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# ENVIRONMENTAL IMPACT ASSESSMENT STUDY REPORT FOR PROPOSED THREE (3) BLOCKS OF RESIDENTIAL APARTMENTS ON LR no. 209/7360 KARIOKOR AREA ALONG GENERAL WARUINGE STREET PANGANI NAIROBI CITY COUNTY

GPS Coordinates

Latitude: 1°16'38.04904"S

Longitude: 36°50'12.1324"E



**PROPONENT**  
**HANSARD HOMES LIMITED**  
**P.O Box 5780-00610**  
**NAIROBI**

August 2021

**Certification**

This study report for construction of three (3) blocks of residential apartments on LR no. 209/7360 Kariakor area of Pangani in Nairobi City County is prepared in accordance with Environmental Management and Coordination Act (EMCA) Cap 387 and the Environmental (Impact Assessment and Audit) (amended) Regulations, 2019 (legal notice no. 32 of 30<sup>th</sup> April 2019).

We, the undersigned confirm that the contents of this report are a true representation of the proposed development.

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**Date**

4/25/2021

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## **Acronyms/abbreviations**

COW	Clerk of Works
EA	Environmental Audit
NCCG	Nairobi City County Government
EIA	Environmental Impact Assessment
EMCA	Environmental Management and Coordination Act
EMP	Environmental Management Plan
ERP	Emergency Response Plan
NCWSC	Nairobi Water and Sewerage Company
KP	Kenya Power
NEAP	National Environmental Action Plan
NEMA	National Environmental Management Authority
NMS	Nairobi Metropolitan Services
OHS	Occupational Health and Safety
PPE	Personal Protective Equipment

## **Executive Summary**

Hansard Homes Limited (proponent) of P.O Box 5780-00610 Nairobi has purchase land LR no. 209/7360 measuring approximately 0.3788 Ha (naught decimal three seven eight eight hectares situated in Kariokor area along General Waruinge Street next to Total Petrol Station at a GPS coordinates: Latitude: 1°16'38.04904"S and Longitude: 36°50'12.1324"E in Nairobi City County.

The proponent will demolish the existing buildings at the site to pave way for the construction of three blocks of commercial cum residential buldings which will have parkings on the two basements and the ground floor, commercial premissis on first floor while the upper thirteen (13) floors will have a total of two hundred and seventy three (273) residential houses.

**Block A:** Parking at the two basement and the ground, commercial premissis on the first floor while each of the other thirteen floors (13) upper floors will have 1no-5 bedroom unit with a DSQ, 1 no -4 bedroom unit with a DSQ and 3 no-4 bedroom units giving a total of Seventy eight (78) residential units.

**Block B:** Parking at the two basemenet and the ground floor, commercil premissis on the first floor while each of the other thirteen (13) upper floors will have 4 no -3 bedroom units each with a DSQ and 5 No-2 bedroom units each giving a total of one hundred and seventeen (117) residential units.

**Block C:** Parking at the two basemenet and the ground floor, commercil premissis on the first floor while each of the other thirteen (13) upper floors will be typical each with 1 no-5 bedroom unit with a DSQ, I no -4 bedroom unit with a DSQ, 4 no-3 bedroom units giving a total of seventy eight (78) residential units.

Others facilities that will be incorporated in the facility includes parking area, pedestrian walk ways, access road, water and sewerage reticulation plans, electrical infrastructure layout as per the approved master plan and architectural drawings in line with the governments' housing policy.

The building plans for the proposed development have been submitted to the relevant departments' i.e. Physical Planning departments and infrastructure, public works, housing and energy of the Nairobi City County Government (NCCG) for

review and approved. The project is estimated to cost **Kenya shillings Seven Hundred Million (Ksh 700,000 000)**.

As per the statutory requirements by Environmental Management and Coordination Act (EMCA), this kind of development requires an Environmental Impact Assessment (EIA) license before implementation. To meet the statutory requirement set out by EMCA, the proponent commissioned Dalquarter Consult NEMA Reg. No 2932 to undertake an EIA of the proposed development in accordance with environmental statutory requirements and prepare an EIA study report for submission to NEMA for review.

