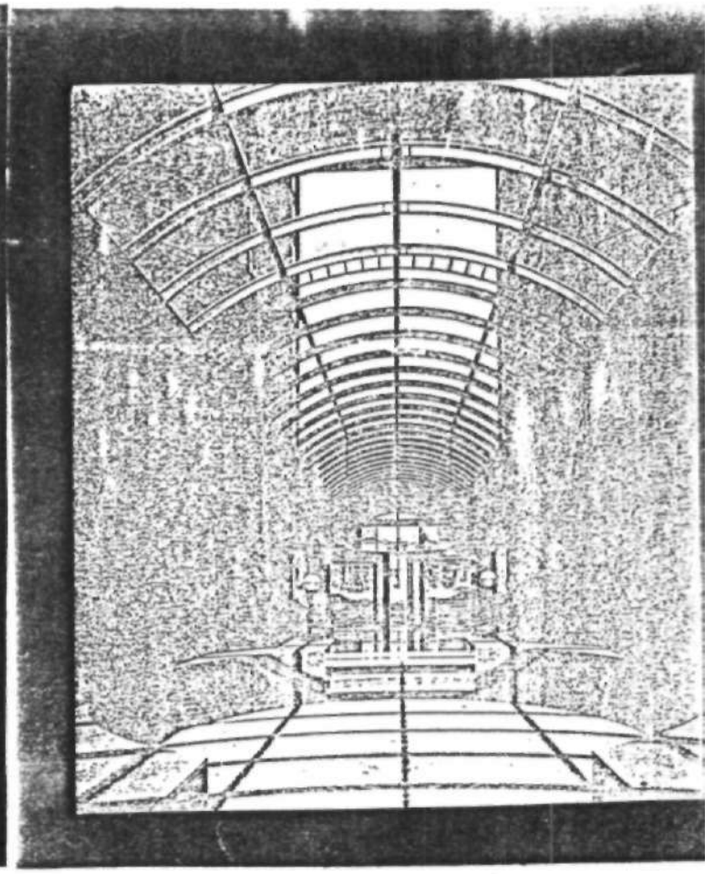


PLATE IX: HEAD OFFICE OF JAPAN RED CROSS SOCIETY
(By KISHO KUROKAWA)

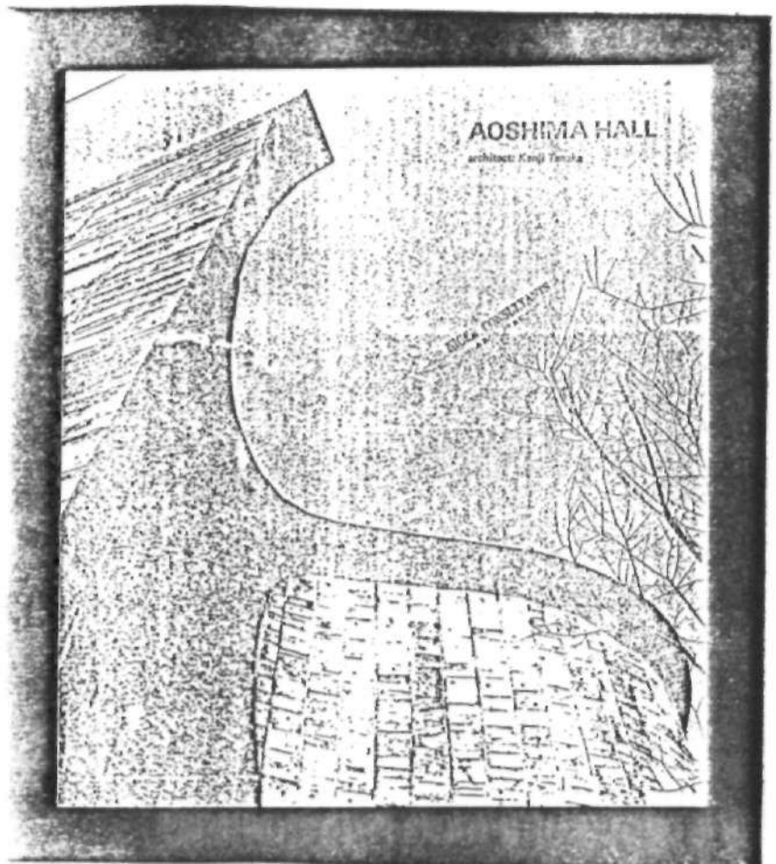


PLATE VIII: AOSHIMA TOWN HALL
(KENJI TANAKA)

The Eiffel Tower though designed by an engineer, readily comes to mind as a structure symbolic of a material, in this case steel. The structure symbolizes the strength of steel as a construction material and this structure was erected to celebrate the beginning of the industrial revolution in Paris, France using steel as the material. The tapering of the structure skywards symbolises the fact that the sky is the limit for steel as a construction material; indeed this has more or less been so which such American high use buildings of steel such as World Trade Centre, Manhattan, John Hancock building Chicago and Sears Tower, New York to mention a few. (See plate VII).

Aoshima Town Hall designed by Japanese architect Kenji Tanaka is symbolic of the strength or solidity by the use of concrete in its unfinished state. (See Plate VIII).

Thirdly the Japan Headquarters of the Red Cross Society design by Japanese architect, Kisho Kurokawa is symbolic of the beauty and strength in the combination of steel (curved) glass, (curved) and dimensioned stone. (See plate IX).

2.4.4 ARCHITECTURAL SYMBOLISM DERIVED FROM PHILOSOPHY

Architectural symbolism derived from philosophy is

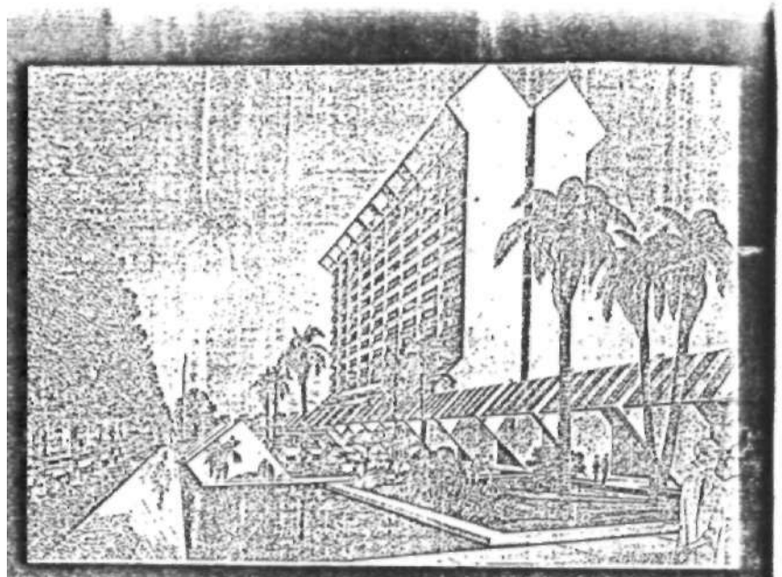
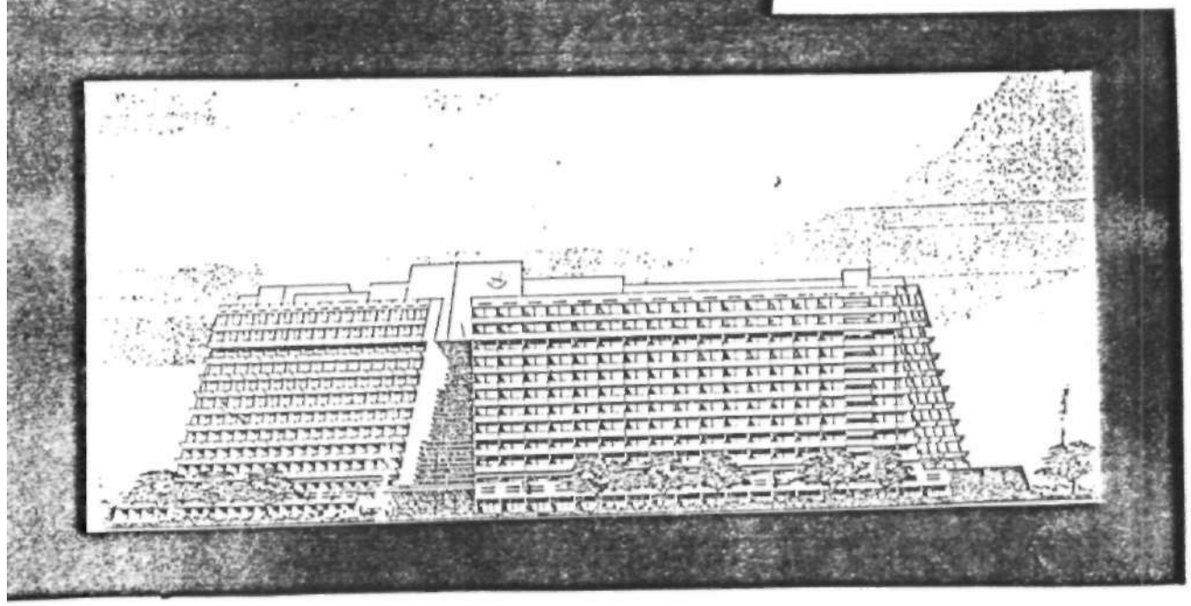


PLATE X: INTERCONTINENTAL HOTEL, IRAN
(By INTERPLAN, ARCH. & PLANNING)



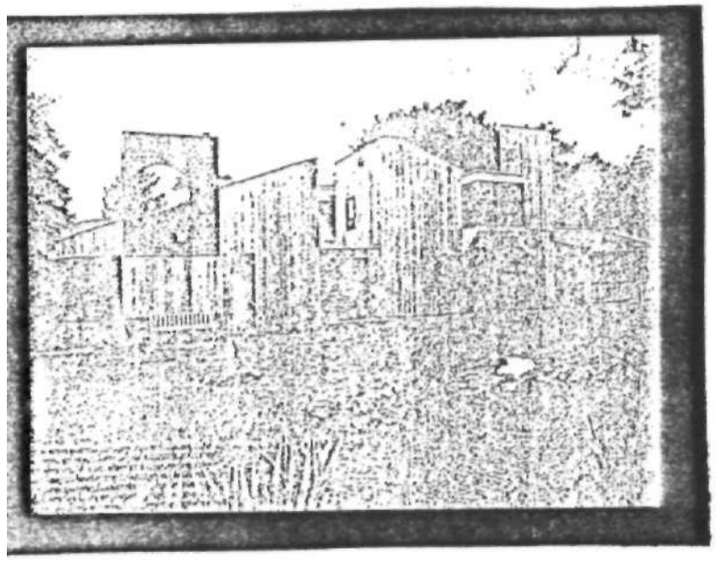


PLATE XI: ABUJA SHERATON HOTEL
NIGERIA (By TOWRY COKER & ASS.)

PLATE XII: COUNTRY HOUSE IN U.S.A.
(By WALTER GREAVES)

protrusions, recesses, bold forms etc. (See plate XI).

Thirdly, Regionalism is a philosophy which says that the architecture of a place should be expressed by the most readily available materials of that environment. Hence this house designed by Arch. Walter Greaves of Britain in a wooded area, of timber - framed, cedar cladding on a concrete floor, symbolizes regionalism as a philosophy in architecture (See Plate XII).

CHAPTER THREE

3.0 LITERATURE REVIEW

PART ONE

3.1 HOTEL DEFINITION

A hotel is defined as a public establishment offering travellers against payment, two basic services namely accommodation and catering. (Fred Lawson, Hotels, motels, and condominisms: Design, Planning and Maintenance. The architectural press limited, London Pg 11). this definition does not however hold for what a hotel is today. This writer with due respect to Fred Lawson seeks to redefine a hotel as a public establishment offering guests (usually travellers) against payment, such facilities as accommodation, catering and other facilities such as entertainment/recreational, business etc to make the stay of the guest (be he a short/stay or a long-stay guest) a memorable one such that the patronage of such a hotel and its recommendation to others is guaranteed.

3.2 HOTEL CLASSIFICATION

Hotel classification is looked at by this writer in two ways namely i) classification by market orientation and function ii) classification by stars.

3.2.1 CLASSIFICATION BY MARKET ORIENTATION AND FUNCTION

Ernst Neufert (Architects, Data; Collins

Professorial and Technical Books, william collins Sons and co. Limited, London Pg 208) classifies hotels by market orientation and function into:

(a) City Centre Hotels:

They include luxury, convention and city tourist hotels and are characterised by high plot ratio, high rise construction, frequently large function spaces, accommodation, with the inclusion of shops in the development to improve viability.

(b) Motor Hotels (Motels):

They cater mainly for people en route by car or motoring locally, therefore they are sited at important road junction and on outskirts of cities. Since the land is usually cheaper, therefore the sites are fairly large allowing for a large car park and low or medium use construction. Generally, they contain all usual hotel services but on a modest scale, with no room service.

(c) Airport Hotels

These are similar in planning to motor hotels but cater specifically for air travellers. Therefore they require all night reception and possibly some night catering facilities. Sometimes they have convention services for the convenience of international companies.

(d) Resort Hotels:

These are usually sited at seasides, mountain resorts or spas and are usually planned to cater for package holidays with reception arrangements for large intake at weekly or fortnightly intervals. Their restaurants should accommodate all guests at a sitting. They require spacious lounges, games, rooms bars and possibly also swimming pool, beach and sports installations. Conference rooms can also be included to encourage off-season business.

(e) Condominiums:

These are developments involving joint ownership where individual owner has full benefit of room, suite, villa etc for his/her own use or letting but shares and costs are common to the whole development which may include all usual hotel services.

This writer seeks to add other classification which are a reflection of current trends in hotel business.

(a) Apartotels:

This term coined from the words apartment and hotel, describes hotels whose main business is the provision of hotel services on apartment bases i,e, apartment blocks with luxury facilities lettable to short stay and long stay guests.

(b) Boatels:

This term coined from the words boat and hotel, describes hotels always located beside water bodies such as lakes, lagoons, seas, oceans, etc usually also with a boat club.

3.2.2 CLASSIFICATION BY STARS

The publishing division of the British Automobile Association in a book Titled "Hotels and Restaurants in Britain 1991" classifics hotels into stars as follows:

(a) One-Star Hotel:

This is a hotel generally of small scale, with good facilities and furnishings with adequate bath and lavatory arrangements. Meals are provided for non-residents though availability to non-residents may be limited.

(b) Two-Star Hotel:

This is a hotel which offers a higher standard of accommodation (than the former) and some bedroom are equipped with private facilities. Such a hotel has requirements for ready public access and full lunch services may be relaxed.

(c) Three-Star Hotel

This is a well appointed hotel with more spacious accommodation (than the aforementioned) with a majority of its bedrooms having a private bath/shower room with a lavatory. Fuller meal facilities are provided.

(d) Four-Star Hotel

It is an exceptionally well-appointed hotel offering a high standard of comfort and service; with all bedrooms providing a private bath/shower room with a lavatory.

(e) Five-Star Hotel

This is a luxury hotel offering the highest international standards.

It is necessary at this juncture, for this writer, based on what the current trend is, to explain in his own words the meaning of the term "highest international standards" used to define a five-star hotel. It is hoped that this explanation would give a full picture of what makes a five-star hotel, so-called. It is the opinion of this writer that a five-star hotel, seeks to leave a lasting and memorable impression on each guest of the hotel. So much so that from the time the guest checks-in to stay and eventually checks-out to leave the staff and facilities of the hotel spare no effort to "spoil" the guest, so to speak with comfort, courtesy and taste. Therefore from the reception to his bedroom or suite the guest is treated to the highest standards of comfort, courtesy and taste. For instance as the guest gets under the entrance canopy of the hotel, either by car or on foot he is received by uniformed porters, one to collect his luggage probably with a trolley and the other to lead

the guest to the reception desk. After the reception formalities are done, the same treatment is offered the guest from the reception to his bedroom. Before the guest is left alone in his bedroom one of the uniformed staffers introduces the guest to all the facilities available in the bedroom such as, in-house video and colour tv, head board radio, wet bar, coffee-making machine, quick trouser presser and board, a/c or heater, telephone, wardrobe and luggage rack, ensuite bathroom with such facilities as w/c's, bidets, washhand basins, bathing tubs and/or shower trays, shaving/bathroom cabinet etc. The uniformed staffer offers to unpack for the guest.

Five-star hotels offer a variety of standard restaurants Chinese, Japanese, vegetarian, specialty etc, a variety of bars, indoor and outdoor games, disco, gymnasium and probably a personal effects safe at the reception etc; as already mentioned, the intention is to "spoil" the guest. Often times the guest is exposed to the cultural identity of the country in which the hotel is located, with such facilities as museums, art galleries etc. Finally when the guests is to leave the hotel, the manner in which he/she was received by two uniformed staffers, etc, is the same manner the guest is treated until he either gets into his car or leaves on foot.

In this way, the guest actually leaves the hotel

with a lasting and memorable impression which would both cause the guest to recommend this hotel to others and also cause the guest to in future patronize this hotel, for a repeat of such courtesy, comfort and taste.

3.3 SITE DEVELOPMENT

Hotel sites are generally developed with a view to generating maximum revenue. Maximum site utilization will normally involve basement and possibly sub-basement construction with a high rise building occupying the maximum area of the site to the limit of density, allowed. Regulatory standards (fire and safety code standards) and operational needs determine the most economic number of guest rooms per floor. As a rule,a minimum of two staircases is necessary which will allow between 20 and 35 on a double banked corridor, and up to 50 room if an automatic sprinkle system is installed. For housekeeping organisation, the number of rooms of average standard per floor, should be a multiple of 14 to 16; the number which can be efficiently cleaned and serviced by one room attendant.

3.4 PLANNING STANDARDS

Room sizes are affected by the following

(i) shape of the site and buildings (wide or narrow frontages)

(ii) aspect (maximising the benefit of the view).

(iii) function (type of accommodation provided).

(iv) costs (market and economic feasibility).

The space allocated to guestrooms reflects the market demand for the different types of accommodation (single, double, twin or studio rooms). Where the market is variable, provision should be made for this in the initial planning (see fig. I).

GROSS AREAS FOR TYPICAL 2-BED UNITS IN MOTELS

(BY CATEGORY OF HOTEL)

Units Units	one Star	Two Star	Three Star	Four Star	Five Star
Twin bedroom	m2	10.5	14.5	18	21	26
Guest Bathroom	m2	3.0	3.5	40	6.0	7.0
Room Circulation and Services (1)	m2	5	7	8	9	11
Residential Areas (total)	m2	18.5	25	30	36	45
Public areas (2)	m2	7.5	10	15	19	25

3.5 CAR PARKING

Car parking requirements vary with the type of hotel, its location and the city or local planning authority standards. Additional spaces should be provided for employees, and services vehicles. Car-hire services and parking are very necessary for airport hotels since most guests shall be air

travellers.

3.6 LANDSCAPE AND AMENITY SPACE

The space needed for amenity also depends on the type of hotel and its location. Individual hotels with relatively large areas of ground may use the recreation attractions (golf, tennis, private beach, riding) as a marketing feature, whilst in other situations, indoor facilities (solariums, sauna baths, indoor pools or gymnasia) may be provided.

Apart from functional needs, space is generally needed for landscaping to improve the appearance of the buildings and add to their amenity value. The range of features which may be provided through landscaping extends from hard paving and man-made sculptures, to gardens, lawns, parklands and landscape furniture (seats, barriers, litter bins, lamps for functional use and features, sculptures, fountains for decoration) etc.

3.6.1 INDOOR LANDSCAPING

Indoor landscaping of public areas within a hotel may serve a numbers of uses:

(i) to create a refreshing, relaxing garden atmosphere.

(ii) to counter the lack of external view from all or some of the seating and living areas.

(iii) to reduce effects of noise and bustle.

(iv) to demark areas and provide visual barriers.

(v) to introduce changes in texture, colour and shape.

(vi) to provide humidity and balance (water sprays, transporation.

A wide variety of plants may be used together with large rock gardens, water falls, mature trees and fish ponds, planted containers etc within atriums or outside the hotel building.

3.6.2 LIGHTING

External lighting is an essential feature of merchandising; it contributes to efficiency of regulation, control, security and safety in hotels. Some of the main applications ares summarised below:

ENTRANCES

To attract attention, create an impression of warmth, security and safety. It however must not create hazards to other road users e.g. glare, confusion and misdirection.

ACCESS DRIVES AND CAR PARKS:

For safety and efficient use and to minimise vandalism, pilfering or accidental damage.

PATHWAYS:

To direct guests to rooms and public areas and for security.

YARDS, LOADING BAYS:

For security and control, late working and cleaning.

BUILDING ILLUMINATION:

This should be self illuminated or having external lamps. Moving lights may be used to draw attention, particularly in competition with brightly illuminated surroundings. Such lighting must however be in character with the immediate environment.

RECREATION AREAS:

Lighting extends the periods of use and provides an additional feature of interest in hot climates, it enables external areas to serves as extension to restaurants, bars night clubs etc.

3.7 DIRECTIONS AND ACCESS

3.7.1 SIGNS

Signs and symbols are an important aspect of merchandizing but need to be carefully located and designed to create the coned impact and impression.

3.7.2 ACCESS PLANNING

The points of entry to a hotel premises must be clearly defined, convenient, free from hazards and appropriate for the purpose. Provision musty be made for:

(a) Guests: arriving by private car, taxi public vehicles and/or on foot with arrangements for their reception.

