A TECHNICAL REPORT AND PRESENTATION

ON

STUDENT INDUSTRIAL WORK EXPERIENCE SCHEME (SIWES)

HELD AT

DAROSA PROPERTIES AND MANAGEMENT AND CONTRUCTION

No 120 Adeta Street Adewole Ilorin Kwara State

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SUBMITTED TO

DEPARTMENT OF ARCHITECTURAL TECHNOLOGY

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DEDICATION

This report is dedicated to Almighty Allah, the creation of all universe, the one only to be worship, for giving me this privilege and understanding knowledge and protection.

I also give thank to my adorable parents Mr and Mrs Abdullateef for their support in my financial activities in my studies.

ACKNOWLEDGMENT

My adoration goes to Almighty Allah of all human and every one in heaven and earth. All glory and praise unto Him. I would like to express my special thanks of gratitude to my parent for their abundant effort and uncountable support as well as my lecturers and my student of industrial works experience.

I also thank the entire staff of my department of Architectural technology, Kwara State Polytechnic, Ilorin.

My appreciation also goes to my brothers and my sisters of the same blood for their financial support, may God Almighty always bless you all.

There will be no significant effect in the treatment if I refuse to appreciate all my friends and colleague in my department, I thank you, all pray goals shall not be jeopardized.

To all I say a big thanks to you.

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CHAPTER ONE

CHAPTER ONE

1.1 INTRODUCTION

SIWES was established by Industrial Training Fund (ITF) in 1973 to solve the problem of lack of adequate practical skills preparatory for employment in industrial by Nigerian graduates of tertiary institution.

The scheme exposes students to industry based skill necessary for a smooth transition from the classroom to the world of work. It affords student of tertiary institution the opportunity of being familiarized and exposed to the needed experience in handling machinery and equipment which are usually not available in the educational institution.

1.2 PURPOSE OF SIWES

In the earlier stage, student are graduating without any technical knowledge or working experience and this makes them to undergo further training after securing an employment. With this reason, student industrial training was established.

During this programme, as designed by the ITF, students are expected to get technical assistance and acquire more experience scheme in their chosen field of study and exposed them to the usage of source machine and safety precaution where relevant before the completion of their programme in their various institutions.

1.3 AIMS AND OBJECTIVES

1. To provide an avenue for student in the Nigerian Institution to acquire industrial skills and experience during their course of study.
2. To prepare students for the work situation they are likely to meet after graduation
3. To expose the student to work method and techniques in handling equipment and machinery that may not be available in their institution.
4. To allow the transition phase from school to the world of working environment easier and facilitate students contact for later job placements.
5. To provide student with an opportunity to apply their theoretical knowledge in real work situation thereby bridging the gap between theory and practical.

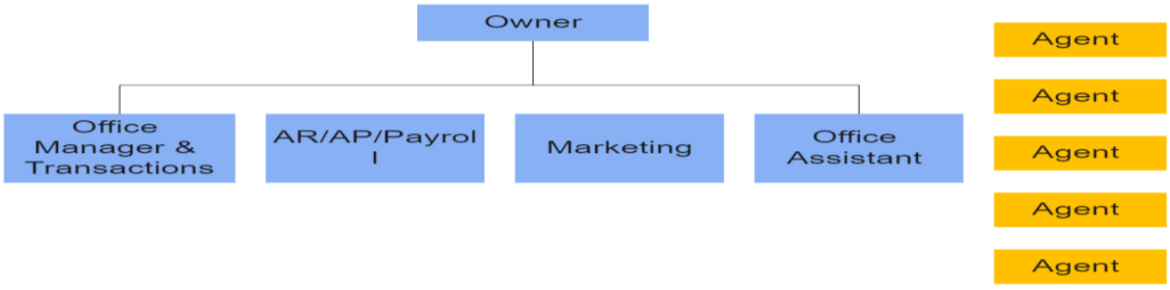
CHAPTER TWO

2.1 LOCATION AND BRIEF HISTORY OF THE ESTABLISHMENT

Daraso properties and management and construction is located in the southern part of the state. It is located in Ilorin West Local Government with its headquarter in the emir's market near central mosque Ilorin. It is situated immediately after government high School Ilorin main gate and linking up to university of Ilorin (Mini campus) and Kwara state college of education, Ilorin. The estate is bounded by western reservoir road that links Geri-Alimi and Umar Saro Road Ilorin (Ilorin-Lagos road)

