

**KWAME NKRUMAH UNIVERSITY OF SCIENCE AND
TECHNOLOGY, KUMASI**

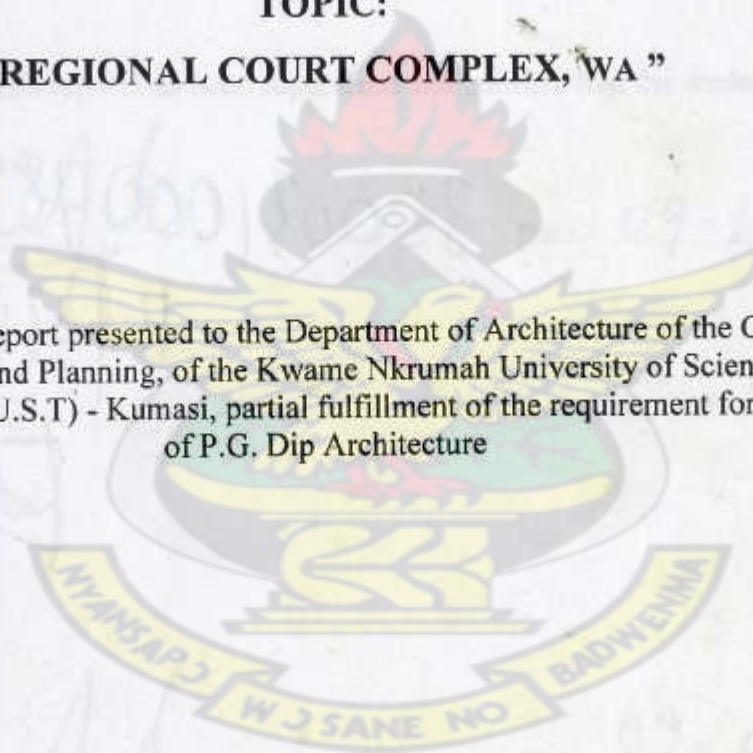
**COLLEGE OF ARCHITECTURE AND PLANNING
FACULTY OF ARCHITECTURE AND BUILDING TECHNOLOGY
DEPARTMENT OF ARCHITECTURE**

KNUST

TOPIC:

“REGIONAL COURT COMPLEX, WA ”

A design thesis report presented to the Department of Architecture of the College of Architecture and Planning, of the Kwame Nkrumah University of Science and Technology (K.N.U.S.T) - Kumasi, partial fulfillment of the requirement for the Award of P.G. Dip Architecture



BY

OPOKU, Kwabena Asare

JUNE, 2009

DECLARATION

I declare that this thesis report has wholly been undertaken by me and has been dully supervised.

Signature.....

Date.....09-10-09

(Kwabena Asare Opoku)

KNUST

I declare that this thesis report has been supervised and confirm that the student has my permission to submit it.

Signature.....

Date.....09-10-09

Prof. G.W.K. Intsiful

(Supervisor)

Signature.....

Date.....09-10-09

Prof. G.W.K. Intsiful

(Head of Department)

LIBRARY
KWAME NINSIN UNIVERSITY OF
SCIENCE AND TECHNOLOGY
KUMASI-GHANA

ACKNOWLEDGEMENT

DEDICATION

This thesis report is dedicated to Ellen Gyasi and Theo Opoku, my big brother,
Mr Kwadwo Addo Opoku, Miss Hannah Owusu and my kid nephew Theo Allan Opoku
for their support and entire role played in my life. May God replace all that you wasted
for my gain.



ACKNOWLEDGEMENT

“Even though the horses are prepared for the battle, yet victory comes from above”

I thank the Almighty God for His mercies and grace shown me through this study.

I wish to acknowledge the help of Prof G.W.K. Intsiful, my supervisor, who through his patience supervised this work. Thank you so very much.

Further recognition is given to all who contributed to the formation of certain passages in this report and design thesis by their criticism and correction especially

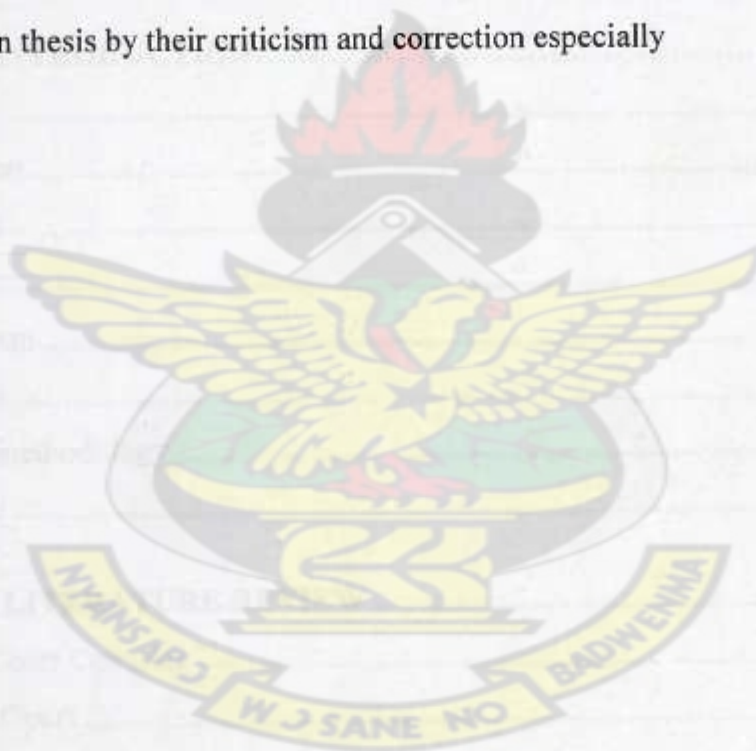


TABLE OF CONTENT

Title page.....	i
Declaration.....	ii
Dedication.....	iii
Acknowledgement.....	iv
Table of content.....	v
List of figures.....	vi
List of tables.....	vii

CHAPTER ONE: INTRODUCTION.....1

1.1 Court	1
1.2 Justification	2
1.3 Objectives	2
1.4 Client.....	2
1.5 Target group.....	2
1.6 Scope.....	3
1.7 Research methodology.....	3
1.8 Reference:	5

CHAPTER TWO: LITERATURE REVIEW.....6

2.1 Regional Court Complex	6
2.1.1 History of Court	6
2.1.2 The Court system.....	7
2.2 History of law and legal system on Ghana.....	7
2.2.1 The Judiciary in Ghana.....	8
2.2.1.1 The Supreme Court.....	8
2.2.1.2 The Court of Appeal.....	9
2.2.1.3 The High Court.....	9
2.2.1.4 The Inferior Court.....	9

2.3 Types of law.....	10
2.4 Legal system in Ghana.....	10
Reference.....	12

CHAPTER THREE.....13

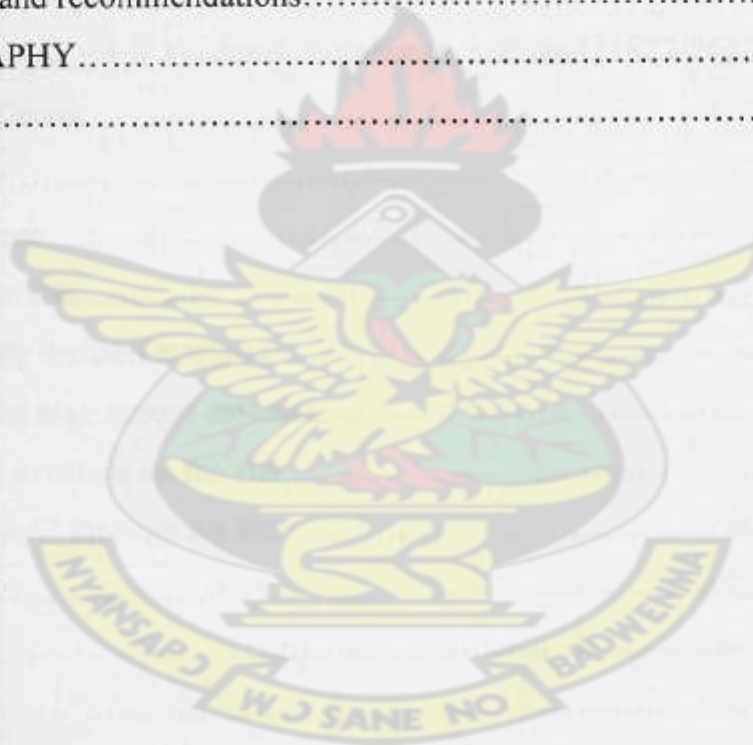
3.1.0 Case study.....	13
3.1.1 Kumasi Appeal Court.....	13
3.1.2 Location.....	13
3.1.3 Objective.....	13
3.1.4 Spatial configuration.....	14
3.1.5 Circulation.....	15
3.1.6 Security.....	15
3.1.7 Merits.....	15
3.1.8 Demerits.....	15
3.2 Technical studies.....	16
3.2.1 Ghana's Court Automation system.....	16
3.3 Special study.....	16
3.3.1 Neoclassical style.....	16
Reference.....	18

CHAPTER FOUR.....19

4.0 The site.....	19
4.1 Site selection and location.....	19
4.1.1 Site selection criteria and justification.....	19
4.1.2 Strength.....	20
4.1.3 Weakness.....	20
4.1.4 Opportunity.....	20
4.1.5 Treats.....	20
4.2 Site inventory and analysis.....	21
4.2.1 Site context.....	21
4.2.2 Physical characteristics.....	22

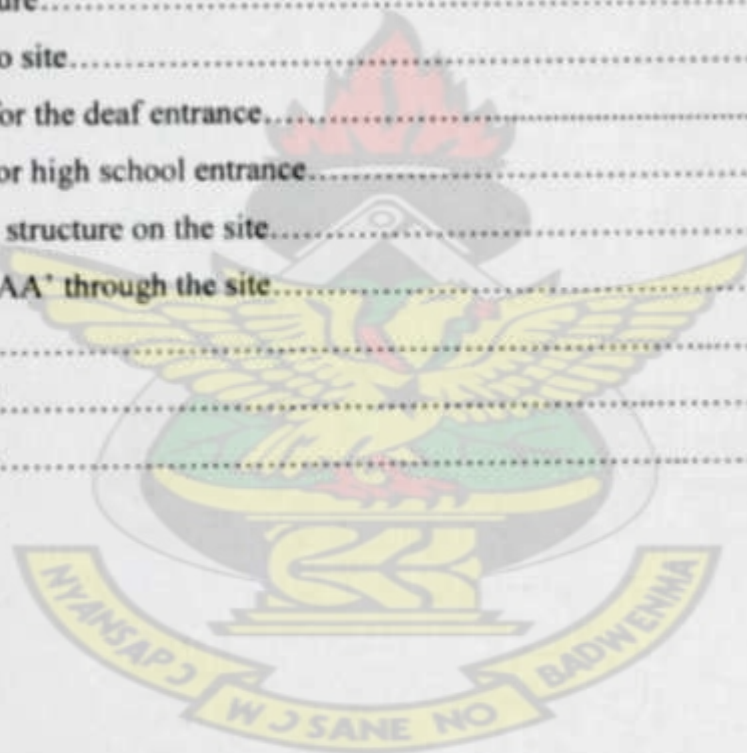
CHAPTER FIVE.....	23
5.0 Planning and design.....	23
5.1 Brief Development.....	23
5.2 Schedule of Accommodatio.....	25
5.3 Conceptual site planning.....	28
5.3.1 Option 1.....	28
5.3.2 Option 2.....	29
5.3.3 Option 3.....	30
5.4 Conceptual spatial planning.....	32
5.4.1 Structural consideration.....	32
5.4.2 Disposition and juxtaposition of spac.....	32
5.4.3 Entrance.....	32
5.4.4 The Registries.....	32
5.4.5 The Courtrooms.....	33
5.4.6 Judges' Chambers and Deliberation room.....	33
5.5 Architectural style.....	33
5.6 Services and Construction Technology.....	34
5.6.1 Services.....	34
5.6.1.1 Electricity.....	34
5.6.1.2 Fire Protection and Prevention.....	34
5.6.1.3 Water supply.....	35
5.6.1.4 Telecommunication.....	35
5.6.1.5 Waste management.....	35
5.6.1.6 Lighting and Ventilation.....	36
5.6.1.7 Security control.....	36
5.6.1.8 Acoustics.....	37
5.6.1.9 Landscape.....	37
5.6.1.10 Soft landscape.....	37
5.6.1.11 Hard landscape.....	38
5.7 Construction Technology.....	38
5.7.1 Structural system.....	38