(b) Staff: with security control

(c) Goods Deliveries: separate provision may be made for food items with a different delivery point for

other goods (laundry, maintenance, furniture etc.

(d) Refuse and Garbage Storage and Removal: which may use the same access as other goods.

3.7.3 GOODS AND FREIGHT DELIVERIES

The entrance route for goods deliveries, maintenance services and refuse removal must be separated from that used by guests in order to avoid congestion, obstruction and delay, unsightliness, noise and deterioration of standards.

3.7.4 STAFF ENTRANCES

These must be separated from those used by guests and preferably, separate from the goods delivery area, in the interest of control and security. It is usually an advantage to locate the changing rooms, lockers, washing and toilet, accommodation and staff rest rooms in this vicinity.

3.8 CIRCULATION AND TRANSPORTATION

3.8.1 CIRCULATION PLANNING (FLOW PATTERNS)

As a rule, the most important aspects in planning of circulation flow patterns are the peak demands on the various accommodation and other services, the times when these occur, their duration, and the number of people involved - both users and staff. Economy of space particularly non-revenue generating space may be a primary requirement.

3.8.2 SEPARATION OF ROUTES

The layout of routes must not only facilitate convenient and efficient circulation but also provide separate routes for guests, staff and service personnel. Separation of resident and non-resident guest circulations is also advantageous in:

(i) Enabling the guests' needs to be given exclusive attention at the front desk without unnecessary congestion.

(ii) Allowing easier regulation and supervision of people entering and leaving all areas.

3.8.3 CORRIDORS TO GUEST ROOMS:

The layout is determined by the need to provide:

(i) Efficient circulation and access to and from guest rooms.

(ii) Links with other public and guest facilities within the hotel.

Ceilings:

Clearance height is at least 2250mm. Ceiling voids may be used for housing engineering service including fire detections, and sprinkler apparatus.

Noise Attenuation:

Impact noise is reduced by carpeting or resilient flooring. Absorption can be achieved by ceiling lining. Sound insulation has to be provided for guest rooms (min. 40 db).

Lighting:

Recessed wall or ceiling lights can be used. Every corridor must have two separate circuits allowing up to 50% reduction whilst ensuring adequate illumination for cleaning, safety, security and room identification. Emergency lighting must be installed typically 20% of total) either for continuous use or automatic switch over.

Other Engineering Services:

Vacuum cleaner connections, where used, should be located at 12m intervals. Electrical socket outlets should not exceed 12m intervals. Each length of corridor should have automatic fire detecting apparatus and a warning device with at least two manual operating points. Ventilation of rooms should be independent from rooms.

Widths:

The widths of corridors serving public areas of hotels are determined by fire escape requirements. Circulation through lobbies and foyers is preferable and may be acceptable for up to 50% of fire escape requirements, if protected (typically two hours fire resistance) from areas below, constructed with linings which are non-propagating for fire or have a very low rate of surface flame spread, and fitted with sprinklers. (See fig. II).

CORRIDORS TO GUESTROOMS

	Widths (m)
Economy Hotels	12 - 4
Average to high grade hotels	15 - 18
Where service doors open into corridors	18 - 20
With indented or recessed doors	1.5
Secondary and Service routes	1.1
Allowing for trolley use	12 - 14

Fire Escape:

Doors from guestrooms to corridors must be self-closing and have a minimum fire resistance of 20 minutes. The partitions separating guestrooms from corridors must have a resistance rating of 1 hour unless automatic sprinklers are installed. The minimum fire ratings for separation of exits such as staircases are normally 1 hour for up to 3 storeys and 2 hours for 4 storeys or more.

3.8.4 CORRIDORS FOR GOODS AND SERVICES

The layout is determined by the need to provide:

(i) Efficient circulation between storage, working and service area.

(ii) Links with the public and guest circulation at appropriate points.

Constructional requirements includes absence of steps to facilitate the use of trolleys, carts and

conveyors; hard durable non-slip floors, wall surfaces which withstand damage and permit easy redecoration, good lighting and ventilation in the interest of hygiene. Doors and service circulation areas usually have a two way swing to facilitate opening by trolleys.

3.8.5 STAIR CASES

Staircase design is largely dictated by fire and safety requirements. Access from each floor must be through a vestibule, independently ventilated and lighted and fitted with self closing doors at least 1000mm wide and the enclosure must have a 2 hour fire rating.

Minimum flight for stairs is 3 risers and the maximum between landings is 16 risers. Landings must have the same width as stairs and be at least 1050 mm long. Treads and landings must be solid and the whole construction fire-resisting.

3.8.6 RAMPS

Ramps are used for:

(i) Disabled guests

(ii) Service, routes transporting goods and equipment by trolley or hand.

(iii) Limited changes in level where steps are liable to cause hazards or difficulties. All ramps must have a uniform slope between landings and a non-slip surface.

3.8.7 ELEVATORS

Requirements for safety and performance of elevator systems are governed by legal and insurance standards including:

(i) Stability and fire resistance of 1 hours.

(ii) Safety of lifting gear and cables

(iii) Overload and limiting devices.

The number of elevators required in a hotel will depend on many variables namely standards, number of rooms and storeys, non-residential and convention facilities, capacities and speeds of elevators to be used.

3.9 ROOM SERVICE

Service of meals to rooms may be on an individual order basis or on a collective system in which one or more service elevators operate as mobile pantries continuously travelling from floor to floor as orders are received.

Housekeeping:

The number of guestrooms which can be given efficient attention by one room attendant varies from 12 (luxury or 5-star) to 14 - 16 (3-star - 4-star) to 18 or more (2-star and below). On each floor the total number of rooms should be a multiple of this module.

Terraces and Balconies:

These add to the volume of the building,

construction costs and building line restrictions. There are often problems of security (accessibility) wind fummelling and suctions, water proofing (at junctions) and safety (raised thresholds and sills, balcony heights security and spacing of reling,s balustrades, enclusures). Extra cleaning and maintenance work is involved. Balconies and terraces are usually limited to resort hotels and apartotels which have the advantage of an attractive vista and for which a pure differential can be applied. A balcony may project outside out the building facade or be recessed into the area of the room. It may be angled to increase the view from one side, to catch the cooling breeze or to provide better screening from other noisy or unpleasant areas. Balcony access allows easy cleaning of widows and depending on designs, and construction may provide a secondary fire escape route. The screening effect of balconies and projections also reduces the risk of vertical fire spread and provides sound shadowing of noise from car parks, streets or work areas at a lower level. Terraces may be formed by stepping back construction so that the roof of one storey extends beyond the frontage of the storey above. Angled structural frameworks (e.g. A-frames) achieve this effect. Terracing helps to reduce the abrupt outline of a large building by providing a relationship with the scale of the surroundings.

PART TWO

3.10 HOUSE KEEPING OFFICE

An office area is required for administration of the room attendance services, including facilities for interviews and records; telewriter, room status and other communication and control equipment if installed, safe storage of items (including articles found in rooms) keys and valuables. Depending on the scale of operation, this area may form part of the general office or be associated with the line and other issue stores.

* 3.11 MAINTENANCE SERVICES

Access must be provided to engineering plant and services on each floor. This generally includes:

(i) Rooms and closets for locating heating, circulation and control equipment (calorifiers, pumps and valves, electrical swithgear).

(ii) Vertical ducts between bathrooms (soil wastes and ventilating pipes, hot and cold water supplies, bathroom ventilation extract and supply, electrical service).

(iii) Ceiling housed engineering services and equipment (airconditioning ductwork and registers, lighting fittings, electrical services, fire detecting alarm and sprinkler systems, control and relay equipment.

(iv) Wall mounted equipment (recessed where necessary): Socket outlets, vacuum connections, light switches (with independent operation of emergency lighting), fire alarms and indicators, recessed hose reels, room status equipment, cable ducts and conduits. Vertical ducts may have access panels from the corridors or from associated bathrooms. Access to ceiling equipment is usually through removable ceilng tiles, trap or panels.

3.12 ROOM NUMBERING

Rooms must be clearly numbered in continuous sequence, with odd and even numbers on opposite sides of a double loaded corridor. The numbering should conform to an easily identified pattern e.g. lowest floor: 100, 101, 102, 103 etc, and so on, with corresponding floor indicators in the main lobby; on all elevator landings; within elevator cars; at all changes in corridor direction and at junctions. The same numbers should be used for telephones, on mail rack, key holders, key stamps and reference numbers for equipment fittings.

3.13 REQUIREMENTS OF HOTEL ROOMS

3.13.1 DIMENSIONS OF HOTEL ROOMS

This depends very much on the position of the beds and on the size and relative position of the bathroom.

The most common arrangement is one with twin beds at right angles to one of the party walls; for single bedded rooms, economy in width is gained by putting the bed parallel to the party wall.

Positioned at right angles to the party walls, beds, including bedheads, extend about 2.10m into the room. Adding a minimum of 800 mm, passage space between the bed end and the other party wall, the least width of the room must be 2900mm. However, if the associated bathroom has a full length bath, basin and water closets, the bathroom also needs to be about 2100mm wide. A further 600mm width is allowed to provide for a closet. this gives a clear wall-to-wall clear width of 3500mm which is a common module for modern medium priced accommodation. Spatial benefit is gained by increasing the room width by a further 150mm to 300mm, and this is more appropriate for suites and family rooms.

Room lengths are determined by the type of beds used (double, twin) and the extent of living space included in the room. For a typical twin bedded room, the minimum space taken up by 1000mm bed and necessary access is about 2900mm. Adding a limited area for seating and television viewing, this gives a room length of 4500mm.

With other bed sizes, and for higher grade hotels, the length is increased proportionately.

3.13.2 BED REQUIREMENTS

The essential requirements per beds are:

(i) Appropriate size (length, width and height)

(ii) Comfort (quality of matress and base)

(iii) Durability (including edge reinforcement)

(iv) Quietness (absence of creaking joints or springs)

(v) Easy movement (for making up and repositioning)

(vi) Appearance (including head board and endboard).

3.13.3 OTHER BEDROOM FACILITIES

These other facilities include

(i) Hanging, shelf and drawer space

(ii) Bedside tables

(iii) Luggage rack

(iv) Mirrors

(v) Loose furniture such as dresser chair or stool, side or easy chair per person, standard or table lamps, coffee table, waste basket, ashtrays etc.

(vi) Television sets

(vii) Radios

(viii) Telephones

(ix) Lights at bedhead, centre, dresser, entrance bathroom and dressing area.

Self service facilities are usually found in luxury hotel bedrooms. They range from sophisticated drinks, cigarette and snack dispensing machines, in which

items at different adjustable prices are automatically recorded in the accounting section and added to the bill of the room, to simple self catering equipment such as a refrigerator, kettle and (a small boiling ring. Coin operated vending machines are generally sited in public areas such as corridor and landing extension. Kitchenettes are sometimes provided (in apartment hotels and condominiums) including also sometimes a dining area.

3.14 BATHROOM PLANNING

A high standard of hotel design provides an individual bathroom with each guestroom unit. The area of the bathroom is usually in the order of one-sixth of the total and its position will govern the shape and to some extent the size of the guestroom.

For economy in plumbing, ventilation and construction, reduction of noise transmission to bedrooms, for access and maintenance requirements the bathrooms are invariably grouped back to back in pairs and superimposed from floor to floor. Three basic plans are possible, all of which this writer shall analyse with a view to highlighting the merits and demerits of each.

3.14.1 BATHROOMS ON EXTERNAL WALLS

Merits:

(i) This location allows for natural ventilation and

lighting into the bathroom.

(ii) The provision of natural ventilation and lighting results in savings in power costs and cost of purchasing mechanical extractor as they will not be used.

(iii) This location provides space for a mini-lounge at window separate from bedspace area.

(iv) Ducting noise is adequately taken care of.

(v) Omission of entrance foyer leads to savings in space and costs.

Demerits:

(i) This location of the bathrooms results in a less efficient use of the interior of the building.

(ii) There is a marked reduction in light into bedroom and view from bedroom.

(iii) There is a reduction in privacy of bedspace area from the main door.

(iv) There is a reduction in wardrobe size.

(v) The minilounge created is located too far into the bedroom.

(iv) Duct can only be serviced from inside bathroom.

It is the however the opinion of this writer that the location of a bathroom on the external wall is the best of the three locations in terms of their various responses to tropical climate. For this reason and the resultant reduction in costs this writer strongly recommends this location for all

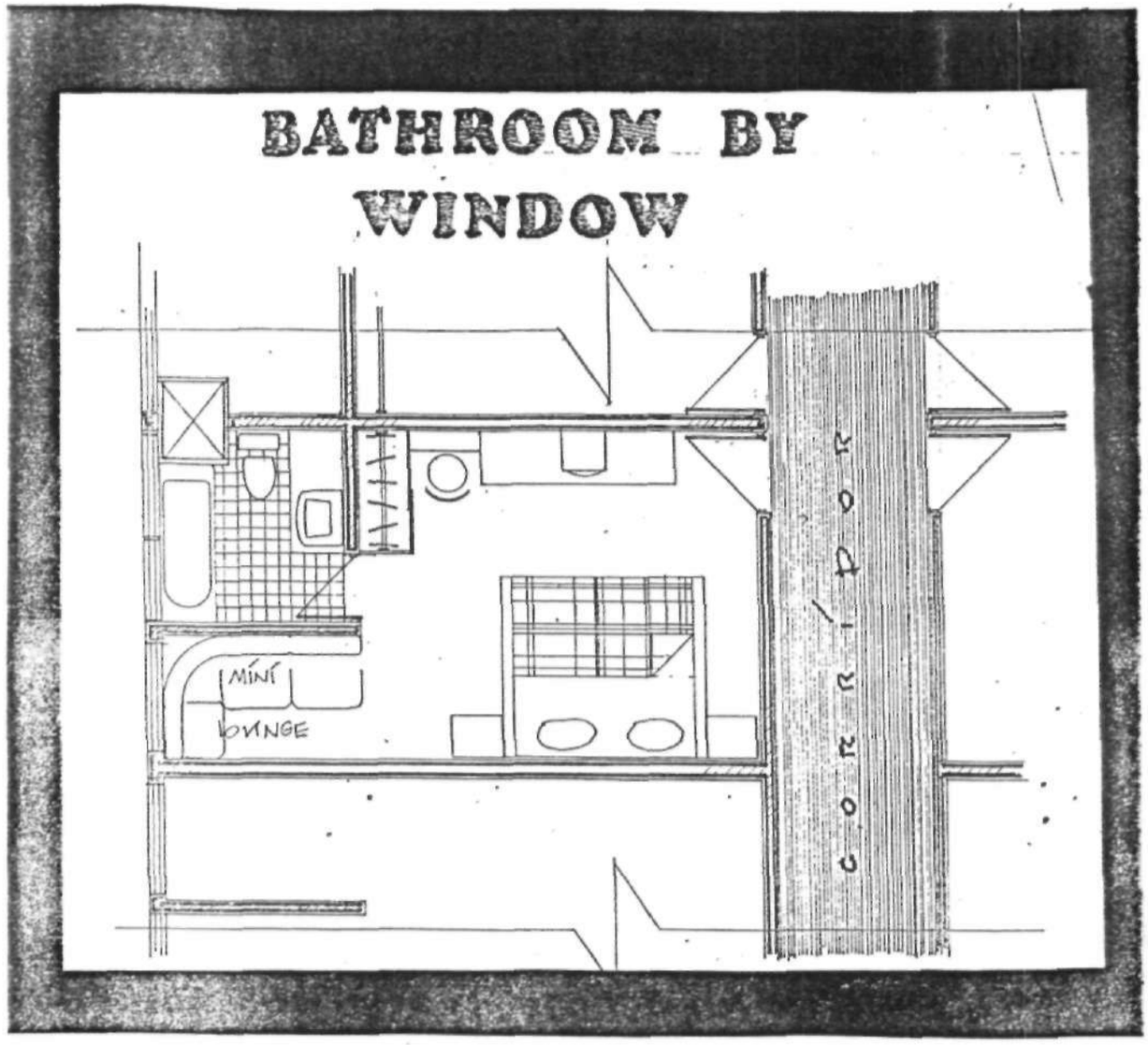


FIG-III

hotel design to be located in the tropics. (See fig. III).

3.14.2 BATHROOMS INTERSPACED BETWEEN BEDROOMS

Merits:

(i) The resultant reduction in room width is particularly advantageous in restricted sites of small areas.

(ii) By this location a mini-lounge is created, separating the bed area from lounge.

(iii) This separation of the lounge has resulted in added privacy for the bedroom.

(iv) By this design a foyer space is created at the entrance which can be enlarged by increasing the room width.

(v) This design allows maximum natural light into the bedroom also with total view from bedroom of the outside.

(vi) Foyer space created can be used as dressing area.

Demerits:

(i) This location for the bathroom necessitates the use of artificial ventilation and lighting.

(ii) Excessive dependence on forced ventilation results in high cost of power consumption, equipment and maintenance.

(iii) Duct can only be serviced from inside bathroom.

(iv) This location is not a good response to the

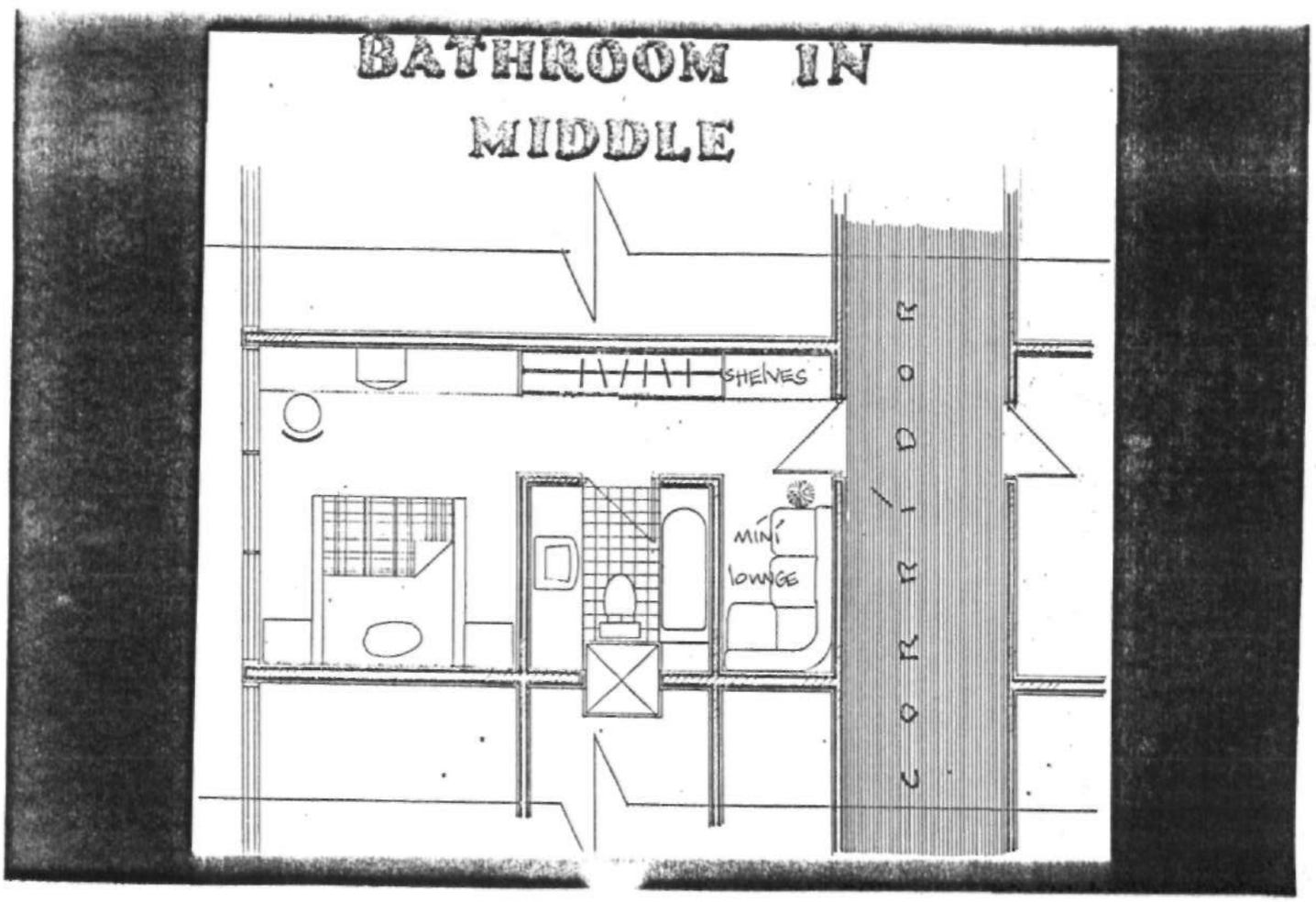


FIG. IV

harshness of tropical climate.

(v) This design and resultant reduction in bedroom size leads to hotel of single bedrooms and if double rooms are insisted upon, then the bedrooms will be too deep. (See fig. iv).

3.14.3 INTERNAL BATHROOMS

Merits

(i) This location (along the corridor) allows for the most efficient use of the bedroom interior.

(ii) Inspection of the duct can be done from the corridor without entering the bathroom.

(iii) This location provides for the provision of a foyer at the entrance to bedroom.

(iv) The foyer space can be enlarged either by relocating the closet behind the bathroom or by increasing the width of the bedroom.

