KWARA STATE POLYTECHNIC ILORIN, KWARA STATE NIGERIA

PROJECT REPORT

ON

PERIMETER AND DETAILING SURVEY

OF

OLD INSTITUTE OF ENVIRONMENTAL STUDIES (IES) AND VILLAGE, KWARA STATE POLYTECHNIC ILORIN ALONG OLD JEBBA ROAD, MORO LOCAL GOVERNMENT AREA, KWARA STATE.

BY

ISHOLA ABDULROSHEED .OLAYINKA

ND/22/SGI/FT/028

BEING A PROJECT SUBMITTED TO THE DEPARTMENT OF SURVEYING AND GEOINFORMATICS, INSTITUTE OF ENVIRONMENTAL STUDIES. KWARA STATE POLYTECHNIC, ILORIN. KWARA STATE

IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF NATIONAL DIPLOMA IN (ND) SURVEYING AND GEOINFORMATICS

JUNE ,2025

CERTIFICATE

I, **ISHOLA ABDULROSHEED OLAYINKA** with Matric Number **ND/23/SGI/FT/028** hereby certify that the information contained in this project report were obtained as a result of observations and movements taken by me and the Perimeter and Detailing was done in accordance to Surveying rules and regulations and Departmental instructions.

Signature of student: _____

Name of student: _____

Date of completion: _____

Matric Number: ND/22/SGI/FT/028

CERTIFICATION

This is to certify that **ISHOLA ABDULROSHEED OLAYINKA** with Matric number **ND/22/SGI/FT/028** carried out this project work and has been approved as meeting the requirement for the award of National Diploma (ND) in Surveying and Geo-informatics in the Department of Surveying and Geo-informatics of the Institute of Environmental Studies

_____ _____

SURV. ABDULSALAM AYUBA **DATE**

SURV. OGUNTAYO BERNARD

Project supervisors

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Project co-coordinator

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SURV. A.ISAU **DATE**

Head of Department

_____ _____

SURV.OPALEYE J.O **DATE**

External Examiner

DEDICATION

This project is dedicated to Almighty God, the creator of heaven and earth, ancient of days, the I am that I am the beginning and the end whose supremacy in the knowledge of everything absolute

ACKNOWLEDGEMENT

In this life, I have come to realize that "to everything that has a beginning, there is always an end "First and foremost, my profound gratitude goes to almighty God, the sustainer, the protector, the owner of heaven and earth, the author and finisher of my faith, the lord of the universe who in his infinite mercy, has given me the grace and the enablement to start and finish the programmer successfully, to God I return all praises.

I will also give thanks to my project supervisors in the name of Surv. Abdulsalam Ayuba And Suvr. Benard Oguntayo for their strictly and through supervision. I will like to thank all lecturers of this noble department starting from H.O.D Surv. Abinbola isau, Surv. A. Ayuba, Mr. Bello Felix Diran, Surv. Williams Kzeem, Surv. A.O. Akinyede, and also the Director of special duty in IES Surv. A.G. Aremu and other supportive staff of the department of Surveying and Geo-informatics, Kwara State Polytechnic, Ilorin.

Besides, my special thanks goes to my project mates fir their cooperation, understanding and willingness to work through out the period of the project.

On mire general note, I wish to acknowledge all the academic and non academic staff of the school, for being with me when time to be tough and rough, my interaction with everyone was a memorable one.

ABSTRACT

This project report focused on the various method used in execution of perimeter and detailing survey of OLD INSTITUTE OF ENVIRONMENTAL STUDIES (IES) AND VILLAGE, KWARA STATE POLYTHENIC ILORINALONG OLD JEBBAROAD, MORO LOCAL GOVERNMENT AREA, KWARA STATE. This project was carried out using basic survey operation include reconnaissance which involves field and office reconnaissance survey followed by data acquisition which involves their order theodolite traversing total station for detailing, but we use total station. All the data acquired from the field we deduced computed and adjusted accordingly to specification and result were analyzed and found to be within the expected accuracy. Finally computer data were presented in graphical form in digital using AutoCAD 2007 and comprehensive report on how the whole operation was carried out was finally written.

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CHAPTER ONE

1.0 INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Surveying has been an essential element in the development of the human environment since the beginning of recorded history (about 5,000 years ago). It is required instlig in the planning and execution of nearly every form of physical development. It is also defined as the science and art of making the measurements necessary to deter mine the relative positions of points. It consists of the parts namely:- fieldwork computation and mapping.

Surveying has to do with the determination of the relative spatial location of points on near the surface of the earth. It is the art of measuring horizontal an vertical distance between objects of measuring angles between lines, of determine the directions of lines, and establishing points by predetermine angular and linear measurements alongside the actual survey measurements are the mathematical calculation. Distances, angles, directions, locations, elevation, areas, and volume are thus determined from the data of the survey. Survey data is portrayed graphically by the construction of maps, profiles, cross sections and diagrams. (Ron Singh 2012).

It consists of some scopes namely: geodetic surveying, plane surveying, topographic surveying, cadastral survey, photogrammetric surveying, hydrographical surveying, remote sensing e.t.c.

Despite all kinds of surveying processes that exist the three man principle that guides an effective survey operation cannot be eliminated i.e. working from whole to part, choosing the method of surveying that is most appropriate to meet the desired result of provision of adequate checks to all survey operations.

This project focuses on perimeter and detail survey, perimeter survey is a specific type of property boundary, it is essential so as to determine the exact location of property boundary lines and to detect if there are any encroactuments on a given landed landed property.

Detail survey on the other hand is about defining the location and heights of any number of survey is varieties of features on the terrain. It also involves the capturing, updating and monitoring of real world features on the ground.

