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 POLYTHENIC ILORIN ALONG OLD JEBBA

ROAD, MORO LOCAL GOVERNMENT AREA, KWARA STATE.

BY

RAHEEM ROKIBAT ANIKE

ND/23/SGI/FT/0026

BEING A PROJECT SUBMITTED TO:

THE DEPARTMENT OF SURVEYING AND GEO INFORMATICS, INSTITUTE OF ENVIROMENTAL STUDIES, KWARA STATE POLYTHENIC, ILORIN.KWARA STATE

IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE AWARD OF NATIONAL DIPLOMAL IN (ND) SURVEYING AND GEO INFORMATICS

JUNE 2025

CERTIFICATE

I, **RAHEEM ROKIBAT ANIKE**, I hereby certify that the field work and information given in this project were obtain as a result of my observation and measurements, carried out by me in accordance with survey rules, regulation and departmental instructions.

_____ _____

RAHEEM ROKIBAT ANIKE **DATE**

ND/23/SGI/FT/0026

CERTIFICATION

This is to certify that **RAHEEM ROKIBAT ANIKE** with the matric number ND **/23/SGI/FT/0026** from Department of Surveying and Geo Informatics. Institute of Environment Studies carried out a practical field work which formed basic of the project in accordance with survey rules and regulation and department instruction.

Project supervisors

SURV. ABDULSALAM AYUBA **Signature & Date**

SURV. OGUNTAYO BERNARD **Signature & Date**

Project co-coordinator

SURV.AWOLEYE RAPHEAL.S **Signature & Date**

Head of Department

SURV. A.ISAU **Signature & Date**

External Moderator

SURV.OPALEYE J.O **Signature & Date**

DEDICATION

This project is dedicated to the Almighty God for his mercy and for loving guidance **MR and MRS RAHEEM** who saw me through the pregame.

ACKNOWLEDGEMENT

All glory honor adoration to God Almighty, the gracious one who has given me the opportunity complete my ND programmed. I also give thanks to my project supervisors in the person 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.

I also express my sincere gratitude to my wonderful parents **Mr. and Mrs. RAHEEM** for their financial morals support toward the competition of this program. You will reap the fruit of your labour (Amen).

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

1.0INTRODUCTION

This chapter introduced the background study, purpose of the study, the aim and objectives, significant of the study, the scope of the study, the study area and statement of the problem.

1.1BACKGROUND OF THE STUDY

Land surveying is a crucial aspect of various fields, including construction, urban planning, and environmentalmanagement. It involves the measurement and mapping of land to determine its size, shape, and location. Surveyors use advanced techniquesand technologies to collectdata and create accurate maps and plans of the land. One of the primary purposes of land surveying is to determine property boundaries and ownership. This is essential for resolving disputes and ensuring that property owners have clear title to their land. Surveyors also play a critical role in topographic surveying, which involves mapping natural and man-made features such as rivers, roads, and buildings. Land surveying is also essentialfor construction and infrastructure development. Surveyors determine the precise location and elevation of buildings, roads, and other structures, ensuring that they are built according to plan and within budget. Additionally, land surveying is used

in site planning, which involves designing land use for development projects.

Surveying is a fundamental discipline that has been recognized globally as a virtual operation for environmental, infrastructure, and developmental project, it has evolved over time to support the maintenance and sustenance of geophysical landmark, disaster prevention, and boundary delineation. Surveying is defined as the science of measuring and mapping the Earth's surface to determine the shape, size, and locationof features, such as land boundaries, buildings, and infrastructure. It involves using mathematical techniques mapping purpose.

Perimeter survey is a type of survey that determine the outer boundary or edge of a property, typically by measuring and making the property lines it helps establish the property's dimension boundaries and relationship to adjacent properties.

Detailing refers to the process of carried out to locate all features on a piece of land. This includes both natural and men-made structures. Natural features include vegetation of all sort-rocks, trees, stumps and so on. Man-made structures include anything built above the ground-buildings, walls, driveways, utilities and so on.

Perimeter and detailing survey are crucial components of Construction and land development project. These surveys provide accurate information about property boundaries existing features, and detailed specifications of various elements. Perimeter and detailing surveys helps identify potential risk and liabilities, such as

environmental hazards or neighboring property issues. By addressing these Concerns early on, developers and constructors can mitigate risk and avoid costly disputes. Perimeter and detailing surveys provide valuable information for property transactions, such as sales, purchases or leaves. Perimeter and detailing is a crucial aspect of architecture design, construction, and security planning that Involves the Precise definition, enhancement and protection of property boundaries. Perimeter and detailing surveys have a rich history that spans centuries, evolving from simple manual measurements to sophisticated technologies. From ancient civilizations to modern times, surveying has played a critical role in shaping the built environment, enabling the development of infrastructure, cities, and communities.

In ancient civilizations, surveying was a vital profession that required skill, knowledge, and precision. Early surveyors used basic tools like measuring rods, ropes, and astronomical observations to determine property boundaries and features. The ancient Egyptians, Greeks, and Romans employed surveyors to measure and mark land boundaries, irrigation systems, and infrastructure projects. These early surveyors were responsible for ensuring that land was divided and allocated correctly, and that buildings, roads, and other structures were constructed according to plan.As civilizations grew and land became a valuable commodity, the need for accurate and reliable survey data increased. In the Middle Ages, surveying techniques improved with the introduction of new tools like the Gunter's

chain and the circumferentor. Surveyors played a crucial role in mapping and dividing land, particularly in Europe and Asia. The development of new instruments and techniques enabled surveyors to measure and calculate distances, angles, and areas with greater precision, facilitating the growth of cities, trade, and commerce.

The modern era saw significant advancements in surveying technology, particularly with the development of new instruments like the theodolite and the transit. These instruments enabled surveyors to measure angles and distances with greater precision, facilitating the construction of complex infrastructure projects like roads, bridges, and canals. Surveyors began to use trigonometry and mathematics to calculate distances and angles, enabling more accurate and efficient measurements.