(v) Ducting noise is adequately taken care of.

(vi) The foyer if open to the room could be used as a dressing area.

Demerits:

(i) This location necessitates the use of artificial ventilation and lighting.

(ii) Excessive dependence on forced ventilation results in high costs of power consumption, and high equipment and maintenance costs.

(iii) This location sometimes leaves a very narrow foyer



FIG. V

at the entrance.

(iv) If the duct attached to the bathroom is used as a manhole for the soil waste to drain into a duct along the corridor, it could result in messy corridors, before, during and after maintenance.

(v) This location is not a good response to the harshness of tropical climate. (See fig. v).

3.14.4 BATHROOM FITTINGS

Several factors influence the choice of fittings. The range of fittings normally includes a water closet, bath, (with or without a shower facility) and a lavatory basin. To save space, a shower unit may be substituted for the bath whilst in more luxurious accommodation, a shower unit and a toilet are often added.

3.15 DINNING AREAS, LOUNGES, BARS, CONVENTION ROOMS AND BALLROOMS

3.15.1 PLANNING CRITERIA

The provision of the above named facilities must be based on a detailed analysis of market considerations and economic feasibility.

Market analysis

The evaluation of surveys should provide a basis for assessing:

(i) Type of restaurant facility, range and price of meals.

(ii) Pattern of demand, hours of use and peak demands

(iii) Menu choice, method of service and staffing requirements

(iv) Size, seating capacity and seat occupancy over meal periods

(v) Flexibility in use, space separation and changes in service and arrangements.

Circulation:

Entry to a restaurant used for formal or entertainment dining should be through a reception lounge at foyer. Cloakrooms, powder rooms and toilets should be near the entrance lobby, and all entrances and exits should be positioned to allow supervision and control.

3.15.2 FUNCTION ROOMS

The provision of large function rooms in hotels is not only a source of direct revenue but also tends to increase revenue from other hotel facilities - guestrooms, bars, restaurants - and to ensure greater utilization of kitchens etc. Such rooms are designed to be multifunctional to ensure frequent use and justify the high cost of providing such a space. A large room may be divided by separating partitions into smaller areas providing accommodation for a number of meetings or functions held at the same time.

Space Requirements:

Space allocations per person depend on the size

and use of the room and furniture layout. Typical allowances are:

Dining with banquet style layout - 1.1 to 1.3m2/person

Meetings (table groups) - 0.9 to 1.1 m2/person

Meetings (theatre-style seating) - 0.5 to 0.6 m2/person.

Engineering Services

Ventilation and A/C to each separate area, with individual control and balancing is required. Noise attenuation for ventilation equipment is necessary to minimize both noise transmission from other areas and plant and friction noise. Lighting, must also be controllable from each other with dimmer circuits to provide variable levels of illumination to suit different uses e.g. dinner (banquet style), meetings or projection of slides.

3.16 MECHANICAL ENGINEERING SERVICES AND EQUIPMENT

The cost of engineering services and associated equipment may amount to 40% or more of the capital outlay on the hotel building.

3.16.1 WATER SUPPLY

Large quantities of water supply are required in hotels and similar premises for personal use, food preparation, cleaning and general domestic purposes and

possibly also for the fighting, cooling and softening plant, boilers, laundries, swimming pools and recreational use, including pavement cleaning and irrigation of grounds where appropriate.

3.16.2 STORAGE, DISTRIBUTION AND PRESSURE

Sufficient water equal to at least 100% of the daily requirement, must be stored to ensure continuity of supply and suitable constant pressure. All pumping equipment must be duplicated with provision for isolation, drainage and repair. The design of water supply and distribution systems in hotels is complex in view of the large number of connections required and the multiplicity of pipes which are usually housed within the same duct enclosures.

Note

(i) Domestic hot water is supplied at 50°C (120°F)

(ii) Hot water for dish washing and for sterilizing rinse is supplied at 60°C (140°F) and when heated locally, may be at 82°C (180°F).

(iii) Chilled water for drinking (typical) is normally at 10°C (50°F).

3.16.3 WATER SUPPLIES FOR FIRE FIGHTING

Fire requirements usually stipulate two independent sources of water at a specified pressure. Apart from the mains supply, the reserve source may be from a high level storage tank, low level pressure

vessel, or suction tank and up feed pump (duplicated). Precautions must be taken against contamination of the mains supply. Systems include:

(i) Sprinklers with automatic opening at a set temperature at intervals of about 3.6 to 4.3m in corridors, public rooms, lobbies etc.

(ii) Hosereels and stand pipes placed on escape routes (e.g adjacent to staircase enclosures) 2.0m apart.

3.16.4 WASTE AND SOIL PIPES

The design, construction and installation of these pipes is based emphatically on savings of cost and ease of assembly by grouping pairs of bathrooms adjacent to vertical ducts. Short branch pipes can be used and a single stack system of drainage installed with the connections repeated from floor to floor. Essential requirements in every multiple installation are:

(i) Adequate size (determined by the number of units connected.

(ii) Good access at all main junctions and bends (within the duct where possible.

(iii) Efficient jointing which is gas tight under all operating conditions of varying temperature and pressure.

(iv) Adequate sealing of outlets to fittings. Separate soil and waste pipes are required in other areas of a hotel e.g. kitchen.

3.16.5 DRAINAGE AND SEWAGE DISPOSAL

Drainage provisions include both storm water and foul water disposal, which will usually need to be kept separate, to facilitate drainage design and treatment of sewage. Storm water drainage may be used beneficially as a source of water for recreational lakes, streams (man-made or natural) and ornamental gardens.

3.17 ELECTRICAL ENGINEERING SERVICES

As with other services and equipment, they are subject to national codes and regulations.

3.17.1 PRIMARY AND EMERGENCY SUPPLIES

Electric mains supply to premises are generally 3-phase AC and are often conditional on the provision of a mains transformer which may be located externally in a fenced-off part of the site or internally in a transformer room or vault in the building.

3.18 MAINTENANCE PLANNING

Replacement of equipment furnishings or decoration is provided for by estimating a reasonable life expectancy in cycle of use. Replacement and remodelling of hotel interiors is affected by a number of considerations.

(i) Changes in market conditions standards and requirements.

(ii) Degree of permanence of the construction or plant;

difficulties of replacement in terms of access, drainage, disturbance, cost and loss of revenue.

(iii) Extent to which flexibility has been allowed for in the design and construction.

(iv) Phasing in of work with seasonal reduction in occupancy and with other renovations.

(v) Cost of operation (increases in labour and energy), costs, warranting replacements to facilitate self service and energy conservation.

(vi) Cost-in-use comparisons substitutions to allow greater efficiency and operational savings.

(vii) Reconstruction and replacement in the interest of safety.

3.18.1 MAINTENANCE WORK (TERMINOLOGY)

Maintenance work is defined as work undertaken to keep or restore every facility i.e. every part of a site, building or contents to an acceptable standard; this work may be organized and carried out with fore thought, control and records (planned maintenance) or be carried out on an emergency basis when the need arises.

Planned maintenance may be <u>preventive</u> (to prevent the possible failure of plant and equipment by providing regular attention and servicing) or <u>corrective</u> (restoring the facility to an acceptable standard such as in redecoration and refurbishing of rooms). Maintenance work generally falls in four main areas of work:

(i) Routine inspection either by maintenance staff or through procedures for noting and reporting defects, by other employees and occupants.

(ii) Clearing, lubricating, servicing, adjustment and other regular preventive maintenance for plant and equipment.

(iii) Redecoration and renovation work, periodic dry cleaning and laundering of furnishing, resurfacing and recovering of furniture and other form of connective maintenance.

(iv) On the spot repairs and replacements, emergency work, requiring immediate attention.

CHAPTER FOUR

4.0 CASE STUDIES

4.1 INTRODUCTION

Of the 16 airports in Nigeria located at Lagos, Ibadan, Benin, Port Harcourt, Owerri, Calabar, Enugu, Makurdi, Yola, Jos, Minna, Sokoto, Kaduna, Kano, Maiduguri, and Ilorin, only 2 namely Lagos and Port Harcourt have, airport hotels. This writer visited both hotels and interviewed the personnel manager and marketing manager of the Port Harcourt International Airport Hotel and Ikeja Airport Hotel (Lagos) respectively. The interviews are found in the appendix of this thesis.

Five, case studies shall be presented in this thesis; 3 foreign, namely Sterling hotel, Heathrow Airport, London; Hobby Airport Hilton Houston, Texas USA; Dublin Airport Hotel, Northern Ireland; 2 local, namely Abuja Sheraton Hotel, and Port Harcourt International Airport Hotel. The choice of Abuja Sheraton Hotel as a case study (though it is not an airport hotel), was based on the belief that a 5-star hotel located in Abuja would tell what standard this proposed hotel would have to maintain and probably exceed.

4.2 CASE STUDY ONE: STERLING HOTEL HEATHROW AIRPORT, LONDON

The main reason for picking this hotel, is because it is located at unargueably the busiest airport in the world. Heathrow airport serves as a link between the eastern, western and southern countries of the world.

The Sterling Hotel, designed by Manser Associates of England is one of the new top of the market hotels developed by the British Automobile Authority (BAA). This 397 bedroom luxury hotel situated next to terminal 4 of the Heathrow International Airport, is as modern in its appearance as the aeroplanes and hangers which surround it.

MERITS

(i) The main lobby is centralized in the atrium thereby offering guests a good and interesting view of the various facilities (Restaurants, Cocktail lounge, bar etc) located within the atrium.

(ii) The number and variety of restaurants provided are adequate .

(iii) The exposure of the structural framework successfully relates the building to its immediate environment.

(iv) The loading bay for back house activities, was intelligently located beneath an elevated ramp

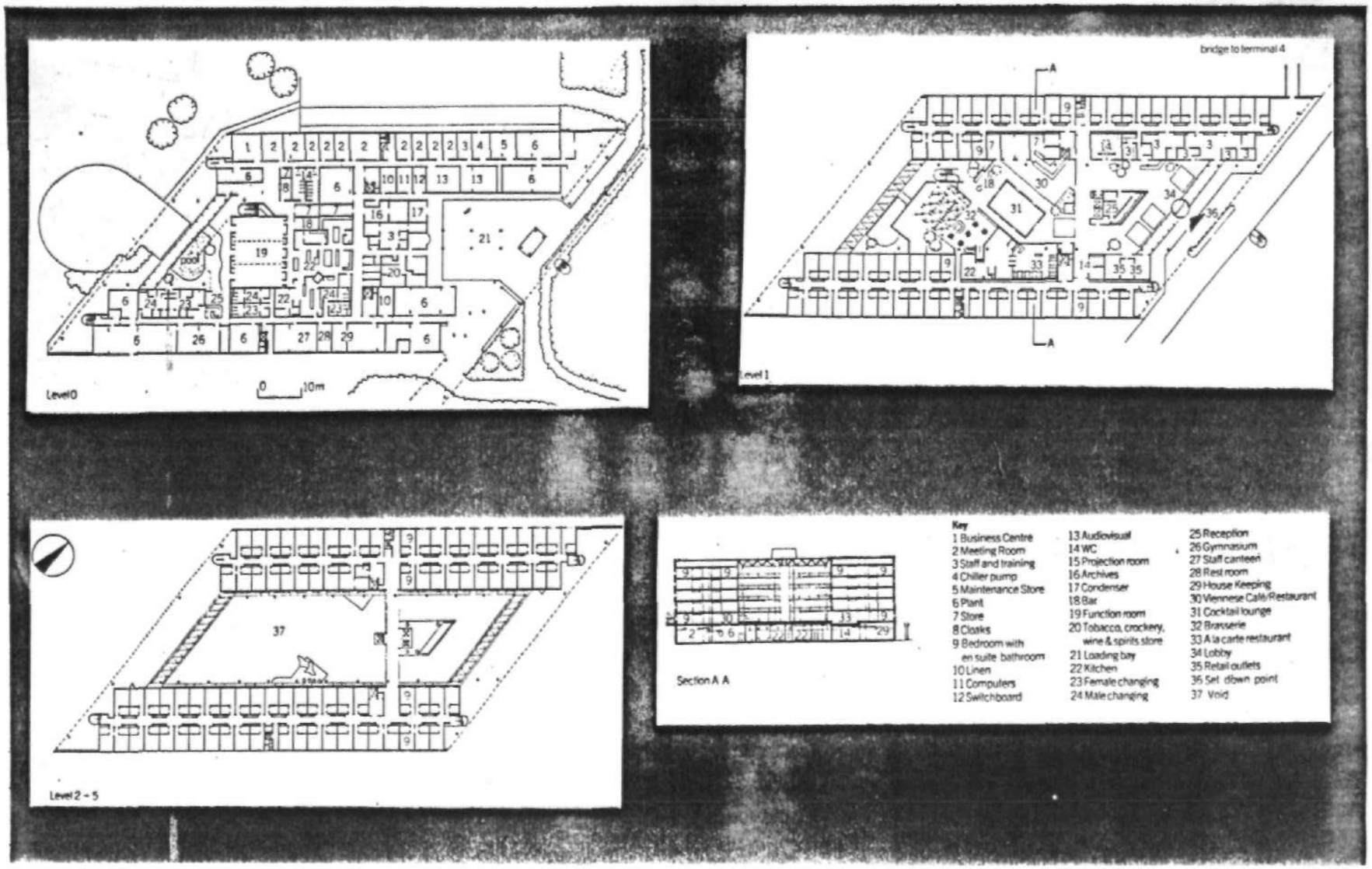
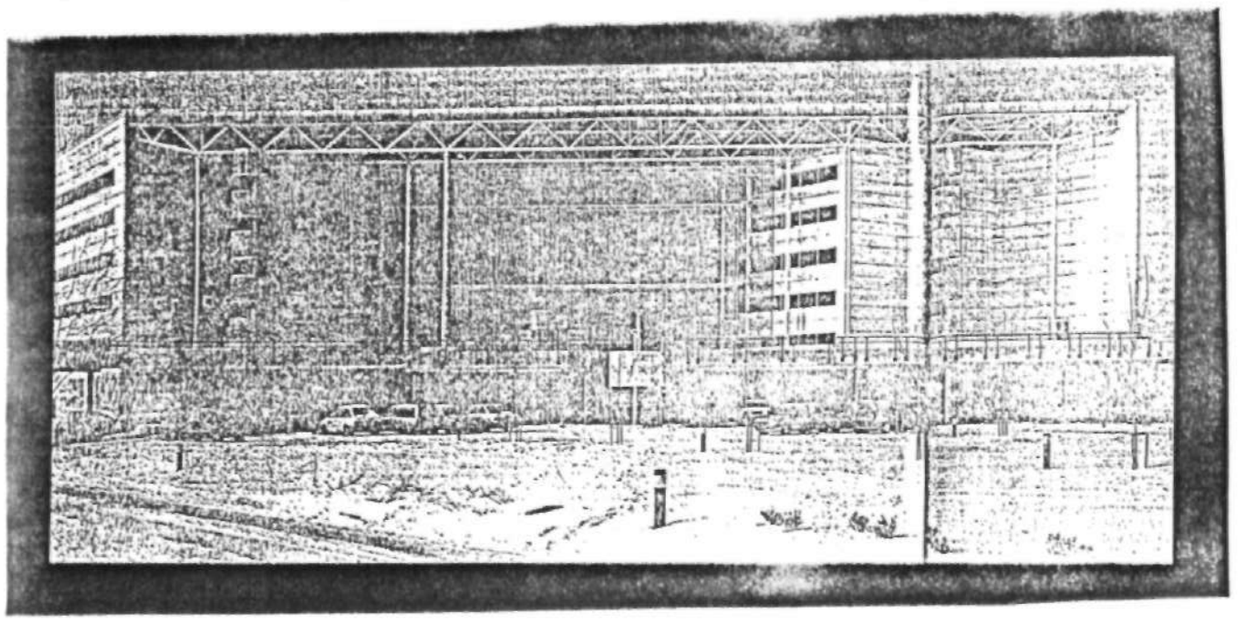
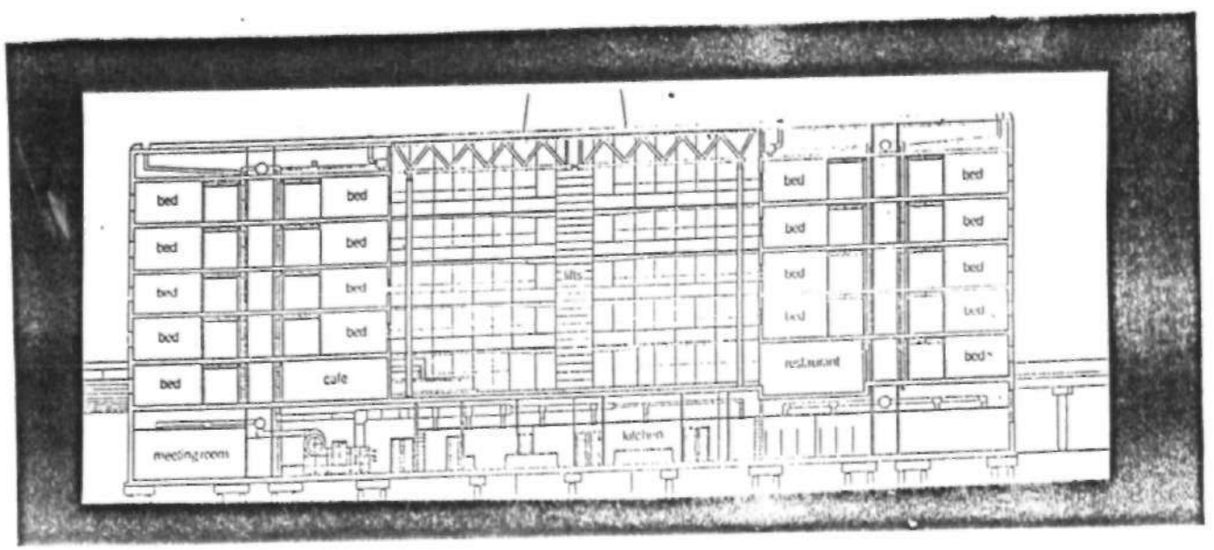


PLATE XIII : STERLING HOTEL HEATHROW AIRPORT, LONDON (CASE STUDY ONE)



ELEVATION



SECTION

on the approach facade, unknown to guests.

(v) This design is simple in form and is instantly intelligible to it's users most of whom will be weary travellers with no time to explore the geography of their temporary abode.

DEMERITS

(i) The entrance is not adequately celebrated on the approach facade.

(ii) There is a noticeable absence of a staircase in the main lobby of the hotel even though there are a total of 7 stairs in the whole design.

(iii) Lobby space provided at main entrance appears to be inadequate for an airport hotel.

(iv) Closets in bedrooms improperly located with respect to position of bathroom.

(v) The location of linen facilities store within the commercial/business area, is not very proper.

(vi) The access route from the kitchen servery to the service lift could be better planned.

(vii) The lack of a hall porter's office is noticeable. (See plate XIII).