Adeweoie as a planned neighbourhood area comprises of different photo type housing unit categorized into 2 bedrooms bungalows, 3 bedrooms bungalows, 4 bedrooms bungalows and 4 bedrooms manssionattee. Presently the total number of photo type housing units in Daraso Properties and construction Adewole was put at six hundred and twelve (12) housing units, he present population of the people at Adewole Estate is about is about fifteen thousand four hundred and eighty. (15,408).

2.2 ORGANIZATIONAL CHART IN THE ESTABLISHMENT



CHAPTER THREE

3.1 SCALE

Scale in architecture refers to the proportion between the size of a building or object and its surrounding environment, as well as the size of its individual parts in relation to each other.

How to Use Scale in Architectural Drawings

Scale is an essential concept in architecture that allows architects, engineers, and builders to represent large structures on paper in a **proportional and manageable size**. Since buildings are too large to draw at full size, **scaled drawings** help in planning, designing, and communicating ideas effectively.

1. Understanding Architectural Scale

Scale represents the **ratio** between the actual size of a building and its representation on paper. It ensures that every component of a structure is **drawn to the same proportion** as it will be built. For example, if a drawing is at **1:100 scale**, it means that **1 unit on paper = 100 units in real life.**

Common Architectural Scales

Scale	Use Case
1:50	Room layouts, detailed floor plans
1:100	General floor plans for houses and buildings
1:200	Site plans and large building layouts
1:500	Large site developments and urban planning
1:1000 & 1:2000	City planning and landscape architecture

2. How to Use Scale in Architectural Drawings

A. Choosing the Right Scale

- Select a scale based on the level of **detail** needed.
- **Smaller scales (e.g., 1:1000)** cover large areas but show less detail.
- **Larger scales (e.g., 1:50)** show more detail for specific building parts.

B. Using a Scale Ruler

A **scale ruler** is a triangular tool used to measure scaled drawings accurately. It has different scale markings for various ratios.

Steps to Use a Scale Ruler:

1. **Identify the scale** used in the drawing (e.g., 1:100).
2. **Choose the correct side** of the scale ruler that matches the drawing's scale.
3. **Align the ruler** with the object or room you want to measure.
4. **Read the measurement**, then multiply it by the scale factor to get the real-world size.

Example:

- If a **wall measures 5 cm on a 1:100 scale**, the actual size is **5 cm × 100 = 500 cm (5 meters).**

C. Scaling a Drawing Manually

1. **Decide on a scale** based on paper size and required detail.
2. **Use a calculator** to divide real-world dimensions by the scale ratio.
    - Example: A 10m wall at **1:50 scale → 10m ÷ 50 = 0.2m (20 cm on paper).**
3. **Draw using a ruler** to ensure precise scaling.

