# A TECHNICAL REPORT

# ON

## STUDENT INDUSTRIAL WORK EXPERIENCE SCHEME (SIWES)

*HELD AT*

**LAMARCH ARCHITECTS & CO**

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**KWARA STATE POLYTECHNIC, ILORIN**

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# DEDICATION

I dedicate this project to my lovely parent Mr. and Mrs. Sulyman for their financial support during this program.

## ACKNOWLEGMENT

First and foremost, my gratitude goes to almighty God for sparing my life and making it possible for me to complete my (SIWES) training.

I really appreciate the architectural department of Kwara State Polytechnic for organizing this program for the student. Also, to my friend, family and love ones for their contribution and encouragement on this project.

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# CHAPTER ONE

## 1.1 INTRODUCTION OF SIWES

Student industrial work experience scheme (SIWES) was introduce to Nigeria University, polytechnic and colleges techniques in 1976 by the federal government of Nigeria to enhance student ability on practical aspect of their course in other to meet up standard of their course.

## 1.2 DEFINITION OF SIWES

As the name implies student industrial work experience scheme (siwes) is the program laid down by the government of the student to undergo some months mostly four months practical work experience or field works where the student will be able to radicalize by him / her various filed related to his / her courses of studies

## 1.3 GOALS & OBJECTIVE OF SIWES

- To prepare student for future challenges
- To gain experience in field of study
- To have practical oriented in the field of study

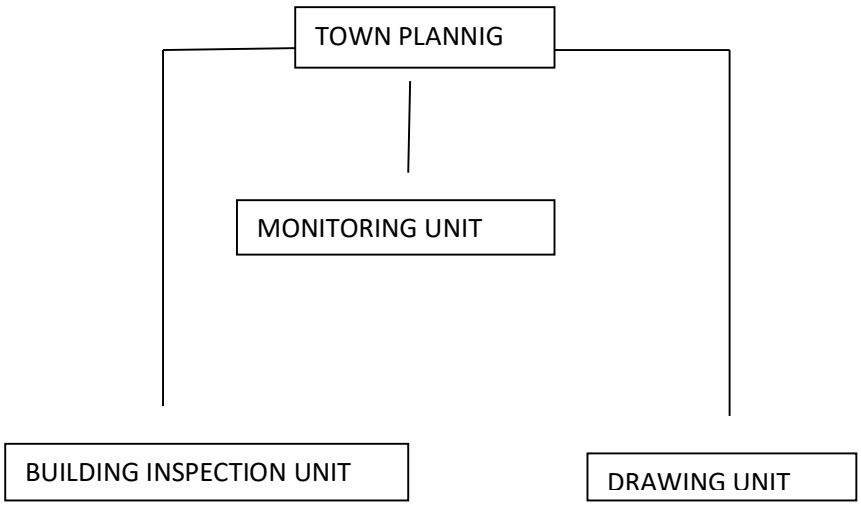
## CHAPTER TWO

LAMARCH ARCHITECT & CO is a private owned establishment located at SUIT C19 AREA, SANTA SHOPPING COMPLEX OPPOSITE POLICE ROAD, ILORIN KWARA STATE. It an architectural firm which specialized in design and construction of building. It comprises of three sections

- ARCHITECTUR DESIGN
- LAND SURVEY
- BUILDERS

The organization works in different section i.e. the propose design work section and the trainee co-ordination.

## ORGANIZATION CHART



The Drawing Unit: Is the unit that prepares the building plan to the clients taste.

The Monitoring Units: Is the unit that monitors the staff and trainees in the organization.

The Building Inspection Unit: Is the unit that inspects both workers and the construction site.