4.3 CASE STUDY TWO: HOBBY AIRPORT HILTON, HOUSTON, TEXAS, U.S.A.

The Hobby Airport Hilton is one of Houston's great hotels, and it overlooks Hobby Airport Houston. This nine-storey high-rise and cabana hotel has the following

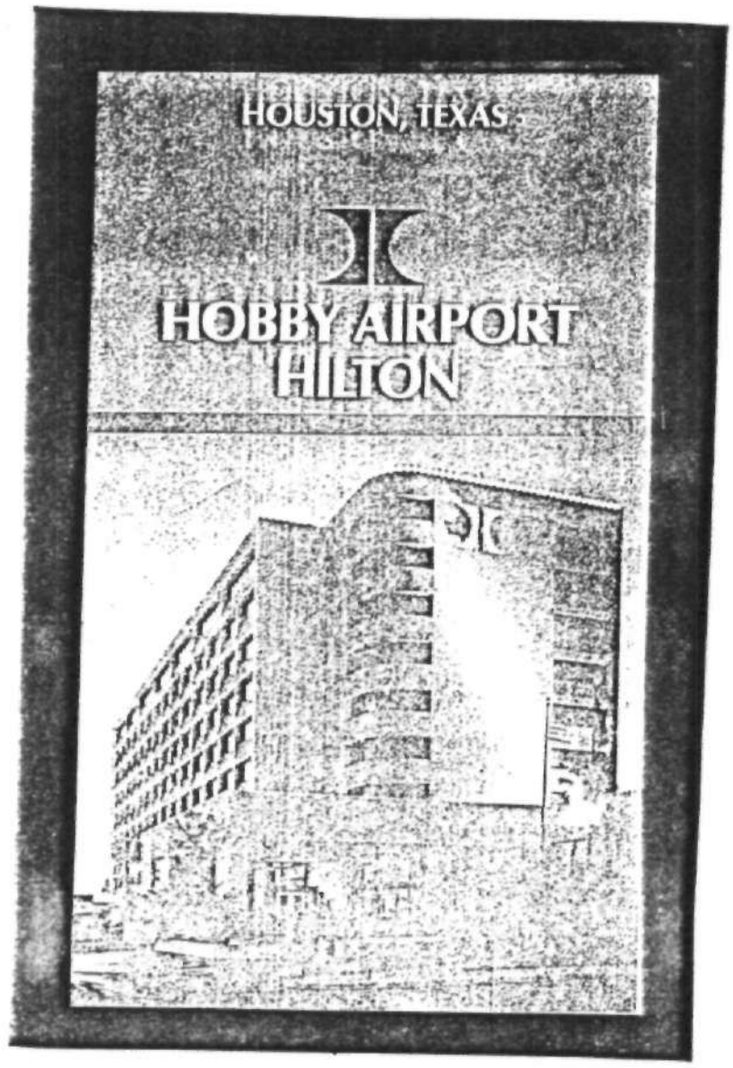
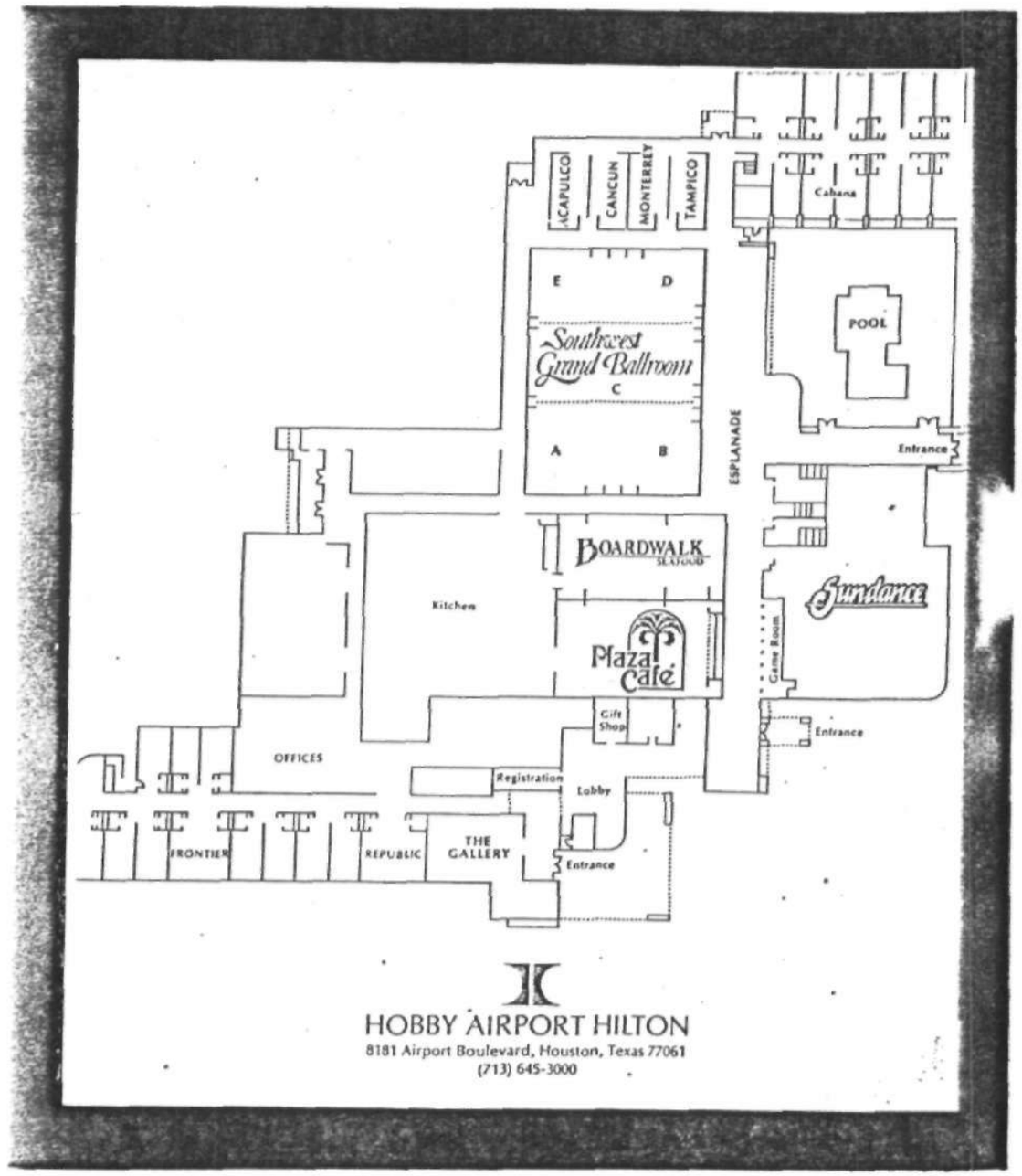


PLATE XIV: HOBBY AIRPORT HILTON HOUSTON, TEXAS
U.S.A.
(CASE STUDY TWO)



GROUND FLOOR PLAN

to offer guests: 310 guest rooms, jacuzzi pool suites, suites with wet bars, icemakers and hot tub pools, free 24-hour news and sports channels outdoor pool, jogging track, and 15 meeting rooms. Others are, computerized message system, teleconference capabilities, 1200 capacity Grand ballroom, seafood restaurant, plaza cage restaurant, Disco hall, complementary limousine service to and from Hobby Airport, commercialized catering services, no charge for children in the same room and free courtesy van transportation.

MERITS

(i) There is an adequate number and variety of restaurants.

(ii) The main entrance porch is celebrated to receive guests comfortably.

(iii) "Back House" activities and "Front House" activities are properly separated.

(iv) Business facilities were generously provided to further enhance the economic viability of the hotel complex.

(v) The business facilities provided are computerized to meet modern standards and enhance efficiency.

(vi) The catering facilities are commercialized to meet demands of non-resident clients, including free delivery of ordered goods.

(vii) The main entrance is properly separated and easily identifiable from other entrances.

(viii) The rent-a-car office offers a variety of vehicles including wagons, mini vans, luxury cars etc.

(ix) A free airport shuttle is offered from the hotel.

(x) The location of a gallery at the entrance enhances a better reception of arriving guests.

DEMERITS

(i) The lobby space provided at main entrance is inadequate for an airport hotel.

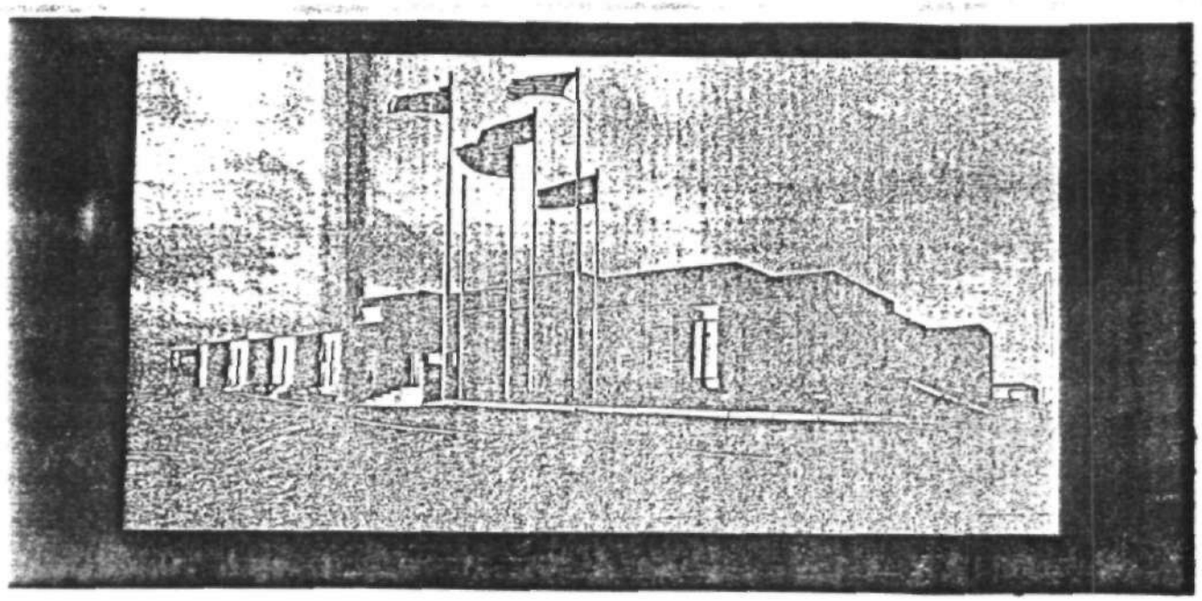
(ii) The registration area is too small for the size of the hotel.

(iii) The absence of a hall porter's office is noticeable.

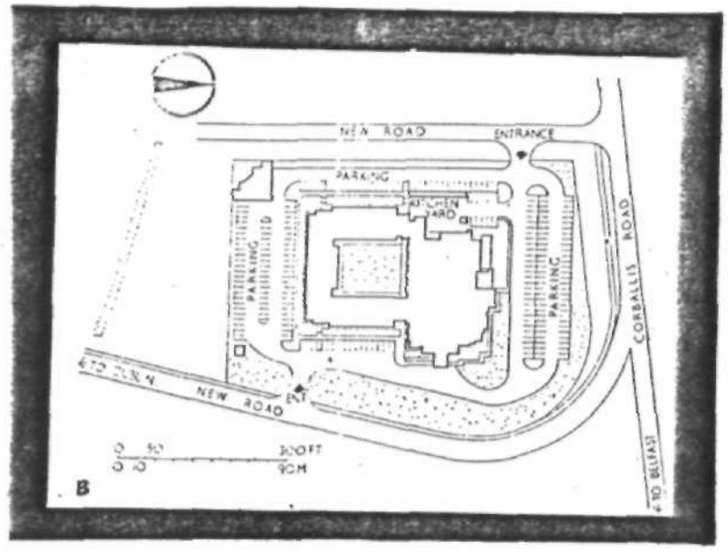
(iv) A total of 8 entrances into the complex is considered too many, thereby resulting in a slight insecurity of the hotel complex. (See plate XIV).

4.4 CASE STUDY THREE: DUBLIN AIRPORT HOTEL NORTHERN IRELAND

The Dublin Airport Hotel was made to create a building which could contrast the impersonal atmosphere and continual bustle of the airport. Hence the inward looking structure with interior landscape features - as a whole, a domestic feeling. The hotel is a 150 - bedroom block with bathrooms ensuite, dining area, bar and conference-cum-party facilities. Other facilities include, services staff dining and changing rooms



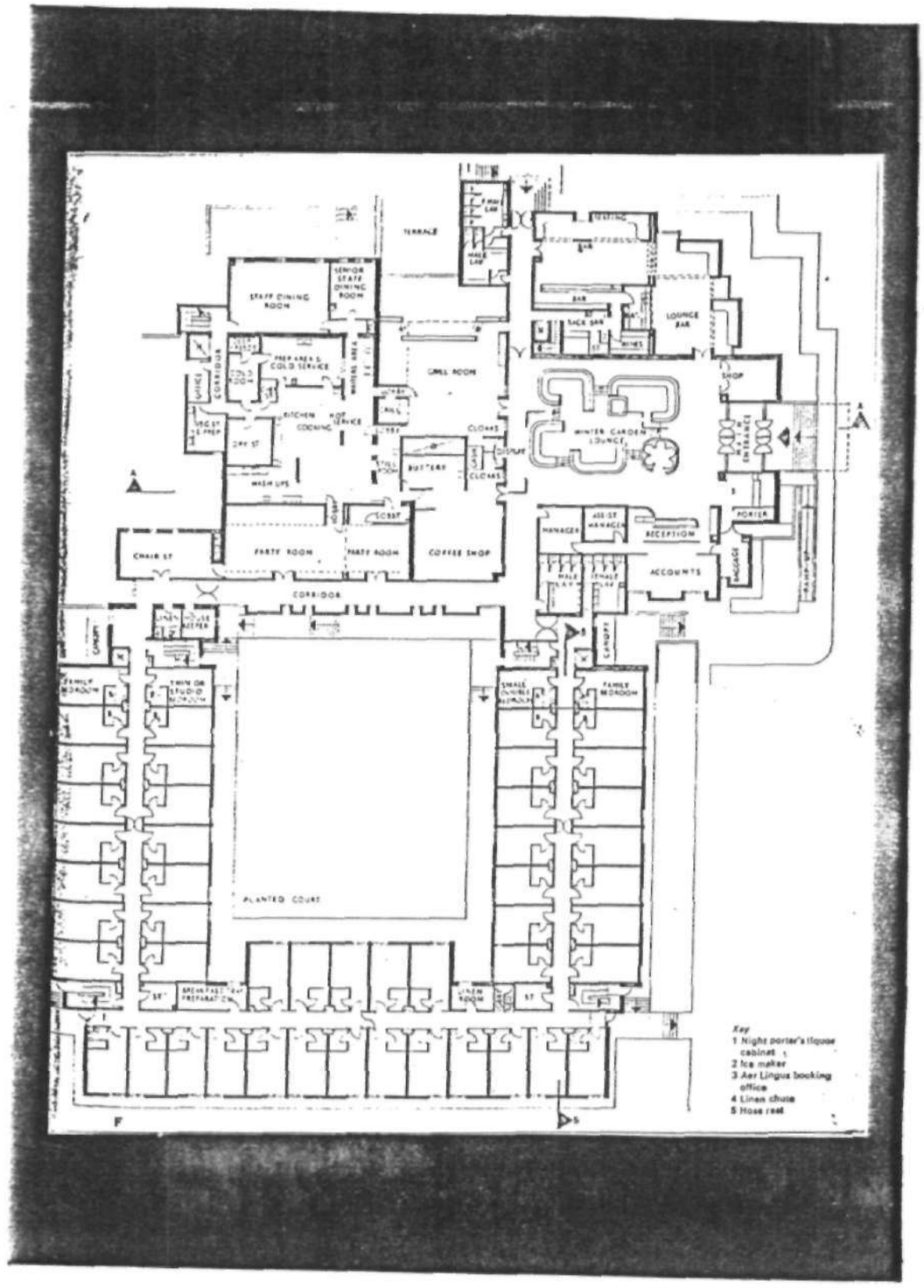
PERSPECTIVE



SITE PLAN

PLATE XV : DUBLIN AIRPORT HOTEL, N. IRELAND

(CASE STUDY THREE)



GROUND FLOOR PLAN

with parking for 228 cars. A house for the manager, detached from the hotel was demanded in the brief.

MERITS

(i) In line with an inward looking domestic feeling, the use of a landscaped courtyard enclosed by bedroom blocks with artificial lake is commendable.

(ii) The provision of a spacious, sunken foyer lounge with marble flooring and high backed upholstered seating serves as a warm reception to guest.

(iii) The entrance porch is adequately celebrated.

(iv) There is a noticeable provision of a ramp for disabled guests.

(v) There is a predominance of rectangular forms on the elevations.

(vi) The use of a courtyard successfully screens nuisance of noise from very close-by hub of the aviation activities.

(vii) This design takes full advantage of the sloping site with the use of split levels.

(viii) This hotel is frequently patronized by the local population and travellers.

(ix) Services and staff facilities wisely put at basement.

(x) The porter's office and baggage store are properly located.

(xi) The number of bars provided are adequate.

DEMERITS

(i) The spread of parking spaces around the U-shaped bedroom block has resulted to an excess of entrances thereby causing slight insecurity.

(ii) The spread of parking spaces around the bedroom block could generate noise around bedroom block.

(iii) The placement of the plant room atop the building is likely to cause during use, vibration which could affect the structure of the building with time.

(iv) Many spaces provided, do not have cross-ventilation resulting in an overdependence on artificial ventilation.

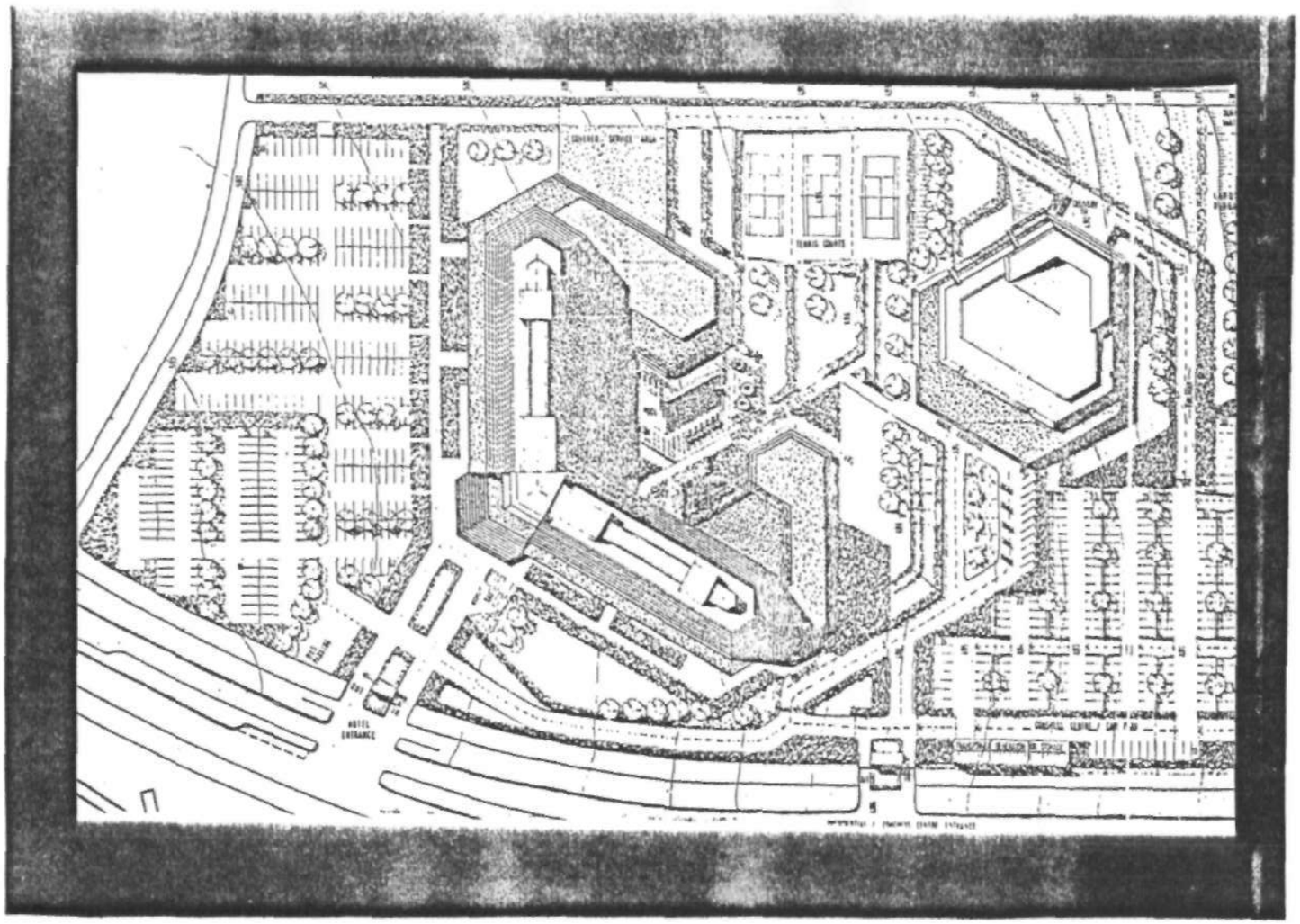
(v) The route from kitchen to room service is not properly worked out.

(vi) The number of restaurants (one) is too few compared to the number of drinking bars (four).

(vii) The design is liable to incur high cost of energy for it's day to day running due to the over dependence on artificial ventilation; for this same reason maintenance costs are likely to be high too. (See plate XV).

4.5 CASE STUDY FOUR: ABUJA SHERATON HOTEL NIGERIA

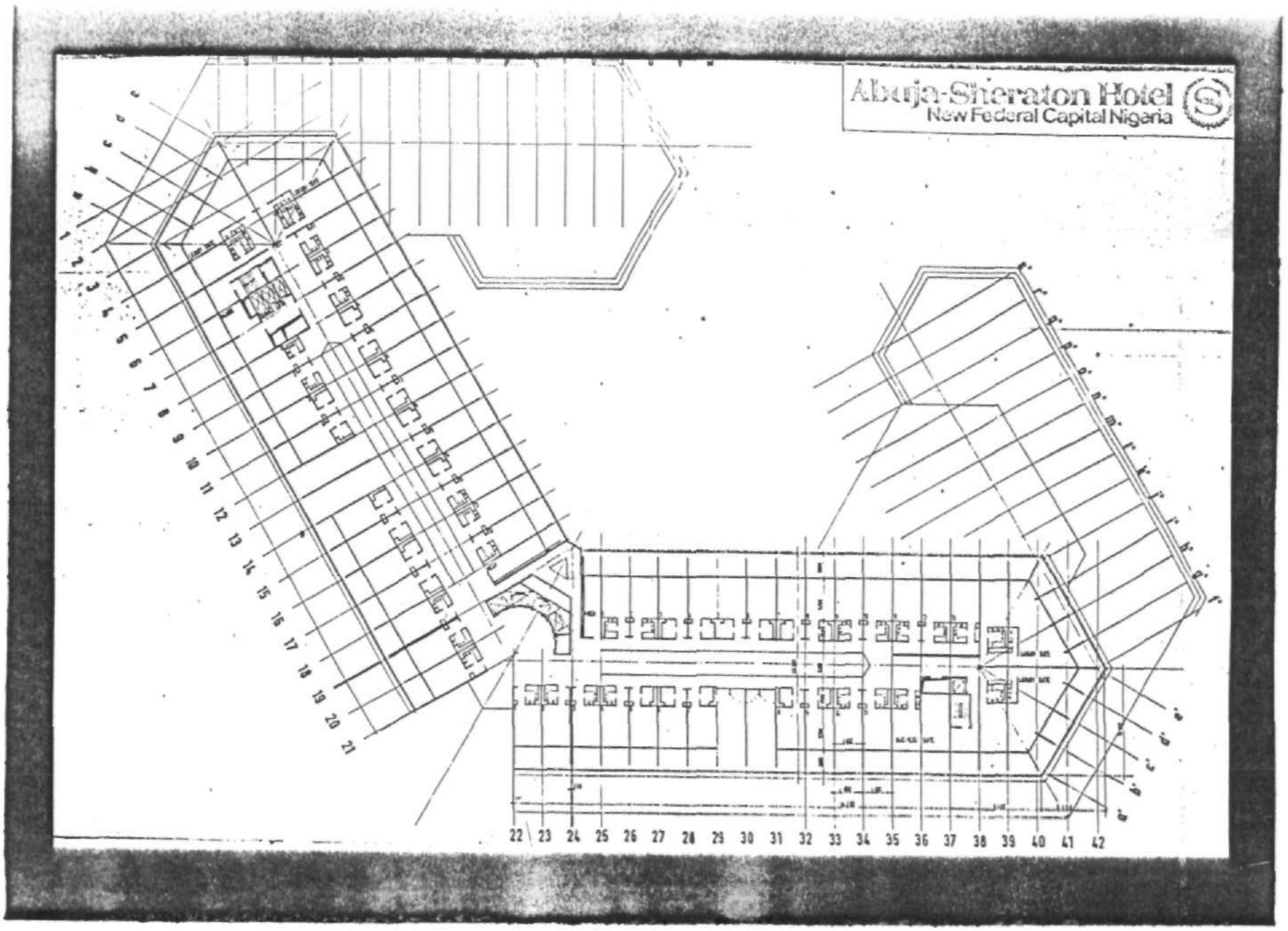
This 660 bedroom, 5-star hotel in Nigeria's new capital city is indeed a place to be, whenever one is in Abuja.