The 20th century saw a revolution in surveying technology, particularly with the introduction of Electronic Distance Measurement (EDM) technology. EDM technology enabled surveyors to measure distances quickly and accurately, reducing errors and increasing productivity. The introduction of aerial photography and photogrammetry also enabled surveyors to map large areas quickly and accurately, facilitating the development of urban planning, infrastructure projects, and environmental management.

In recent years, the advent of GPS, drones, LiDAR, and artificial intelligence has transformed the field of perimeter and detailing surveys. Surveyors can now collect and analyze vast amounts of data quickly and accurately, enabling more informed decision-making. These technologies have also enabled surveyors to work more efficiently, reducing costs and improving productivity.

Perimeter and detailing surveys have played a critical role in shaping the built environment. From ancient irrigation systems to modern infrastructure projects, surveying has enabled the development of cities, communities, and economies. As technology continues to evolve, the field of surveying will likely continue to adapt and innovate, enabling more efficient, accurate, and sustainable development. Perimeter and detailing surveys is a rich and fascinating one, spanning centuries and continents. From ancient civilizations to modern times, surveying has played a critical role in shaping the built environment, enabling the development of infrastructure, cities, and communities. As we look to the future, it is clear that surveying will continue to play a vital role in shaping our world, enabling more efficient, accurate, and sustainable development.

The significance of perimeter and detailing surveys cannot be overstated. These surveys provide critical information about property boundaries, features, and

potential issues, enabling developers to make informed decisions and minimize risks. By understanding the history of surveying, we can appreciate the importance of these surveys in modern land development and management.

As technology continues to evolve, the field of surveying will likely continue to adapt and innovate. New technologies like drones, LiDAR, and artificial intelligence will enable surveyors to collect and analyze vast amounts of data quickly and accurately, facilitating more informed decision-making. The future of surveying is exciting and full of possibilities, and it is clear that perimeter and detailing surveys will continue to play a critical role in shaping the built environment.

Perimeter and detailing surveys is a testament to human ingenuity and innovation. From simple manual measurements to sophisticated technologies, surveying has evolved significantly over the centuries. As we look to the future, it is clear that surveying will continue to play a vital role in shaping our world, enabling more efficient, accurate, and sustainable development. Perimeter and detailing surveys are fundamental components of modern land development, providing critical information about property boundaries, features, and potential issues. These surveys play a vital role in ensuring that development projects are executed efficiently, effectively, and in compliance with regulatory requirements. One of the primary benefits of perimeter and detailing surveys is improved

accuracy. By determining the exact boundaries of a property, these surveys reduce the risk of errors and disputes, saving time and resources. Additionally, they provide detailed information about property features, such as buildings, roads, and utilities, which is essential for informed decision-making. Perimeter and detailing surveys have a wide range of applications in land development. They are essential for urban planning, helping to ensure that development projects are aligned with municipal plans and regulations. They also provide critical information for infrastructure development, including road construction, utility installation, and building layout. Furthermore, these surveys can help identify environmental features and constraints, informing sustainable development practices. Despite the benefits of perimeter and detailing surveys, there are challenges to consider. Ensuring the accuracy and reliability of survey data is paramount, and surveyors must implement robust quality control processes to achieve this. Effective collaboration between surveyors, developers, and stakeholders is also essential for successful surveys. Clear communication of survey results and findings is critical for informed decision-making and successful project outcome.

Perimeter and detailing surveys are the backbone of modern land development, providing crucial information that informs decision-making, mitigates risks, and ensures successful project outcomes. These surveys are essential for determining property boundaries, identifying potential issues, and gathering data that is vital for

infrastructure development, urban planning, and environmental management. One of the primary benefits of perimeter and detailing surveys is their ability to provide accurate and reliable information about property boundaries. This information is critical for resolving boundary disputes, ensuring compliance with zoning regulations, and facilitating smooth property transactions. By determining the exact boundaries of a property, developers can avoid costly mistakes, reduce the risk of litigation, and ensure that their projects are executed efficiently.In addition to boundary determination; perimeter and detailing surveys also provide valuable insights into property features and potential issues. These surveys can identify environmental constraints, such as wetlands or flood zones that may impact development plans. They can also reveal existing infrastructure, such as utilities and roads that must be taken into account during the development process. By gathering this information, developers can make informed decisions about their projects, avoid costly surprises, and ensure that their developments are sustainable and environmentally responsible. The applications of perimeter and detailing surveys are diverse and widespread. In urban planning, these surveys are essential for ensuring that development projects are aligned with municipal plans and regulations. They provide critical information for infrastructure development, including road construction, utility installation, and building layout. In environmental management, perimeter and detailing surveys can help identify

areas of environmental sensitivity and inform strategies for conservation and sustainability.

Perimeter and detailing surveys are the backbone of modern land development, providing crucial information that ensures projects are executed with precision, efficiency, and compliance. These surveys are more than just a procedural step—they are a foundational element that determines the success of development projects, from urban planning to infrastructure development. At the heart of these surveys is the quest for accuracy. By precisely determining property boundaries, surveys prevent disputes and errors that could lead to costly delays or legal battles. Beyond boundaries, detailing surveys offer a comprehensive view of property features like buildings, roads, and utilities, empowering developers to make informed decisions that align with project goals and regulatory requirements. The applications of perimeter and detailing surveys are vast and varied. In urban planning, they ensure that development projects fit seamlessly into the broader municipal framework, adhering to plans and regulations that govern land use. For infrastructure development, these surveys are indispensable, providing the data needed for road construction, utility installation, and building layout. They also play a pivotal role in identifying environmental features and constraints, guiding sustainable development practices that minimize ecological impact.