Details can be subdivided into five:

1. Definite Detail:- Normally man made features such as buildings, r whose position oads, walls and fences can easily be defined and checked both on the ground and on the plan.

2. Indefinite Detail:- typically, natural features such as areas of vegetation owners an or water which are in capable of exact definition or are liable to change.

3. Overhead Detail:- Detail which constitutes no obstructions at ground level. (E.g. overhead gantries, power lines e.t.c).

4. Underground Detail:- detail located below the ground surface level (e.g. water pipes, swear pipes e.t.c).

5. Interior Detail:- internal features of building which may or may not determine property boundaries. Normally internal features shown on such survey maps are restricted to the discussions between building and roof level. Hence, perimeter and detail survey is a type of survey that involves declination of boundary points on the boundary lines of a property measurements and location of features in their relative positions so as to come out with a survey plan showing the details and boundary points properly demarcated.

With this kind of survey one can obtain a property inventory which consists of the inventory of all property lines together with a list of reputed owners and the type and use of building thereon.

These data will be plotted on maps a as accurately as possible considering the best sources of information. Below are the reason why this type of survey is require.

i. It is a survey required from time-to-time so as to update the pre-existing plan and to effect changes where necessary.

ii. If there is encroachment or a landed property has been encroached it shows the discrepancy between the adjourning boundaries

iii. If the survey is properly carried out it prevents conflicts between land claimers.

iv. Its end- product is useful for property identification.

1.2 STATEMENT OF PROBLEMS

Due to development, it is necessary to have a property inventory i.e. records and information about land. Use in an area and ownership of land for proper updating, maintaining and monitoring of development in the area. Hence the perimeter and detail survey of old institute of environmental studies (IES) and village, along old Jebba road, Moro local government area, Kwara State.

i. Up-to-date information about the terrain and features in the school

ii. Updated plan showing the present information and details as the basis for future planning development of the school

iii. A digital plan for the school.

It was carried out so as to determine the last development that might have occurred overtime therefore, this project could provide a base plan with the updated information about the developments in the area of study (i.e. new structures, demolished ones among others).

1.3.1 AIMS OF THE PROJECT

The aim is to produce a perimeter and detailed survey plan of the area in accordance with survey rules and departmental instructions. This will enable the school authority to be able to plan for any future development project within the study area.

1.3.2 OBJECTIVES OF THE PROJECT

Below are the objectives of this project

i. To carve an area of land

ii. Selection of traverse station and making of the selected station.

iii. Demarcation of boundary points with wooden pegs.

iv. To establish boundary points of the carved out the area of the project site by all means of the of the third order theodolite traversing in order to provide the coordinates i.e. Northing and Easting for the established points.

v. To fix reasonable details within the assigned site using traversing method

vi. To provide plan of the entire project site.

vii. To write a comprehensive report.

1.4 PROJECT SPECIFICATIONS

Below are the directives that need to be strictly adhered for the effective planning and execution of the project as directed by the project supervisor.

The project is a third order job with the following specification.

1. The length of each traverse line must not be more than 250m

2. The linear measurement should be taken by a steel tape or electronic distance measurement (E.P.M). 3. Angular muscular must not exceed 30" n

4. The linear accuracy should not be less than 1:5000.

5. Control check must be properly done

6. The carved out area must contain the entire land of of old institute of environmental studies (IES) and village, Kwara State polytechnic, Ilorin.

1.5 SCOPE OF THE STUDY

Prior to the instruction given by the project supervisor, the listed below exercise were carried out for the successful execution of the project.

i. Reconnaissance

ii. Monumentation

iii. Perimeter

iv. Detailing

v. Computation

vi. Digital plan production

vii. Report writing.

1.6 PERSONAL

NAME	MATRIC NUMBER	ROLE
ND/23/SGI/FT/14	FAGBOHUN ISSAC OLAMIDE	GROUPLEADER
ND/23/SGI/FT/17	MUSA ZULU OLADIMEJI	MEMBER
ND/23/SGI/FT/19	OLANIYI MASHOOD AKINOLA	MEMBER
ND/23/SGI/FT/20	SHEU ROKIBAT AYOKA	MEMBER
ND/23/SGI/FT/21	OJO SERAH ADESOLA	MEMBER
ND/23/SGI/FT/24	NINIOLA MUTIAT OMOWUNMI	MEMBER
ND/23/SGI/FT/25	AWOYEMI MARIAM DEBORAH	MEMBER
ND/23/SGI/FT/26	RAHEEM ROKIBAT ANIKE	MEMBER
ND/22/SGI/FT/28	ISHOLAABDULROSHEED.O	MEMBER

1.6 STUDY AREA

The project site was situated within Kwara State Polytechnic campus at old institute of environmental studies (IES) and village, along old Jebba road, Moro local government area, Kwara State. The project fall within zone 31 of traverse Minna datum latitude104d 52’56” and 171d 44’ 33’and longitude 6d 8’14”and 96d 23’51”