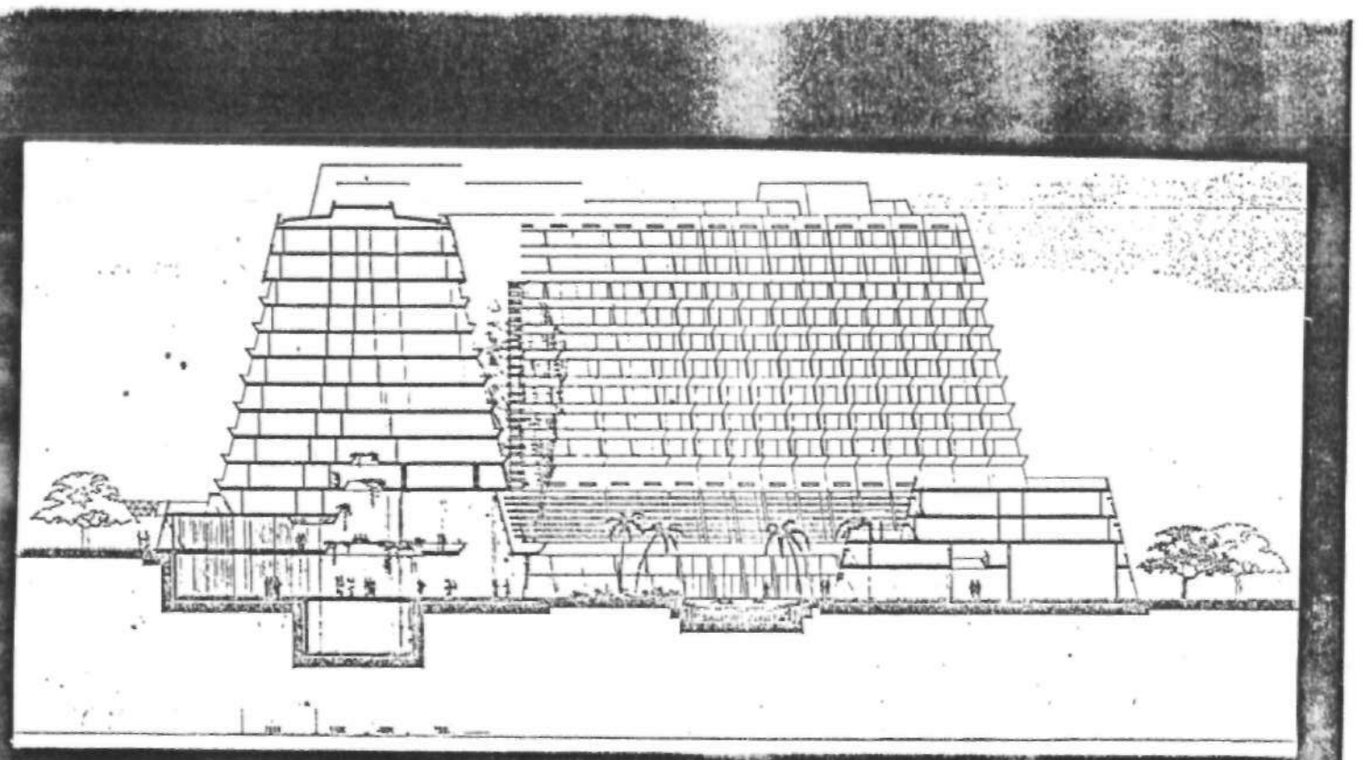
SITE PLAN

PLATE XVI: ABUJA SHERATON HOTEL, NIGERIA

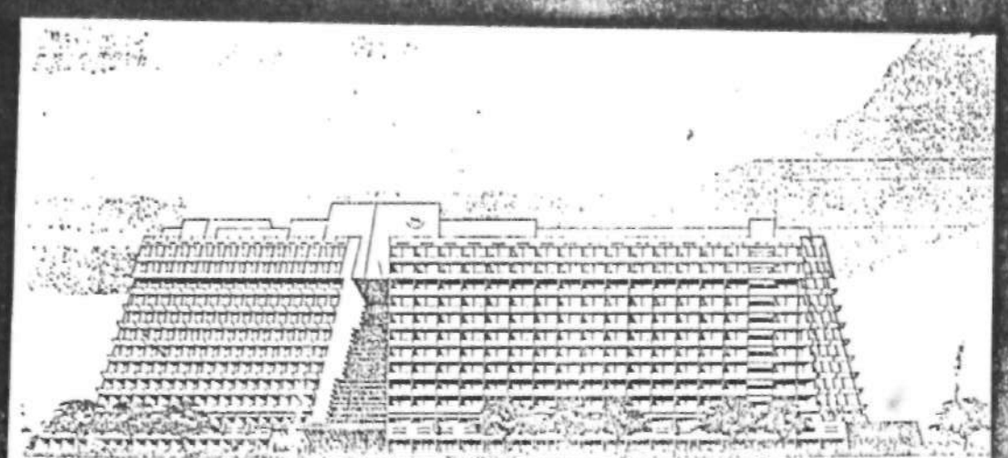
(CASE STUDY FOUR)



LEVEL 4



SECTION



APPROACH FACADE

This hotel located in the Central business district (C.B.D) offers a good view of the Zuma Rock and the Aso Hills in addition to the other interesting buildings surrounding it. This hotel, indeed a 5-star hotel offers a variety of suites (luxury, business and presidential), variety of restaurants, good views in the interior of hotel and de-luxe facilities in bathrooms namely bidets, etc. The luxury suites are provided with kitchenettes, separate W/Cs for visitors' private dining, terrace/balcony seating per bedroom, dining and living areas each, all meant to "spoil" the guest away from home. The business suites are provided with all of these facilities but the private dining area.

MERITS

(i) The separation of entrances into guest and residential/conference entrances solves traffic problems in the site.

(ii) An adequate number of and variety of restaurants are provided.

(iii) The slope of the site was inco-operated into the design with the aid of split levels.

(iv) There is an effective separation of services from public view.

(v) The business facilities provided are adequate in size and variety.

(vi) Good views were introduced into the hotel's interior by the provision of lounges below voids.

(vii) A wide range of room types are available namely, single rooms, double rooms, business, luxury and presidential suites.

(viii) Accommodation for resident staff is properly located in a separate wing in the hotel.

(ix) De-luxe facilities (bidets etc) are provided in each bathroom with additional shower trays in presidential suites and visitors' W/C in business and luxury suites.

(x) The elevational composition is interesting particularly with the celebrated entrance.

DEMERITS

(i) The absence of a ramp at entrance for disabled guests is noticeable.

(ii) The escape stairs are not "escape stairs" in the real sense of the word.

(iii) The distance between kitchen servery and service lift is too far.

(iv) This hotel is liable to incur high costs of power due to the location of bathrooms, internally along corridors, necessitating the use of mechanical ventilations in all bathrooms. (See plate XVI).

4.6 CASE STUDY FIVE: PORT HARCOURT INTERNATIONAL AIRPORT HOTEL, NIGERIA

This 198 room hotel consists of twin bedded,

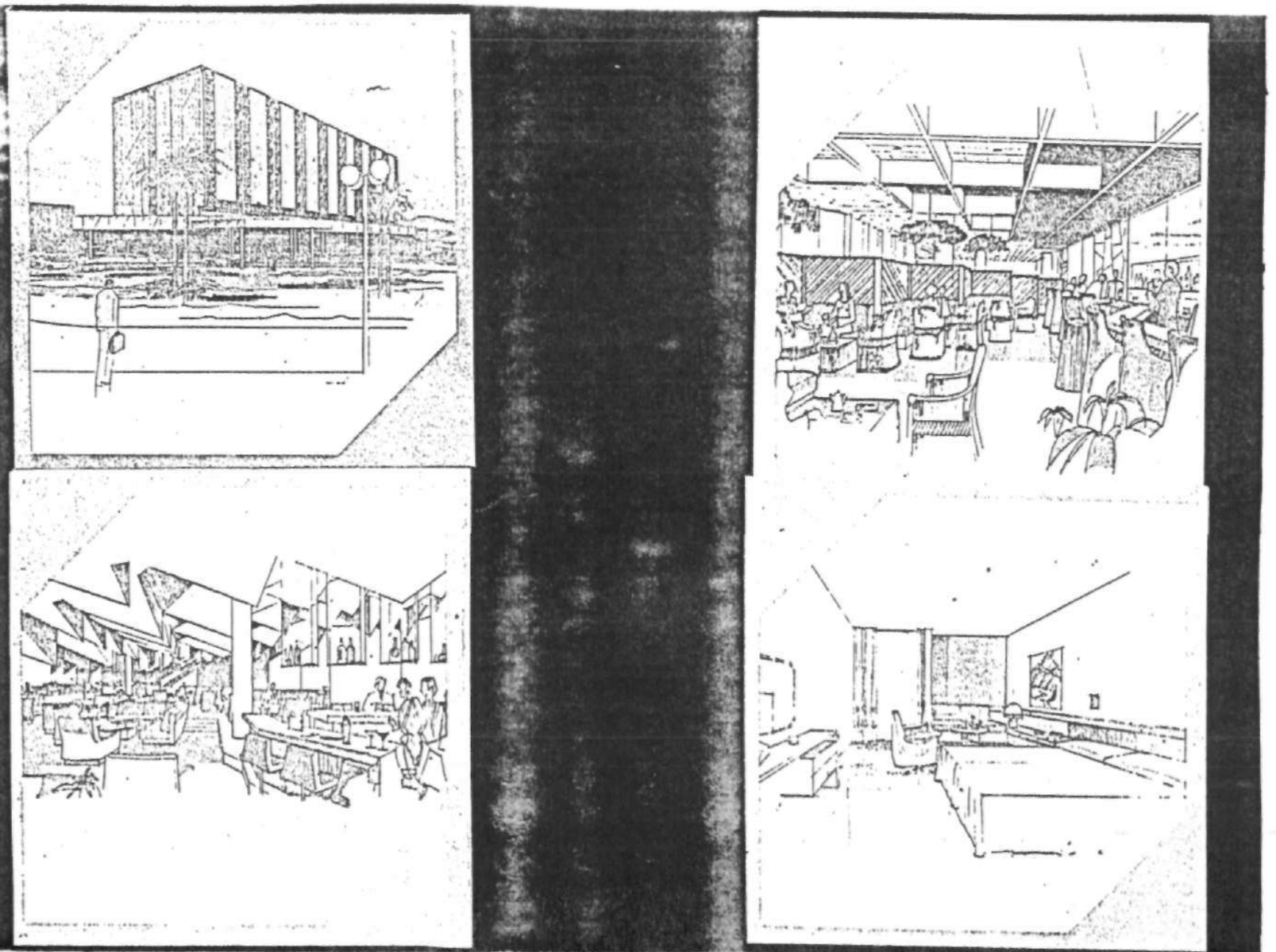


PLATE XVII: PORT HARCOURT INTERNATIONAL AIRPORT HOTEL (CASE STUDY FIVE)

double-bed, studio type rooms and suites, all with private bathroom, colour Tv (Video), radio and mini bar. It offers the following facilities; The opulent "Star Ballroom" (for conferences and functions); The "Palm Tree" (Coffee shop); The "Oilman's suite" (special function rooms); The "Delta" Restaurant with a la carte cuisine; The "Jet Set" (Night Club); and the "Safari Bar" and Cocktail Lounge.

Other facilities include mini-golf, tennis, swimming pool fitness rooms and shopping arcade.

MERITS

(i) Being the nearest hotel to the airport, it actually functions as an airport hotel.

(ii) Bedrooms are opulently furnished.

DEMERITS

(i) Underutilization is the greatest problem of this hotel. It was set up to serve a satellite town to Port Harcourt which as yet does not exist since the main town is still very far away. (See Plate XVII).

4.7 OTHERS

Mention must be made of the fact that useful information was gotten from other hotels even though they were not presented as case studies. They include

(i) Heathrow Penta, London

(ii) The Excelsior, London,

(iii) Gatwick Airport Hotel, London,

(iv) Holiday-Inn, Heathrow, London,

(v) Adam's Mark Airport Hotels in Houston, Texas; Indianapolis; Philadelphia; St. Louis; all within promity of the various airports in their vicinity in U.S.A.

(vi) Marriot Hotel, Houston Airport, Texas U.S.A.

CHAPTER FIVE

5.0 THE SITE

5.1 SITE LOCATION

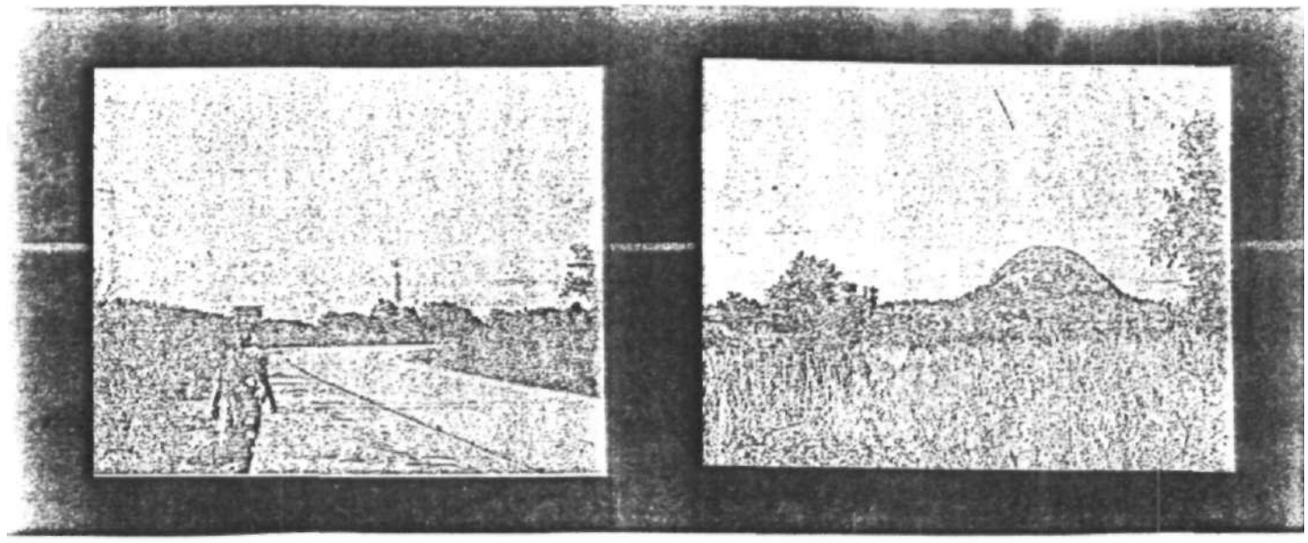
The site allocated for the airport hotel is within the premises of the Aviation Village. The aviation village accommodates other land uses such as low and medium density residential areas, and areas allocated for commercial development, governmental uses, educational/institutional etc. The aviation village is located at the western edge of the Gagwa plains about 40km from phase I area of Abuja. To the East and West are areas designated as military zone. The Aviation Village is located south of the airport between latitudes 9^{0} to $9^{0}6'$ North and longitudes 7^{0} 12' to 7^{0} 17' East (See Fig. VI).

5.2 SITE SELECTION

The particular site allocated for the airport hotel is accessible to the Airport and equally removed from the hub of the Aviation Square, still within the premises of the Aviation village. An area of approximately 9.75ha has been earmarked, being 1.5% of the total area of the Aviation Village.

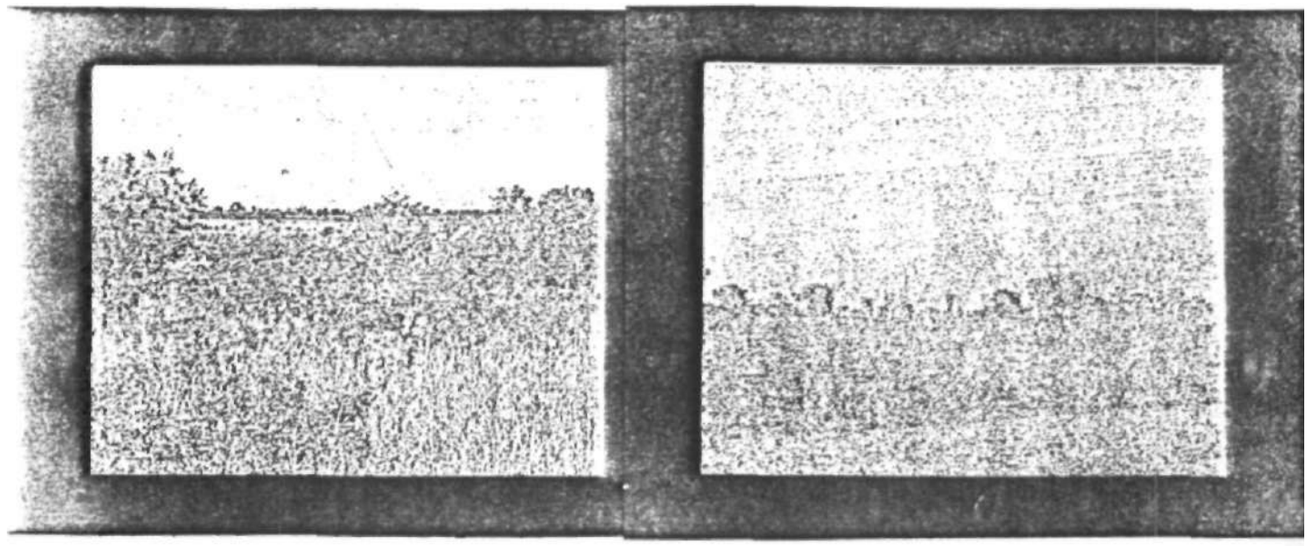
5.3 SITE NATURE/ANALYSIS OF STUDY AREA

The site can best be described by its physiography, geology, water resources, soils, vegetation and climate.



SOUTHWEST

EAST



NORTH

WEST

FIG. VI: THE SITE

5.3.1 PHYSIOGRAPHY

The bulk of the city centre, where the site is, lies in the Gwagwa plains which ranges in elevation from 305m in the West to 610m in the East. The area is typified by gently undulating terrain interlaced by riverine depressions. A large visual scale is introduced by inselbergs jutting out of the gently undulating landscape.

5.3.2 GEOLOGY

Generally the major rock types underlying the F.C.T. are of three categories.

(i) Metamorphic rocks

(ii) Igneous rock e.g. Zuma-Bwari-Aso Hills and outcrops of the Gwagwa plains.

(iii) Sedimentary rocks including alluviums, located in stream beds throughout the territory.

A visual survey of the proposed site; showed a large rock outcrop on the south east. From the airport expressway the site exists at over 330m above sea level and maintains a 5 - 10% slop eastwards towards the valley of a water body which separates this portion of the site from the large rock outcrop on the southeast.

5.3.3 SURFACE WATER

The closest of the series of water bodies neighbouring the site originates from the NW, descends

to the SE and takes a bend eastward before draining into the main drainage.

5.3.4 CLIMATE

Four climatic seasons are noticeable in Abuja viz: Dry season from November to February; hot season from March to April, Rainy season from April to October, and a stormy season from May to June. (Refer to climatic charts).

Climatic factors to be considered include

(i) Temperature,

(ii) Humidity

(iii) Rainfall

(iv) Wind condition

(v) Sun and Cloud cover coverage (sunshine hours).

TEMPERATURE

Maximum mean temperature of 35^{o}C is experienced around June at the beginning of the rainy season. The minimum temperature of 18^{o}C is experienced between December and January. It is generally hot and humid all year round. (See fig. VII).