This project report presents the outcome of an EIA study for construction, operation/occupation and decommissioning of the new buildings. The site is within an area zoned for development where human activities have altered the natural habitat. Nairobi Water and Sewerage Company's (NCWSC) water system and the sewer line serve the project area. The site will be connected to electricity from the main grids of Kenya Power (KP) after development.

The construction and operation of the proposed residential apartments will bring positive impacts in the study area including creation of employment, increase quality living space, boost the local economy and increase income generation, increased revenue generation to the national and county governments, rise in business in the area and improved infrastructure & services among others. The proposed project is well conceived and is in line with the country's sustainability strategy in adhering to Millennium Development Goals (MDGs), the Government's Big Four Agenda and Vision 2030. Further, the project supports one of the main Big 4 Kenya pillar agenda i.e. Affordable Housing

Negative impacts expected during construction phase of the building include, air quality, noise, security, traffic, increased human activities, solid wastes, oil leaks and spills and the occupational health and safety of the workers, passers-by and the neighbours. However, the construction of the buildings will be done by professionals who will be able to mitigate the anticipated expected negative impacts.



## Environmental Impacts and Mitigation Measures

Potential negative environmental impacts of the proposed project and possible mitigation measures are summarized below: -

	Potential Negative Environmental Impacts	Mitigation Measures
1.	Architectural incompatibility leading to distortion of neighbourhood aesthetic image	<ul style="list-style-type: none"> <li>✓ Harmonize building scale with existing development in neighbourhood.</li> <li>✓ Harmonize detail, material and finishes for roofs and walls with existing development in the neighbourhood.</li> </ul>
2.	Disruption of existing natural environment and modification of micro-climate i.e. <ul style="list-style-type: none"> <li>✓ Increased development density</li> <li>✓ Increased glare/solar reflection</li> <li>✓ Reduced natural ground cover</li> <li>✓ Obstruction of ventilating wind</li> <li>✓ Increased surface run-off</li> </ul>	<ul style="list-style-type: none"> <li>✓ Development restricted to follow zoning policy/approved density</li> <li>✓ Careful layout and orientation of buildings to respect wind and sun direction.</li> <li>✓ Adequate provision of green and open space planted with grass, shrub and tree cover.</li> <li>✓ Minimum use of reflective building material and finishes for roof, wall and pavement.</li> </ul>
3.	Pollution and health Hazards <ul style="list-style-type: none"> <li>✓ Dust and other construction waste</li> <li>✓ Noise generation from construction activities.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Damping down of site e.g. sprinkling water to dusty areas on construction site</li> <li>✓ Containment of noisy operation, including locating noise operations away from sensitive neighbors</li> <li>✓ Construction work limited to day time only and take shortest time possible.</li> </ul>
4.	Increased loading on Infrastructure services <ul style="list-style-type: none"> <li>✓ Increased vehicular and/or pedestrian traffic</li> <li>✓ Increased demand on water, sanitation services</li> <li>✓ Increase surface runoff</li> </ul>	<ul style="list-style-type: none"> <li>✓ Have paved local access road and walkway system</li> <li>✓ Encourage rainwater harvesting</li> <li>✓ Provision of increased water storage capacity</li> <li>✓ Provide adequate storm water drainage system</li> </ul>
5.	Worker accidents and health infection	<ul style="list-style-type: none"> <li>✓ Employ skilled and trained workers, provide protective clothing.</li> <li>✓ Prepare clear work schedule and the organization plan.</li> <li>✓ Have adequate worker insurance cover Enforce occupational health and safety standards</li> </ul>
6.	Increased Social Conflict	<ul style="list-style-type: none"> <li>✓ Increased Housing stock in the area and Kenya</li> <li>✓ Increased economic activities –employment generation, income earnings and housing capital stock formation</li> <li>✓ Encourage formation of community policing and formation of neighbourhood associations</li> </ul>

During operation phase, solid waste, sewerage and effluents, water and electricity demand in addition to the safety of the occupants and visitors will be of concern.

Mitigation measures for each of the anticipated negative impacts have been proposed and an Environmental Management Plan (EMP) developed in collaboration with the proponent. Proper supervision during construction and due diligence on the part of the contractor is essential for mitigating negative environmental and social impacts during construction.