5.7.2	Materials and finishing.....	38
5.7.2.1	The Courtrooms.....	39
5.7.2.2	The Registries and Chambers.....	39
5.7.2.3	Corridors, stairs and circulation areas.....	39
5.7.2.4	The library.....	40
5.8	Costing.....	40
5.9	Conclusions and recommendations.....	40
	BIBLIOGRAPHY.....	41
	APPENDIX.....	42



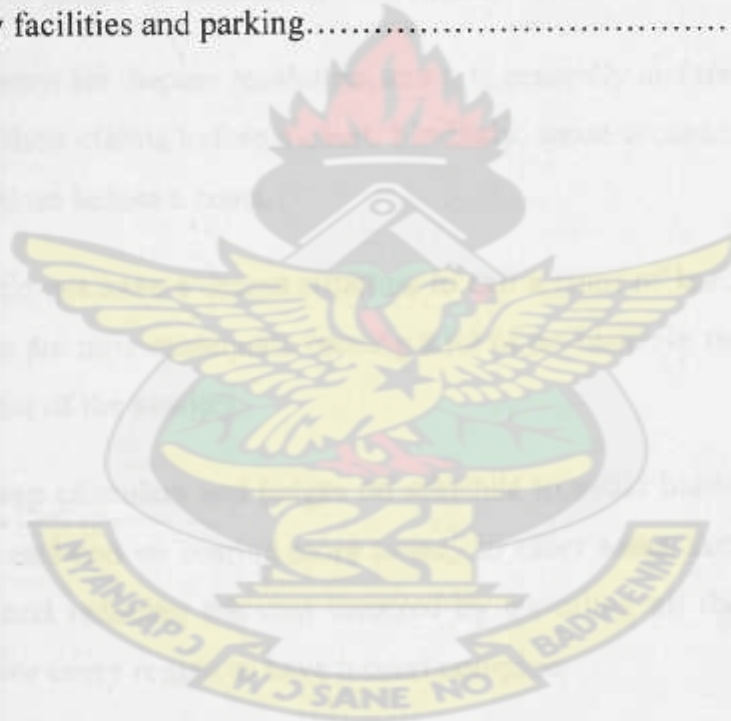
LIST OF FIGURES

Figure	Page
Figure 3.1 The front view of the court	2
Figure 3.2 Layout of the Kumasi Appeal Court	14
Figure 3.3 Basement plan.....	14
Figure 3.4 Ground floor plan	14
Figure 3.5 The Royal Scottish Academy, Edinburgh, Scotland (1822-26).....	16
Figure 4.1 Map of Ghana	19
Figure 4.2 Site map.....	19
Figure 4.3 Site picture.....	20
Figure 4.4 Routes to site.....	20
Figure 4.5 School for the deaf entrance.....	21
Figure 4.6 Wa senior high school entrance.....	21
Figure 4.7 Existing structure on the site.....	22
Figure 4.8 Section AA' through the site.....	22
Figure 5.1 Option 1.....	28
Figure 5.2 Option 2.....	29
Figure 5.3 Option 3.....	30



LIST OF TABLES

Table	Page
Table 1. Showing the number of courts in every region in Ghana	2
Table 5.1 Schedule of accomodation	25
Table 5.2 Registries and Administration	26
Table 5.3 Ancillary facilities and parking.....	27



CHAPTER ONE:

1.0 INTRODUCTION

1.1 A COURT

Is a governmental institution with the authority to adjudicate legal disputes and dispense civil, criminal, or administrative justice in accordance with rules of law.¹

Courts are the central means for dispute resolution, and it is generally understood that all persons have an ability to bring their claims before a court. Similarly, those accused of a crime have the right to present their defense before a court.

Most regions in Ghana do not have a decent structure to call a court of law, and due to increase in population, the spaces are now inadequate causing a lot of problem for the judicial sector and also retarding the progress of the country.

As a result of this, to keep calendars and judges on schedule to avoid bottlenecks in the system that could delay justice and end up costing more money in other areas, such as jails as well as minimizing the delays and reducing the cost incurred by travelling all the way to Accra and Kumasi, it is necessary for every region to have a court complex.

The Judicial administration in Ghana begun as far back as 1821 with British trading Forts, finally resulting in the creation of The Judicial Service of Ghana, established after independence in 1957 as a public Service Institution, and is the organ responsible for the day to day administration of the Laws of the land.²

¹ (www.judicial.gov.gh.htm).

² Judicial Service Annual Report, 2004

1.2 JUSTIFICATION

There are plans underway to build a regional court complex in all the regional capitals of the country.

Based on the information gathered, Upper West Region has the minimum number of Courts in Ghana and therefore the need of the population is not adequately met. This has resulted in the pile of cases in the Regional Courts and as the saying goes "Justice delayed is Justice denied". So people turn to put the law in their own hands since they do not have confidence in the judicial system hence increasing the number of crimes in the region so I decided to site my Regional Court Complex in Wa which is the capital of the Upper West Region.

1.3 OBJECTIVES

People in the Upper West Region has lost confidence in the Court system and due to this, some People travel from Wa to Accra or Kumasi to seek justice so the main objective of this design thesis is to bring justice to the people by getting them a modern court complex with more court rooms which can help enhance justice delivery to the public.

1.4 CLIENT

The Ghana Judicial Service, under the Government of Ghana.

1.5 TARGET GROUP

- Judges
- Lawyers
- Judicial staff
- Accused

- Witnesses

1.6 SCOPE

The design thesis is geared towards the provision of a Fast Track High Court as well as the Inferior Courts, that is the Circuit Court and the District Court with all the supporting facilities needed to run these Courts.

1.7 RESEARCH METHODOLOGY

a. Literature review

Published and unpublished literature on the topic was assessed. This involved the examination of written material such as books, journals, etc. A lot of literature was also gathered from various web sites associated with Court history and design.

b. Precedence Study

Local and foreign Court buildings which serve some or all of the functions of the project to be undertaken were studied to enable me draw conclusions on design decisions to be taken in tackling the scheme.

c. Measured drawings

Measured drawing of the existing Court building situated on the site earmark for the project was done to help me incorporate it in my design

d. Interviews

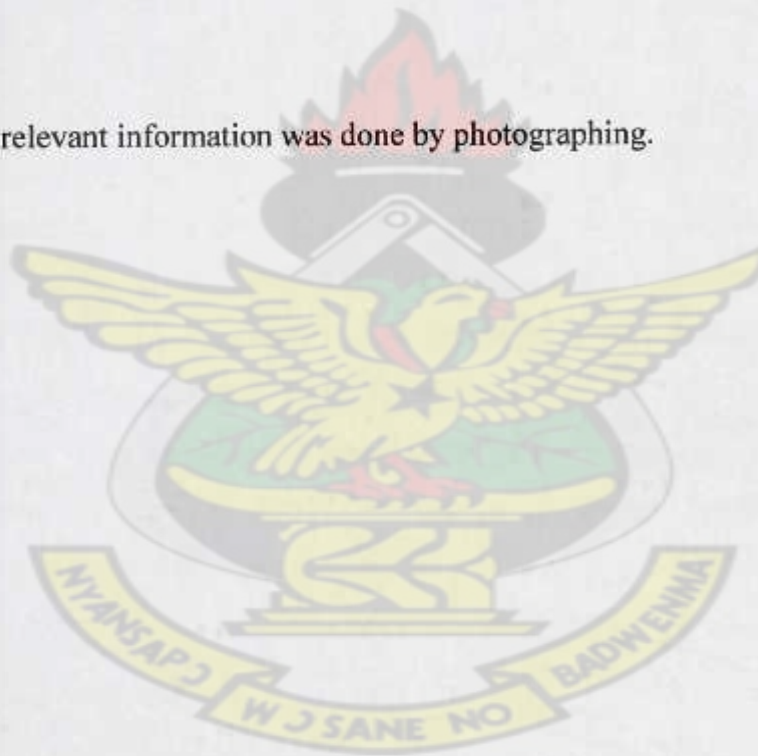
This was done to obtain information on how often cases are held. This information was crucial to determine the number of floors and the size of spaces which formed an integral part of my proposal.

e. Personal Observations

Some of the information used came about through careful personal observations. This was important because the taking of photographs was not allowed in some places and some things were not possible to record.

f. Photography

The capturing of some relevant information was done by photographing.



1.9 REFERENCE:

(www.judicial.gov.gh.htm).

Judicial Service Annual Report, 2004.

KNUST



CHAPTER TWO

2.0 LITERATURE REVIEW AND BACKGROUND INFORMATION

2.1 REGIONAL COURT COMPLEX

2.1.1 History of court

The history of law courts has its roots from ancient Athens where people born in the highest social class known as aristocrats were accorded the responsibility of arbitration. In situation of argument or disagreement between two individuals or cases where one was offended, harassed or robbed of valuable items by individual, one could drag the offender to the aristocrat and convince the aristocrat to order the person to be beaten or killed.

During the Athenian democracy, the system changed, now instead of having aristocrats deliberating on cases, there would be juries of people deciding who is guilty and how he or she could be punished. Athenian juries were made up of 500 people and they sat in a long theatre and listened to the accuser lodge a formal complaint by making a speech and then the defendant would then have the opportunity to rebut. The jury then voted on whether the accused person was innocent or guilty. Whoever got more votes won the case. Following that the accuser and the defendant would make speeches in turns stating with specific punishment they were in favour of and vote will be conducted by the jury. This system meant that if you had the love of the people or you were influential, you would always go unpunished for crimes committed.

There was therefore the absence of equal justice and disputes could not be settled peacefully. The correction of this flaw led to the involvement of lawyers, judges and paralegals in modern day arbitration and though juries are still used, they are carefully selected and things are done in an orderly manner. A specialized building known as a Court is where all these professionals meet to settle disputes of varying proportions and cases are argued out.

(source: [www.direct.gov.uk/guide to government/the judicial system/introduction](http://www.direct.gov.uk/guide%20to%20government/the%20judicial%20system/introduction))

Court houses are therefore amongst the essential and symbolic of public buildings, therefore the planning and design is very delicate and requires a careful consideration because the building must command authority. The building must be practical and functional as much as possible and its image must reflect the honor of the court and engender respect for its rulings.

Ancient Greek legal system (600-200 B.C) is the earliest democratic legal system. It is the first legal system based on the idea that people make laws and can change them to fit society's needs. Under this system, laws ruled society instead of people.