HUMIDITY

Relative humidity reaches a maximum of 89% during the rainy season notably between June and August while the minimum of 23% is recorded during the dry season, between December and January. Humidity in Abuja is generally higher in the early hours of the morning (See fig. VIII).

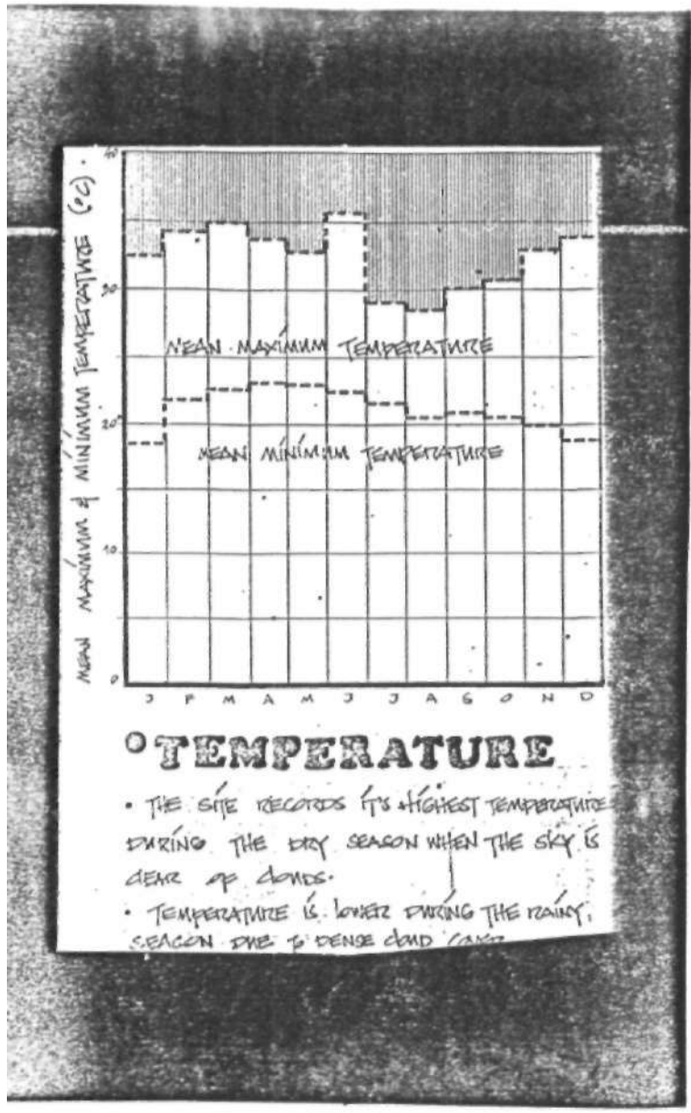


FIG. VII

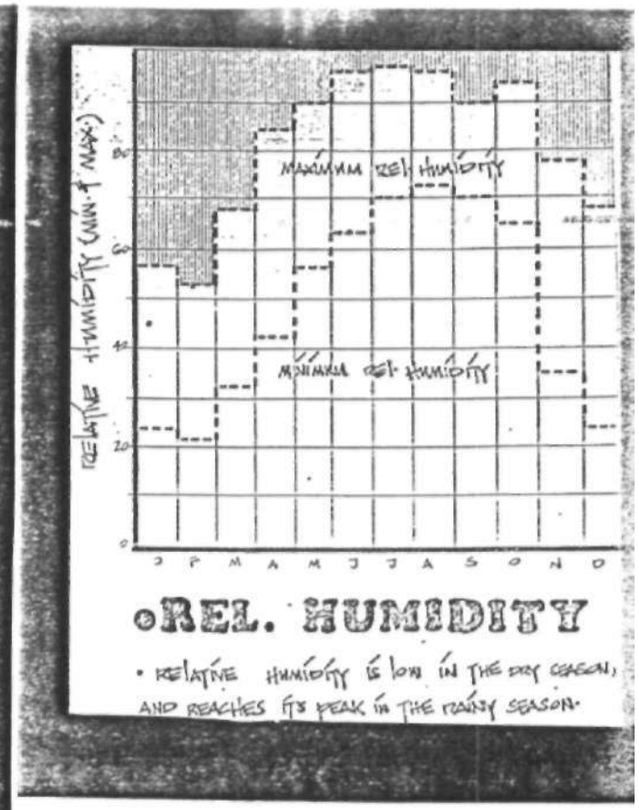


FIG. VIII.

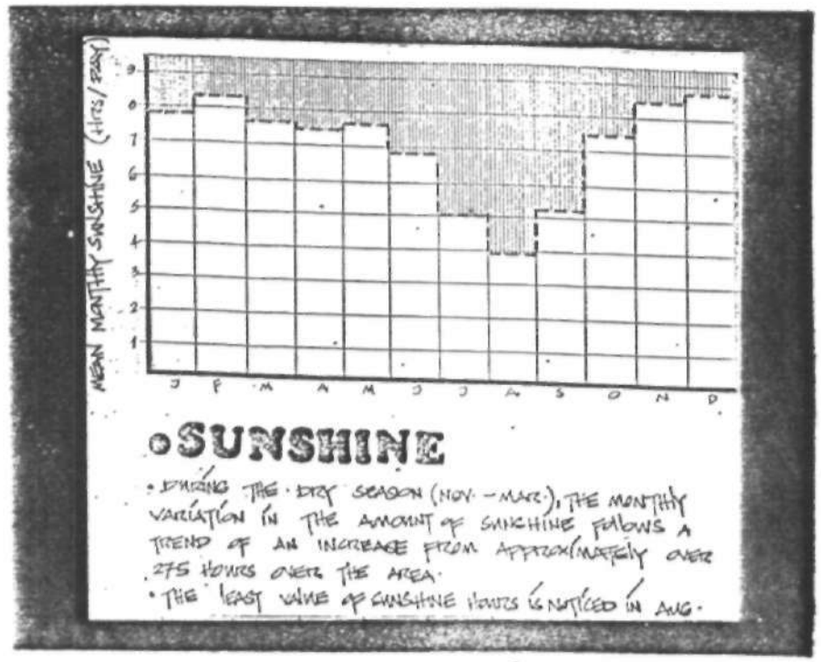


FIG. IX

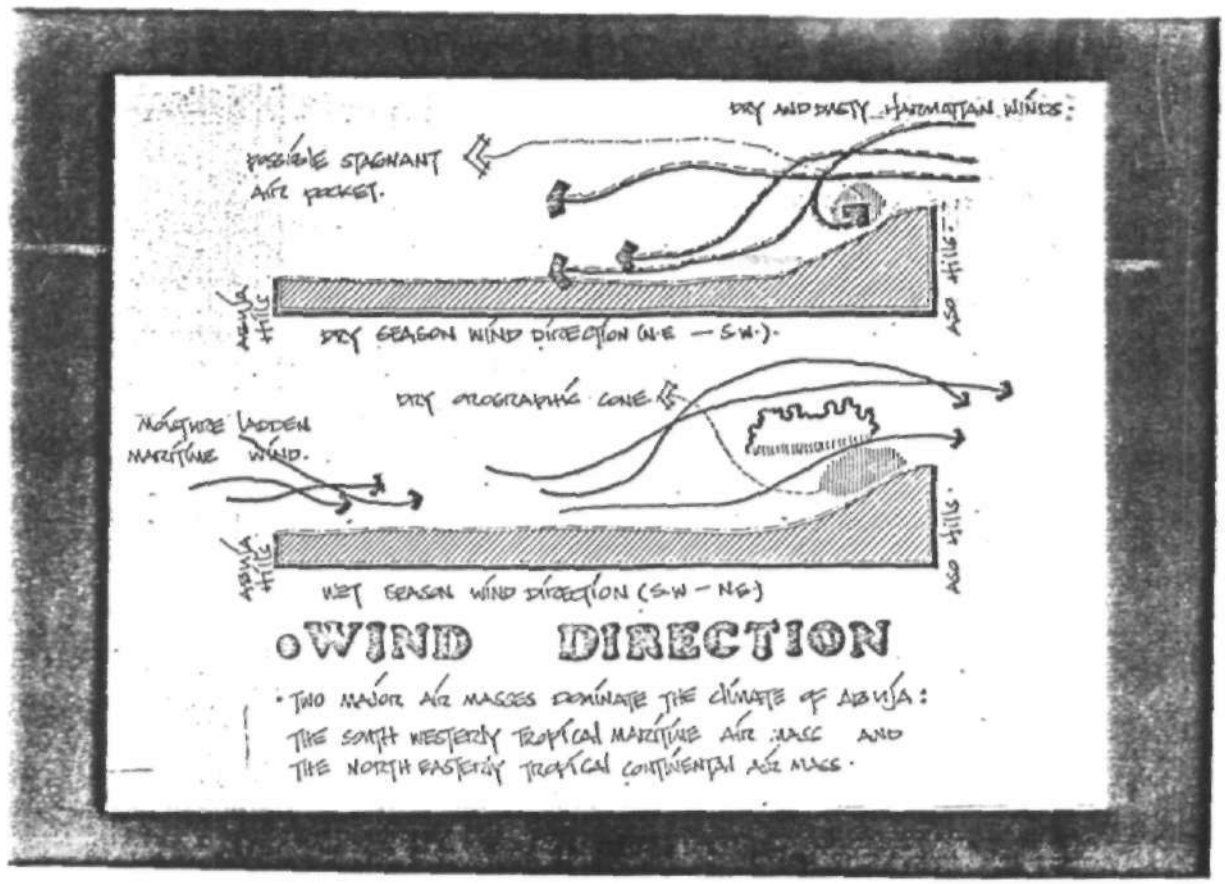

DRY AND DUSTY HARMATTAN WINDS:
POSSIBLE STAGNANT AIR POCKET.
ABUJA HILLS
ASO HILLS.
DRY SEASON WIND DIRECTION (N.E — S.W.).
NORTHERLY LADEN MARITIME WIND.
DRY ORGRAPHIC CONE
WET SEASON WIND DIRECTION (S.W — N.E)
WIND DIRECTION
• TWO MAJOR AIR MASSES DOMINATE THE CLIMATE OF ABUJA:
THE SOUTH WESTERLY TROPICAL MARITIME AIR MASS AND
THE NORTH EASTERLY TROPICAL CONTINENTAL AIR MASS.

FIG. XI.

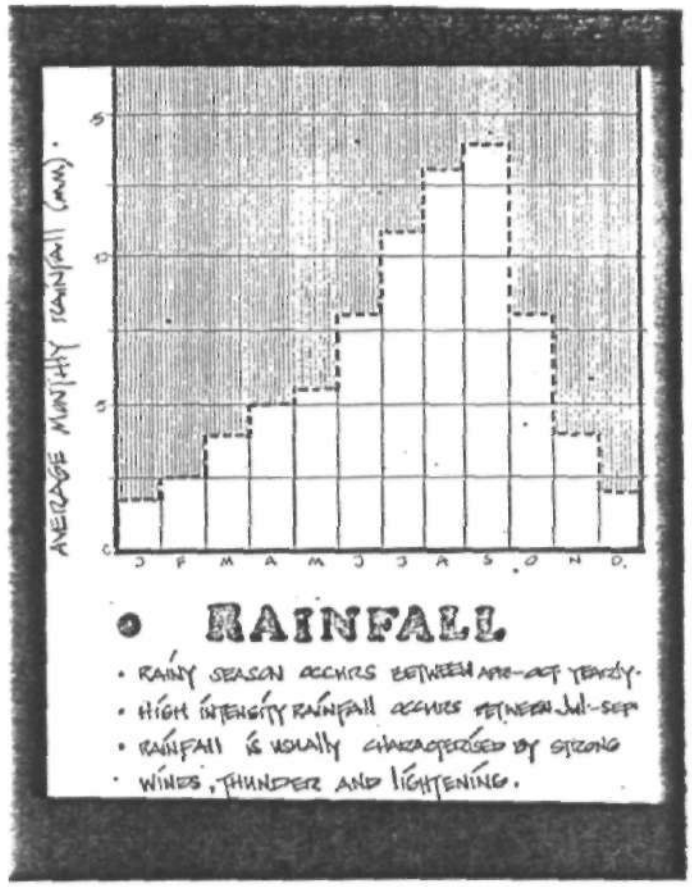

AVERAGE MONTHLY RAINFALL (MM).
J F M A M J J A S O N D.
RAINFALL
• RAINY SEASON OCCURS BETWEEN APR-OCT YEARLY.
• HIGH INTENSITY RAINFALL OCCURS BETWEEN Jul-SEP
• RAINFALL IS USUALLY CHARACTERISED BY STRONG
WINDS, THUNDER AND LIGHTENING.

FIG. X.

RAINFALL

This normally occurs between April and October with its peak period in July. The rains are normally characterised by thunder and lightening and sometimes by stormy winds which cause damage to property. Mean monthly rainfall is at a maximum of 16cm in September and reduces to about 20mm in January (See fig. X).

PREVAILING WINDS

Two major air masses dominate the climate of Abuja, namely the tropical maritime air mass and the tropical continental air mass. The former is formed over the Atlantic Ocean and is therefore warm and moist and blows in from the SW direction of the city. The latter is developed over the Sahara Desert and is therefore, dusty warm and dry and blows in the opposite direction i.e. NE to SW.

The tropical maritime air mass (SW Trade winds) is associated with the wet season and dominates from April to October, while the tropical continental air mass (NE Trade winds) dominates from November to March. (See fig XI).

SUN AND CLOUD COVER

The amount of sunshine hours ranges from a minimum of 1300 hours to 3,200 hours. Abuja is exposed to about 2,500 sunshine hours annually. As the rains approach, the trend is to increase cloudiness. The decline in sunshine hours becomes more intense as the

rains progress and reaches its lowest values in the month of August. A maximum of 8 to 9 sunshine hours is experienced between December and January and a minimum of 4 to 5 hours in August. (See fig ix).

5.3.5 VEGETATION

The vegetation of Abuja is generally characterised by park Savannah which consists of a discontinuous canopy of shrubs and grasses skirted by fringes of thickets and high trees especially along the streams. There are also occasional patches of forest or heavily wooded areas.

5.3.6 SOILS

The soils underlying Abuja are typically deep and well-drained, having only local constraints where they are high in clay or stones. Soil constraints because of depth are limited to inselbergs, hilltops and escarpments in the landscape.

CHAPTER SIX

6.0 DESIGN REPORT

6.1 ARCHITECTURAL BRIEF

The Abuja International airport Hotel being proposed in this thesis would have provision for the following facilities; Administration, Accommodation, Catering, Leisure/entertainment/recreational facilities and Business/Commercial facilities.

6.1.1 ADMINISTRATION

The administrative arm of this building would be located at the basement floors.

The staff strength of this hotel comprising senior staff; and intermediate and junior staff is put tentatively at 192.

SENIOR STAFF

These include, the GM (General Manager), assistant manager, budget and control director and secretaries. Other are the sales and catering office purchasing officer, personnel manager, food and beverage manager and resident engineer; a total of 10.

INTERMEDIATE AND JUNIOR STAFF

These include:

(i) 11 Waiters/waitresses in the main restaurant

(ii) 5 Waiters/waitresses in the specialty restaurant

(iii) 2 Stewards in the main restaurant

(iv) 2 Stewards in the specialty restaurant

(v) 2 Stewards in the senior staff restaurant

(vi) 2 Stewards in the junior staff restaurant

(vii) 4 Waiters in the main bar

(viii) 4 Waiters in the basement bar

(ix) 20 Stewards in the main kitchen

(x) 5 Stewards in the staff kitchen

(xi) 1 attendant each for the gymnasium, billard/snooker room, judo pitch, table tennis room, outdoor games area, conference room, meeting room and shopping mall.

(xii) 2 Stewards and 2 waiters for the swimming pool bar

(xiii) 1 lifebouy and 1 first aid attendant

(xiv) 2 gatemen at the main gate, 2 gatemen at the services gate and 1 attendant at the staff parking lot.

(xv) 36 cleaners, 28 room service attendants, 1 chief housekeeper, 3 reception staff, 6 drivers (comprising GM's drivers, 2 "senior staff" drivers, 1 ambulance driver, 2 "junior

staff" drivers, 9 securitymen and 1 head securityman and the general office staff comprising 2 clerks, 2 messengers and 2 typists.

(xvi) 1 Hall porter, with 9 attendants.

(xvii) 2 Telephonists, 4 radio and Tv room staff, totalling 182.

6.1.2 ACCOMMODATION

The accommodation facilities are arranged on a Y-plan (the reason for which will be given later in this chapter under the heading: Design Concept).

The various types of rooms provided include:

Types of Accommodation		Quantities
(i)	Presidential suites	2
(ii)	Ambassadorial suites	3
(iii)	General manager's suite	1
(iv)	Luxury suites	34
(v)	Business suites	20
(vi)	Double rooms (with balconies)	36
(vii)	Double rooms (without balconies)	92
(viii)	Single rooms (with balconies)	40
(ix)	Single rooms (without balconies)	120
(x)	Staff rooms (for resident engr. and caterer)	2
		350

The least luxurious room i.e the single and double rooms without balconies, all meet the standards for a 5-star hotel. These rooms including the balconied single and double rooms all offer such facilities as air conditioning, and ensuite bathroom (with WC, bidet, washhand basin, shower tray, electric shaver and medicine cabinet. Other facilities are wet bars, coloured tv with in-house video and a variety of stations namely, CNN, Eurosports, Mtv, worldwide sports etc, in-house coffee-making machine, in-house trouser press, head board radio set, built-in wardrobe and nearby dressing table.

All the suites have in addition to these, balconies with sit-out facilities, visitors' toilets, jacuzzi bath and living rooms. The GM's, ambassadorial and presidential suites, have in addition to all the afore-mentioned, kitchenettes and private dinning areas en-suite.

6.1.3 THE CATERING FACILITIES

Four restaurants are provided.

(i) THE MAIN RESTAURANT:

This restaurant with a capacity for 132 guests shall cater for resident guests, and guests of the conference and meeting rooms.

(ii) THE SPECIALTY RESTAURANT

This restaurant with a capacity for 20 guests shall cater for the public and particularly guests resident on the floors so high up that it would be more convenient for them to use this specialty restaurant. This restaurant shall offer such specialty meals as Chinese, vegetarian and local delicacies.

(iii) THE SENIOR STAFF RESTAURANT

This would meet the needs of the 10 senior staff and shall offer continental and local dishes.

(iv) THE JUNIOR STAFF RESTAURANT

This shall meet the needs of the junior staff with a capacity for 56 users, it would offer both continental and local menu.

Two kitchens are provided for cooking of meals for these restaurants. They are.

(i) THE MAIN KITCHEN

Located on the ground floor, with adequate equipment, fittings and back-up facilities, this kitchen shall serve the main and specialty restaurants with the variety of menu needed.

(ii) THE STAFF KITCHEN

Located at the basement, it shall cater only for

the staff restaurants.

Both kitchens shall as a matter of necessity be made of durable and hard wearing facilities, with adequate air conditioning and ventilation (natural and artificial).

There are also a total of 3 bars namely

(i) THE MAIN BAR

Overlooking the swimming pools, this bar with a capacity of 20 users shall serve the public mainly.

(ii) THE BASEMENT BAR

Located at the basement, this bar shall serve resident guests who not like to drink in the full glare of the public, yet not in absolute solitude which their rooms offer. It shall have a capacity for 20 users.

(iii) THE POOL BAR

Located at the pool side, it shall meet the snacks and non-alcoholic drink needs of the users of the pool facilities.

6.1.4 LEISURE/ENTERTAINMENT/RECREATIONAL FACILITIES

These facilities are divided into 2 main groups; the indoor and the outdoor facilities.

(i) INDOOR FACILITIES

These facilities include a gymnasium (fitness

room), a health club, a billiard and snooker room, judo and karate pitches and a table tennis room.

(ii) OUTDOOR FACILITIES

These include the swimming pools (adult and children's), the outdoor landscaped gardens for outdoor sitting and an outdoor games area for lawn tennis and basketabll.

6.1.5 BUSINESS/COMMERCIAL FACILITIES

The conference room, a detached unit on its own shall have a capacity for 130 participants. Smaller meeting rooms with collapsible partition walls for flexibility of use are provided in the basement. Lettable office spaces are provided and could be used for instance by travel agencies, secretarial bodies and any other people interested in having offices within the airport environment. A car-rental office shall also be operating in this hotel.

A shopping mall, (a detached unit) provides 10 lettable shops where guests and the public can shop for magazines, perfumes, bodies creams etc.

6.2 DESIGN CONCEPT

6.2.1 INTRODUCTION

The concept of this hotel design is chosen to

relate with the subtopic of this thesis i.e. An expression of architectural symbolism. The design is therefore, an attempt to symbolize an eagle, landing from a flight.

The eagle, chosen as an object to represent the wholeness of Nigeria was picked from Nigeria's coat of arms. The Y-plan in the opinion of this writer best symbolizes a landing eagle, when seen from above. The wings of the bird are symbolized by the arms of the Y-plan and the and tail of the bird is symbolized by the tail of the Y-plan.