The study has established that the proposed residential development project has significant impacts on the environment. Implementation of an Environmental Management Plan will assist in dealing with environmental issues during the project cycle. There are also guidelines for addressing environmental health and safety. With the proposed mitigation measures and the developed EMP, the inevitable negative impacts will be minimized to manageable levels. The project may be allowed, provided the proponent adheres to the developed EMP in this report and any other conditions imposed by NEMA in addition to acquiring all the approvals before embarking on the project.

## **1.0 Introduction, Terms of Reference & Methodology of the Study**

### **1.1 Background Information**

Environmental Impact Assessment (EIA) is a useful tool for the protection of the environment from the negative effects of developmental activities. It is now accepted that development projects must be economically viable, socially acceptable and environmentally sound. National Environmental Management Authority (NEMA) uses EIA as a tool for ensuring sustainable development for the future by mainstreaming environmental and social safeguards in all Project, Plans and Programs.

EIA is thus a project planning process that identifies, predicts and assesses the type and scale of potential social and bio-physical impacts and opportunities for benefits associated with the proposed water storage project. EIA documents the baseline condition and how this is likely to change during construction, operation and decommissioning of a project. It explores alternatives and provides an environmental monitoring and mitigation plan. The process is multi-disciplinary in nature and requires disclosure and consultation with stakeholders.

The intention of National Environment Management Authority (NEMA) is to approve and license projects that take into consideration all the aspects of concern to the public as they impact on health and the quality of the environment. It is a legal requirement that an EIA is conducted and an EIA license issued on all development projects that require one before implementation commences.

### **1.2 Introduction**

The proponent has purchase land LR no. 209/7360 measuring approximately 0.3788 Ha (naught decimal three seven eight eight hectares situated in Kariokor area along General Waruinge Street next to Total Petrol Station from the General Salvation Army (Registered Trustees) Kenya East Territory. The project site is located at a GPS coordinates: Latitude: 1°16'38.04904"S and Longitude: 36°50'12.1324"E in Pangani sub County in Nairobi City County.

The proposed development is a three (3) blocks of commercial cum residential buildings which will have parkings on the the two basements and the ground floor while the first floor will have commercial premises and the upper thirteen floors which will be typical in each block will have a total of two hundred and seventy three (273) residential houses.

### **1.3 Background to the Project**

More Kenyans are leaving rural regions for more urban areas in search of higher paying careers as the economy continues to expand. This trend has created a demand for additional housing in cities such as Nairobi, Mombasa, and Kisumu among others. The Government of Kenya (GOK) has recognized this need and identified affordable housing as one of four top priorities and has a goal of adding an additional 500,000 homes over the next five years. The private sector comes in handy to aid the government in achieving this.

In order to spur on private sector investment and participation, the GOK has taken to streamlining processes and developed a one-stop shop within the Ministry of Transport, Infrastructure, Housing & Urban Development for companies interested in pursuing and/or developing projects.

Investors acquire and hold large tracks of land in urban areas hoping the prices will escalate before they dispose them. This has greatly hindered the provision of affordable housing. The proponent wishes not to hold the acquired land for speculation purposes but construct affordable residential apartments to support the government in achieving the affordable housing pillars of the big four agenda and vision 2030.

Pangani area of Nairobi City County is growing rapidly. This could be contributed to ever growing population, availability of supporting infrastructure like the tarmac roads, electricity, the zoning of the area in addition to having sufficient piped clean water and the sewerage infrastructure. As a result of this rapid growth, demand for decent residential apartments is rising. It's against this background that the proponent proposes to construct a four story building with sixteen dwelling units.

The amended second schedule of Environmental Management Coordination Act (EMCA Cap 387) (*legal notice no 32 of 30<sup>th</sup> April 2019*), classifies projects as low risk, medium risk or high risk. Under medium risk projects section, item 2(b) refers to establishment of multi-dwelling housing development exceeding one hundred units. It's from the above that this project is considered a medium risk project hence this project report.

#### **1.4 Nature of the project**

The proponent will demolish the existing buildings at the site to pave way for the construction of three blocks of commercial cum residential buildings which will have parkings on the two basements and the ground floor, commercial premises on first floor while the upper thirteen (13) floors will have a total of two hundred and seventy three (273) residential houses.