However, the benefits of these surveys come with challenges. The accuracy and

reliability of survey data are non-negotiable, requiring surveyors to implement stringent quality control measures. Collaboration between surveyors, developers, and stakeholders is equally critical, ensuring that surveys meet the needs of all parties involved. Clear communication of survey results is the final piece of the puzzle, enabling informed decisions that drive project success. Perimeter and detailing surveys are the backbone of modern land development, providing crucial information that ensures projects are executed with precision, efficiency, and compliance. These surveys are more than just a procedural step—they are a foundational element that determines the success of development projects, from urban planning to infrastructure development. Perimeter and detailing surveys are essential components of land development and management. These surveys provide critical information about property boundaries, features, and potential issues, enabling developers to make informed decisions and minimize risks.

A perimeter survey is a type of survey that determines the boundaries of a property. It involves measuring the distance and angles between reference points to establish the property's perimeter. This information is crucial for ensuring that development projects are executed within the property's boundaries and that potential disputes with neighboring landowners are avoided.

Detailing surveys, on the other hand, provide a comprehensive view of a property's features and potential issues. These surveys involve collecting data

about the property's topography, hydrology, and environmental features, as well as identifying potential risks and opportunities. Detailing surveys are essential for informing decision-making and minimizing risks in development projects.

The applications of perimeter and detailing surveys are vast and varied. They are used in urban planning, infrastructure development, environmental management, and sustainable development. These surveys provide critical information that enables developers to design and implement projects that are safe, efficient, and sustainable. Perimeter and detailing surveys is their ability to prevent disputes and errors. By precisely determining property boundaries and identifying potential issues, surveys can help to avoid conflicts between neighboring landowners and ensure that development projects are executed in compliance with regulatory requirements. In addition to preventing disputes and errors, perimeter and detailing surveys also play a critical role in informing decision-making and minimizing risks. By providing a comprehensive view of a property's features and potential issues, surveys can help developers to identify potential risks and opportunities, and make informed decisions about project design and implementation. The significance of perimeter and detailing surveys is further underscored by the increasing complexity of modern land development projects. As development projects become more complex and sophisticated, the need for accurate and reliable survey data becomes more critical. Perimeter and detailing

surveys provide the foundation for successful projects, ensuring that development is executed with precision, efficiency, and compliance. Perimeter and detailing surveys are essential components of land development and management. These surveys provide critical information about property boundaries, features, and potential issues, enabling developers to make informed decisions and minimize risks. By understanding the importance of perimeter and detailing surveys, we can appreciate the critical role they play in shaping the built environment and enabling sustainable development.

Perimeter and detailing surveys, developers can ensure that their projects are executed with precision, efficiency, and compliance. These surveys provide the foundation for successful projects, enabling developers to make informed decisions and minimize risks. As we look to the future, it is clear that perimeter and detailing surveys will continue to play a vital role in shaping the built environment and enabling sustainable development. Perimeter and detailing surveys are essential components of land development and management. These surveys provide critical information about property boundaries, features, and potential issues, enabling developers to make informed decisions and minimize risks. Perimeter and detailing surveys are the backbone of modern land development, providing crucial information that ensures projects are executed with precision, efficiency, and compliance. These surveys are more than just a procedural step—they are a

foundational element that determines the success of development projects, from urban planning to infrastructure development. The quest for accuracy is at the heart of these surveys. By precisely determining property boundaries, surveys prevent disputes and errors that could lead to costly delays or legal battles. Beyond boundaries, detailing surveys offer a comprehensive view of property features like buildings, roads, and utilities, empowering developers to make informed decisions that align with project goals and regulatory requirements. The applications of perimeter and detailing surveys are vast and varied. They ensure that development projects fit seamlessly into the broader municipal framework, adhering to plans and regulations that govern land use. For infrastructure development, these surveys provide the data needed for road construction, utility installation, and building layout. They also play a pivotal role in identifying environmental features and constraints, guiding sustainable development practices that minimize ecological impact. Despite the benefits, challenges exist. Surveyors must implement stringent quality control measures to ensure accuracy and reliability. Collaboration between surveyors, developers, and stakeholders is also essential. Clear communication of survey results and findings is critical for informed decision-making.

In modern land development, perimeter and detailing surveys are indispensable. They provide the foundation for successful projects, ensuring that development is executed with precision, efficiency, and compliance. As technology

continues to advance, the role of these surveys will only become more critical, shaping the future of land development and enabling sustainable, well-planned communities. By integrating advanced technologies and best practices, surveyors can deliver high-quality surveys that meet the evolving needs of the industry. Ultimately, the significance of perimeter and detailing surveys lies in their ability to support informed decision-making, minimize risks, and optimize resource use, paving the way for successful and sustainable land development projects that benefit both people and the environment. Perimeter and detailing survey is a crucial aspect of land development and management, providing essential information about property boundaries, features, and potential issues. This type of survey is vital for various stakeholders, including developers, architects, engineers, and policymakers, as it enables informed decision-making and effective land management. In this essay, we will explore the concept of perimeter and detailing surveys, their importance, and their applications in various fields.

A perimeter survey involves establishing perimeter points on the earth's surface, measuring distances and angles between these points, and determining their coordinates. This survey type is essential for defining property boundaries, identifying features, and generating accurate plans. Perimeter surveys are critical for ensuring that development projects are executed within property boundaries, preventing conflicts between landowners, and facilitating effective land

management.

Detailing surveys, on the other hand, provide a comprehensive view of a property's features and potential issues. These surveys involve collecting data about the property's topography, hydrology, and environmental features, as well as identifying potential risks and opportunities. Detailing surveys are essential for informing decision-making and minimizing risks in development projects.