3. Digital Scaling in Architecture

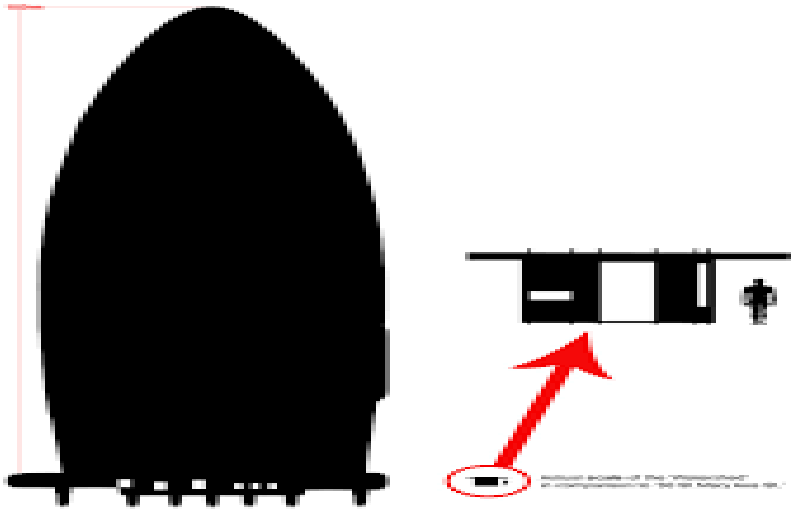
Modern architects use **AutoCAD, SketchUp, Revit, and ArchiCAD** for digital scaling. These tools allow precise scaling, resizing, and measurement without manual calculations.

How to Use Scale in AutoCAD:

- Set the scale in the **drawing settings**.
- Use the **"Scale" command** to resize elements accurately.
- Print drawings at a **specific scale** using the "Plot" function.

4. Importance of Scale in Architecture

✓Ensures **accurate proportioning** of buildings.
✓Helps in **visualizing and communicating designs** effectively.
✓Guides **construction teams** to follow exact measurements.
✓Supports **urban planning** by representing large areas efficiently.



Scale design

3.2 LAND INSPECTION

Land inspection is a **critical process** in real estate, construction, and agriculture. It involves **assessing the physical, legal, and environmental conditions of a piece of land** before purchase, development, or investment. Proper land inspection helps avoid disputes, financial losses, and legal complications.

1. Purpose of Land Inspection

Land inspection is conducted to:

✔Verify **ownership and legal documents** (to avoid fraud).

✔Assess **topography, soil quality, and drainage** for development.

✔Identify **zoning regulations and government restrictions**.

✔Check for **accessibility, road networks, and utilities**.

✔Detect **environmental risks** such as flooding or erosion.

2. Key Aspects to Inspect When Evaluating Land

A. Legal Verification & Documentation

Before inspecting physically, verify:

- **Land Title Deed** – Confirms ownership and prevents fraud.
- **Survey Plan** – Defines boundaries and measurements.
- **Certificate of Occupancy (C of O)** – Confirms government approval.
- **Zoning & Land Use Permit** – Determines if the land is for residential, commercial, or agricultural use.

B. Physical Inspection of the Land

- **Size & Boundaries:** Cross-check with the survey plan to ensure accuracy.
- **Topography:** Identify **flat, hilly, or sloped areas** (important for construction and drainage).
- **Soil Quality:** Essential for **building foundations, agriculture, or industrial use**.
- **Flood Risk Assessment:** Check for waterlogging, drainage, or signs of past flooding.

C. Accessibility & Infrastructure

- **Road Access:** Ensure the land has a well-connected road network.
- **Electricity & Water Supply:** Check for nearby power lines and water sources.
- **Drainage Systems:** Poor drainage can lead to flooding issues.

D. Environmental & Government Restrictions

- **Erosion & Land Stability:** Check for signs of erosion, landslides, or unstable soil.
- **Government Acquisition Risks:** Some lands are earmarked for **public projects** (e.g., roads, airports) and cannot be developed privately.
- **Community & Cultural Considerations:** Some lands are tied to **traditional or family inheritance**, which could lead to disputes.

3. Tools & Professionals Involved in Land Inspection

Tool/Professional	Purpose
Surveyor	Measures land boundaries and provides a survey report.
Soil Test Kit	Determines soil strength for construction.
Land Registry Search	Confirms ownership and legal status.

Tool/Professional	Purpose
Drone or GPS Mapping	Provides aerial views of the land.
Environmental Consultant	Assesses flood, erosion, and ecological risks.