KNUST

1.2 The Court System

An accused person is presumed innocent until proved guilty beyond reasonable doubt by the prosecution. The judge will simply decide upon the appropriate sentence if the defendant pleads guilty.

The Court sentences the offender after considering all the relevant information as well as the plea of the defense.

A person convicted by a Magistrates' Court may appeal to the High Court on points of law for his or her trial to be re-heard. Appeals from the High Court go to the Court of Appeal and if not satisfied, you can then proceed to the Supreme Court.

1.2 HISTORY OF LAW AND LEGAL SYSTEM IN GHANA

The legal system of Ghana was built on a foundation of English common law, statutory law, and other documents such as those heralding the legal existence of various military regimes. There is also the existence of largely unwritten customary usages and practices that still are a contextual feature of the modern legal system of Ghana.

There is a co-existence of indigenous customary law and practice, which received English common law and some religious law especially in the area of marriage and inheritance.

2.1 THE JUDICIARY IN GHANA

The Forth Republic ushered in by the 1992 Constitution, introduced changes to the structure and hierarchy of the two main adjudicating institutions in the country.

The equality of all persons before the law and their freedom to enforce their rights and liberties in a Court of law is guaranteed under the Constitution. The independence of the Judiciary from the Executive and Legislature is entrenched in the Constitution.

The Judiciary is the sole branch of government given authority to interpret, apply and enforce the laws of Ghana. The Judiciary shall be made up of the Supreme Court, the Court of Appeal, High court and the Regional Tribunals and such Lower Courts and shall be responsible for its administration and supervision. The amendment of the Courts Act (Act 620) 2002 abolished community and circuit Tribunals and re-established the Circuit and Magistrate Courts.

The principles of independence of the Judiciary, the administration of Judiciary shall be independent of executive control and the institution of public and customary tribunal approved by Parliament.

(Source: judicial Service Annual Report)

2.2.1.1 The Supreme Court

This is made up of the Chief Justice and not less than nine (9) other justices of the Supreme Court. For its work, the court is duly constituted by five (5) Justices.

The Chief Justice presides at sittings of the Supreme Court. The Supreme Court is the final court of appeal. They usually deal with cases that require complex constitutional interpretation.

2.2.1.2 The Court of Appeal

This is constituted by any three of not less than 10 justices making up justices of the court of appeal. The Court of Appeal has jurisdiction throughout Ghana to hear and determine, subject to

the provisions of the constitution, appeals from a judgment, a decree or order from the High Court.

Any three (3) Justices of the Court of Appeal duly constitute the court.

2.2.1.3 The High Court

This consists of the Chief Justice and not less than twenty (20) Justices of the High Court. The High Court shall have supervisory jurisdiction over all Lower Courts and any lower adjudicating authority and may in the exercise of that jurisdiction, issue orders and directions for the purpose of enforcing or securing the enforcement of its supervisory power. The High Court does not have jurisdiction in cases involving high treason.

2.2.1.4 The Inferior Courts

The following are by Act 620 established as the Lower Courts of the country; Circuit Courts, District Courts, Juvenile Courts and the National House of Chiefs. Gowns and wigs are not a requirement in these courts. Cases handled in these courts do not involve much paper work.

(Source: judicial Service Annual Report)

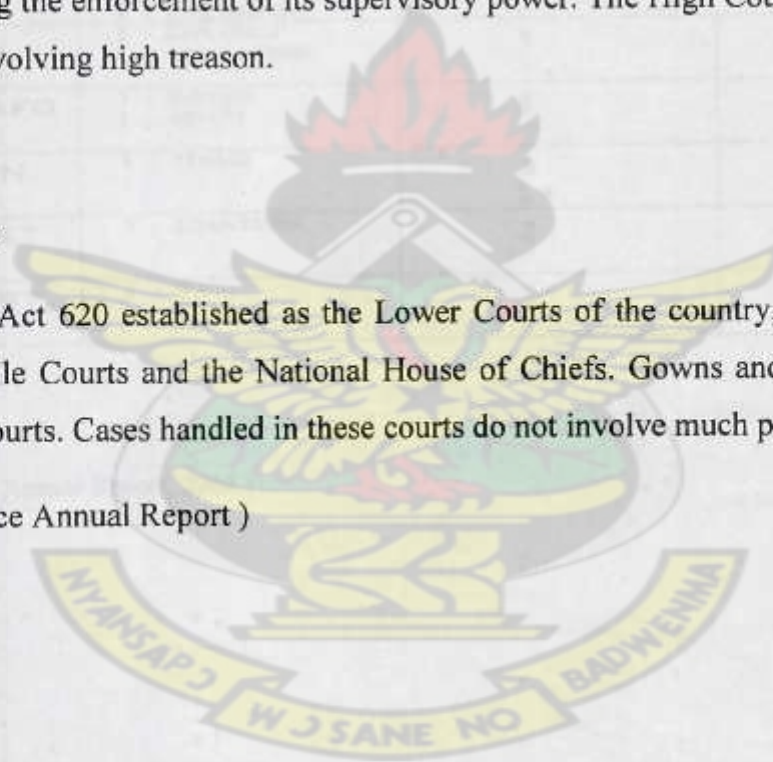


Table 1.1 showing the number of courts in every region in Ghana.

COURT DISTRIBUTION - NATIONWIDE			
	<u>HIGH COURT</u>	<u>CIRCUIT COURT</u>	<u>DISTRICT COURT</u>
GREATER ACCRA REGION	26 - ACCRA 3 - TEMA	13	14
ASHANTI REGION	7 - KUMASI 1 - MAMPONG	13	23
EASTERN REGION	3 - KOFORIDUA 1 - NKAWKAW 1 - AKIM ODA	9	19
VOLTA REGION	2 - HO 1 - DENU	9	15
WESTERN REGION	5 - SEKONDI-TAKORADI 1 - TARKWA 1 - SEFWI WIAWISO	4	17
CENTRAL REGION	3 - CAPE COAST 1 - AGONA SWEDRU	5	10
BRONG AHAFO REGION	3 - SUNYANI 1 - WENCHI	8	19
NORTHERN REGION	3 - TAMALE	3	9
UPPER EAST REGION	2 - BOLGATANGA	2	6
UPPER WEST REGION	1 - WA	2	4

(Source: Judicial Service Annual Report, 2004.)



2.3 TYPES OF LAWS

The various types of laws can be categorized under two types.

- The criminal or public law
- The civil or private law

The distinction between the two branches of the law is reflected in the procedures used, the courts in which cases are heard and the sanctions which may be applied.

Civil cases must be proved on the balance of probability rather than the 'beyond reasonable doubt' standard applied in criminal cases. In both criminal and civil cases, the court makes decisions on adversarial rather than an inquisitorial basis. This means the prosecution and defense test the credibility and reliability of evidence their opponent presents to court. The judge makes decision based on the evidence presented.

KNUST



REFERENCES

New Metric Handbook – planning and Design Data- Tutt And Adler.

Time-saver standards for building types- De chiara And Callender

Ernst and Peter Neufert . Architects' data third edition

[www.courts.michigan.gov/cornerstone law](http://www.courts.michigan.gov/cornerstone-law)

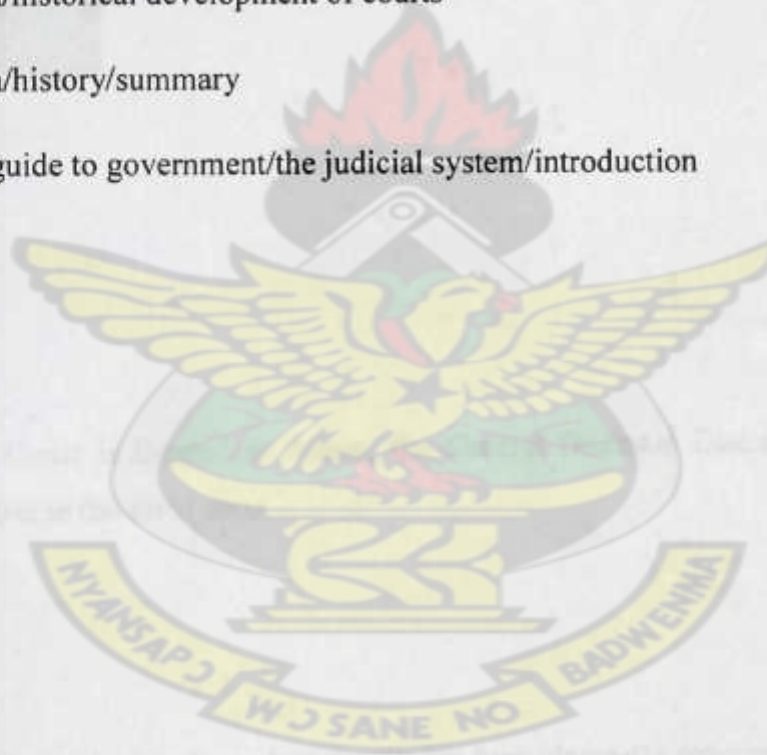
[www.direct.gov.uk/guide to government/the judicial system/sentence and appeals](http://www.direct.gov.uk/guide-to-government/the-judicial-system/sentence-and-appeals)

Judicial Service Annual Report, 2004

[www.judicial.gov.gh/historical development of courts](http://www.judicial.gov.gh/historical-development-of-courts)

www.judicial.gov.gh/history/summary

[www.direct.gov.uk/guide to government/the judicial system/introduction](http://www.direct.gov.uk/guide-to-government/the-judicial-system/introduction)



CHAPTER THREE

3.1.0 CASE STUDY

3.1.1 KUMASI APPEAL COURT



Fig. 3.1 front view of the court

Source: (author's field survey)

3.1.2 Location

The Kumasi Appeal Court is located at Adum, the Central Business District of Kumasi the capital of Ashanti region in the civic zone.

3.1.3 Objective

The main reason for the study is to know how the site has been planned to enhance an effective use of the Court building in terms of circulation, special arrangement, lighting and ventilation.

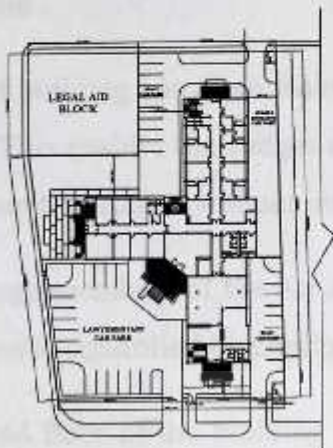


Fig 3.2. Layout of the Kumasi Appeal Court.

(Source: Judicial Service Annual Report, 2008)

3.1.4 Spatial configuration

The building has three main accesses. The public have a separate access from the staff while the judges also have a separate entrance from the staff. This is for security reasons.

Parking is located in front and besides the building for lawyers and staff while the judges' car park is situated at the basement of the building. A service space such as a kitchen is all located at the basement to prevent any interference with the court activities.

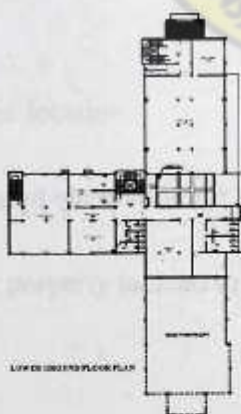


Fig. 3.3 Basement plan



Fig. 3.4 Ground floor plan

(Source: Judicial Service Annual Report, 2008.)

1.5 Circulation

The Court building has three main circulation patterns, that is public, private (staff) and secured (judges). This enables the Judges and other court personnel to access the court rooms, chambers, jury deliberation rooms without interacting with the public.