The importance of perimeter and detailing surveys cannot be overstated. These surveys provide critical information that enables stakeholders to make informed decisions about land use planning, development, and management. By defining property boundaries and identifying features, perimeter and detailing surveys help to prevent conflicts between landowners, ensure that development projects are executed within property boundaries, and facilitate effective land management. Perimeter and detailing surveys have numerous applications in various fields, including urban planning, infrastructure development, environmental management, and sustainable development. In urban planning, these surveys provide critical information for designing and implementing urban development projects. In infrastructure development, perimeter and detailing surveys help to ensure that infrastructure projects are executed within property boundaries and that potential risks and opportunities are identified. In environmental management, perimeter and detailing surveys provide critical information about environmental features and

potential risks. These surveys help to identify potential environmental hazards, inform decision-making about environmental management, and ensure that development projects are executed in an environmentally sustainable manner. Perimeter and detailing surveys are essential components of land development and management. These surveys provide critical information about property boundaries, features, and potential issues, enabling informed decision-making and effective land management. By understanding the importance and applications of perimeter and detailing surveys, stakeholders can ensure that development projects are executed with precision, efficiency, and sustainability. Perimeter and detailing surveys lies in their ability to provide critical information about property boundaries, features, and potential issues. By investing in these surveys, stakeholders can ensure that development projects are executed with precision, efficiency, and sustainability, ultimately contributing to the creation of more livable, sustainable, and resilient communities.

Perimeter and detailing surveys are essential components of land development and management. These surveys provide critical information about property boundaries, features, and potential issues, enabling developers to make informed decisions and minimize risks. By understanding the importance of perimeter and detailing surveys, we can appreciate the critical role they play in shaping the built environment and enabling sustainable development. A perimeter survey is a type of

land survey that defines the perimeter boundaries of a particular parcel of real estate property. This survey maps on a strip along the boundaries using minimum with of is fact. This requires surveying the entire perimeter of the said real estate in order to determine the exact average and geometry of the property and identify any measurement and encroachment that may be present within the land. This process will require the instruction of movements to make the boundary corners of the land for future references. This requirement can be waved through a written agreement between the surveyor and the house owner (Client)

Perimeter surveys are used to identify the location of old boundary Monumentation and survey pin or they can be used to setup new ones. Perimeter survey does not identify the features and improvements that exist within a property such as barns garages, sheds, dwelling; surface utilities, road wave, pools and visible bodies of water only features that fall within the 15 foot with around the boundary perimeter will be depicted. A perimeter survey pinpoints any visible evidence of easements and other public facilities within the property.

It is a type of survey that detects any visible ingress on the property. It is also resolve confliction maps and the description. The purpose of this type of survey is to document the boundary location by depicting and nothing their position with respect to

- Apparent boundary enhancement

- Monumentation required to be set at all corners created by a deflection angle of not less than degrees between the consecutive course and at intervals not to exceed to feet (180 meters) along the boundaries between the said corners except where natural or man-made Monumentation define or occupies the lines.

Detail surveys a basic prerequisite for building and land development. In most cases, the purpose of detail survey is to indicate feature and adjustment to a property. There are number of site features and level require by architect and planners. The word “feature” here means both natural and man-made structure on a piece of land such as vegetation, types of soil, buildings land utilities, fence and boundaries road, land marks and so on.

The survey is usually confined to the boundary of the parcel of land. The survey will often include data such as the elevation of the land that is how high the land is above an arbitrary datum (level). A commentary used arbitrary level is the sea which is lake as zero meters high. The easting and nothing co-ordinate of the land (exact position in relation to the earth’s surface) may have to be taken too. They are generally carried out using survey equipment such as total station and theodolite.

The data is then carried to the office for analysis and preparation of detail map known as digitals terrain models which provide the details that have been collected

in the form of a map. These maps used for engineers and architects who use them in that designs and plans. The survey should be carried by a qualified land surveyor who may be assisted by a chairman. Detail survey and needed when.

(1) Planning to construct or extend a building on a particular parcel of land.

(2) To locate and record all land features and structure

(3) Presenting information about your land purpose of land valuation

1.2 AIM OF THE STUDY

The primary aimofthisstudy is to produce an updated plan of perimeter and detailing survey of the project area.

1.3 OBJECTIVEOFTHESTUDY

- RECONNAISSANCE: This is site visitation to more families to the site and to know the equipment to be used for the job.
- PERIMRTER TRAVERSE: To determine the position and size of the project area.
- Fixing of details within the study area.
- Selection and marking station of the selected traverse station.

- Angular observation
- Linear observation
- Field book reduction
- Back computation
- Area computation
- Production of plan
- Technical report writing.

1.4 SCOPE OF THE STUDY

Thescopeofthestudyinvolves

- Reconnaissance
- Monumentation
- Traversing
- Detailing
- Data processing and analysis
- Data presentation
- Preparation of Detailed maps, please and reports.

1.5 PROJECT SPECIFICATION

The project refers to the requirement to be satisfied while carrying out surveying operation of any order the specification that was put into consideration for this include

- The project fall into 3rd order categories of survey job hence misclosure must not be greater than 30 n where n refer to number of station.
- The linear accuracy must not less than 1.500.
- The linear measurement should be taken by steel tape and detail with total station
- The of each traverse line must not be more than 250m