1.7.1MAP OF THE AREA OF THE STUDY

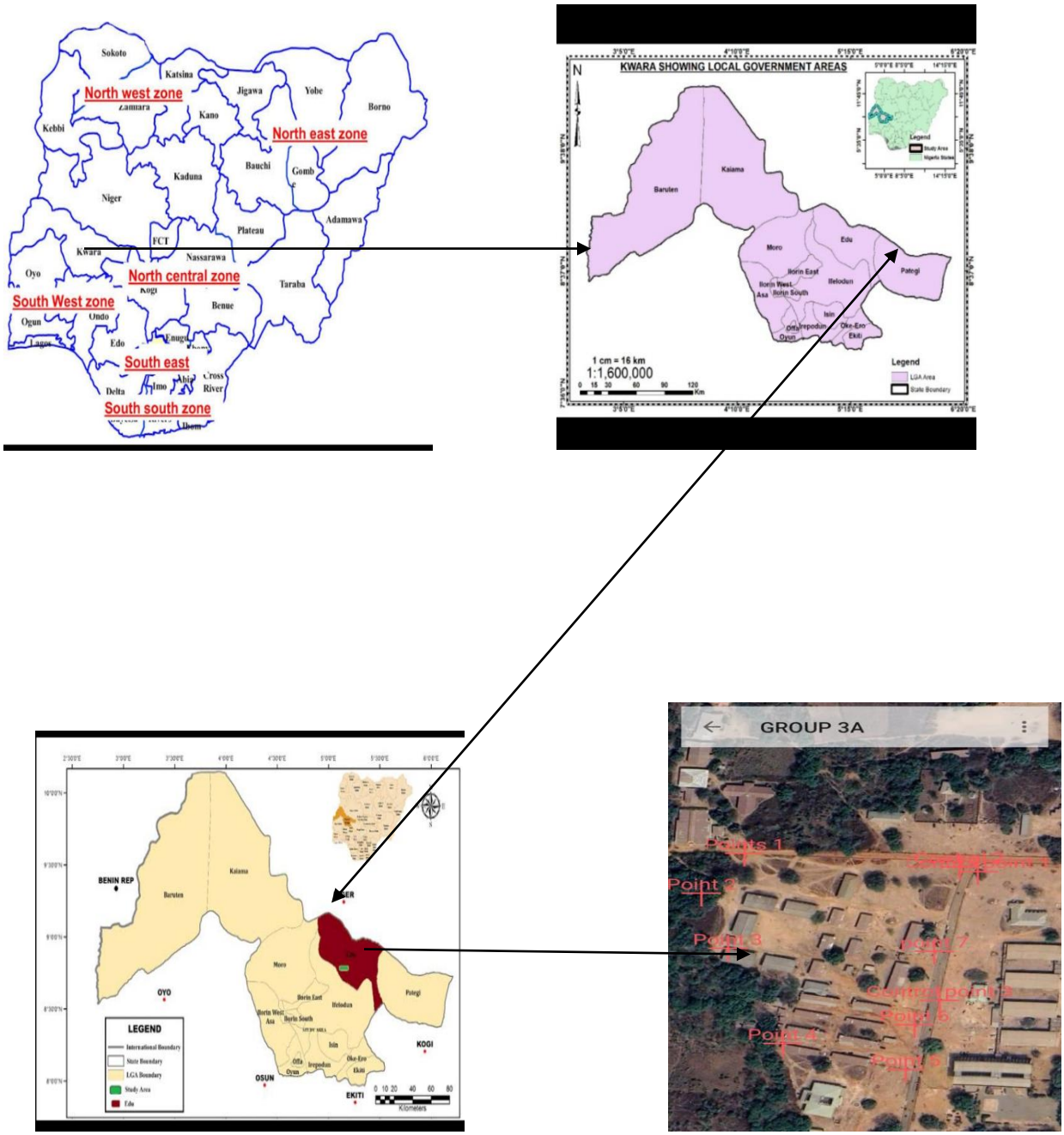

FIG 1.7.1 *Showing Nigeria map, Kwara state map and imagery covering the project area*

CHAPTER TWO

2.0 LITERATURE REIVEW

Anderson and Mikhail (1985) state that "surveying has to do with the determination of the relative spatial location of points on or near the surface of the earth" They further buttressed the above definition by saying it is the act of measuring horizontal and vertical distances between object, measuring angles between lines, determining the direction of lines, and establishing points by predetermine angular and linear measurements.

Surveying is generally considered as the foundation for socio-economic and environmental development in the world. It plays a vital role in every aspect of physical development, because all activities of other professions in environmental upgrading are based on laid down foundation by surveyor.

Encyclopedia Britannica (2011) defined surveying as a means of making relatively large scales, accurate measurements of the earth's surfaces. It includes the determination of the measurement data, the reduction and interpretation of data to useable form and conversely, the establishments of relative position and size according to given measurements.

Mary improvements and refinements have been incorporated in all the basic surveying instruments. These have resulted in increased accuracy and speed of

operations and have opened up possibilities for improved methods in field. In addition to modification of existing instruments, two revolutionary mapping and surveying changes have been introduced. Photogrammetric or mapping from aerial photograph and electronic distance measurements, including the adoption of the laser for the purpose as well as for alignment in the 1960's. important technological developments benefiting surveying in the 1970's included the use of satellite as reference point for geodetic surveys and electronic computers to speed the processing and recording survey data.

Microsoft Encarta (2009) defined as surveying as the mathematical science used to determine and delineate the form, extent and position of features on or beneath the surface of the earth for control purposes that is for aligning land and construction boundaries, and for providing checks of construction dimensions. Land boundaries are set or measured for proper descriptions; the topography of landforms and natural or artificial object are depicted on maps and major construction and civil engineering works such as dams, bridges, railroads and highway are controlled by surveying methods. The measurements of a survey are linear or angular, and principles of geometry and trigonometry and usually applied.

Accompanying the actual measurements of surveying are mathematical calculations. Distances, angles, direction, location, elevations, areas and volume are thus determined from data of the survey.

Also much of the information of the survey is portrayed graphically the constructions of maps, profiles, cross sections and diagrams.

The equipment available and method applications for measurement and calculation have changed tremendously in the past decades. Arieal photogrammetric, satellite observations, remote sensing, inertial surveying process with the development of these data reliable in the surveying process with the development of these data acquisition and processing is carried out on the field in order to stems, the duties of the surveyors have expanded beyond the traditional task of the field work of taking measurements and office work of computing and digital drawing.