4. Steps to Conduct a Proper Land Inspection

Step 1: Research & Documentation Check

✔Obtain the **land title, deed, and survey plan** from the seller.

✔Verify **land records at the local land registry**.

✔Confirm **zoning regulations and land use policies**.

Step 2: Physical Site Visit

✔Walk the entire land area to verify its size and shape.

✔Identify **flood-prone areas, erosion, and soil conditions**.

✔Ensure the land has **road access, electricity, and water**.

Step 3: Legal & Government Verification

✔Check if the land is under **government acquisition or dispute**.

✔Confirm with local authorities that the land **can be developed**.

Step 4: Finalize & Secure the Land Purchase

✔If the inspection is satisfactory, proceed with the purchase.

✔Obtain a **land purchase agreement, title deed, and receipt**.

✔Register the land with the government to avoid future disputes.

3.3 THE FLOOR PLAN OF A TWO-BEDROOM FLAT

A **floor plan** is a **scaled diagram** of a building's layout, showing the **arrangement of rooms, walls, doors, windows, and furniture placement** from a top-down perspective. A **two-bedroom flat floor plan** outlines the design of a living space with two bedrooms, a living room, a kitchen, and bathrooms, ensuring **functionality, comfort, and efficient space usage.**

1. Key Components of a Two-Bedroom Flat Floor Plan

A. Bedrooms

- Two separate sleeping areas with adequate space for **beds, wardrobes, and ventilation**.
- Windows for **natural light and cross-ventilation**.
- **Master bedroom** (larger, may have an en-suite bathroom).
- **Secondary bedroom** (smaller, shares a common bathroom).

B. Living Room

- The central gathering space for relaxation and social activities.
- Positioned near the **main entrance** for easy access.
- Can include **dining space** if open-plan.

C. Kitchen

- **Closed or open-plan layout** (open-plan integrates with the living room).
- Placement of **cabinets, countertops, and appliances**.
- Connection to the **dining area or living space** for convenience.

D. Bathrooms & Toilets

- One or two bathrooms, including an **en-suite bathroom** for the master bedroom.
- Common bathroom for guests and the second bedroom.
- Placement of **toilet, shower, bathtub, and sink** for functionality.

E. Hallways & Circulation Areas

- Walkways connecting different rooms without wasting space.
- Should be **wide enough** for easy movement.

F. Entryway & Exit Points

- **Main entrance** leading to the living area.
- **Back door (optional)** leading to a backyard or utility area.

G. Additional Features

- **Balcony or veranda** for outdoor relaxation.
- **Storage spaces** (closets, pantry, or built-in cabinets).
- **Utility/Laundry Area** (for washing machine and drying clothes).

2. Standard Measurements for a Two-Bedroom Flat Floor Plan

Room	Standard Size (Meters)	Standard Size (Feet)
Master Bedroom	3.5m × 4.5m	11.5ft × 14.7ft
Second Bedroom	3m × 3.5m	9.8ft × 11.5ft
Living Room	4m × 5m	13ft × 16.4ft
Kitchen	2.5m × 3.5m	8.2ft × 11.5ft
Bathroom	1.5m × 2.5m	4.9ft × 8.2ft

Note: Sizes can vary depending on available land space and design preference.

3. Floor Plan Layout Types for a Two-Bedroom Flat

A. Open-Plan Layout

✓ Living room, dining, and kitchen are combined into a large space.
✓ Increases natural light and airflow.
✓ Best for modern, spacious designs.

B. Closed-Plan Layout

✓ Rooms are divided by walls for **privacy**.
✓ Best for **families or shared apartments**.
✓ Provides **better noise control** between rooms.

C. Rectangular or Square Layout

✓ Simple and cost-effective.
✓ **Straightforward circulation** from room to room.
✓ Common for **apartment buildings and small residential flats**.

4. Steps to Design a Two-Bedroom Flat Floor Plan

Step 1: Define the Total Space Available

- Determine the **land size and dimensions** before drawing.