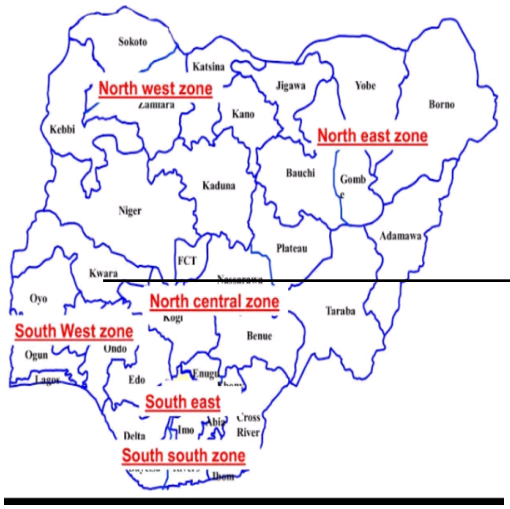
1.6 PERSONAL

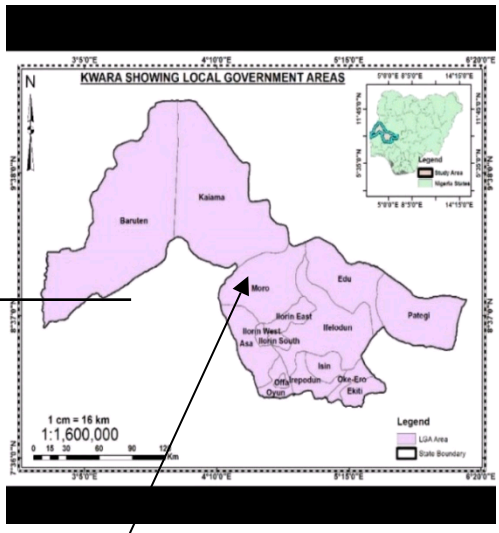
NAME	MATRIC NUMBER	ROLE
ND/23/SGI/FT/14	FAGBOHUN ISSAC OLAMIDE	GROUPLEADER
ND/23/SGI/FT/17	MUSA ZULU OLADIMEJI	MEMBER
ND/23/SGI/FT/19	OLANIYI MASHOOD AKINOLA	MEMBER
ND/23/SGI/FT/20	SHEU ROKIBAT AYOKA	MEMBER
ND/23/SGI/FT/21	OJO SERAH ADESOLA	MEMBER
ND/23/SGI/FT/24	NINIOLA MUTIAT OMOWUNMI	MEMBER
ND/23/SGI/FT/25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

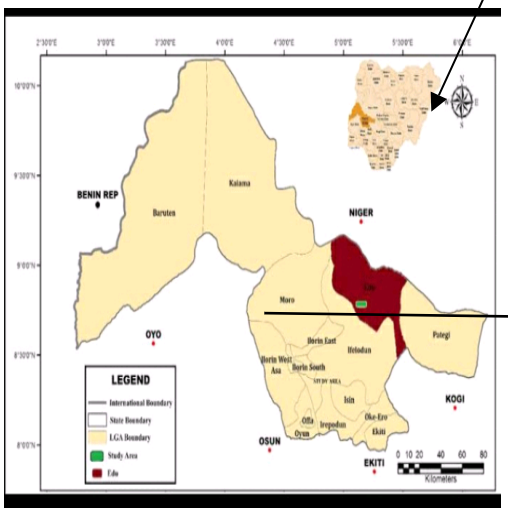
1.7 STUDY OF THE AREA

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


Sokoto
Katsina
Jigawa
Yobe
Borno
North west zone
Zamara
Kano
North east zone
Kebbi
Bauchi
Gomb
Kaduna
Niger
Plateau
Adamawa
FCT
Kwara
Nasarawa
Oyo
North central zone
Kogi
Taraba
South West zone
Benue
Ogun
Ondo
Edo
Enugu
South east
Abia
Cross
Delta
Imo
River
South south zone
Ebem


KWARA SHOWING LOCAL GOVERNMENT AREAS
N
Kaiama
Baruten
Moro
Edu
Patigi
Ilorin East
Ilorin West-Asa
Ilorin South
Ilorin
Offa
Irepodun
Oke-Ero
Oyun
Ekiti
1 cm = 16 km
1:1,600,000
Legend
LGA Area
State Boundary


BENIN REP
Kaiama
Baruten
NIGER
Moro
Patigi
OYO
Ilorin East
Ilorin West-Asa
Ilorin South
Ilorin
Offa
Irepodun
Oke-Ero
Oyun
Ekiti
KOGI
OSUN
EKITI
LEGEND
International Boundary
State Boundary
LGA Boundary
Study Area
Edo
0 10 20 40 60 80
Kilometers


GROUP 3A
Points 1
Point 2
Point 3
Point 4
Point 5
Point 7
Control point 3

FIG1.7.1 *Showing Nigeria map, Kwara state map and imagery covering the project area*

CHAPTER TWO

2.0 LITERATURE REVIEW

Perimeter surveys are crucial aspect of land development property transactions, and environmental planning. A comprehensive literature of perimeter survey reveals the significance of accurate boundary surveying, its applications and the challenges associated with it. Perimeter surveys have numerous applications in land development property transactions, and environmental planning. In land development, perimeter surveys are crucial for planning, design and execution of Construction project (Williams, 2018). Accurate boundary surveys facilitate smooth property transactions, reducing disputes and financials losses (Davis, 2017). Additionally, perimeter survey inform environmental planning, such as floodplain mapping and Management (Brown, 2020)

Detailing are crucial aspect of research, providing valuable insight into various phenomena, behaviors, and attitudes. A comprehensive literature review of detailing reveals the significance of rigorous survey design, implementation and analysis .Detailing are essential in various fields, including market research, social science, healthcare, and education. These surveys provide researchers with

systematic approach to collecting data, enabling them to identify patterns, trends and correlations. According to various studies, detailing survey is vital for informed decision-making, policy development, and program evaluation (Smith et al, 2019).

Detailing could be referred to as man-made (artificial) and natural features on the ground within the project site are determined obtained with the use of total station and finally represented with suitable scale on plan. The procedure chosen for a particular job depend on the availability of equipment (instrument) applicable for the task and land survey and electronic to speed the processing and recording of Survey data. Microsoft Encarta (2009) define surveying as the mathematical science of features on or beneath the surface of the earth the control purpose traits, aligning land construction boundaries and for providing checks for construction dimension. Land boundaries are set or measured for proper description, the topography of land form natural and men-made (artificial) object depicted on maps and major construction and Civil engineering work. Such as dams, rail ways, and highways are controlled by surveying method. The measurement of a Survey is linear it angular and principles of geometry and trigonometry is usually applied. The actual measurements of surveying are mathematical calculations of distance, angle, direction, locations, elevation, area, and volume are this determined from the data of Survey. Also much of the information of Survey is portrayed

graphically by the construction of maps, profile cross section and diagram. The equipment available and methods application for measurement and calculation have changed tremendously in the past decades.