The essential operations carried out on the field in order to achieve a well-planned perimeter and detail survey were reconnaissance, traversing, tachometry, detailing. Reconnaissance could be; office reconnaissance which has to do with the putting in place of every necessary strategy and equipment (instrument) needed in the process of accomplishing the survey operation and field; reconnaissance which involve the actual visitation to the project site and whereby initial controls are located, proper positioning of nails and pegs are done and finally a race will be drawn as a guide for the survey operation.

To this effect, an expert surveyor must carry out race diagram.

Traversing: is referred to as series of straight lines connecting successive established points along the route of survey. “Anderson and Mikhail” (1985). Bufford (1984) stated that traversing involves the process of measuring of angles and distances in sequence over a series of established points on the ground.

Traversing: was also defined as an orderly sequence of determination of length and direction of lines between points. Traversing is classified into two processes, open and close traverse was carried out. A close traverse is the traverse that originates at a point of known positions (coordinate) and close or terminate on another points of known horizontal positions (coordinate). (Anderson and Mikhail 1985).

Detailing: could be referred to as the man made (artificial) and natural features on the ground within the project site which are determined and obtained by the method of tacheometry or by swing station the total and are finally represented with a suitable scale on plan. The procedure chosen for a particular job depends on the personnel, and instruction given by the project supervisor and also based on the availability of equipments (instrument) applicable for the task at hand.

Detailing: can also be said to be process of fixing both natural and artificial features and represented to scale on the plan.

This surveying has two similar bits opposite function:

i. The determination of existing relative horizontal and vertical position such as position used for the process of mapping and

ii. The establishment of marks to control construction or to indicate land boundaries further analyzed that survey has been on essential element in the development of mans environment for so many centuries that its importance is often forgotten. It is imperitative requirement in the planning and execution of nearly every form of construction surveying was essential at the door of history and some of the significant scientific discoveries could never have been implemented were it not for the contribution of surveying so believed that its principle modern uses are in the field of transportation, building appointment of land and communication inside which man can do without development is to be mentioned in mans environment.

This due to above stated and confirmed facts: I discover that perimeter and detail survey cannot be carried out without some notable terminologies which have to be defined.

SURCON (1989) defined beacon as a permanent survey work of kind made of concrete iron or stone and includes pillars and boundary point made.

SURCON (1989) defined beacon as a marketing of the boundary lines on the ground by emplacement of beams or by such other method as those regulations permit.

BOUNDARY: Means a line marketing the limits of an area or imaging line which marks the confines or line of division of two contiguous plots

PROPERTY: Means a thing or things belonging to someone or a building and the land belonging to it.

SURCON (1989) define property beacon as emplacement on the boundaries of parcel of land for the purpose of defining or demarcating the boundaries.

CORDINATES: Means each numbers used to indicate the position of point, the position of any point relation to some axes usually interested at right angle (Dastic, 1987).

CONTROL: Is the system of relatively precise measurements by triangulation, traversing or leveling to determine distance, directions or different type of control.

1. HORIZONTAL CONTROL:- (x, y) this determines horizontal location only. This is a network of triangulation and traverse station whose positions have been located and adjusted most accurately with respect to a fixed point (origin).

2. VERTICAL CONTROL:- (z) this determines only elevation. This is a network of bench marks elevation have been precisely measured and adjusted to known tidal bench mark.

Encyclopedia Britinnica (1973-1974): commented that bench marks or marked points on the surface of the earthly, connected by the elevations of bench mark are given in terms of their height above a selected level surface called datum limited to horizontal and vertical control only because it is the only two types and among others. Nothing and these control used are in order depending, on the specification given for the establishment ranging from first order, second order and third order respectively. This is aided by the survey operation known specification. The network of first and second order triangulations and traversing when the need arises to provide enough or sufficient controls

CHAPTER THREE

3.0 METHODOLOGY

Methodology is a system or principle used is solving problem, with specific component such as task, method technique and tools.

This is also the techniques used to achieve the aims and objectives of this project work, the execution of this project was based on the following basic principles of surveying.

- Working from whole to part.
- The principle of choosing the method of survey most appropriate to meet the desire result.
- The principle of provision of adequate check to meet the require accuracy.

3.1 RECONNAISSANCE

Reconnaissance which is the first stage and vital aspect of any survey work

Carried out is as well the preliminary stage of this project.

This also is the initial operation or preliminary investigation undertaken by the surveyor in order to have a thorough overview of the site before the

commencement of the actual survey ,it can also be abbreviated as “recci’’ as the project was concerned the reconnaissance was carried out

- field reconnaissance
- Office reconnaissance

3.1.1 Field or Site Reconnaissance

This involves the actual [physical] visit to the site and was carried out before the actual operation. This project site was visited by the group in order to have a prior knowledge as well as true picture of the site and to ascertain the information collected during the office planning. The boundaries were marked with wooden peg driven into the ground to avoid disturbance or removal, taking into consideration the following factors.

- Inter-visibility of the selected traverse station.
- Safety of the selected station for future reference.
- Accessibility of the stations.

3.1.2 Office Reconnaissance

This involves knowing the type of instrument, purpose and accuracy required for the survey to be carried out. Information related to the given project was collected from various sources such as project supervisor. The specification/ instructions and coordinates of the control stations were collected from the department of surveying and geo-informatics Kwara State Polytechnic.

Table 3.1.3 Co-ordinates of control used.

STATION	EASTING	NORTHING
KW/PT/2001	679647.447	946677.273
SC/KW/FRS/4404	679449.408	946699.489

3.2 INSTRUMENT TEST

HORIZONTAL COLLIMATION TEST

The aim of this test was to be sure that the line of sight is perpendicular to the trunion axis.