**Block A:** Parking at the two basement and the ground, commercial premises on the first floor while each of the other thirteen floors (13) upper floors will have 1 no-5 bedroom unit with a DSQ, 1 no -4 bedroom unit with a DSQ and 3 no-4 bedroom units giving a total of Seventy eight (78) residential units.

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Others facilities that will be incorporated in the facility includes parking area, pedestrian walk ways, access road, water and sewerage reticulation plans, electrical infrastructure layout as per the approved master plan and architectural drawings in line with the governments' housing policy.

The construction materials for the proposed building will include: building blocks from approved quarries, sand, ballast, cement, iron sheets, timbers, glasses, nails and approved wires will be used for electrical wiring. The building plans (both architectural and structural) for the proposed building were submitted to the relevant departments' i.e. Physical Planning departments and infrastructure, public works, housing and energy of the Nairobi City County Government (NCCG) and approved.

Water will be connected from Nairobi City Water and Sewerage Company (NCWSC) water system and electricity from the Kenya Power (KP) main grid. The site is also served by a municipal sewer line and developers are expected to connect their establishments to the sewer line.

### **1.5 Terms of Reference**

To meet environmental statutory requirements set out by EMCA, the proponent commissioned Dalqaurter Consult, a NEMA registered and a practicing firm of Experts to undertake an Environmental Impact Assessment (EIA) of the proposed development and prepare a project study report.

The terms of reference for this EIA study include: -

- ❖ Systematically examining all aspects of the proposed project, describing the location, collecting baseline social, physical, economic and environmental information and identifying activities and processes.
- ❖ Identifying potential positive and negative impacts, analysing them and pointing out their levels of significance.
- ❖ Developing an EMP that highlights mitigation measures for the significant negative impacts during construction, occupation and decommissioning of the project.
- ❖ Produce ten (10) hard copies and one (1) soft copy of the EIA project study report for submission to NEMA for review.

## **1.6 Scope of the EIA Study**

The scope of the study was to;

- ❖ Describe nature of the project, location and rationale
- ❖ Describe the pertinent policies, legislation, regulations and standards governing environmental quality at national and international levels
- ❖ Identify potential positive and/or negative environmental impacts of the project
- ❖ Propose mitigation measures for the significant negative impacts
- ❖ Develop an EMP

## **1.6 Methodology for ESIA Study**

The methodology employed by the EIA team was participatory in nature and involved adoption of several tools to gather and analyse information and data that led to making environmentally, socially and economically sound conclusions and recommendations. The ESIA team used several tools to collect the data and compile this report.

These tools included;

- ❖ Review of literature and documents
- ❖ Discussions with stakeholders and the proponent
- ❖ Site visits, observations and interviews
- ❖ Analysis of impacts, developing the EMP, discussing the outcomes with the proponent and presenting the report to him for submission to NEMA for review.

The approach and methodology for preparing this report is based on the requirements of the Environmental Management and Coordination Act, (EMCA Cap, 387), the Environmental (Impact Assessment and Audit) (amended) Regulations, 2019 (*legal notice no. 32 of 30<sup>th</sup> April 2019*), as well as the Environmental Impact Assessment Guidelines and administrative procedures published by the NEMA. Visits were made to the site, and discussions held with various people involved in the project development as well as other stakeholders (Ref. Stakeholder Consultation).

The methodology of the process, which culminated to the assessment and the subsequent ESIA project report included the following: -

- ❖ **Preliminary assessment of the site:** where the ESIA team visited the site to know the location, assessed the site and did ground truthing surveys. During the assessment the experts i.e. the EIA team assessed the site location, neighbourhoods, infrastructures and biodiversity.
- ❖ **Screening:** This is the initial phase of any EIA process. It involves the determination of whether or not an EIA study is required for a particular development activity. Determination in the proposed project depended on the following aspects but not limited to: -
  - ✓ The sensitivity of the area likely to be affected
  - ✓ Public health and safety
  - ✓ The possibility of uncertain unique or unknown risks
  - ✓ The possibility of having individually insignificant but cumulatively significant impacts
  - ✓ Whether the proposed activity affects neighbourhood developments, protected areas, endangered or threatened species and habitats

From the above, the proposed project was seen to require an Environmental Impact Assessment study since construction activities of such magnitude are expected to give forth both negative and positive effects to the environment and ultimately contribute to an increased waste generation both in the construction and occupational phases.