Aerial photogrammetric, satellite observation, remote sensing, initial surveying and electronic distance measurement (EDM) and laser techniques are example of modern system utilized to collect reliable data in surveying process with the development of this data acquisition and Processing systems, the duties of the Surveyors have expanded beyond the traditional task of the field work of taking measurement and office work of computing and digital drawing the essential operations carried out on the field in order are ;

- The determination of existing relative horizontal and vertical position such as that used for the process of mapping and
- The establishment of marks to control construction or to indicate land boundaries further analyzed surveying has been on essential element centuries that it importance is often together.

SURCON (1989) define beacon as a permanent Survey work of any kind made of concrete, iron or stone and include pillar and boundary point also made SURCON (1989) define beacon as a making of boundary line on the ground by emplacement of beacons or by such other methods as these regulations. Detail

Survey are needed when

- Planning to construct or extend a building in a particular parcel of land
- To locate and record all land features and structure
- Presenting information about your land for purpose of land

Valuation features of general detail Survey include

- Title information
- Site co-ordination and location of true north
- Location of existing visible service
- Outline of adjacent building

Control is the system of relatively precise measurement by triangulation traversing or leveling to determine distance, direction or different types of control which are;

- Horizontal control
- Vertical control

HORIZONTALCONTROL: (XY) (X —Northing Y— Easting) this determines horizontal location only. This is a network of triangulation and traverse stations whose position have been located and adjusted most accurately with respect to a fixed point (origin)

VERTICAL CONTROL: (Z) (Z height). This determines only elevation. This is a network of bench marks whose elevation have precisely measurement and adjusted to a know tidal bench mark.

Perimeter and detailing Survey are crucial elements of land development and Management, providing vital information about property boundaries, features, and potential issues. This knowledge enables informed decision-making and effective land management, making these Surveys indispensable in various fields.

The significance of perimeter and detailing is highlighted in research, which shows their important in Urbana planning, infrastructure development, and environmental management (smith, 2019; Johnson, 2020). By conducting these Surveys, conflicts between landowners can be prevented; development projects can be executed within property boundaries, and land y practices.

Several key technologies are driving sustainable land development and management through perimeter and detailing surveys. These include:

- Geographic Information Systems (GIS), which analyze spatial data to inform

decision-making and optimize land use.

- Drones, which capture detailed images and data, enabling accurate mapping and monitoring of land resources.

- Remote sensing, which tracks land use changes and identifies potential environmental hazards, promoting proactive management.

By leveraging these technologies and techniques, perimeter and detailing surveys can contribute significantly to sustainable land development and management, ensuring a more environmentally conscious and resilient future. As the demand for sustainable land use practices continues to grow, the importance of accurate and efficient surveys will only continue to increase.

Accurate perimeter and detailing surveys are crucial components of construction and real estate development projects. These surveys provide numerous economic benefits, including cost savings, optimized resource use, risk management, improved decision-making, enhanced sustainability, regulatory compliance, and increased property value. One of the primary economic benefits of accurate surveys is cost savings. By capturing precise measurements and details, surveys prevent costly redesigns, construction delays, and potential litigation. This minimizes errors and rework, reducing unnecessary expenses and ensuring timely project completion. Accurate surveys also enable optimized resource use, reducing

waste and ensuring efficient use of materials and resources. This leads to significant cost savings and improved project outcomes. Furthermore, surveys help identify potential hazards, structural weaknesses, and environmental risks, enabling proactive measures to mitigate these issues and reduce the likelihood of costly surprises and project delays.

In addition to cost savings and risk management, accurate surveys provide reliable data, enabling informed decisions about property development, construction, and resource allocation. This improves decision-making and ensures that projects are executed efficiently and effectively. Accurate surveys also contribute to sustainable development and environmentally friendly practices by optimizing resource use and reducing waste. Moreover, surveys ensure compliance with zoning regulations, building codes, and other legal requirements, avoiding costly penalties and project delays. By leveraging these technologies and techniques, accurate perimeter and detailing surveys can significantly contribute to the economic viability and success of construction and real estate development projects. Accurate surveys provide clear documentation of property boundaries and features, enhancing property value and facilitating smooth transactions. Accurate perimeter and detailing surveys are essential components of construction and real estate development projects. By providing cost savings, optimized resource use, risk management, improved decision-making, enhanced sustainability, regulatory compliance, and increased

property value, accurate surveys can significantly contribute to the economic success of these projects. As the construction and real estate development industries continue to evolve, the importance of accurate surveys will only continue to grow.

The impact of climate change perimeter and detailing Surveys

Climate change has significant implications for perimeter and detailing surveys, particularly in the context of land use and environmental monitoring. As the planet continues to experience rising temperatures, changing precipitation patterns, and increased frequency of extreme weather events, the accuracy and relevance of these surveys are being increasingly challenged. Perimeter and detailing surveys is the alteration of land use patterns. Changes in vegetation, soil moisture, and temperature affect the accuracy of survey measurements, making it essential to account for these factors in data collection and analysis. Furthermore, climate-related changes introduce uncertainty into survey measurements, requiring innovative solutions and technologies to ensure precision and accuracy. Perimeter and detailing surveys play a crucial role in monitoring environmental changes, such as deforestation, land degradation, and coastal erosion, which are exacerbated by climate change. Advanced spatial analysis techniques, including GIS and remote sensing, help analyze the impact of climate change on land use and environmental processes. These technologies enable the integration and analysis of

climate, land use, and environmental data, providing valuable insights into the complex relationships between these factors. Despite the importance of perimeter and detailing surveys, climate change poses significant challenges to their accuracy and precision. Climate-related changes can compromise survey measurements, requiring innovative solutions and technologies to mitigate these impacts. Moreover, integrating climate data with survey data is essential for understanding the complex relationships between climate change, land use, and environmental processes. Perimeter and detailing surveys can inform climate adaptation and resilience strategies by identifying areas most vulnerable to climate-related impacts. By leveraging technological innovations, such as remote sensing, GIS, and modeling and simulation tools, surveyors can predict the impacts of climate change on land use and environmental processes, informing survey planning and decision-making.