Even though members of the bar and the public have access to the judges, and other court staff, such access is controlled by checkpoints.

The ground floor of the building is dedicated to receiving and delivering documents to parties since it generates most traffic among the public.

1.6 Security

Security is an essential part of the judicial process so a security post is provided at the entrance of the Court.

Even though personnel of the judicial branch are able to access the restricted area for the judges, identification check is done first.

The building has a communication and alarm systems that cover the whole building

1.7 Merits

- Strategic location
- Segregated circulation for staff, public and judges
- Zoning properly tackled to enhance security.

1.8 Demerits

- No provision was made for public parking.

3.2 TECHNICAL STUDIES

3.2.1 Ghana's Court Automation System (Fast Track Courts)

The mechanization and automation of the country's Court system involving Courtrooms, Registries, docket management and electronic library were studied under the National Good Governance Programs. The objective was improving infrastructure capacity to enhance service delivery through replacing manual processes in doing business in the Court with ICT and recording systems in the Courtrooms. Training is also organized for all categories of staff including Judges to be able to cope with new technologies and changes. In 2001, a pilot project for a fully automated Court system linking the registry, bailiff, cashier and Courtrooms unto a central server was implemented in Accra. This project was called the Fast Track Court.

3.3 SPECIAL STUDIES

3.3.1 Neoclassical style

Neoclassical architecture was an architectural style produced by the neoclassical movement that began in the mid-18th century, both as a reaction against the Rococo style of anti-tectonic naturalistic ornament, and an outgrowth of some classicizing features of Late Baroque. In its purest form it is a style principally derived from the architecture of Classical Greece and the architecture of Italian Andrea Palladio.



Fig 3.5 the Royal Scottish Academy, Edinburgh, Scotland (1822-26).

Neo-Classical architecture is a new birth of the classical architecture of ancient Greece and Rome. A Neoclassical building is likely to have these features: symmetrical shape, tall columns that rise the full height of the building, triangular pediment, and a domed roof.

The Neo-classical style is rooted in Roman and Greek architecture, like that of the Roman Pantheon, which is characterized by a porch of Corinthian columns and a triangular pediment attached to the ends of the eastern arm. The Pantheon's design exemplifies the Neoclassical return to a strictly logical use of classical architectural elements. Additionally, the Roman triumphal arch was one of the main sources of Neo-classical expression with its tripartite division of four equal columns unequally spaced. The Arch of Constantine, Rome (AD. 315) supplied the idea of the 'detached' column with returning entablature and the superincumbent 'attic storey'.



REFERENCES

www.judicial.gov.gh/court_automation

Microsoft Encarta 2006

[www.direct.gov.uk/guide to government/the judicial system](http://www.direct.gov.uk/guide_to_government/the_judicial_system)



SELECTION CRITERIA AND JUSTIFICATION

The site for each protest should be easily accessible to the public and take into account the physical environment, a public transportation system and proximity to other offices of state and national government. Primary consideration is given to civic centers sites. The site for any protest must be approved for the protest and it also falls under the criteria for selection of sites for a

CHAPTER FOUR:

4.0 THE SITE

4.1 SITE SELECTION AND LOCATION

The site is located at central Wa in the Upper west region. It is bounded by the school for the deaf, the Wa polytechnic and the Veteran Association of Ghana. It is off the Kumasi Wa main road.



Fig. 4.1 Map of Ghana



Fig. 4.2 site map

(source : town and country planning dept. Wa)

4.1.1 SITE SELECTION CRITERIA AND JUSTIFICATION

The site for such a project should be easily accessible to the public and take into account the growth of population, a public transportation system and proximity to other offices of local and national government. Priority consideration is given to civic centre sites. The site for my thesis has been earmarked for the project and it also falls under the criteria for selection of site for a Court design.

4.1.2 Strength



Fig 4.3 Fairly flat land



Fig.4.4 Routes to site

(Source: author's field survey)

- Site is north-south oriented
- There are multiple access routes to the site.
- well laid out service lines
- Good soil to support landscaping

4.1.3 Weakness

- Site is liable to erosion

4.1.4 Opportunity

- Good fairly flat topography
- Site can support landscaping.
- Presence of transformer enhance easy access to civic amenities

4.1.5 Threat

- Sound and air pollution from the main road

4.2 SITE INVENTORY AND ANALYSIS

4.2.1 Site context

The selected site is orientated north-south with its immediate west bounded by the Veteran Association of Ghana site and the school for the deaf. The north is also bounded by the main Kumasi – Wa road and Wa senior high school campus. Its east, south are bounded by forest lands.



Fig. 4.5 School for the deaf entrance



Fig. 4.6 Wa senior high school entrance

(Source: author's field survey)

The contextualization of the site and use of buildings presents a number of implications

- Easy integration in the environment
- Good security
- Need for good services
- Car parks, both public and private, to accommodate large number of users.

4.2.2 Physical characteristics

There is an existing structure on the site which begun years back but due to political reasons it came to a halt but because of economic reasons, I will incorporate it in my design



Fig. 4.7 existing structure on the site

(Source: author's field survey)

- **Vegetation**

The site is densely covered with dry grass and trees

- **Geology**

The site is predominantly latrite soil

- **Topography**

A section through the site shows the following



Figure 4.8 Section AA' through the site

(Source: author's field survey)

CHAPTER FIVE

5.0 PLANNING AND DESIGN

5.1 Brief Development

The brief was developed out of the target group needs, the client's requirement and allowable standards for High Court design and with ancillary office complex.

1. The Court

- Two High Court for civil cases
- One High Court for criminal case
- Two Circuit Court
- One District Court
- One Magistrate Court
- a. Seven judges chamber
- b. Jury deliberation room
- c. Judge deliberation room
- d. Lawyer – client deliberation room
- e. Lawyers robe room
- f. Research assistance
- g. Transcript room
- h. Two holding cells

2. The Registry

- a. Chief registrar/s office

b. Administrator's office and secretariat

c. Typing pool

d. Cashier office

e. Chief bailiffs office

f. Docket room

3. Ancillary facilities

a. Library

b. Seminar rooms (judges and judicial staff)

c. Conference hall

d. Information Technology (I.T)

e. Security room

f. Public relations and complaints unit

g. Restaurant

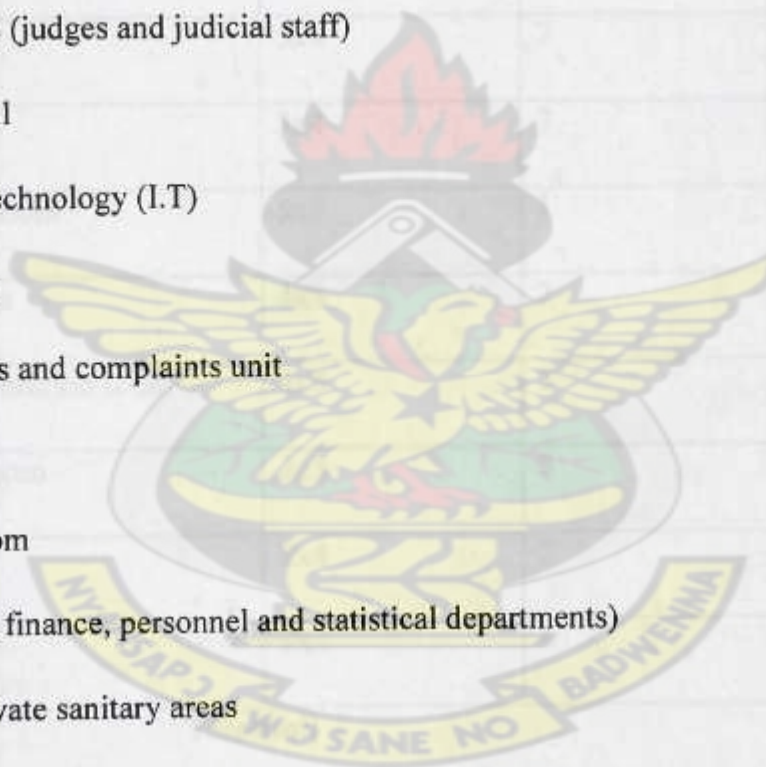
h. Drivers restroom

i. Offices (audit, finance, personnel and statistical departments)

j. Public and private sanitary areas

k. Parking area

KNUST



5.2 Schedule of Accommodation

• Courtroom facilities

Space	Units(m)	Quantity	Total (m ²)
Courtroom : High court	20x15	3	900
: Circuit court	12x15	2	360
: District court	10x15	1	150
: magistrate court	10x15	1	150
Judges chamber	5x4	7	140
Research assistance	3x4	7	84
Judges deliberation room	5x5	1	25
Jury deliberation room	4x8	2	64
Lawyer – Client deliberation room	4x5	2	40
Retained witness room	3x3	5	45
Transcript room	3x4	2	24
Store room	3x2	4	24
Total(m²)			2006

Table 5.2.1: Schedule of accommodation

• Registries and Administration

Space	Units (m)	Quantity	Total (m ²)
Registry	10x12	3	360
Reception	4x3	1	12
Cashier	2x3	1	6
Registrar's office	7.5x5	3	112.5
Typing pool	5x5	3	75
Bailiff's office	5x5	1	25
Chief bailiff's office	3x4	1	12
Chief registrar's office	4x5	1	20
Docket room	3x5	3	45
Administrator's office	5x4	1	20
Administrative secretariat	8x5	1	40
Store	2.5x3	3	22.5
Total (m²)			750

Table 5.2.2 Registries and Administration

• Ancillary facilities

Space	Units (m)	Quantity	Total (m ²)
Conference / seminar room	10x15	1	150
Library	8x12	2	192
Offices	4x5	8	160
Holding cells	3x6	2	36
Lawyers conference room	5x7	1	35
Cafeteria	12x15	1	180
Waiting area	15x20	1	300
I.T	5x8	1	40
Total (m²)			1093

• Parking and service yard

Judges parking	3x5 /car	3	45
Visisting judge parking	3x5 /car	1	15
Staff parking	3x5 / car	20	300
Public parking	3x5 / car	40	600
Service yard	8x12	1	96
Security yard	4x6	1	24
Total (m²)			1080

5.3 CONCEPTUAL SITE PLANNING

5.3.1 Option 1

This planning has security as its priority, therefore, it has a single access to the site.



sketch 5.1 option 1

Merits

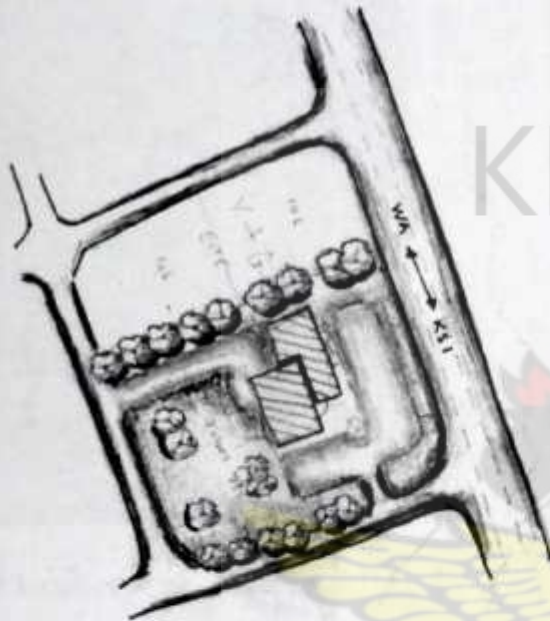
- One access to site enhances security
- Judges and the staff parking is separated from the general parking
- Space for impounded vehicles is provided