Procedure:

The Total Station instrument was set over a point and all necessary temporary adjustments (centering, leveling and focusing) performed. Then the configuration menu of the total station was accessed by pressing down the menu key for about two seconds and the calibration sub-menu and consequently the horizontal collimation test was chosen. This test was done by sighting and bisecting a well-defined vertical target about 100m away and taking the horizontal readings on face left and face right. From the analysis of the results, the total station was in good adjustment.

VERTICAL INDEX ERROR TEST

This adjustment ensures that the vertical circle reading is exactly 9 0° when the line of sight is horizontal. Any deviation from this figure is termed vertical index error.

Procedure:

The instrument was set over a point and necessary temporary adjustments (centering, leveling and focusing) performed. The vertical index error test was carried out by sighting a target at a distance of about 120m on face left. The vertical circle reading was recorded and on face right the target was sighted and bisected again and the vertical circle reading recorded.

3.2.1 IN-SITU CHECK FOR CONTROL

In-situ checks observations (angular and linear) were executed for the purpose of verifying the integrity of the existing controls. The following observational schedules were executed:

The instrument was set on KW2001PT and angular observations were made to targets on SC/KW/FRS/404 4 as back station

The results of the observations as shown below confirm that the controls were still in their original positions and therefore suitable for use.

TABLE 3.2.1 IN-SITU CHECKS DATA ANALYSIS (control pillars).

STATION	**COORDINATE**	**VALUE KNOW(M)**	**VALUE MEASURE(M)**	**DIFFERENCE**
KW/PT/2001	EASTING NORTHERN	679647.44 7946677.273	679647.447 946677.273	**0** **0**
SC/KW/FRS/4044	EASTING NORTHERN	679449.408 946699.489	679449.408 946699.489	**-0.005** **+0.004**

FIG.3.2.1 *Diagram showing control used*

3.2.2 DATA ACQUISITION

This involves the processes in acquiring the data needed for the project. This involves the actual making of measurements and recording of observed data on the field. There are different methods of acquiring data in the site with different instrument such as Total station, Theodolite, Compass, Level Instrument etc.

3.2.3 Geometric Data Acquisition.

These are positional data, that is, they are data having the [x, y, and z] coordinates which is possible to locate their position on the surface of the earth.

3.2.4 Attribute Data Acquisition.

These data are acquired by social survey, these are data used for defining the purpose of features located on the earth surface.

3.2.5 EQUIPMENT USED/SYSTEM SELECTION AND SOFTWARE

This comprises of two components, namely: the hardware components and software components.

HARDWARE COMPONENT: These are the physical equipment used for the execution of the project and they are:

1. Total station (MATO)and its accessories

2. Steel tape

3. Nails and bottle corks

4. Field book and pen

5. Personal computer

6. pegs

SOFTWARE USED FOR DATA PROCESSING

1. AutoCAD 2017 for plotting the boundary and detailing

2. Note Pad, and Microsoft Excel (for Script preparation, editing and restructuring of data and report writing).

3.2.6 SETTING OUT OF PERIMETER BOUNDARY

Based on the office planning and field reconnaissance conducted, the instrument was first set on Control Pillar KW2001PT being the closest control and all temporary adjustment performed. The coordinate of the control point KW2001PT was key into the instrument.SCKWFRS4404was sighted as back sight.

The coordinates of the station SCKWFRS4404 was key-in the instrument via the keyboard. The instrument then computed the bearing between the two stations for orientation. Then coordinates of points to be set out were entered into the total

station and the setting out program of the instrument was used to get the angle to turn in order to face the direction of the point after orientation, the instrument was rotated until horizontal angle read 0□ 00’ 00”, reflector was held along the direction and distance between the instrument and the reflector was measured. The instrument displayed the remaining of the point to be fixed distance as either positive or negative. Positive distance means that the reflector should move away from the instrument by that amount while negative distance means that the reflector should move towards the instrument. When the horizontal angle read 0° 00’ 00” and measured distance displayed 0.000m this marked the exact position to be set out.

3.3 MONUMENTATION

The beacons measuring 18cm by 18cm by 75 cm were molded in-situ with a mixture of 1:2:3 of cement, sand and gravel respectively. A 12mm diameter Iron rod defines the center of the beacon was placed. The perimeter boundary line was cleared to ensure inter-visibility between the beacons. The numbering of the beacons was carried out after molding in a clockwise pattern with an arrow pointing to the succeeding station. Also, numbering as carried out accordingly as they were in the Title Deed Plan (TDP).However, the beacons were prefixed with identification mark KP2001 where KP represents Kwara State Polytechnic.