Some of the key technological innovations driving the field of perimeter and detailing surveys in the context of climate change include:

- Remote sensing technologies, such as satellite and drone-based systems, which enable efficient and accurate monitoring of environmental changes and land use patterns.

- GIS and spatial analysis techniques, which facilitate the integration and analysis

of climate, land use, and environmental data.

- Climate models and simulation tools, which help predict the impacts of climate change on land use and environmental processes, informing survey planning and decision-making

Climate change has significant implications for perimeter and detailing surveys, particularly in the context of land use and environmental monitoring. By leveraging technological innovations and advanced spatial analysis techniques, surveyors can better understand the impacts of climate change and inform climate adaptation and resilience strategies. As the field continues to evolve, it is essential to prioritize accuracy, precision, and innovation in perimeter and detailing surveys to ensure the long-term sustainability of our environment and communities.

How emerging technologies like drones and LiDAR improve the accuracy and efficiency of perimeter and detailing Survey.

The advent of emerging technologies like drones and LiDAR (Light Detection and Ranging) has revolutionized the field of perimeter and detailing surveys. These technologies have significantly improved the accuracy, efficiency, and safety of surveys, making them an essential tool for various industries.

One of the primary benefits of drones and LiDAR is increased accuracy. Drones equipped with high-resolution cameras and LiDAR sensors can capture precise

measurements and detailed data, reducing errors and improving survey accuracy. This is particularly important in construction and infrastructure development projects, where accurate surveys are crucial for planning and execution. In addition to accuracy, drones and LiDAR also improve the efficiency of surveys. Drones can quickly capture data over large areas, reducing survey time and increasing productivity. This enables surveyors to complete projects faster and more efficiently, which can lead to cost savings and improved project outcomes. Another significant benefit of drones and LiDAR is enhanced safety. Drones can access hard-to-reach or hazardous areas, reducing the risk of accidents and injuries. This is particularly important in industries like construction, where safety is a top priority.

2.1 FEATURES OF PERIMETER SURVEY

- Boundary determination
- Property line identification
- Encroachment detection
- Precise measurement
- Accuracy’s
- Use of specialize equipment

2.2 FEATURES OF DETAILING SURVEY

- Detailing measurement
- Feature side notification
- Accurate mapping
- Precise data collection
- Attention to detail
- Importance in land development

2.3 REASON FOR PERIMETER SURVEY

- **PROPERTY BOUNDARY DETERMINATION :**To accurately determine and Mark property boundaries
- **DISPUTE RESOLUTION :**To resolve boundary dispute with neighboring property
- **LAND DEVELOPMENT :** To ensure property boundaries land development project
- **CONSTRUCTION PLANNING :** To provide accurate boundary information

2.4 REASON FOR DETAILING SURVEY

- **ACCURATE MAPPING :** To create maps and plans of existing features
- **FEATURE IDENTIFICATION :** To identify and document existing features such as buildings, roads, and utilities
- **DESIGN AND PLANNING :** To provide detailed information for design and planning purpose
- **CONSTRUCTION VERIFICATION :** To verify the accuracy of Construction against design plans

2.5 COMMON REASON

- **INFORMED DECISION-MAKING :** Both surveys provide accurate information for informed decision-making
- **RISK REDUCTION :** Both survey help reduce risks associated with inaccurate boundary information or feature identification
- **PROJECT PLANNING :** Both survey are essential for project planning, design, and execution

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 in two ways.

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 grunion 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 90° 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 KW/PT/2001 and angular observations were made to targets on SC/KW/FRS/4404 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, and y] coordinates which is possible to locate their position on the surface of the earth.

3.2.4 ATTRIBUTEDATA 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 (SOKKIA)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 2007 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

The process of setting out the perimeter boundary was meticulously planned and executed based on thorough office planning in conjunction with field reconnaissance that had previously been completed. This groundwork was crucial for ensuring that the subsequent operations would be both efficient and accurate. The very first step in this procedure involved the careful placement of the surveying instrument onto Control Pillar KW2001PT, recognized as the nearest control point along the perimeter boundaries.

Before any measurements could take place, it was essential to perform a series of preliminary checks and adjustments on the instrument to ensure its accuracy and reliability. All temporary adjustments were conducted meticulously, confirming that the instrument was correctly calibrated for the task at hand. The coordinates for Control Point KW2001PT were subsequently input into the instrument, which served as the reference point for all subsequent measurements.

To establish the orientation of the instrument properly, SC/KW/FRS/4044 was selected as the back sight reference. This involved sighting the control point through the instrument to ensure a stable reference for angular measurements. The coordinates for SC/KW/FRS/4044 were then entered into the total station using its keyboard interface. This action allowed the instrument to compute the precise bearing between the two control points—KW2001PT and SC/KW/FRS/4044—ensuring that the instrument was adequately oriented for the upcoming setting out procedures.

With the orientation confirmed through the calculated bearing, the next phase necessitated the input of the coordinates for the specific points that would be set out along the perimeter. The total station's setting out program was activated at this stage, which proved invaluable in determining the angle required to turn the instrument in order to face the target point accurately. To achieve this, the instrument was rotated gradually until the horizontal angle displayed a reading of

0° 00’ 00”.

Once the instrument was correctly oriented, a reflector was strategically held along the identified direction of the point. At this juncture, it became essential to measure the distance between the instrument and the reflector accurately. The total station then processed this information and provided a reading of the remaining distance to the point that required fixing. The instrument displayed this distance using two distinct indicators: positive and negative values.