## CHAPTER THREE

### INTRODUCTION

Brief introduction on the course architecture, what it entails and its relationship to other filed that works hand in hand for the complete construction of a project also the commitment to become a great and successful architects

### ARCHITECTURE INSTRUMENT AND THEIR FUCTION

I was able to see various architecture instrument and their function like:

Tee – square: for vertical lines

Adjustable set square: for vertical line and angles

Circle template: for arch and circle

Furniture template: for furniture arrangement

Stencils: for writing alphabets and number

Scale rule: for measuring

### LETTERING

Is the act of writing an alphabet and number in architectural lettering is very important in architectural lettering is very important in architecture because it will teach how to write in an architecture

### DIMENSION

This is the act of measuring the drawing us to know the length and breath of a project

### DRAWING

Various types of drawing involved to make up is item of a bulding.

1. Architecture drawing
2. Structural drawing
3. Service drawing/electrical and mechanical

Architectural Drawing: this is sub divided into:

Tow: working drawing and presentation drawing working drawing: this is the type of drawing that is used for the construction of project and also the drawing that offers drawing i.e structural and mechanical drawing will make sure that the drawing is well discussed.

Presentation drawing: this is the type of drawing that is presented to the client so as to know how is or her project will look like and it's also a drawing that is submitted to the authority for approval.

**SITE PLAN**

This is the plan that shows the location of the building I relation to the boundaries of the plot site plan should be draw to such of note less than 1:10 and should shows.

- The boundaries of the site and the means of access to the site.
- The position of the site relation to the neighboring struts.
- Existing buildings standing on the streets.
- The direction of north
- The dimension of the proposal space to be left between the building and the boundaries of the plot on all sides

**FLOOR PLAN**

This is the plan that shows the arrangement of different rooms (spaces and passage, each floor must be provided with floor plan unless each floor is identified. A floor plan is usually a sectional plan at about the edge level to the observer and must give the detail of the following.

- The north direction
- The size and spacing of all supporting members and the thickness of all the walls
- The exact location of doors, windows cupboards water closets, sinks, baths or any other features that can be seen
- The overall dimension and sizes of individual parts.

**ROOF PLAN**

This is the plan that shows the roof of a building when its viewer above i.e the view is above the plan. Roof plan must a least 600mm projected from the normal buildings. This is because it will prevent the building from the direct of such rain.

**SECTION**

This is the plan that shows the skeleton of a building so as detail some feature that cannot be seen in the elevation.

This is sub-divided into two

- Cross section
- Longitude section

**ELEVATION**

This is the plan that shows the external faces of a building. There are four types of elevation

- Right elevation
- Right side elevation
- Lift side elevation
- Back elevation

**WINDOWS AND DOORS SCHEDULES**

This is the drawing that shows the quantities size and materials from which doors and windows to use on a project doors and windows schedule is very essential in working drawing

**TYPES OF BULIDING**

A building is a structure enclosing space part of a building (such as well columns roof, balconies or star case) may also be referred to as buildings we have 4 types of building.

- Residential buildings e.g house
- Commercial buildings e.g shops
- Industrial buildings e.g factory, ware house e.t.c
- Public buildings e.g police station

**TRACING**

Tracing is the act of using pen to draw on paper or embrace card boards: the tracing paper is also called negative

**LANDSCAPPING**

This is the drawing that shows all the detail things that will be on the site. Things like walk way, car park, sport center, swimming pool e.t.c

**DEFINITION OF FLOOR**

A floor is designed and constructed to serve as horizontal surface to support people furniture and equipment.

**TYPES OF FLOOR**

Solid ground floor

Suspended timber floor

## CHAPTER FOUR

## BUILDING COMPONENT

This is the structural element of a building in those part or components that carry or distribute the load on the building, they include foundation, floors, walls roof and window.

## FOUNDATION

This is define as the part of a structure which is in direct contact with the ground to which the weight of the structure and other loads on the structure are transmitted.

Floors: is the structural part of horizontal supporting elements as distinct form the wearing surface and it also caries live and composed wad also divide building into storeys. The types of floor are:

i. Solid ground floor
ii. Suspended ground floor
iii. Suspended upper floor

Suspended ground floor are floor that have direct contact with ground while suspended floor are floor that does not have direct contact to the ground

During my SIWES programme, it is suspended upper floor, I witness which is reinforcement concrete floor.