FIGURE 3.3: PLANVIEW

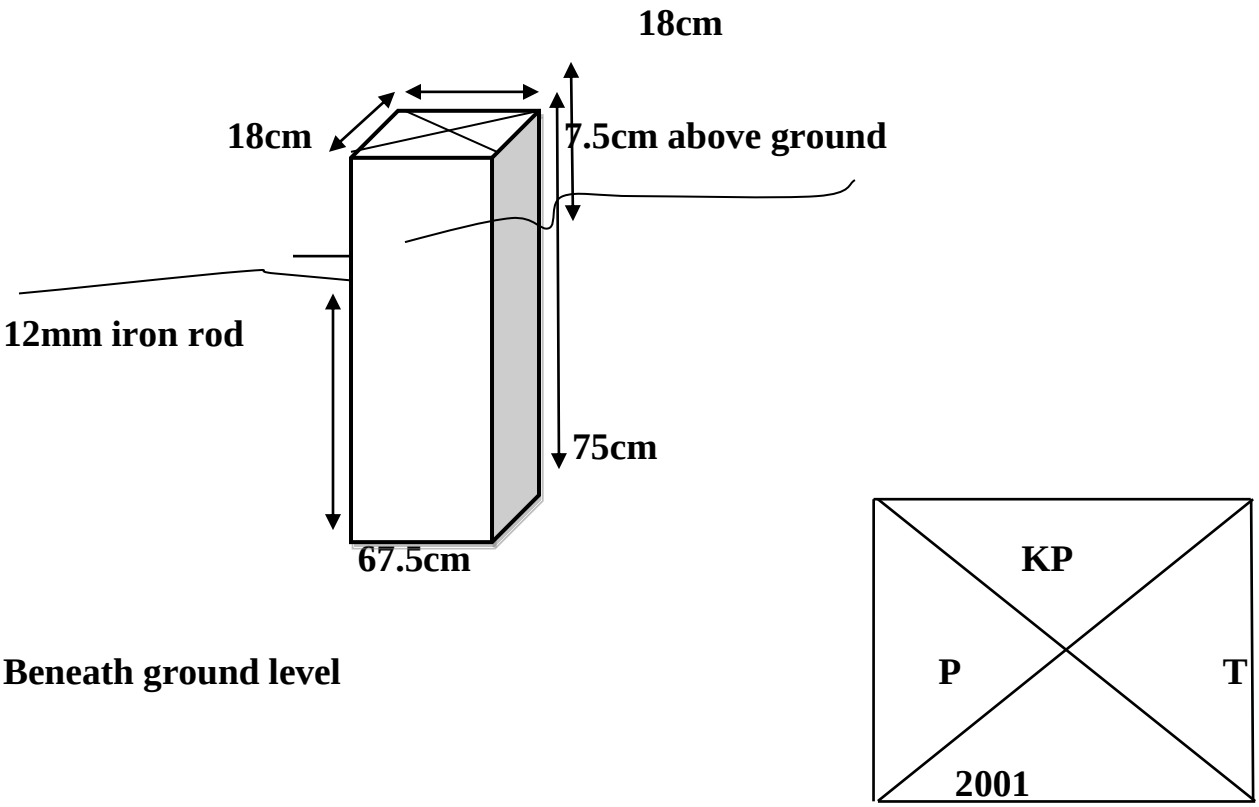

FIGURE 3.3: PROPERTY BEACON

3.4 CONTROL CHECK

After the demarcation, capping and numbering of the beacons, the actual data acquisition using the total station sokkia commenced. The traverse started from KWPT2001 with SCKWFRS4404 as reference point. The total station was set up over control KW2001PT, centered, leveled and telescope focused to eliminate parallax. The parameters of the instrument station i.e. station name, height of instrument over the station mark, and the XYZ coordinates of the station were keyed in. The reference control point was then bisected and the station name SCKWFRS4404, height of target over the station mark, and the XYZ coordinates of the station were key in. Though the total station was set in coordinate mode it actually measured and recorded horizontal readings, vertical readings and distances automatically into the internal memory of the instrument on both faces which it used to compute and display coordinates. At every set up of the total station, the temporary adjustment was carried out and the following parameters measured:

- Height of instrument
- Height of the back target
- Height of the fore target
- Distance to back and fore station

This is the determination of bearing and distance of series of connected lines from known coordinated point so as to obtain coordinate of the newly established station.

This include the following with formula

- Linear measurement : the difference between the coordinates were first derived using (ΔE=E2-E1, E3-E2) etc. and the distance of end traverse leg was obtained using the formula: distance =√(ΔE)^2 +(ΔN)^2
- Angular measurement: to calculated the bearing after the difference in coordinates has been derived, the formula is Bearing=Tan-1 ΔE/ΔN.

3.4.1 Coordinates of the boundary

The coordinates are as follows

S/N	EASTING	NORTHING
1	679582.728	946429.840
2	679448.029	946465.672
3	679434.376	946560.036
4	679449.408	946699.489
5	679647.447	946677.273

3.5 DETAIL SURVEY

Detailing of all features (both natural and man-made) within the site was made by shooting ray to fixing with the instrument.

The instrument was set up on station PEG1, switched on and adjustments were carried out. Then, “Job” and “Station Name” were set in the instrument so as to recall the coordinates of the boundary point from the instrument’s memory. Also, heights of instrument above the instrument station and heights of reflectors were measured with steel tape and stored in the instrument’s memory. A reflector placed on beacon SCKWFRS4404 was bisected for orientation. The Total station was instructed to compute the bearing between the two stations after input of the orientation station name PEG1. One of the site assistant placed a reflector at the edge of a building , the reflector’s cross hair was bisected with that of the telescope of the total station and “DIST” key was pressed for measurement, display and recording. Then the width of the scream was measured with a 50meter steel tape. The same procedure was adopted in detailing the express way by setting on a boundary beacon SCKWFRS4404 and orienting PEG1.In this case, all the edges of the carriage way and some buildings were picked.

PERIMETER SURVEY

The perimeter survey focuses primarily on defining the outer limits of a parcel of land. It involves careful measurements and mapping of the property boundaries to confirm ownership and establish any casements that may exist. During this surveying process, a minimum width of 15 feet is typically employed for mapping the perimeter, which requires a thorough assessment of the entire boundary of the property. The primary objectives of a perimeter survey include:

1. Boundary Definition: The survey provides accurate positioning of property lines, critical for resolving conflicts related to land ownership and ensuring compliance with legal obligations

2. Identification of Existing Monuments: Perimeter surveys confirm the locations of existing boundary monuments historical markers that help define property limits and can assist in the establishment of new markers if necessary

3. Documentation of Proximal Features: While a perimeter survey captures Features that fall within the specified 15-foot width around the boundary, it generally does not include improvements or structures located further within the property, such as sheds, underground utilities, driveways, and pools.