Step 2: Decide Room Placement

- Place **living areas** (living room, dining, and kitchen) near the entrance.
- Position **bedrooms in private areas** for comfort.

Step 3: Allocate Room Sizes

- Assign appropriate **dimensions for each room** to ensure balance.

Step 4: Draw Walls, Doors, and Windows

- Use a **scale (1:50 or 1:100)** to maintain accurate proportions.
- Include door **swing directions** and window placements.

Step 5: Add Furniture & Fixtures

- Indicate **bed positions, sofas, dining sets, and kitchen counters**.
- Helps visualize **how space will be used**.

5. Tools Used to Draw a Two-Bedroom Flat Floor Plan

✓ **Graph paper & ruler** (for manual sketches).
✓ **AutoCAD, SketchUp, Revit** (for digital architectural drawings).
✓ **Online floor plan creators** (e.g., RoomSketcher, Floorplanner).

6. Importance of a Floor Plan in a Two-Bedroom Flat

✓Ensures **efficient space utilization**.
✓Helps in **construction planning and budgeting**.
✓Improves **functionality and aesthetics**.
✓Serves as a **guide for furniture placement**.
✓Required for **government approvals and permits**.

2 bedroom flat apartment

3.4 ELEVATION IN ARCHITECTURE

1. What is Elevation in Architecture

Elevation in architecture is a **2D representation** of a building's **exterior or interior** as seen from one side. It is a crucial component of architectural drawings, helping builders, engineers, and clients visualize the **height, proportions, and external appearance** of a structure.
Elevations show details like:

✔**Building height and width**

✔**Doors, windows, and other openings**

✔**Roof design and materials**

✔**Exterior finishes (brick, concrete, glass, wood, etc.)**

✔**Landscaping and site features**

2. Types of Architectural Elevations

A. Front Elevation (Main Elevation)

- Also known as the **"entrance view"**, it shows the **building's main façade**.
- Includes **entry doors, windows, roof design, and façade materials**.
- First impression of the structure.

B. Rear Elevation (Back View)

- Shows the **back side of the building**, often less detailed than the front.
- Includes **back doors, rear windows, and sometimes a backyard or service areas**.

C. Side Elevations (Left & Right Views)

- Shows **one side of the building**, including **roof slope, windows, and exterior materials**.
- Used to **understand depth and side proportions**.
- Important for **understanding neighboring structures and ventilation design**.

D. Interior Elevation

- Represents **inside walls of rooms**, showing furniture placement, shelving, built-in units, and wall designs.
- Commonly used in **kitchens, bathrooms, and feature walls**.

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3. Purpose of Elevation Drawings in Architecture

✓ **Visualizing Building Appearance** – Helps clients and builders understand the final look.
✓ **Assisting Construction** – Acts as a **blueprint for builders** to follow.
✓ **Approval from Authorities** – Used for **building permits and regulatory approvals**.
✓ **Material Specification** – Details the **types of finishes** (wood, stone, glass, etc.).
✓ **Proportion & Symmetry** – Ensures the building is **balanced and aesthetically pleasing**.

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4. Key Features in an Elevation Drawing

Feature	Description
Walls	Defines the external shape of the building.
Doors & Windows	Shows sizes, styles, and placements for natural light & ventilation.
Roof Design	Displays slope, materials, and gutters.
External Finishes	Indicates textures (brick, wood, glass, stucco, etc.).
Ground Line & Site Features	Includes landscaping, pathways, stairs, and driveways.

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5. How to Create an Architectural Elevation Drawing

Step 1: Choose a Scale

- Architectural drawings typically use a **scale of 1:50 or 1:100**.
- Example: **1 cm on paper = 50 cm in real life**.

Step 2: Draw the Building Outline

- Start with a **basic rectangular or square shape** representing the wall.
- Ensure **proportions match the floor plan**.