## CONCRETE

This is the mixture of fine Aggregate, Coarse Aggregate, Cement and water in a mixing proportion or proportionally manner.

## WALL

This are any continuous vertical member whose unit and height are much larger than their thickness. And it defines as component of building which enclose spaces protect the building from security to the occupant and pities. Type of wall

i. Stone wall

ii. Timber wall
iii. Mud wall
iv. Brick wall
v. Block wall etc.

During my siwes, witness Block wall

**BLOCK WALL**

The type of wall that block is used for the construction. That the block made from mixture of cement and sand

**SITE PROCESSES**

This is the activities that must be carried out that normally the actual construction operation in any building site these are:-

i. Choice of site
ii. Site investigation
iii. Site predation
iv. Preliminary Works
v. Setting out.

**SITE INVESTIGATION**

This is the process of ascertain the type nature of sub-soil, geological condition and behavior, the depth of the water an and the load bearing capacity. For instance, for investigating the soil will determine the type of foundation to be used.

**SITE PREPARATION**

This is the process of making the whole site accessible for proper layout and easy to work. Site clearance by using manure or machine.

**PRELIMINARY WORKS**

It involves the provision of temporary facilities to easy to make construction to be easy by reducing cost, avoidance of double handing of materials i.e access road, accommodation facilities, storage workshop. Etc.

**SETTING OUT**

This is the procedure whereby the outline and forms or proposed building works, having been drawn to scale on plan are marked on ground to enable construction to proceed. It is the process of marking out the position of excavation, walls and columns

**PLASTERING**

It is the application of a smooth coat of material to walls and ceiling. Restring loosest powder cement, sand and line.

**RENDERING**

This is the process of applying a cement and plaster coat to the outside of the wall of a building rendering is the mixture of cement and sound.

Painting: This is defined as the application of pigmented liquid that stretches thinly across a surface when the liquid dries out. It consists of thinners, pigment and binder.

**LINTEL**

A lintel is a beam that spans across a horizontal opening and supports the load just above the opening lintel can be concrete or timber. Timber is fine for short period but is not durable so for this reason most lintels are built from reinforced concrete.

The lintel can be covered with skin decoration brick work which needs support this is done by

i. Bolting a galvanized steel angle to the concrete lintel
ii. Building the decoration brickwork out the edge of the angle
iii. Typing the brick joint to the lintel with metal ties

Construction of Lintel

(1) Lintel must be design after designing it should be east. (2) Lintel can be precast or in situ (iii) the span will determine the height of the until which should correspond to the height of fall brick courses

The Design the lintel

i. The bearing of the lintel must be more than 150mm
ii. End of the bar must be covered by attest 150mm of concrete
iii. Bottom of reinforcement bar must beg at 25mm of concrete
iv. One reinforcement bar for each 112mm width of lintel
v. The width must be at least ½ of the span.

**COPING (CONCRETE FACIAL)**

It is the advance method of facial board that give a Building Aesthetic design, which is highly commonly in new construction now are days. The types of coping is called stepping/ beveled coping.

After the block as been raised to a stated building level 270mm, stepping or beveled concrete facial was then construct.

The construct of concrete facial (Coping) are entails the following.

i. Formwork
ii. Reinforcement
iii. Concreting

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## CHAPTER FIVE

## CONCLUSION

My experience after the SIWES program can make to conclude that any student who fails to observe the scheme has missed a lot opportunity of turning a profession in the field architecture or any other related field.

It is with all boldness I say that I did not leave the place of my SIWES placement the same way I get there. A lot has been learnt, a lot have been observed and many experiences have been generated, it is indeed a program that gives the study of architecture a perfect compliment.

Kudos to the federal government and ITF for the commissioning of such program.

## RECOMMENDATION

1. The organization should remain and accommodating the future I.T/SIWES student.

2. The organization should encourage student to choose where experience will be gained and not money.

3. The school (polytechnics) should consider the four months mandatory SIWES while drafting the calendar for a successive session in a way that will not affect the returning I.T/SIWES students.