Instead, it emphasizes boundary-related elements, such as fences, hedges, and walls.

The result of a perimeter survey offers clarity regarding the extent of the property, enabling stakeholders to understand land use limits and addressing potential encroachments. This survey type is also instrumental in providing accurate data needed for land registration and formal acknowledgment under Nigerian land laws and guidelines,

DETAILING SURVEY

In contrast, a detailing survey conveys a comprehensive picture of a parcel of land, focusing on all significant natural and man-made features within it. This survey extends beyond the mere identification of boundaries to encompass various on-site elements, making it crucial for the design, planning, and construction efforts. Key objectives of a detailing survey include.

1. Feature Documentation: The detailing survey provides a detailed inventory of all existing features, including buildings, roads, pathways, utilities, vegetation, and other structural elements on the property. This thorough documentation is essential for architects, engineers, and urban planners tasked with developing projects on the land. 2. Facilitating Land

Development: The data obtained from detailing surveys supports informed decision-making in relation to land use, zoning compliance, and development approvals. This is particularly important in Nigeria, where adherence to local zoning regulations is critical.

3. Informing Site Design: By recording the types and locations of features on-site, detailing surveys provide designers and developers with critical insights needed for creating functional and efficient site layouts. Understanding these features is vital for ensuring that new developments harmonize with existing conditions and community needs

CHAPTER FOUR

4.0 DATA PROCESSING

After downloading the co ordinate, Microsoft Excel 2007 Software was used to type the final coordinates of all points except the unwanted part of the data like the temporary controls which were later transported to Note pad and AutoCAD software 2017.

4.1 RESULT ANALYSIS

The data was analyzed and found to meet with the departmental standards and this is the main traverse result extracted from field, then it was arranged accordingly the observation was held in the field. The results are as follow

S	BEARING	DIST	+	-	SUM	+	-	SUM	EASTING	NORTHIN	S
									679582.728	946429.840	A
A	284° 45’	139.38m		134.7	134.7	35.8		35.8	679448.029	946465.672	B
B	351° 1646’	95.45m		13.7	148.4	94.4		130.2	679434.376	946560.036	C
C	6° 09’	140.26m	15.0		163.4	139.5		269.7	679449.408	946699.489	D
D	96°24’	199.28m	198.0		361.4		22.2	291.9	679647.447	946677.373	E
E	14°39’	255.76m		64.7	426.1		247.5	539.4	679582.728	946429.840	A

4.2 COMPUTE FOR TOTAL AREA USING DOUBLE LATITUDE AND DEPARTURE

S/N	E △	N △	EASTING	NORTHING
1	-134.7	+ 35.832	679582.728	946429.840
2	-13.7	+94.364	679448.029	946465.672
3	+15.0	+139.453	679434.376	946560.036
4	+198.0	-22.2	679499.408	946699.489
5	-64.7	-247.5	679647.447	946677.273

SOURCE2025

-134.7

-134.7 ×+35.832 =-4822.26

-269.4

-13.7

-283.1

-13.7 × +94.4=-1293.28

-296.8

+15.03

-281.77

+15.03 × +139.5=+2096.685

-266.74

+198.0

-68.74

+198.0 × -22.2=-4395.6

+129.26

-64.7

+64.7

-64.7 ×-247.5=+16013.25

0.000

SUM OF POSITIVE (+) –SUM OF NEGATIVE (-)

2

18109.935-10511.14

2

7598.8

2

AREA=4.265 Square mete

4.3 GRAPHIC PLOTTING

This simply refers to the graphically representation i.e. plotting of plan. It was plotted using AutoCAD and other software in a computer system and a suitable scale was used to for the hard copy format. Presented information includes boundary details and peg, conventional sign and symbol were also used in the plan.

The digital plan was produced using AutoCAD software and these are procedures followed.

- Switch on the computer and allow it to boost.

- Select notepad, from notepad, a script file for coordinate p-line easting, northing was structured.
- File was saved with extension. SCR
- AutoCAD was launched.
- Format was clicked and set the unit then press “OK”
- Press “Tool” and select Run script to pick your saved file then press escape and press zoom, extent and the image was displayed.
- The boundary line was changed to Red and necessary editing was done

CHAPTER FIVE

5.0 SUMMARY, PROBLEM ENCOUNTERED CONCLUSION AND RECOMMENDATION

5.1 SUMMARY

The project ‘’ perimeter and detailing survey’’ was carried out at part of Kwara state polytechnic, Ilorin pacifically institute of environmental studies located in Moro local government area Ilorin, Kwara state, Nigeria.

The project is carried out in accordance with third order specifications. The reconnaissance survey was properly carried out in the office and field work was done for proper planning of the operation by locating initial control that is within the project site for proper orientation, the instrument to be used and selection of traverse station in which the indivisibility of the selections were put in to consideration and finally drawing of sketched diagram of the area to be surveys.

The field operation included [traversing and detailing]. Therefore, data processing was done and the plan was produced in digital format tittle plan showing perimeter and details of all project area.

Finally, report was written on how the entire project was execute.

5.2 PROBLEM ENCOUNTERED

The delay in getting adequate instruments contributed in the delay of completing the field work.

5.3 CONCLUSION

In conclusion the project exercise has been successfully executed since the results of the above operation agreed the requirement and accuracy of third other job and the perimeter and detailing survey plan of the study area was produced. The survey was excuted according to the specification and in accordance with the survey rules departmental instructions.

5.4 RECOMMENDATIONS

Having successfully completed this project, I hereby make the following recommendations.

i. The school should try and provide more equipment so that the upcoming projects would be very easy and fast.

ii. Also, the school should make mire instrument available for the natural diploma students so as to be more advanced digitally.