Step 3: Add Doors, Windows, and Roof Details

- Indicate **window & door placement, sizes, and styles**.
- Show **roof pitch, overhangs, and drainage systems**.

Step 4: Include Material Textures & Finishes

- Use shading or symbols to show materials like **brick, wood, or glass**.
- Label exterior **colors, cladding, and decorative elements**.

Step 5: Dimension and Label All Components

- Mark **heights, widths, distances between elements**.
- Label features such as **"wood cladding," "aluminum window frame," or "concrete finish"**.

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6. Tools Used for Elevation Drawings

Manual Drawing Tools

✓ **Graph paper & scale ruler**

✓ **Pencils, compasses, and T-squares**

✓ **Shading techniques for material representation**

Digital Software for Architectural Elevations

✓ **AutoCAD** – Industry standard for 2D/3D drafting.

✓ **SketchUp** – 3D modeling with easy-to-use elevation tools.

✓ **Revit** – BIM software for detailed elevation and construction planning.

✓ **ArchiCAD** – Popular for residential and commercial architectural drawings.

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7. Difference Between Elevation & Floor Plan

Feature	Floor Plan	Elevation
Perspective	Top-down view	Side/front/rear view
Details	Shows room layout, walls, and furniture	Shows external appearance, doors, windows, and finishes
Use	Interior layout and room sizes	Exterior structure and façade design

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8. Common Mistakes to Avoid in Elevation Drawings

 Forgetting Proportions – Always match **elevation dimensions with floor plan**.

 Omitting Material Details – Specify **textures, finishes, and colors**.

 Ignoring Roof Slopes & Overhangs – Affects drainage and shading.

 Not Including Ground & Surroundings – Site levels, pathways, and landscaping are essential.

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9. Importance of Elevation in Architecture

✅Ensures **proper design aesthetics & functionality**.

✅Helps with **planning construction materials & costs**.

✅Enhances **building approval process & client understanding**.

✅Essential for **structural engineering & roof design accuracy**.

Elevation plan

CHAPTER FOUR

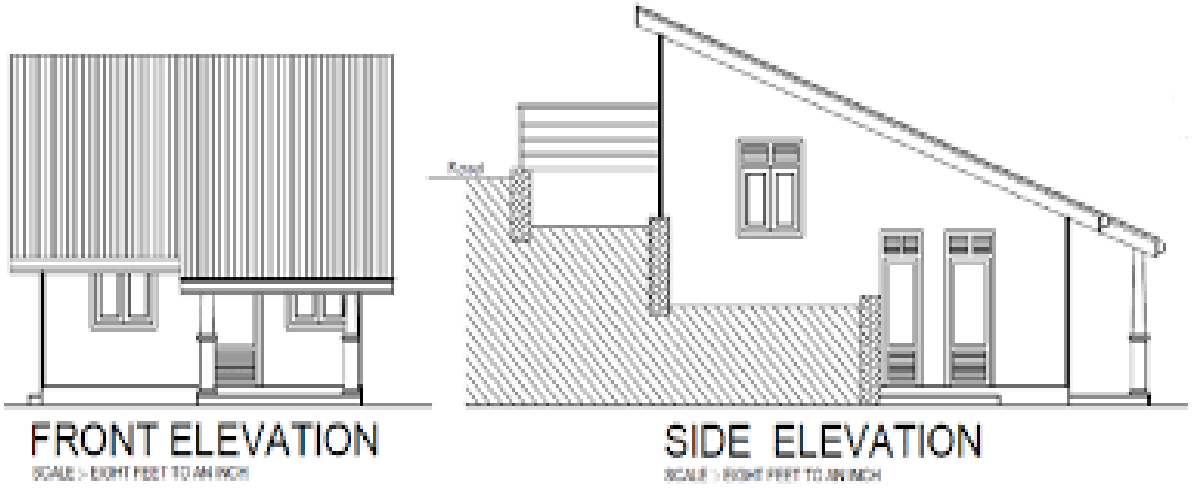
4.1 EXPERIENCE GAINED DURING SIWES PROGRAMME

I was thought how to use scale 1:00, scale 2:100, scale 1:200, scale 1:50, scale1:150, scale1:250.