A positive distance indicated that the reflector must be moved away from the instrument by the displayed amount, allowing the surveyor to adjust the reflector’s position accordingly. Conversely, a negative distance signified that the reflector needed to be moved toward the instrument, facilitating a more accurate alignment. The process culminated when the horizontal angle again read 0° 00’ 00” and the measured distance indicated 0.000m. This dual confirmation marked a critical milestone, as it signified that the exact position for the point to be set out had been successfully identified. Upon achieving this, the perimeter boundary was effectively established, paving the way for further stages of the surveying project. This methodical approach ensured the accuracy and reliability needed in perimeter surveys, which is essential for subsequent construction and planning phases.

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

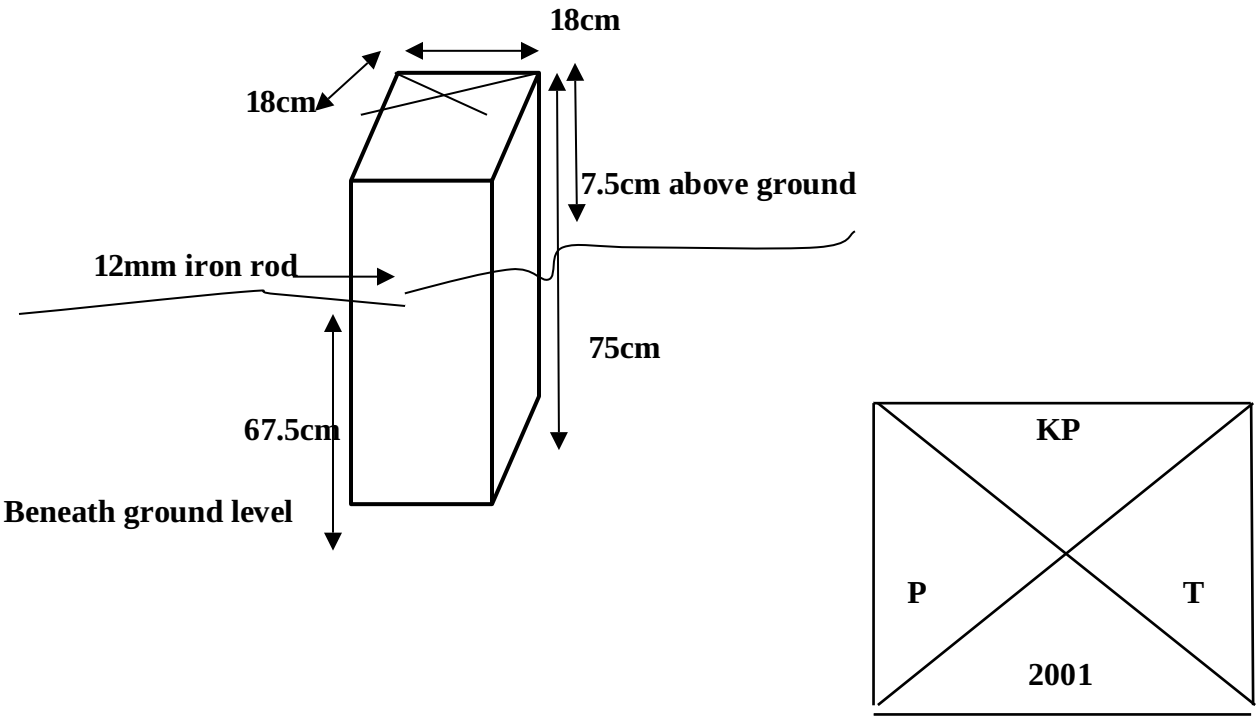


FIGURE 3.3: PROPERTY BEACON

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	NORTH
									679582.728	946429.84
A	284° 45’	139.38m		134.7	134.7	35.8		35.8	679448.029	946465.67
B	351° 1646’	95.45m		13.7	148.4	94.4		130.2	679434.376	946560.03
C	6° 09’	140.26m	15.0		163.4	139.5		269.7	679449.408	946699.48
D	96°24’	199.28m	198		361.4		22.2	291.9	679647.447	946677.37
E	14°39’	255.76m		64.7	426.1		247.	539.4	679582.728	946429.84

4.2 COMPUTE FOR TOTAL AREA USING DOUBLE LATITUDE AND

DEPARTURE

S/N	E Δ	N Δ	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 RECOMMENDATIONS

5.1 SUMMARY

The project “perimeter and detailing in survey” was carried out at old institute of environmental studies(IES) and village Kwara State polytechnic Ilorin along old Jebba road, Moro local government area Kwara state. The project is carried out in accordance with third order specifications, the reconnaissance survey 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 indelibility of the selected were put into consideration and finally, drawing of sketched diagram of the area to be survey. The field operation included (traversing and detailing).

Therefore, data processing was done and the plan was produced in analysis (manual) and digital format title plan showing perimeter and details of all project area. Finally, report was written on how the entire project was executed..

5.2 PROBLEM ENCOUNTERED

The problem encountered on the site was the moments of student in the school premises and some social survey by the student in the school premises which lead to delaying of observation and causing distraction from focusing on the work to make it faster.

5.3 CONCLUSION

In conclusion, the project task and exercise has been successfully executed since the result of above operation agreed with the requirement and accuracy of third order and the perimeter and detail survey plan of the study area were produced. The survey was executed in accordance with survey rules and regulation and departmental instruction in carrying out the project topic. And conclusively the report writing was done on how the entire project was executed both field and office work

5.4 RECOMMENDATIONS

I hereby recommended this particular project particular to be done often and often to update the infrastructural features in the society for the development of that particular area. Also, it should be carried out in school for the next development in the school premises. Moreover it is necessary for every Surveying and Geo-Informatics student to be able to carry out the particular practical.

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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

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BLD16 679553.651 946516.785

BLD16 679586.238 946511.89

BLD16 679584.278 946502.226

BLD16 679551.323 946507.854

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BLD18 679580.575 946480.54

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RD 679579.403 946403.808

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