6.2.2 DESIGN FORM CONCEPT

When an eagle is about to land after a flight, it starts by stretching and flapping it's wings to reduce it's speed and ends up with outstretched wings, outstretched feet, lowered body and tail and its neck kind of juts out. A symbol of all these is explained as follows:

The arms of the Y-plan, upstanding, symbolize the stretched wings of the eagle; these out stretched wings meet at the upright torso, the base from which juts out a gently sloping feature which represents the feet of the eagle; and the tail of the eagle is symbolized by a prominent slope from the back of the specialty

restaurant. (representing the head of the eagle) which juts out, descending downwards (with terraces) and extending at the same time thereby achieving a slope of approximately 36^{0} with the horizontal.

This thesis is an attempt to solve problems of hotel design on a Y-plan and symbolize a landing eagle, with the assemblage of upright and sloping forms.

6.3 SCHEDULE OF FACILITIES

SPACE	AREAS(m2)	NO/CAPACITIES
Presidential suites	48.22	2
Ambassadorial suits	72.33	3
General manager's suite	24.11	1
Luxury suits	777.52	34
Business suits	385.76	20
Double rooms (with balconies)	686.86	36
Double rooms (without balconies)	1928.80	92
Single room (with balconies)	723.30	40
Single rooms (without balconies)	2652.10	120
Staff rooms (for resident engr and caterer)	48.22	2
Main restaurant	72.33	132 (cap.)
Specialty restaurant	615.75	20 "
Senior staff restaurant	49.66	10 (cap.)

Junior staff restaurant	100.2	56	"
Main bar	72.33	20	"
Basement bar	72.33	20	"
Main kitchen	98.40	1	
Staff kitchen	21.60	1	
Gymnasium	51.98	1	
Billiard/snooker room	72.33	1	
Karate/Judo pitch	51.98	1	
Table tennis room	48.22	1	
Health club	24.11	1	
Swimming pool (adult)	94.50	1	
Swimming pool (children)	31.36	1	
Swimming pool pavement	1064.00	1	
Pool changing rooms (male & female)	48.22	2	
Staff changing rooms (male & female)	96.44	2	
Firstaid clinic/lifebouy's office	42.11	1	
Outdoor landscaped garden	1857.50		
Tennis courts	782.27	3	
Basketball court	364.00	1	
Conference room	1385.44	130	(cap.)
Meeting rooms	135.13	5	
Shopping stalls	1385.44	10	
Basement (storage) space	144.66		

Basement (mamintenance) space	72.33	
Basement water tank room	144.66	
Administrative offices	241.10	10
Reception	45.00	1
Reception lobby	102.00	1
Reception lounge	67.20	1
Gate houses	30.00	2
Room source/housekeepers	310.50	18
Chief housekeeper's office	24.11	1
Security offices	48.22	2
General office	24.11	1
Hall porter's office	24.11	1
Atrium lounges	272.00	
Basement lounges	184.50	2
Entrance hall	96.38	1
Central lobbies		13
Lift lobbies	375.31	13
Corridors	2233.10	33
Parking (public)	2702.25	195
Parking (staff)	154.50	8
A/C plant room	48.22	1
Pool tank room	48.22	1
Furniture store	48.22	1
Staff restroom	48.22	1

Boiler room	96.44	1

6.4 SITE EXTERNAL WORKS

The location of this hotel on a site of vantage interest and attraction i.e. mountain side and sloping, even though creating design and constructional difficulties, is fully exploited to generate more revenue and create a resort attraction not only for F.C.T. Aviation village residents but for Abuja residents on a wider scope.

6.4.1 GUEST CAR PARKING

The concept of the car parking lot of this hotel is chosen to achieve a concentration of parking spaces into one area of the site (the West) even though there are a few zones of parking elsewhere.

The advantages are:

(i) This minimizes noise and disturbance.

(ii) By this method, the parking lot can be screened to reduces effects of headlights and noise.

(iii) It reduces costs of access roads, construction and drainage.

(iv) The parking spaces get efficiently used.

(v) The partial zoning of some of the parking spaces, for conference guests, sportsmen and shoppers would allow for an effective use of

these facilities without necessarily congesting the main entrance to the hotel. The intention being for there not to be a bottleneck of traffic at the main entrance to the hotel.

CONFERENCE PARKING LOT

An approximate ratio of 1 parking space per 5 conference guests was used to provide 28 parking spaces.

SHOPPERS PARKING LOT

This is so-called because it is adjacent to the shopping mall, but will actually be shared by the car-hire-service operations. A total of 28 spaces are provided in this lot.

SPORTSMEN PARKING LOT

10 parking spaces are provided to serve users of 3 lawn tennis courts and a basketball court.

RESIDENT GUEST PARKING LOT

A ratio of 1 parking space per 2 resident guests was used to provide 151 parking spaces even though to achieve this the parking spaces meant for conference guests would be used by resident guests whenever the need arises.

STAFF PARKING

A ratio of 1 parking space per 3 senior staff was used to provide 3 parking spaces. 2 parking spaces for 2 senior staff vehicles and 2 parking spaces for 1 junior staff bus and 1 furniture van. A total of 8 parking spaces were provided for staff use; all but one of which (the ambulance parking) are located in the east of the site, where the maintenance service bay is located. Adequate lighting is provided on all the parking lots.

6.4.2 LANDSCAPING

A sunken garden measuring 340m x 10.0m adequately shaded from the western sun is provided. Users of this garden are protected from the effects of the harmattan wind by the location of trees in the path of the wind. This garden is stepped down a depth of 1m and provision has been made to effectively drain any water that may collect within, by the placement of drain pipes at a gradient of 1:12 and draining eastwards.

Another garden, located at the west of the site, also provided with adequate shading from the effects of the setting sun, is strategically located that users may appreciate the beauty of the approach façade of the hotel in its entirety. Both gardens are equipped with

the following garden furniture; garden seats, lighting, green lawns and litter cans fixed to the lighting poles.

6.4.3 SWIMMING POOLS

Two swimming pools namely the adult pool measuring 17.5m x 5.4m and the children's pool measuring 5.6m x 5.6m are provided within a paved area of 1064.m2. These pools are located in the part of the site which offers guests the best view of the beautiful mountain side. Users of the pool are offered a pool bar with the bar stools located in a shallow pool, 600mm deep offering users snacks and non-alcoholic drinks. Users of these pools are offered a good view of the tennis courts, the intention being to create a environment of "total recreation and relaxation" for the users. A basketball court located beside the tennis courts shall from part of the outdoor recreational facilities of this hotel.

6.4.4 OUTDOOR GAMES AREA

In this area, 3 lawn tennis hard courts and a basketball court are provided.

6.5 SERVICES

6.5.1 HOUSEKEEPING OFFICE

An office space is provided for the administration of the room attendance services, including facilities for communication and other control equipment and safe storage of items (including articles found in rooms) keys and valuables. The office is separate from the general office of the whole complex.

6.5.2 ROOM SERVICE

Service elevators which open into service lobbies provide the vertical link between the main kitchen servery and the guestrooms. Entry to the guestroom corridor is however through a service door designed to withstand heavy use yet suiting the tear of the area.

Service of meals to rooms is on a collective system basis such that the service elevators operate as mobile pantries continuously travelling from floor to floor as orders are received. This system is efficient for a hotel such as this, where standard meals e.g. continental breakfasts, are offered, as orders are received.

6.5.3 ROOM ATTENDANTS

There are 3 wings of accommodation in this hotel, 2

of which are made of rooms based on the multiple of 14 rooms per wing per floor. The intention is for one attendant to clean these 14 rooms properly and efficiently without necessarily being overworked.

The third accommodation wing, due largely to its terracing nature, has rooms on a different module; beginning with 20 rooms on the first and second floors, it reduces by 2 rooms per floor as it rises higher. However, the rule of 1 attendant per 14 rooms would be maintained for efficiency and uniformity of staff input.

6.5.4 MECHANICAL ENGINEERING SERVICES AND EQUIPMENT

WATER SUPPLY

This hotel complex is linked with the mains of water supply of the F.C.T. Aviation village for supply of water for such needs as, food preparation, cleaning and general domestic purposes, fire fighting, cooling and softening plant, boilers, launderies and swimming pools.

WATER STORAGE, DISTRIBUTION AND PRESSURE

Sufficient water equal to at least 100% of the daily requirement, is stored in tanks located in the basement to ensure continuity of supply and a suitable constant pressure. All pumping equipment are

duplicated with provision for isolation, drainage and repairs.

To avoid the complexity of water supply and distribution systems which hotels are noted for, the following pipe networks are provided for in this design;

(i) Cold water supply for drinking (may be chilled)

(ii) Cold and hot water distribution to bathroom fittings

(iii) Supplies to water closet flushing valves

(iv) Hot and cold water distribution to toilets

(v) Chilled circulation for A/C plant

(vi) Cold and hot water distribution to kitchen, dish washing and laundry areas etc.

(vii) Supplies to sprinklers located in gardens hedges and lawns.

* Domestic hot water is supplied at 50°C (120°F
* Hot water for dishwashing and for sterilising rinse, is supplied at 60°C (140°F) and could be heated locally to 82°C (180°F)
* Chilled water for drinking is supplied at 10°C (50°F).

WATER SUPPLIES FOR FIRE FIGHTING

Two independent sources of water at specified

pressure for fire fighting are provided. There exists on the one hand, water hydrants linked with the mains supply and on the other hand, a high level storage tank.

This high level storage tank is connected via a network of piping to

(i) Sprinklers with automatic opening at a set temperature at intervals of 4.4m in corridors, public rooms and lobbies.

(ii) Hose reels and stand pipes placed on escape routes (adjacent to staircase enclosures) 20m apart.

WASTE AND SOIL PIPES AND SEWAGE DISPOSAL

The design, construction and installation of these pipes is based on savings of cost and ease of assembly. This is achieved by grouping pairs of bathrooms adjacent to vertical ducts, with a multiple stack system of drainage installed, with each sanitary appliance draining straight down to large collecting pipes at the basement. These large connecting pipes are laid at a gradient of 1.12 to empty into septic tanks (via manholes) from which soil wastes are by suction extracted say fortnightly by soil waste vehicles. The access route of these vehicles is from the service road

i.e. away from the view of guest. The suction of soil waste would usually be done at night when most guests would be asleep

6.5.5 ELECTRICAL ENGINEERING SERVICES

PRIMARY AND EMERGENCY SUPPLIES

The electrical mains supplies to this hotel is a 3-phase AC with the mains transformer located externally (and not in the building) on a fenced off part of the site (in the far east of the site). This is done so as the reduce the likelihood of fire from the transformer spreading to the hotel complex.

The minimum capacity of the primary transformer is 150% of peak load requirements of the hotel. Primary supplies, transformer equipment and main secondary distribution systems are as a matter of necessity, duplicated to avoid failure of any single item, affecting the whole system.

The total output of the generator is a minimum of 30% of the normal maximum, covering the following services;

(i) Lighting: all exit signs; 50% of stairways 20% of corridor lighting and 10-20% of lighting all public areas.

(ii) Telephones, fire alarm and warning devices.

(iii) Fire fighting apparatus (pumps, compressors etc).

(iv) All sewage pumps and water pumps to main hot and cold water supplies and partial heating or cooling.

(v) Passenger elevator

(vi) Partial services to kitchens

(vii) Food refrigerators and cold rooms.

6.5.6 MAINTENANCE SERVICES

Access for maintenance services is provided to:

(i) Rooms and closets for locating heating, circulation and control equipment (pumps, valves, boiler room equipment and electrical switchgear).

(ii) Vertical ducts between bathrooms (soil wastes and ventilating pipes, hot and cold water supplies, and electrical equipment).

(iii) Ceiling housed engineering services and equipment A/C ductwork, lighting fittings, electrical services, fire detecting, alarm and sprinklers systems, control and relay equipment.

(iv) Wall mounted equipment, socket outlets, vacuum connections, light switches, fire alarms and indicators, recessed hose reels, cable ducts and conduits and room status equipment.

Access to ceiling equipment shall be through removable panels.

6.5.7 COMMUNICATION AND CONTROL EQUIPMENT

Equipment for external communication are separate and distinct from those used only for internal communications within the hotel premises.

HOTEL SYSTEMS

Three different types of subscribers are provided;

(i) Guest lines

(ii) Administrative lines

(iii) Service lines.

An indicator panel is provided on the operator's desk for easy identification of calls.

Administration and service lines requirements depend on the position and role of the user. However phone facilities are provided, for emergency and maintenance use, at:

(i) Elevators (guest and service)

(ii) Elevator motar house

(iii) Engineering plant room at the basement.

(iv) Kitchen, servery, restaurant, bar and stores

(v) Radio and television room

(vi) At every 3rd/4th landing of emergency fire stairways.

PUBLIC TELEPHONES

These are located at the following places:

(i) The main lobby

(ii) Basement lounge leading to meeting rooms

(iii) Swimming pool area

(iv) Staff restroom

(v) Senior staff restaurant.

CHAPTER SEVEN

7.0 CONCLUSION

The thesis seeks to provide Abuja International airport with a 5-star hotel, (within the premises of the F.C.T. Aviation Village), to meet the requirement of a befitting hotel for one of Nigeria's gateways to the international community (Abuja International Airport).

It is also envisaged that this proposal when implemented would would satisfy the F.C.T Aviation Authority's need for a hotel to serve on the one hand the people resident in the Aviation Village (that they may not have to travel far into town to use such a facility and); the generality of the public, local indigenous and foreign on the other hand.

As already mentioned, in line with the policy of the F.C.D.A., ownership of this proposed hotel complex belongs to the private sector.

This work has been conceived as a small contribution by this writer to both present and future research in hotel development and the implication of architectural symbolism. It does not lay any claim to being exhaustive and close ended rather it seeks to contribute to existing knowledge particularly on the

topic and subtopic addressed, that scholars of similar research topics and subtopics could find useful information from it.

APPENDICES

APPENDIX 'I'

INTERVIEW WITH PERSONNEL MANAGER OF PORT HARCOURT INTERNATIONAL AIRPORT HOTEL

Q. Who owns the International Airport Hotel Port Harcourt.

A. Delta Hotels Nig. Ltd., which is owned by Rivers State government.

Q. What are the main objectives that necessitated the setting up of this hotel?

A. Firstly to serve as a transit home for users of the busy Port Harcourt International Airport. Secondly the hotel was built to serve the proposed Satellite town to Port Harcourt to decongest Port Harcourt city. Thirdly it's location approximately 50km outside Port Harcourt, indeed along Port Harcourt - Owerri road was meant to provide a hotel for users of this busy road and people who live on the outskirts of Port Harcourt.

Q. What consideration was given to air travellers during planning stage of this hotel; major or minor.

A. Major

Q. What kinds of guests patronize this hotel?

A. Business men (both local and international), holiday makers, and fun seekers from Port Harcourt main town; and

international guests.

Q. In descending order of magnitude, please mention the kinds of customers who patronize this hotel?

A. Businessmen (local and international), international guests and holiday makers who only come seasonally.

Q. What are the various facilities which this hotel offers guests?

A. (i) The "Star Ballroom" for conferences and functions with a capacity for 2000 people;

(ii) The "Palm Tree" - Coffee shop with 1000 sitting capacity;

(iii) The "Oilman's suite" - special function rooms for capacities of 50 people and below;

(iv) The "Delta" - restaurant, with a la carte cuisine offering such meals as vegetarian, continental and local;

(v) The "Jet-Set" - Night club which operates 3 times a week and has a capacity of 500 people.

(vi) The "Safari Bar" and Cocktail lounge;

(vii) Sports facilities include; mini-golf, tennis, swimming pool and fitness rooms.

(viii) Shopping arcade;

(ix) 198 bedrooms comprising twin beeded, double-bed, studio type rooms and suites, all with private

bathroom, colour Tv (Video), radio, mini-bar and satellite CNN.

(x) Car hire service (24 hr), football field and courtesy vehicle for sightseeing.

Q. Of all these facilities, which facility receives the greatest patronage, and why?

A. The accommodation wing for late arrivals and departures.

Q. What periods/months of the year are the peak periods of patronage.

A. Jan - Oct. with Nov/Dec as the lowest because Port Harcourt being a settlers' town, people leave for their various villages about Nov/Dec.

Q. What is the patronage by resorters/holiday makers like?

A. Seasonal and usually restricted to that day only. Chance guests and a few others spend weekends over the holiday period.

Q. What facilities, offer 24 hour service to the public?

A. Car hire, reception, restaurants, bar and laundry.

Q. What are the busiest hours daily in this hotel?

A. Afternoon and night.

Q. what reasons can be given for this trend?

A. Chance guests who come for lunch; and night time is busy because of fun seekers. The mornings are quiet because guests leave for work in the mornings.

Q. What kind of guests patronize the bedrooms the most?

A. Businessmen

Q. Why?

A. The remoteness of the hotel's location is very conducive for business.

Q. What nuisances have the management had to contend with from the guests?

A. Theft of hotel property (ash trays, phones, towels, carpets Tvs etc) and damages by both male and female guests.

Q. What problems of building maintenance does the management have and how often is this maintenance carried out.

A. There is a resident engineer whose duty is to ensure that all machines spares etc are maintained.

Q. Does the management envisage any expansion?

A. This depends on the vol. of business and the government's stand. Expansion will also depend on whether or not all facilities are maximally utilised and there is need for more.

Q. Finally Sir, to what extent is this hotel acting as a support facility to the airport?

A. This hotel is very much a support facility to the airport, indeed British Caledonia is coming in soon.

APPENDIX II

INTERVIEW WITH MARKETING MANAGER OF IKEJA AIRPORT HOTEL

Q. Who owns Ikeja airport hotel?

A. Odua Group of companies owned jointly by Oyo, Ogun, Ondo and Osun States with their headquarters at Cocoa House, Ibadan.

Q. What are the main objectives that necessitated the setting up of this hotel?

A. As at the time this hotel was built, it was the only hotel in the vicinity of the Ikeja Airport (then acting as local airport, not international) and it was built to meet the needs of transit passengers, businessmen and other guests as Ikeja was gradually blossoming into a very busy business district.

Q. What consideration was given to air travellers; major or minor?

A. Major.

Q. What kinds of customers patronize this hotel?

A. Air passengers, businessmen, holiday makers and companies for conferences, seminars and workshops.

Q. Please mention the various facilities which this hotel offers guests?

A. Accommodation conference, olympic size swimming pool,

Main restaurant (capacity of 150), mini restaurant (capacity of 80) lawn tennis, table tennis, sauna baths, travel agency, casino, central video and colour tv sets, shopping plaza, gift items, cashier services, and a large parking space.

Q. Of all these facilities, which facility receives the greatest patronage?

A. Accommodation.

Q. What periods/months of the year are peak periods of patronage.

A. September to mid December, by travellers who use the hotel on their way to and from abroad.

Q. How would you rate patronage by resorters/holiday makers?

A. Slightly below average.

Q. Which facilities offer 24 hour service?

A. Car hire, reception, restaurant and bar.

Q. What are the busiest hours daily in this hotel?

A. Flight schedules determine how busy we get in this hotel, we get busiest at evenings, after working hours when people come to relax say from 5 - 10 pm.