Demerits

- There will be traffic jam at the entrance
- The judges are at risk using the same entrance with the public

5.3.2 Option 2

The second option of the conceptual site planning has two accesses with security posts as a means of preventing potential vehicular-pedestrian conflict that might be created in option 1. The first access to the site from the Kumasi-Wa road is to be used by the public and staff members. The second access is solely for judges.



sketch. 5.2 Option 2

Merits

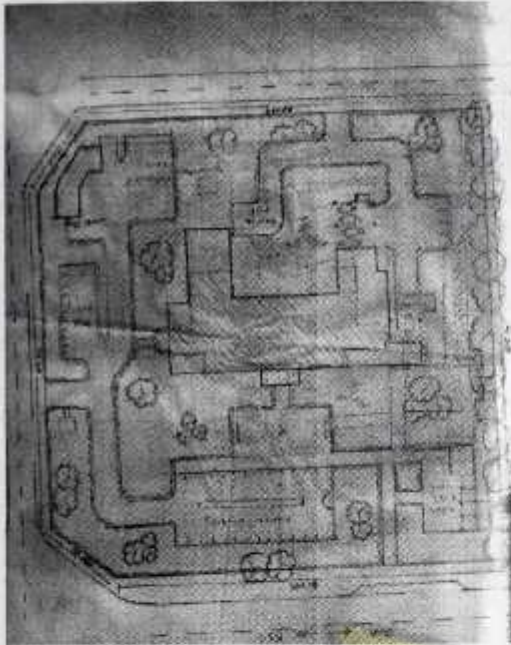
- Separate access for judges enhance their safety
- Good orientation
- Part of the existing structure was incorporated in the design
- Space was created for future development

Demerits

- Pedestrian movement is seriously impeded
- No lay -by for commercial vehicles.

5.3.3 Option 3

Option 3 was chosen because it addresses the issue of security and eliminates possible vehicular-pedestrian conflict and conflict between the public, the judges and the accused.



sketch. 5.3 Option 3

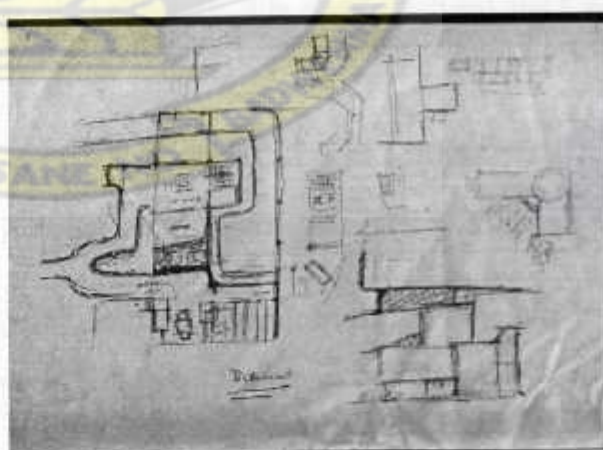
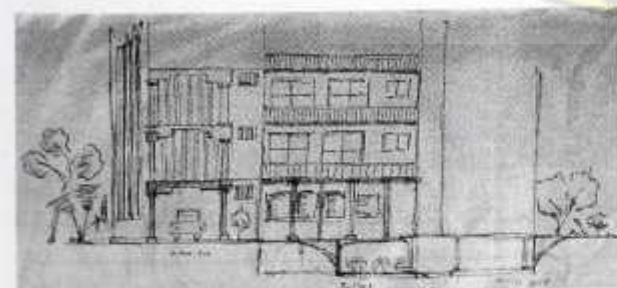
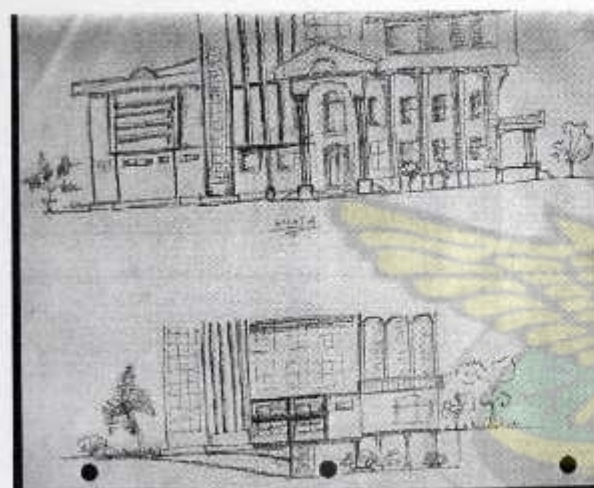
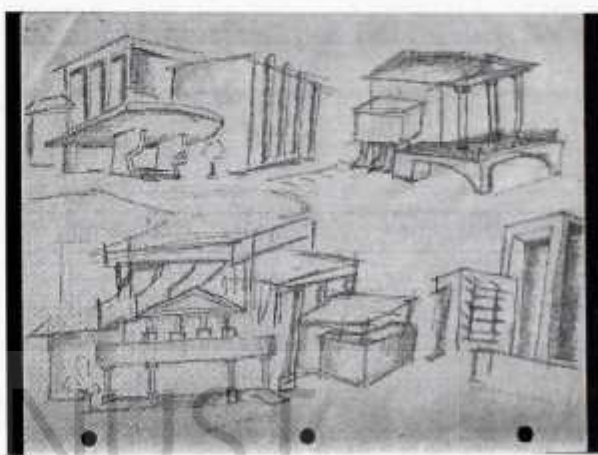
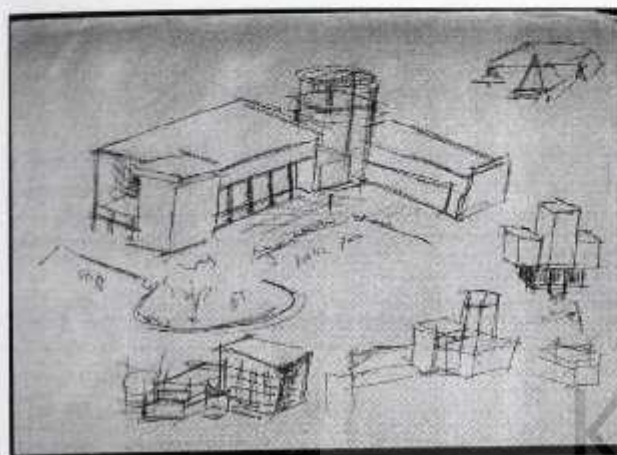
Merits

- Separate access for judges and the accused
- Good orientation
- The existing structure is incorporated in the design
- Availability of public eating area which will generate income for the court to be used for maintenance.
- The staffs have a separate entrance.

Demerits

- Two different security post have to be provided to monitor the two separate access to the site

The building form development for option 3



sketch. 5.4

5.4 Conceptual spatial planning

The various spaces and circulation areas were carefully analysed and planned on each floor. Convenience in movement, privacy and security of judges and staff was the objective in the positioning and accessing of the spaces to the users and public.

5.4.1 Structural consideration

The existing structure on the site that was incorporated in the design influenced the position of columns and the size of the courtroom around which other spaces were organized. A grid of 5x5 meter was used to organise the spaces.

5.4.2 Disposition and juxtaposition of spaces

The relationships of the different components of the facility and the effects of noise and access control were considered in the preliminary layout.

5.4.3 Entrance

The entrance is highlighted to enhance the image of the facility. It is clearly defined and lead into the reception and enquiry area.

5.4.4 The Registries

The various registries were separated so as to prevent conflict in activities and processes to ensure efficiency. Direct access between them was to enhance interactions and flow of activities.

5.4.5 The Courtrooms

Access to the courtroom has been zoned to promote security. The Judges and the accused does not come into contact with the general public. The High Courts were positioned higher so as to highlight the hierarchy in the judicial system. Introduction of lobbies also decrease the amount of noise inflow. Maximum use of day lighting was adopted.

5.4.5 Judges' Chambers and Deliberation rooms

Judges' chambers and jury deliberation rooms were positioned to minimize public access and their safety.

5.5 Architectural Style

Neoclassical architecture was adopted in the design while maintaining ties with the local architecture character of the region

5.6 SERVICES AND CONSTRUCTION TECHNOLOGY

5.6.1 SERVICES

5.6.1.1 Electricity

With the transformer located at the main junction, supply to the Court will be adequately catered for. Underground cable supply to the facility from the transformer shall be along access roads and shall terminate in the switch room where a step down transformer (33Kv) an automatic generator set is located. From this point power will be distributed throughout the facility.

Solar panels are located on the roof which will supplement the power from ECG.

5.6.1.2 Fire Protection and Prevention

Fire controls systems such as smoke detectors and fire alarms systems are controlled from a central control board located in the security office. The electrical system where the building has been sectioned into independent load centers act as fire protection. Here, electrically induced fire outbreak can be prevented from one area to other.

Sprinkler heads and Hose reels supplied by mains are placed at strategic location within the site as a fire fighting measure. Automatic fire alarm system (which operates on the principle of heat sensing and smoke detection) are installed. It consists of fire alarm initiators, indication panels and bells. Smoke detectors and fire extinguishers are located at vantage points at strategic intervals within the Court building as an additional source of fire control. Fire hydrants are located on site to aid fire service when the need arises.

5.6.1.3 Water supply

To facilitate continuous supply of water, rain harvesting techniques and wells will be employed to complement water supply from the water obtained from Ghana Water Company.

In times of repairs, overhead water storage is linked to all wet spaces (sanitary, kitchen, sluice). The objective is to provide over 48 hours reserve of water supply

5.6.1.4 Telecommunication

With the expanded Wa telecommunication network under the digital system, telephone lines will be connected from the main lines into the facility and wired through the building. Fixed lines will be in all chambers, registries and other spaces as demanded. Data ports will be provided in the offices, chambers, registries, public waiting area, library and conference halls.

Information screens will be provided in the waiting lounges to highlight court cases and their respective courtrooms.

Telephone booths will be provided at vintage places in the facility for both public and staff use

5.6.1.5 Waste management

Sewerage

Surface drains will take care of storm water, a network of covered drains along the slope. Sewage from the building should be discharged by underground pipe work into a septic tank and filtration bed within the site.

Refuse

Bins will be provided at strategic locations in and around the facility, which will be collected at specific times to a central temporal storage and collection point to be disposed of according to the city regulations. Containers and bins must be of a durable material and shape, properly covered and emptied regularly to encourage its use.

5.6.1.6 Lighting and Ventilation

As a measure of prudence in a tropical developing country large shaded fenestrations have been provided to allow the ingress of daylight. These are however complemented with fins, strategically located to allow maximum cross ventilation and natural light. Artificial lighting will however be incorporated.

To reduce glare and contrast in the courtrooms and offices, furniture should be of high reflectance and light coloured.

Security lighting will be designed by arranging the switching of the light such that certain patterns of light can be left on during the night be operated by separate and automatic time switches and circuit breakers.

Emergency lights will be provided by separate battery operated system and positioned at specific locations in accordance with fire regulations.

Switches and sockets

Only brass switches and sockets shall be provided. There will be dual voltage 13amp sockets in the chambers, library and offices, and 15amp socket in all registries and courtrooms.

5.6.1.7 Security control

The main security post is located at the main entrance The judges have been segregated from the general public to ensure their safety. Access into the facility will be through separate secured places to be manned by security personnel.