My experience gained was also include inspection of 10 plot of land also how to draw plan of bedroom plan such as 1 bed room plan, 2 bedroom plan, 3 bedroom plan.

I was also t6hrough how to inspect room and self contain also I was thought how to set paper, how to draw margin.

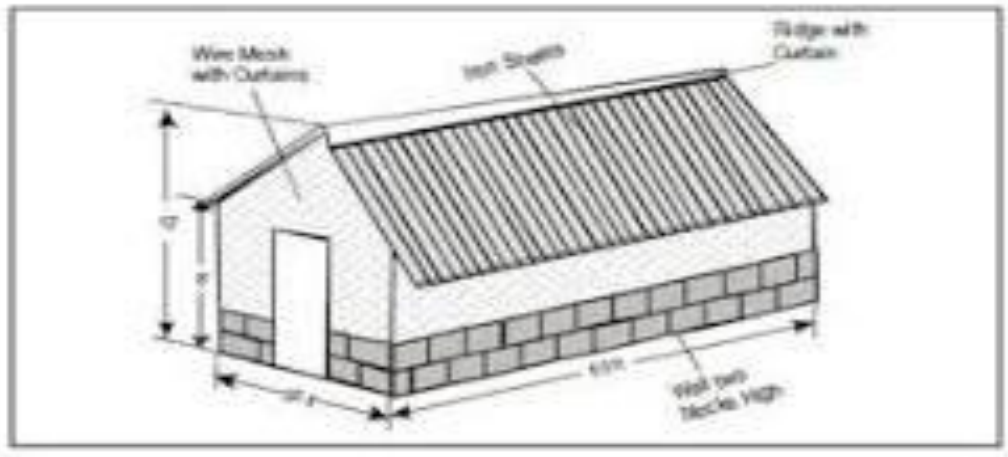
My experience was include how to draw floor plan, how to draw elevation for both left side and right side elevation.



I was also able to draw roof plan of a poultry also draw dimension floor plan of a poultry

I was also gained how to draw section, I was also thought how to draw bubble diagram.

I also draw plan of roof plan of two bedroom flat also roof plan for poultry.



Roof plan for poultry

CHAPTER FIVE

5.0 SUMMARY OF ATTACHMENT ACTIVITIES

This report covers all the activities I partook in during my six months industrial training at Daraso properties and management and construction, No 120, Adeta Street Adewole area Ilorin state . I started it on 24rd April and ended it 24rd September 2018. It was a wonderful experience.

This report has taken to encompass a comprehensive report of the training across the several units.

In conclusion, the SIWES programme has proved invaluable as I know that I am not going back to the classroom the same.

5.1 PROBLEMS ENCOUNTERED DURING THE PROGRAMME

The following are the problems encountered during six months industrial training:

1. The main problem encountered during the programme was problem of transportation. It is difficult for students who live in far places to get the organization every working day.
2. No allowance or financial benefit was provided for IT students.
3. Restriction to some department/offices in the organization.
4. Heavy rainfall during wet season which slows down the project works.

5.2 SUGGESTIONS AND RECOMMENDATIONS

1. The organization should not just acquire but make use of modern equipment for their operations.
2. All institutions or bodies involve in the scheme should make sure that those organizations that have the means to give students allowance or remuneration should do so DURING the programme.
3. I would suggest the organization should give more room for potential Surveyors to acquired knowledge and showcase them when the need arises

5.3 CONCLUSION

Student Industrial Work Experience Scheme (SIWES) is a very essential program that must be made compulsory on all students, because it enable students to gain practical experience and more knowledge about what has been taught in school, as their acquired experiences would speak for them in the nearer future.