Q. What kind of guests patronize the bedroom services?

A. Individual guests and companies' guests for short stays and air travellers.

Q. What nuisances have the management had to contend with?

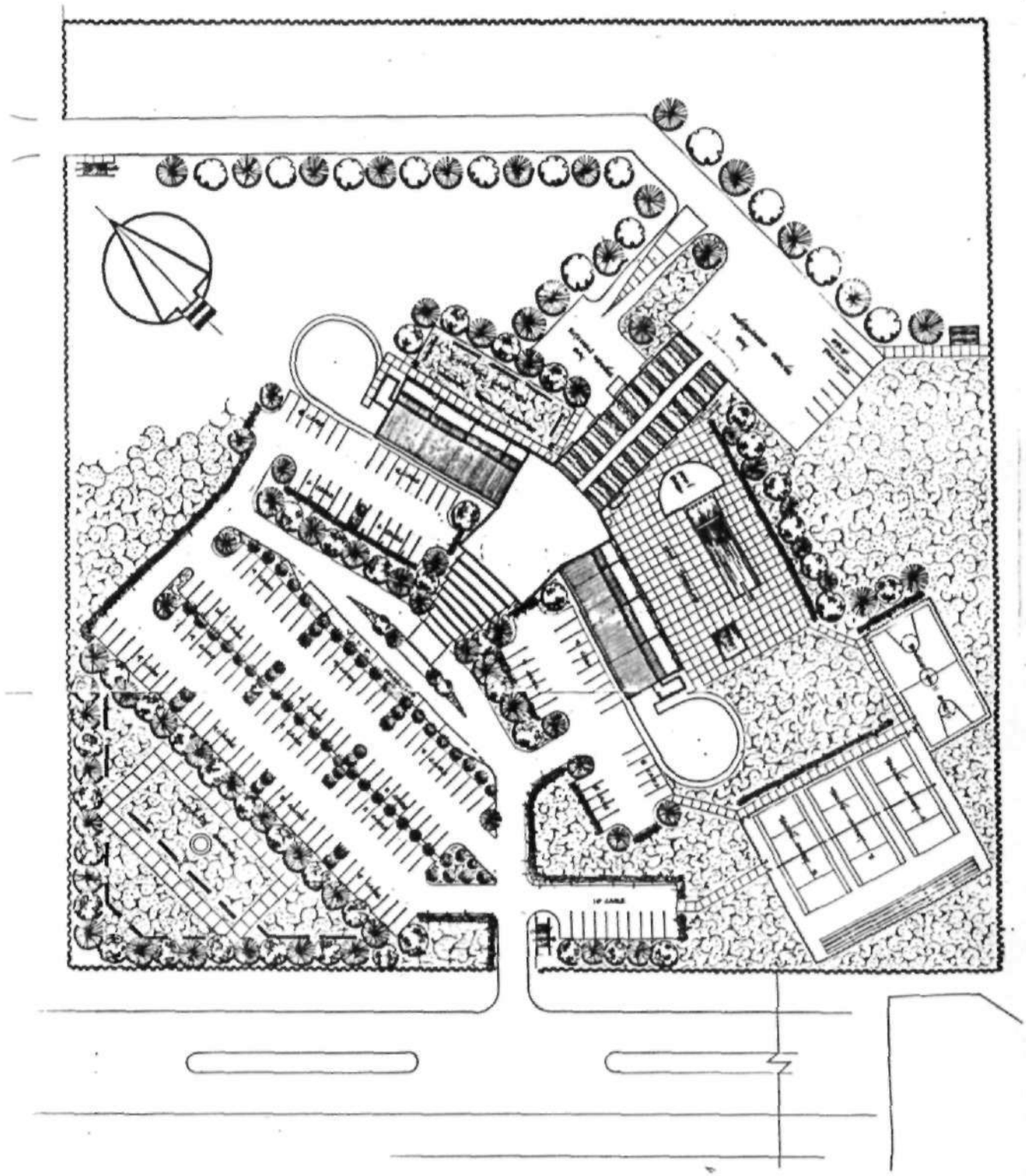
A. Theft of cutleries

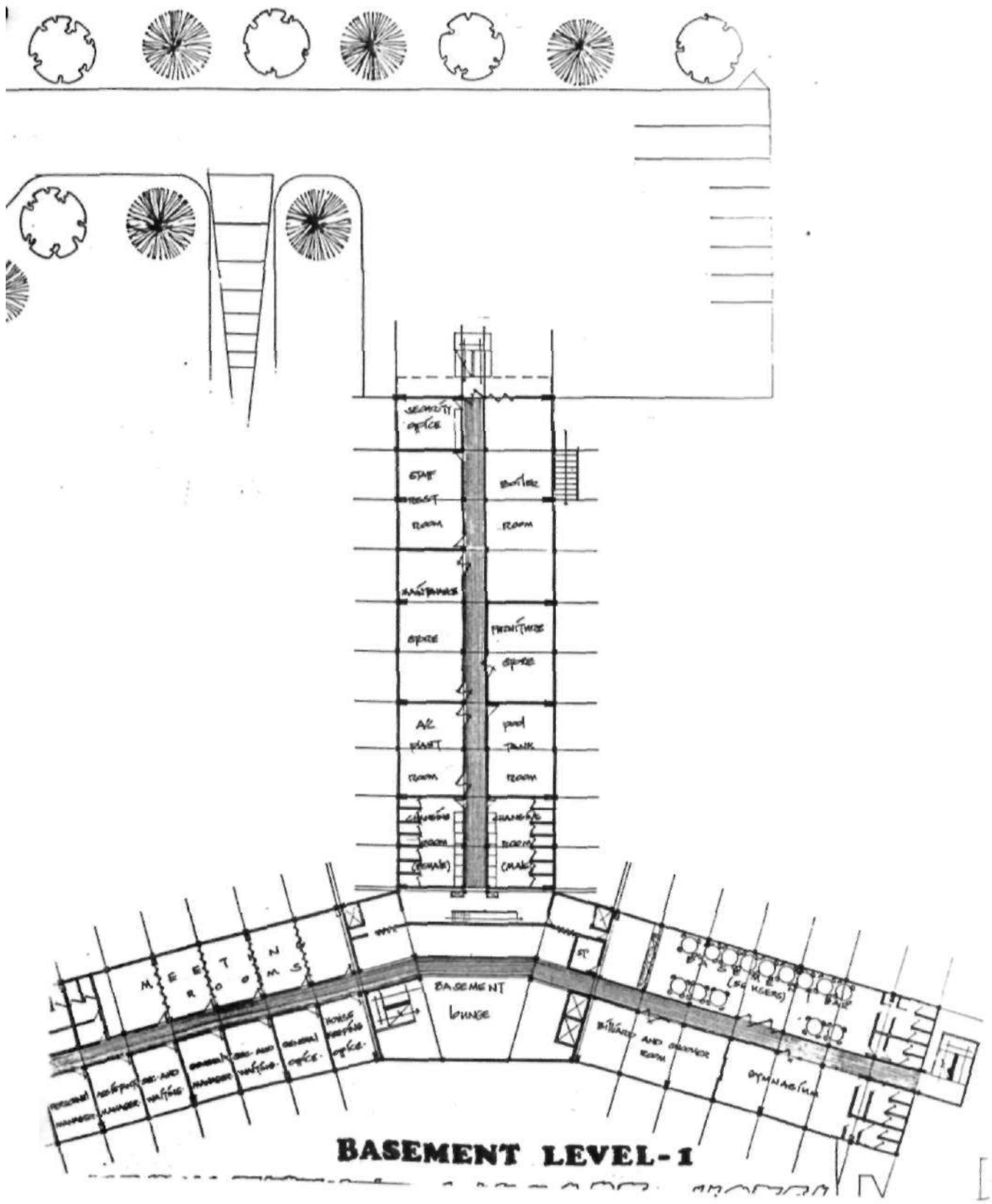
Q. What problems of building maintenance does the management have and how often is this maintenance carried out?

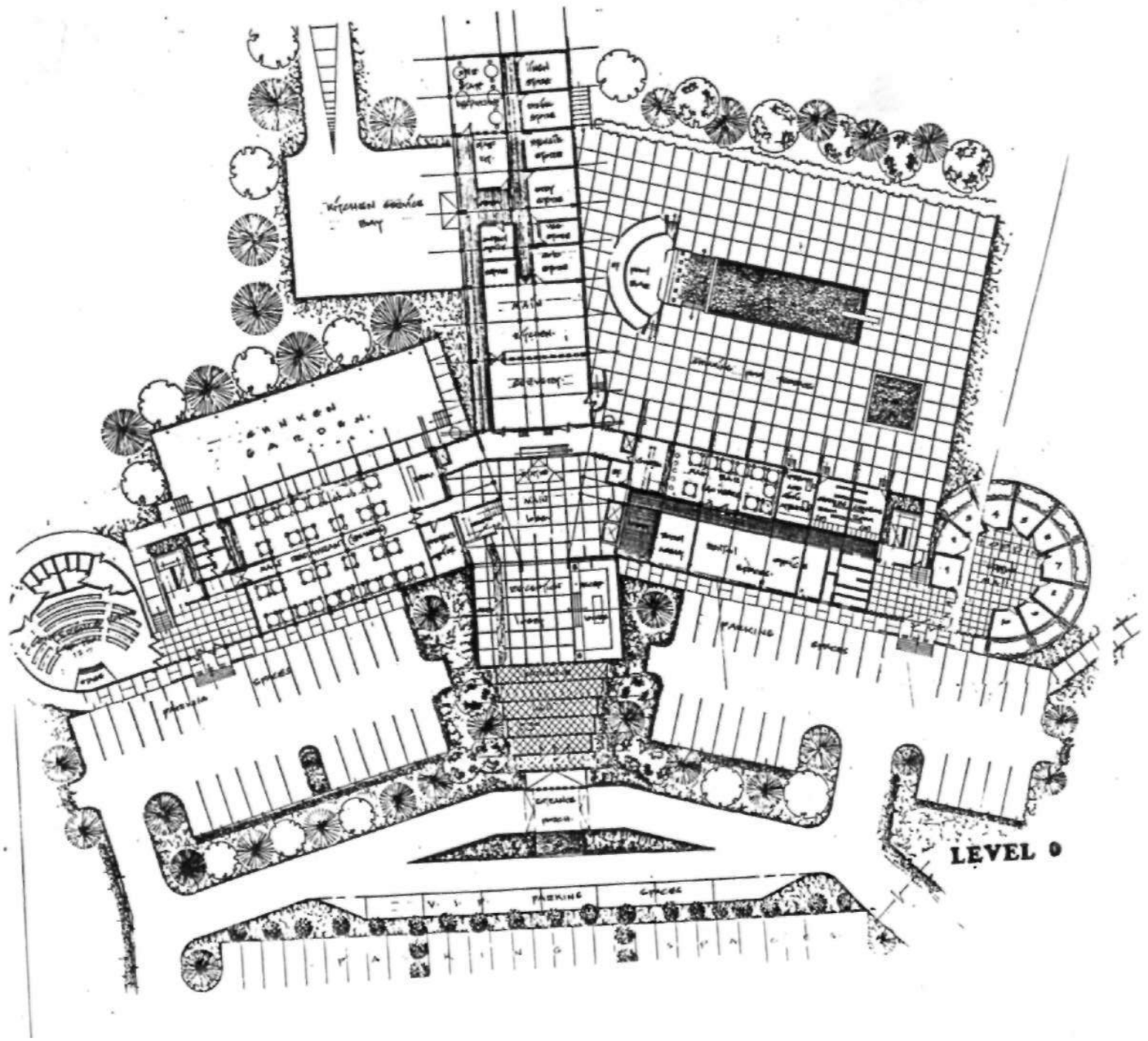
A. Regular checks are carried out by chief Engineer who is resident in the hotel,.

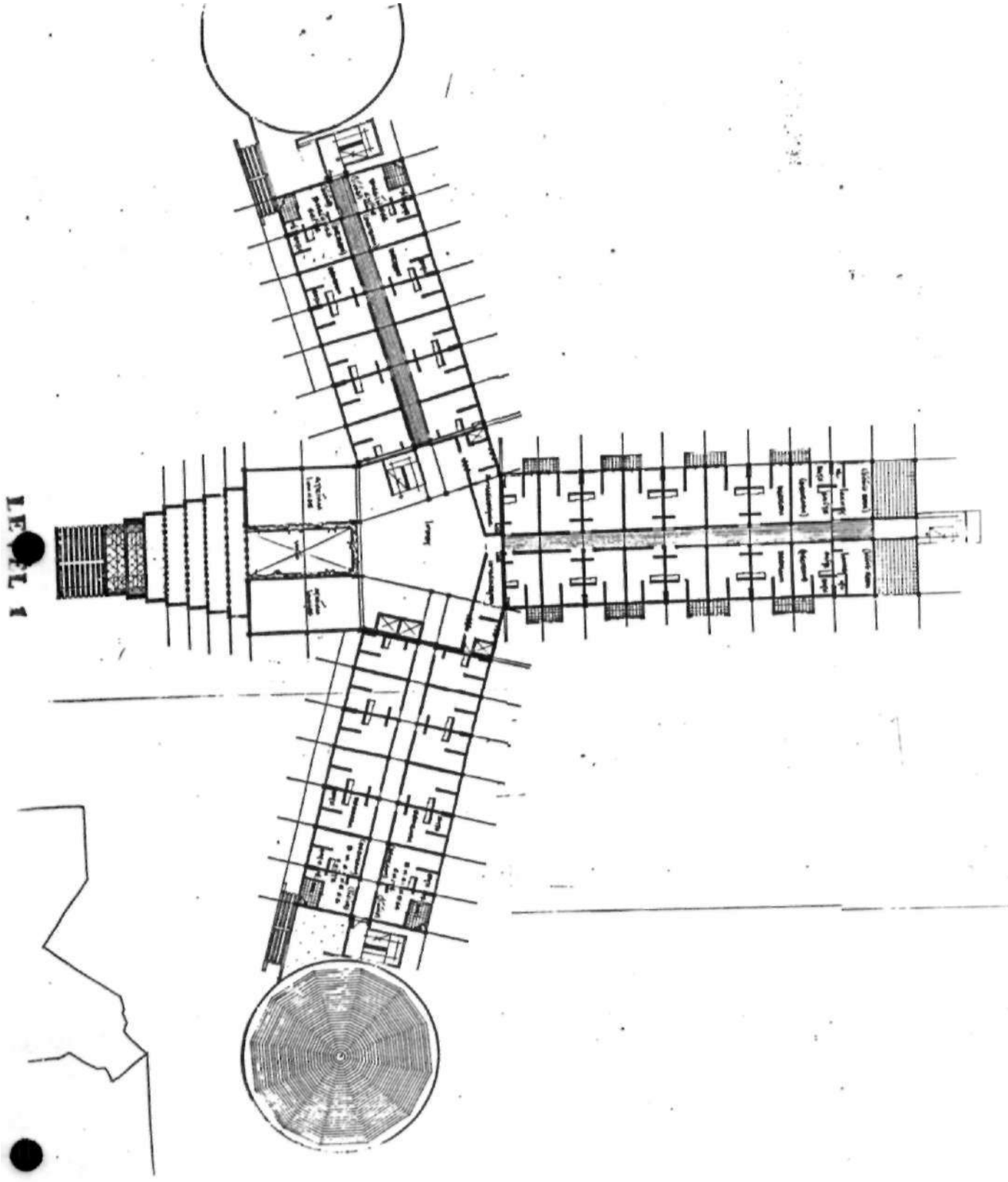
Q. Does the management envisage any expansion?

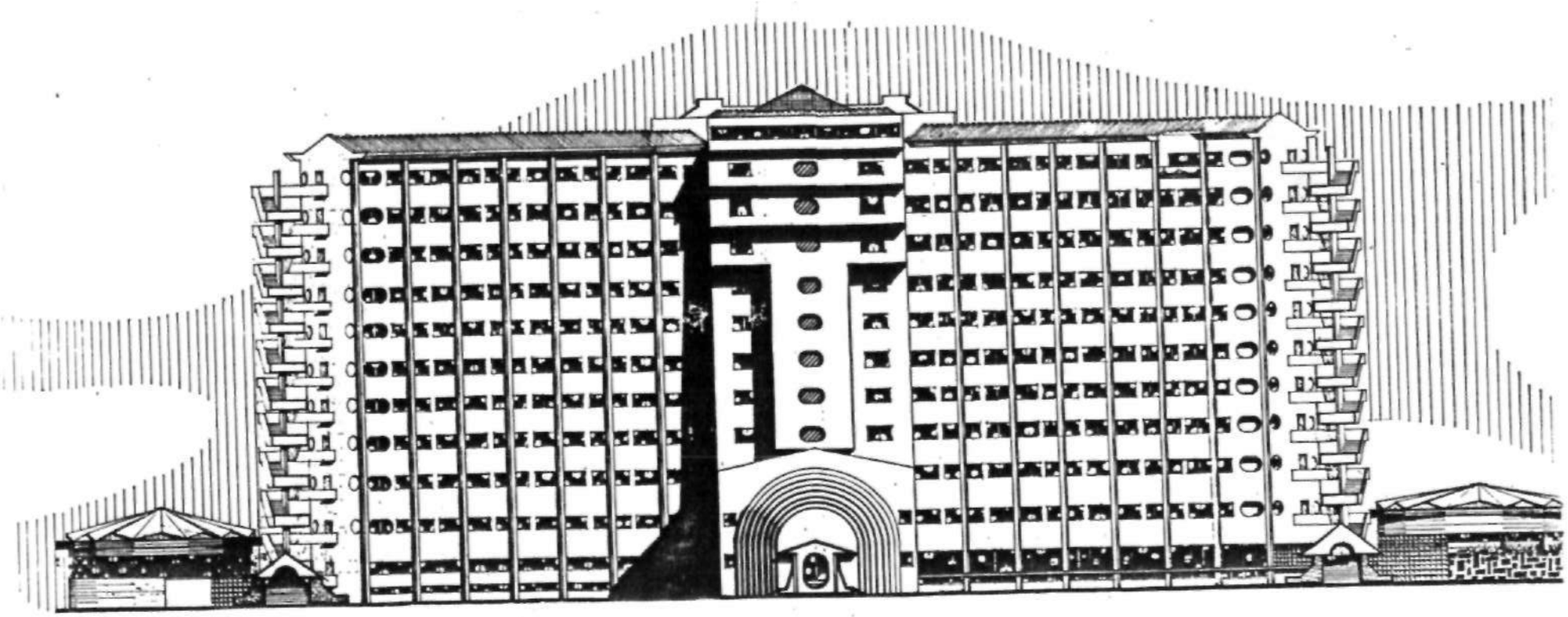
A. Independence block was t4he first block built. The first expansion led to the construction of Adebayo blocks I and II. A later expansion resulted in Chief Harold's block. All this expansion was as a result of increased patronage.



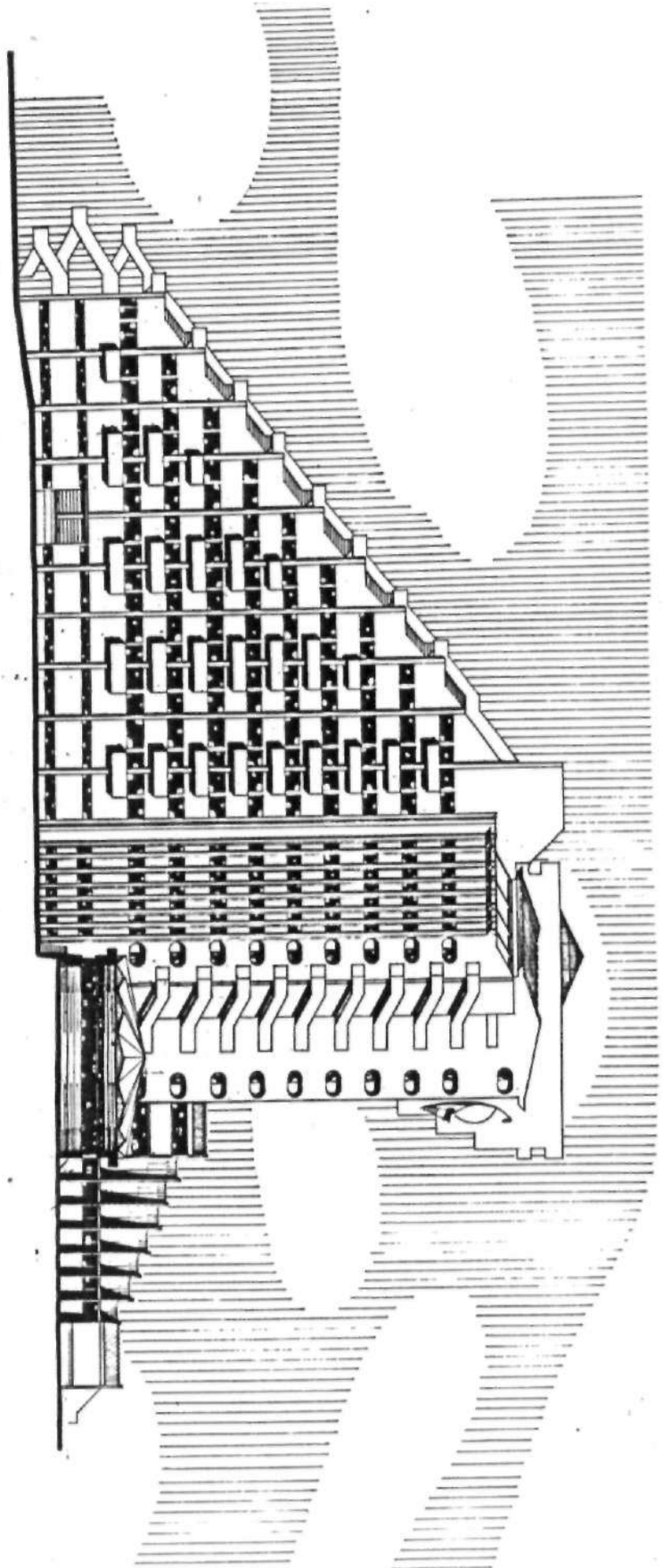

MEETING ROOMS
BASEMENT LOUNGE
BASEMENT LEVEL-1


LEVEL 0


LEVEL 1



WEST VIEW SCALE 1:200



NORTH VIEW

BIBLIOGRAPHY

ANDREWS, Wayne (1947). Architecture, Amubition and Americans Harper and Brothers, New York.

BRITISH AUTOMOBILE ASSOCIATION (BAA) HANDBOOK (1991). Hotels and Restaurants in Britain. Publishing divison GFanum House, Baringstoke Hampshire, London.

KEMPER, Alfred M. Architectural Handbook, Environmental Analysis, Architectural Programming, Design and Technology, and Construction. John Wiley and sons, New York, Chichester, Brisbane Toronto.

LAWSON, Fred (1979). Hotels, Motels and Condominiums: Design Planning and Maintenance. The Architectural Press Ltd., London.

NEUFERT, Ernst (1980). Architect's Data. William Collins Sons and Co. Ltd., London.

Tutt, Patricia and Adler, David (1979). New Metric Handbook. Architectural Press Ltd, London.

WEBSTER, David (1971). Towers. The Natural History Press, Garden city, New York.

JOURNALS

House and Garden (Jan. 1984). The Conde Nast Publications Inc. New York.

Inter Plan Architecture and Planning, Brochure (1961) Rome, Italy.

The Architects Journal (AJ 3rd May 1972). MBC Architectural Press and Building Publications, London.

The Architects Journal (AJ 13th March 1991). MBC Architectural Press and Building Publication, London.

The Japan Architect (JA, Sept. 1977) Published by Sh'inkenchiku-Sha Co. Ltd., Tokyo.

THESIS

Egwudale Ibechile Christoper (1989) A River Hotel Complex. Makurdi: Spatial organization as a means for social interaction. A thesis work submitted to the Department of Architecture, A.B.U., Zaria.