5.6.1.8 Acoustics

Good acoustics treatment is given to the courtrooms and the conference rooms. Acoustics in the courtroom is vital for all users and should be clear for all without strain. There should be reflective surfaces on the ceiling, side of walls and even behind the judge. Areas behind the spectators should be absorbent. Sound lobbies provided will have absorbent materials to keep out external noise.

5.6.1.9 Landscape

The design principle of courthouse will apply in the overall landscape design of the site. The treatment of elements applied to enhance the visual focus of the building must reflect in the

exterior landscaping. A variety of landscaping elements shall be employed to achieve the design principles.

5.6.1.10 Soft landscape

Soft landscaping elements will be planned to conform to the building principles. Parking spaces will be given more interest and shade by providing tree planted islands throughout the parking area. For strong entrance effect, a hedge of small evergreen trees and shrubs will be planted along the driveway. Flower and shrub pots are placed at vantage places.

Planters will be constructed of concrete and finished to enhance the decor of their immediate environment. A good drainage for the planters will be provided by the use of weep holes. To drain effectively, about 100mm of gravel shall be placed in the bottom of the planters with fibreglass matt between the gravel and the soil mix.

Large diameter trees such as weeping willows will be planted along the main access to cut out noise from the main Kumasi-Wa road.

5.6.1.11 Hard landscape

Easy maintenance, durability and aesthetic appeal was necessary in the consideration of materials. The driveways, car park and pedestrian walks will be finished with interlocking concrete pavers placed on coarse aggregate bed.

5.7 CONSTRUCTION TECHNOLOGY

5.7.1 Structural system

The building is to be constructed of reinforced concrete post and beam system with non-load bearing in filling members basically of sandcrete blocks for walls and glass in aluminum framing for the openings.

The foundation type to be used is raft foundation system so as to spread the load over a large base to reduce the load per unit area being imposed on the ground. It will be constructed of reinforced concrete according to the Construction or Structural Engineer's specifications.

Expansion joints will be placed in intervals of 20-25 meters in the length of the structure to forestall the damaging effect of expansion, contraction and differential settlement.

The roof will be hipped and gabled, made of ceramic roofing tiles and supported by steel trusses with parapet wall around it. Water storage tank and solar panel shall be installed on some portions of the roof which is reinforced concrete slab.

5.7.2 Materials and finishing

A courthouse exterior must be seen as a building of authority and as an institution of addressing and correcting orderliness in the society. The physical entities of the exterior and interiors shall be skilfully combined to create a psychosocial environment geared towards the requirements and expectation of a Courthouse.

The furniture, fixtures, fittings and exterior decor shall be of high quality. The furnishings and fixtures must be robust and those attached to walls. Wall and ceilings shall be of durable finishes and of materials easily and rapidly cleaned. Spaces where carpets will be laid shall be of modular strips and squares so that replacing only worn ones could be done without disrupting activities.

5.7.2.1 The courtrooms

The courtroom is the primary workspace of the facility and it will be treated as such to meet the expectations of all users. It must be seen to display its authority. The aural and visual requirements must enhance court proceedings and not discomfort to all.

Walls will be plastered with sand-cement screed and covered with suitable sound absorbent panels. There will be wall hangings of national elements especially behind the judge's bench. Ceiling will be suspended and tiled to acoustic requirements with portions of POP with classical

moldings and motifs. Bench tops will be of hard wearing surface suitable for writing. Positioning of luminaries will be to give good illumination on the bench tops and generally in the room to avoid glare.

5.7.2.2 The registries and chambers

As the supporting offices to the court, its finishes and treatment must meet general office space requirement and comfortability. Floors shall be of terrazzo, except for chambers and offices of the Chief Registrar and Administrators which shall be carpeted. Walls will have sand-cement screed finish and painted white. Ceiling will be of paneled timber.

5.7.2.3 Corridors, stairs and circulation areas

Floors shall be terrazzo finished to reduce transmission of noise in the facility. The ceiling of the ground floor entrance corridor shall be of sand-cement screed.

5.7.2.4 The library

To ensure quietness and tranquility in research processes, the floors will be hardwearing terrazzo and carpeted. The walls will be painted white and have hangings of artwork and national symbols. Lighting levels should be bland and well positioned to eliminate glare.

5.8 Costing

The preliminary cost is based on prevailing market price per floor area. Due to the difference in treatments of the various spaces within the courthouse.

5.9 Conclusion and Recommendation

Owing to the encouraging and growing of Ghana's democratic governance, development of all arms of government is essential tool to sustain this reputation, which also contributes immensely in creating an enabling environment for all activities of the citizenry. The creation of the Wa court complex will play a very vital role in the nation's development. It provides another avenue for aggrieved citizens to pursue justice in an ultra-modern courthouse equipped with up-to-date courtroom automated systems that will ensure transparency, efficiency and expedient justice delivery and administration.

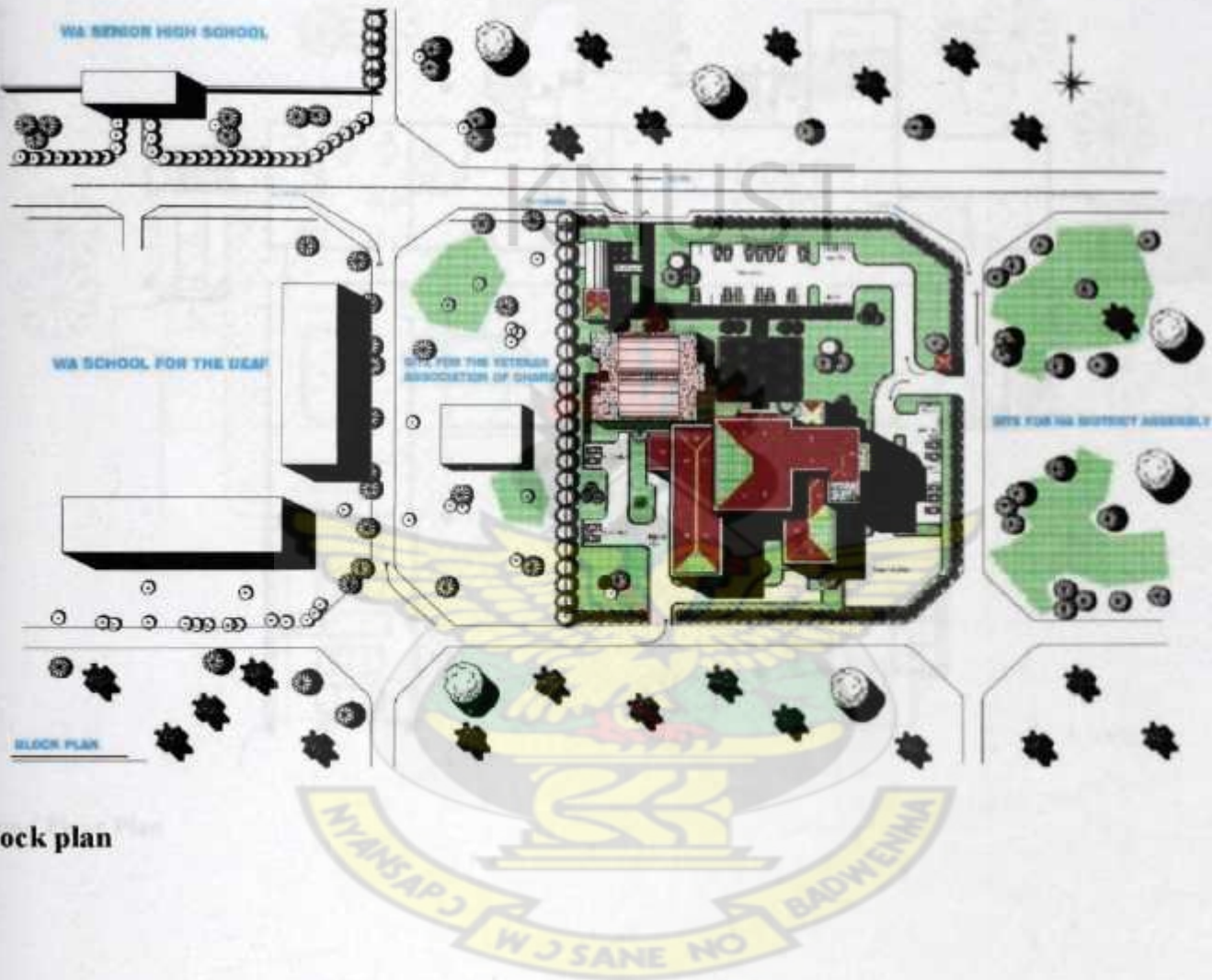
The design of the Wa Court Complex is such that it can be adapted as a prototype for the other intended sites as the client desires, with minor alterations and other site consideration.



Bibliography

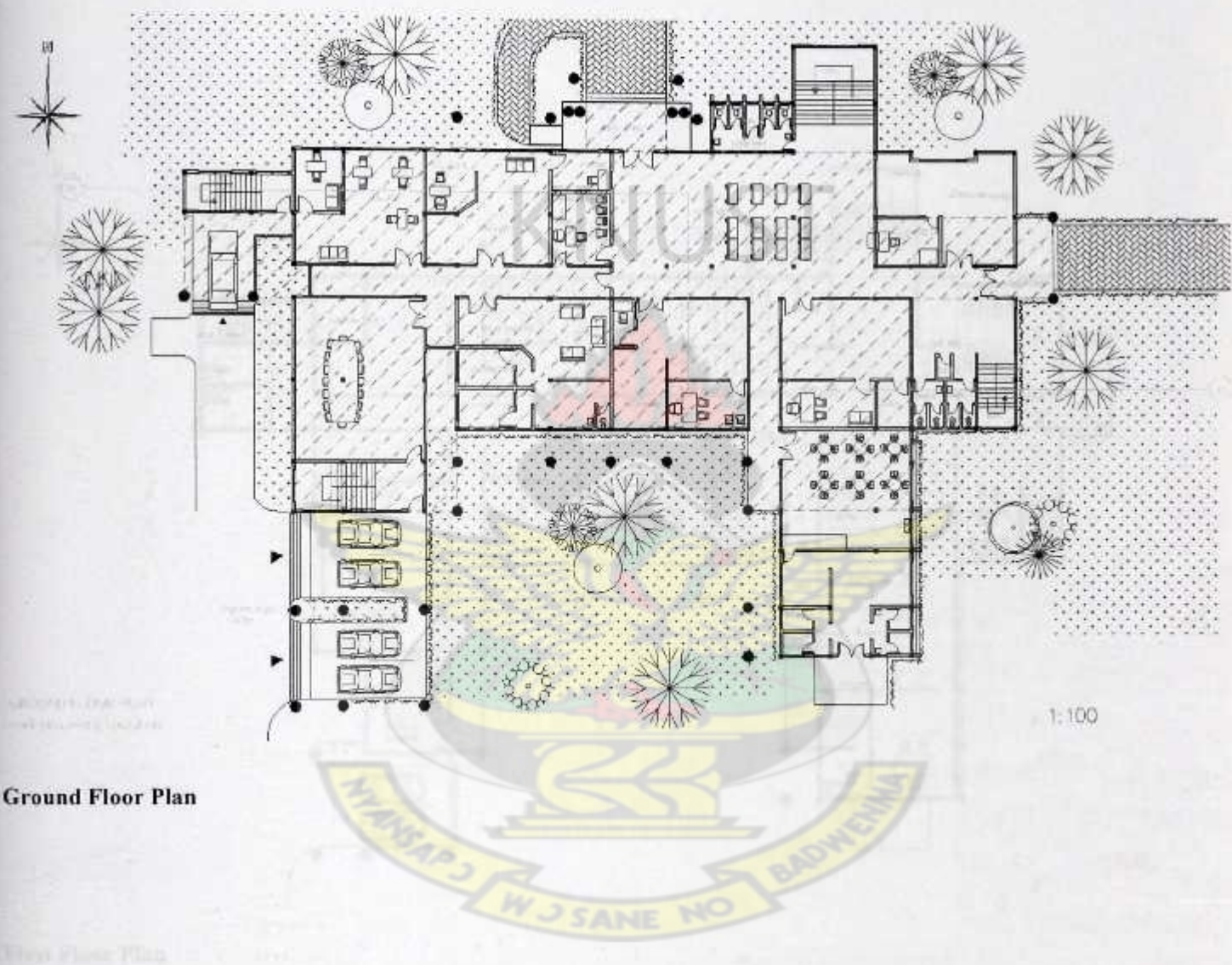
- Amos, H.D. and Lang, A.G.P.; These Were The Greeks; Thornes and Hulton, 1988
- Blackwell, Christopher W.; summary of "The Council of the Areopagus"; A. Mahoney
And R. Scaife; <http://www.stoa.org>
- Denham, Paul; Law, A Modern Introduction; Hodder and Stoughton, 1999
- Encyclopaedia Britannica, 1994- 2004
- Microsoft Encarta Encyclopaedia, 2002- 2004
- Judicial Service of Ghana Annual Report, 2004; Innolink, 2004
- New Metric Handbook – planning and Design Data- Tutt And Adler.
- Time-saver standards for building types- De chiara And Callender
Newfert
- www.courts.michigan.gov/cornerstone-law
- [www.direct.gov.uk/guide to government/the judicial system/sentence and appeals](http://www.direct.gov.uk/guide-to-government/the-judicial-system/sentence-and-appeals)
- Judicial Service Annual Report, 2004
- [www.judicial.gov.gh/historical development of courts](http://www.judicial.gov.gh/historical-development-of-courts)
- www.judicial.gov.gh/history/summary
- [www.direct.gov.uk/guide to government/the judicial system/introduction](http://www.direct.gov.uk/guide-to-government/the-judicial-system/introduction)
- www.judicial.gov.gh.htm