REFERENCES

Agnor, R. (1992): Surveyin and Leveling 6th Edition

Anderson and Mikhail (1985): "Introduction Surveying" MC craw Hill books Company, pg 43

Banister, A. and Raymond, S. (1992): "Surveying" S.I metric 3rd Edition. Pitman, England, P.127,139.

Encarta Encyclopedia (2009): www.google.com Charles.

D.ghilan and Paul R.Wolf, 2012: geographic information system.

Barrister, A and Raymond, S (1986): surveying 4th editionLondon Pisman publishing limited.

Dashe J.P. (1987): cadastral surveying and practicing Nigeria.

Madam Mohan Das, M. Das saikia, Pvt, Ltd 2010.

Maitais waldemultor, 19th century 1780.

Oxford Advance Leaners Dictionary (2001) 6th edition oxford University Press Watton Street

APPENDIX

ID	EASTING	NORTHING
PL1	679582.728	946429.840
PL2	679448.029	946465.672
PL3	679434.376	946560.036
PL4	679449.408	946699.489
PL5	679647.447	946677.273
BLD1	679549.274	946642.233
BLD1	679541.227	946644.456
BLD1	679549.407	946673.891
BLD1	679557.454	946671.668
BLD2	679606.155	946611.461
BLD2	679615.524	946608.893
BLD2	679605.691	946573.081
BLD2	679596.322	946575.649

BLD3 679564.348 946602.906

BLD3 679557.622 946604.990

BLD3 679563.626 946623.263

BLD3 679570.352 946621.179

BLD4 679541.131 946609.275

BLD4 679533.505 946611.284

BLD4 679538.580 946629.766

BLD4 679546.206 946627.757

BLD5 679498.379 946640.771

BLD5 679523.756 946633.877

BLD5 679520.271 946620.744

BLD5 679494.894 946627.638

BLD6 679463.996 946650.142

BLD6 679489.373 946643.248

BLD6 679485.888 946630.115

BLD6 679460.511 946637.009

BLD7 679457.544 946625.842

BLD7 679472.023 946621.924

BLD7 679465.087 946596.289

BLD7 679450.608 946600.207

BLD8 679529.818 946596.942

BLD8 679537.413 946594.907

BLD8 679531.409 946576.634

BLD8 679523.814 946578.669

BLD9 679554.668 946590.470

BLD9 679561.394 946588.386

BLD9 679555.390 946570.113

BLD9 679548.664 946572.197

BLD10 679592.068 946560.674

BLD10 679599.873 946559.664

BLD10 679593.075 946538.68

BLD10 679585.270 946539.689

BLD11 679519.000 946565.197

BLD11 679528.569 946563.532

BLD11 679525.179 946544.786

BLD11 679515.610 946546.451

BLD12 679478.939 946569.537

BLD12 679504.880 946562.819

BLD12 679501.237 946549.083

BLD12 679475.296 946555.801

BLD13 679444.388 946578.416

BLD13 679470.160 946571.719

BLD13 679465.756 946554.842

BLD13 679439.984 946561.539

BLD14 679510.302 946527.118

BLD14 679514.054 946537.943

BLD14 679534.343 946533.641

BLD14 679531.147 946521.705

BLD14 679521.697 946523.093

BLD14 679522.114 946524.897

BLD15 679509.302 946524.064

BLD15 679541.890 946519.170

BLD15 679539.930 946509.505

BLD15 679506.975 946515.133

BLD16 679553.651 946516.785

BLD16 679586.238 946511.89

BLD16 679584.278 946502.226

BLD16 679551.323 946507.854

BLD17 679504.954 946503.304

BLD17 679537.91 946497.676

BLD17 679536.226 946487.819

BLD17 679503.271 946493.447

BLD18 679549.303 946496.025

BLD18 679582.258 946490.397

BLD18 679580.575 946480.54

BLD18 679547.619 946486.168

BLD19 679545.936 946476.31

BLD19 679578.891 946470.682

BLD19 679577.208 946460.825

BLD19 679544.253 946466.453

BLD20 679501.588 946483.590

BLD20 679534.543 946477.961

BLD20 679532.859 946468.104

BLD20 679499.904 946473.732

BLD21 679498.221 946463.875

BLD21 679531.176 946458.24

BLD21 679529.493 946448.390

BLD21 679496.537 946454.018

BLD22 679542.569 946456.596

BLD22 679575.524 946450.968

BLD22 679573.841 946441.111

BLD22 679540.886 946446.739

MSQ 679496.29 946502.143

MSQ 679496.168 946499.145

MSQ 679477.014 946499.605

MSQ 679477.641 946514.971

MSQ 679496.779 946514.133

MSQ 679496.657 946511.135

MSQ 679499.882 946506.709

TOI1 679447.828 946594.614

TOI1 679452.651 946593.297

TOI1 679450.521 946585.496

TOI1 679445.698 946586.813

TOI2 679593.536 946572.708

TOI2 679598.359 946571.391

TOI2 679596.229 946563.590

TOI2 679591.406 946564.907

E.P 679492.26 946690.694

E.P 679562.54 946684.428

E.P 679610.758 946683.743

E.P 679445.846 946617.55

E.P 679483.807 946478.219

E.P 679549.084 946628.813

RD 679445.277 946712.177

RD 679643.316 946689.961

RD 679652.008 946683.482

RD 679579.403 946403.808

RD 679698.787 946684.724

RD 679671.309 946687.806

RD 679662.698 946681.966

RD 679659.235 946674.342

RD 679588.012 946402.041

RD 679446.392 946722.115

RD 679700.67 946694.575