APPENDIX A

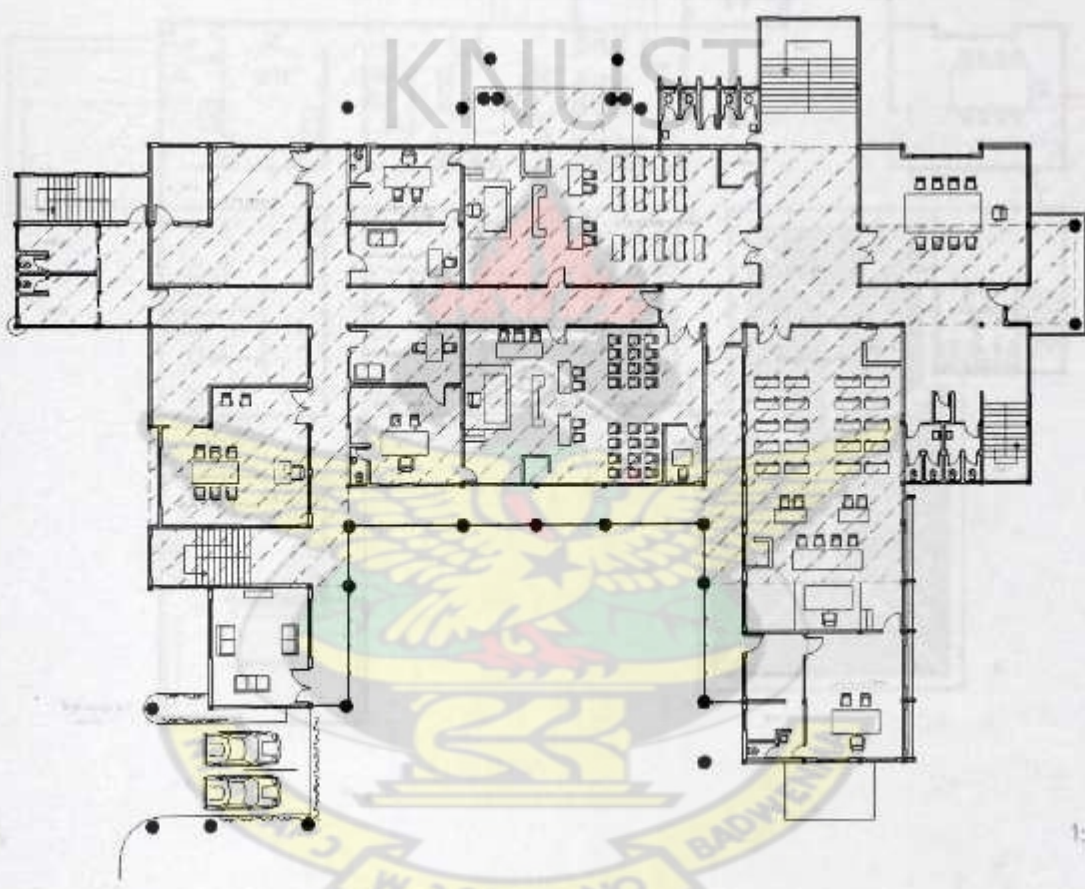


Block plan

APPENDIX B



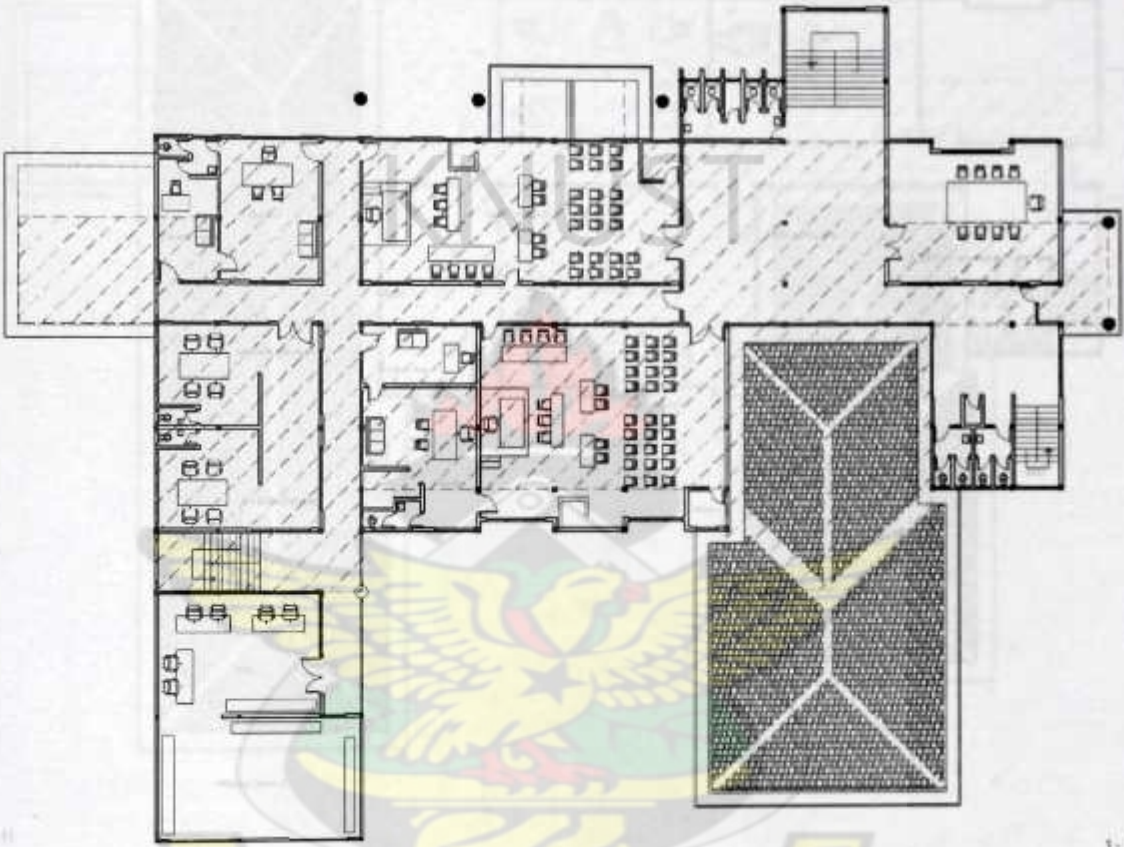
APPENDIX C



1:100

First Floor Plan

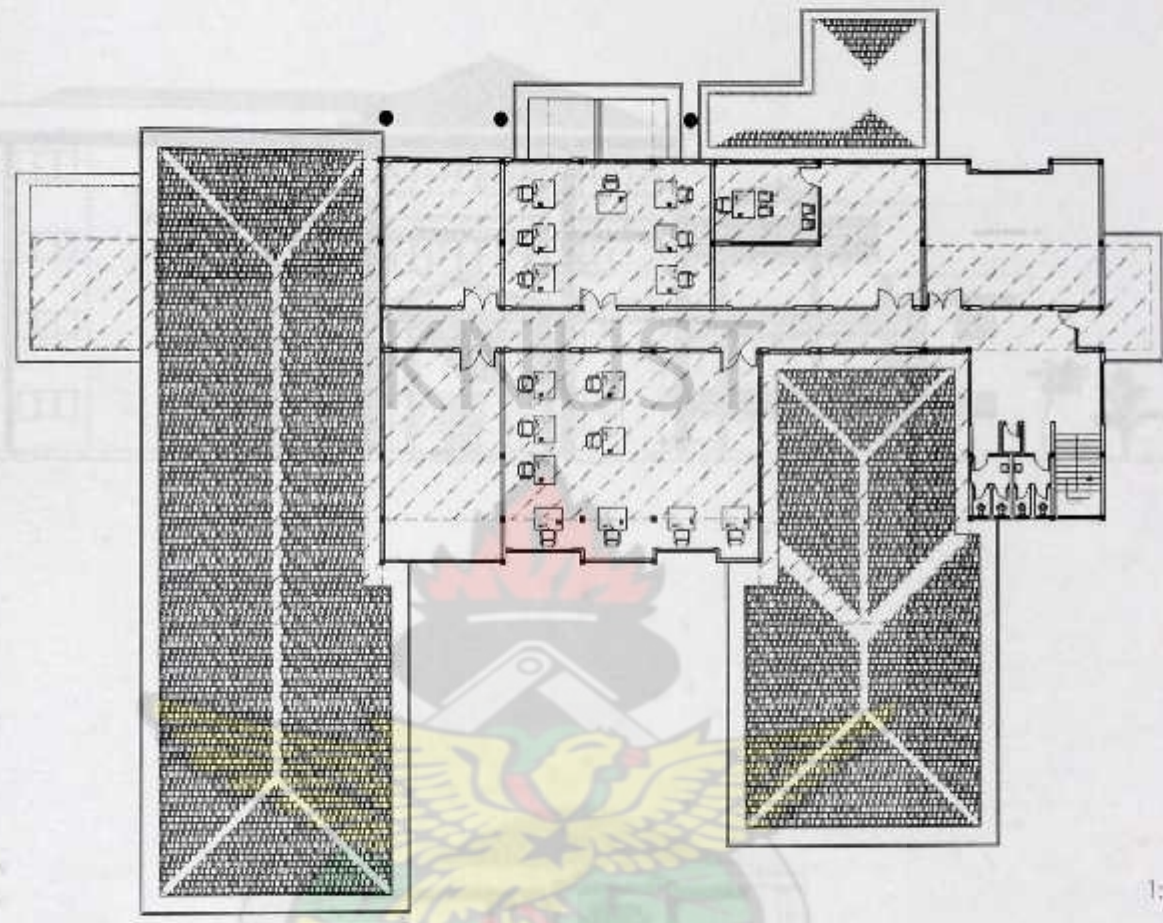
APPENDIX D



1:100

Second Floor Plan

APPENDIX E



1:100

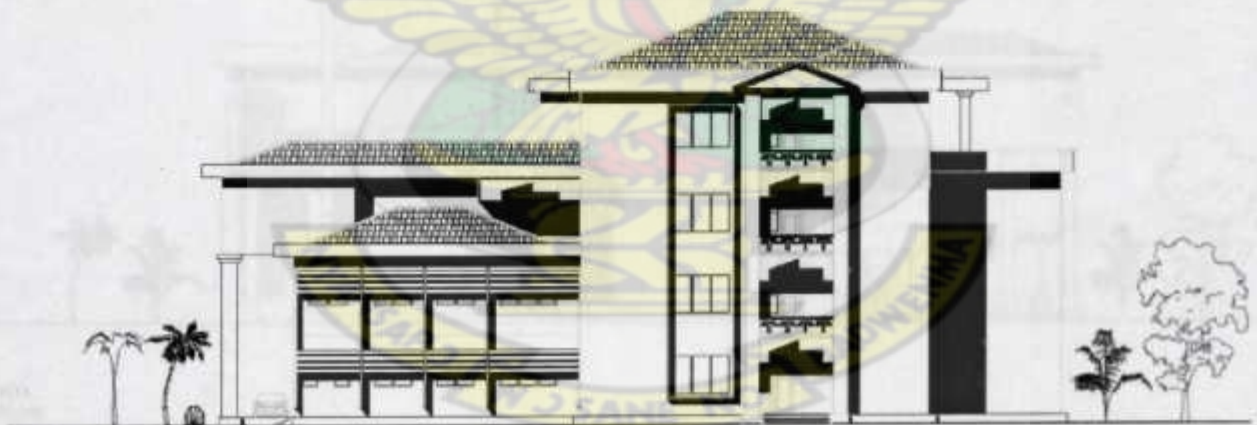
Third Floor Plan



APPENDIX F



North Elevation



East Elevation

APPENDIX G

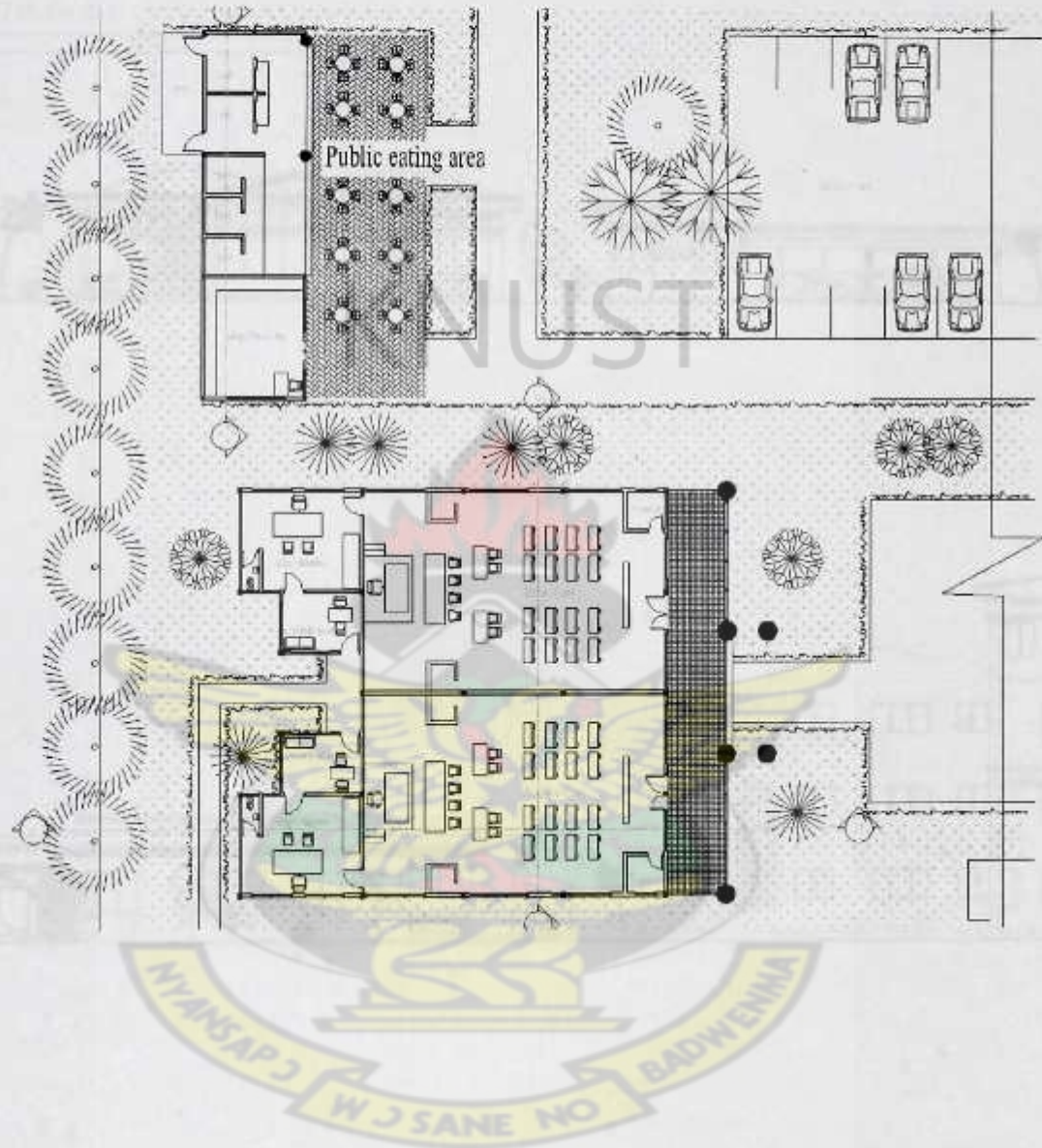


South Elevation



West Elevation

APPENDIX H

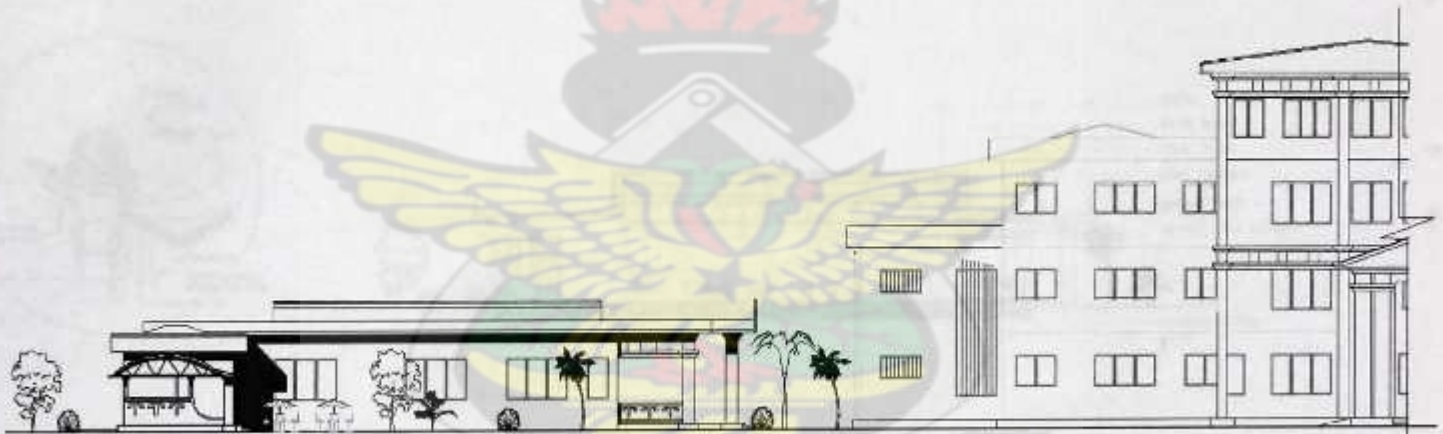


APPENDIX I

DISTRICT COURT AND PUBLIC EATING AREA

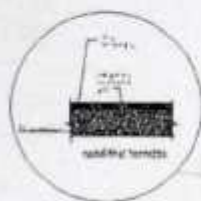


EAST ELEVATION

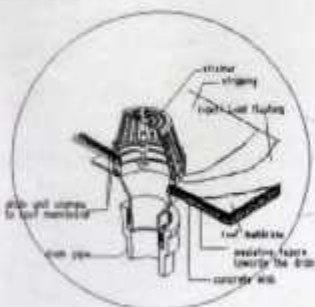


WEST ELEVATION

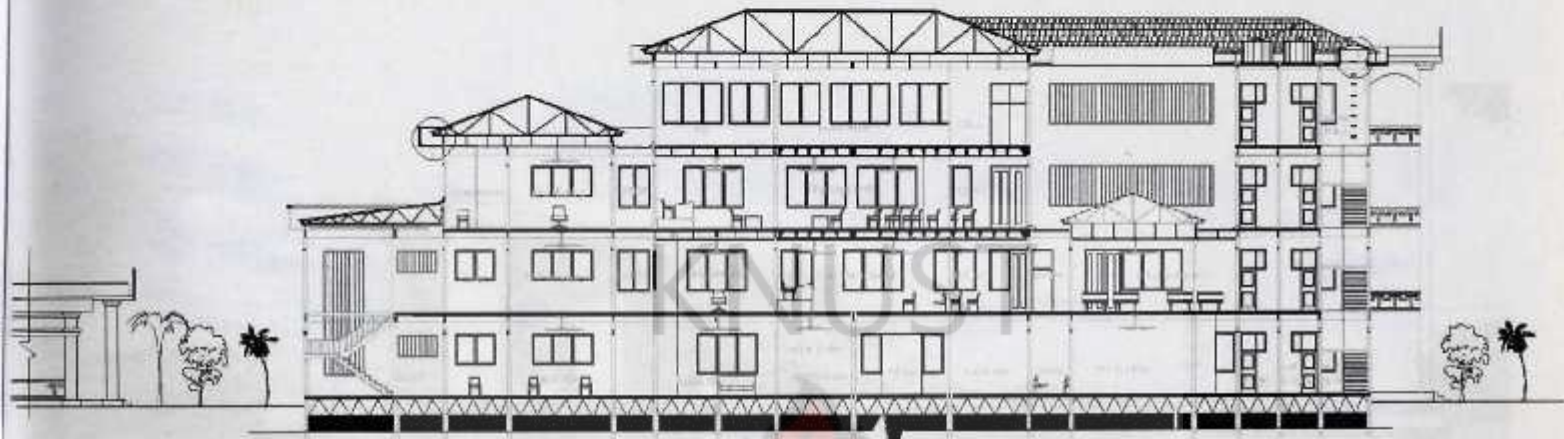
APPENDIX J



long span alum roofing sheet
upper chord
lattice
bottom chord



APPENDIX K



Section x:x



APPENDIX L



View of front façade of Courthouse



Back view of the Courthouse