This stage also involved activities such as:

- a) **Getting a comprehensive site description** that includes: Location of the proposed project, the assessments of soils and geology of the proposed site, water resources available on site, drainage system evident on site, climatic conditions of the proposed location and its vicinity, vegetation and flora on the site, land use systems on site and its vicinity, population characteristics of the region holding the proposed site, infrastructure at the site and justification for selection of the site.
- b) **The developments in the neighbourhoods.**
- c) Getting detailed information on: The nature of the proposed construction activities, the materials to be used in the construction activities on site and the expected project outputs including waste generation



- ❖ **Collection of Baseline Data:** Data collection involved activities such as desktop study and discussion with the proponent, observation, detailed physical inspection of the proposed site and the surrounding areas to determine the present and anticipated impacts of the proposed project, study of the approved structural and technical drawings for the proposed residential home. The data obtained was used to assess potential impacts on health, safety, environment and the community surrounding the proposed site location. From the obtained data, environmental, health, safety and social concerns were identified in relation to the proposed project location and mitigation measures proposed for the negative impacts, while enhancement measures proposed for the positive impact.
- ❖ **Data Analysis and Evaluation of Alternatives:** Use of checklists and the threshold limits were used in data analysis; while the proposed site location, technologies to be employed, scale of construction, potential environmental impacts, capital and operating costs, suitability under local conditions, and institutional, training, and monitoring requirements were considered in the evaluation of alternatives. The questionnaires collected were analysed for coming up with conclusions on what might be done in environmental mitigation.
- ❖ **Consultation and Public Participation:** Here, stakeholders and neighbours were interviewed and asked to fill in questionnaires. Among the neighbours interviewed are people and institutions and the business people around the project site in order to get their views, expectations, projected environmental, economic and social effects regarding the proposed project activities and location. These findings were then analysed and incorporated in this study report.
- ❖ **Preparation of the Project Report:** This Environmental Impact Assessment project report was then prepared by approved and registered (by NEMA) EIA experts, who are familiar with the provisions of the Environmental Management and Coordination Act (EMCA), 2015 and other relevant regulations and laws of Kenya as indicated in the Legal frame

❖ **Submission of the Project Report:** This report will then be submitted to National Environment Management Authority (NEMA) in copies of ten and a soft copy for review.

The approach and methodology for preparing this report is based on the requirements of the Environmental Management and Coordination Act, (EMCA Cap, 387), the Environmental (Impact Assessment and Audit) (amended) Regulations, 2019 (*legal notice no. 32 of 30<sup>th</sup> April 2019*), as well as the Environmental Impact Assessment Guidelines and administrative procedures published by the NEMA. Visits were made to the site, and discussions held with various people involved in the project development as well as other stakeholders (Ref. Stakeholder Consultation).

### **1.7 Objective and Purpose of the Project**

Over the years, it has become obvious that for Kenya to become self-sufficient, it is necessary that it embraces entrepreneurial culture (Vision 2030.) Business activities play a major role in promoting economic development through creating employment and entrepreneurs are considered as the central figures in economics. Various Kenyan Development Plans and Economic Surveys including the Economic Survey of 2006 and 2007 reveal that the vast majority of jobs are created through entrepreneurship.

More Kenyans are leaving rural regions for more urban areas in search of higher paying careers as the economy continues to expand. This trend has created a demand for additional housing in cities such as Nairobi, Mombasa, and Kisumu among others. The Government of Kenya (GOK) has recognized this need and identified affordable housing as one of four top priorities and has a goal of adding an additional 500,000 homes over the next five years. The private sector comes in handy to aid the government in archiving this.

The proponent wishes not to hold the acquired land for speculation purposes but construct affordable residential apartments to support the government in achieving the affordable housing pillars of the big four agenda and vision 2030.

The main objective of the proponent therefore is to optimize the usage of the plot by constructing (3) blocks of commercial cum residential buildings which will have parkings on the two basement and the ground floors, commercial premises on first floor while the upper thirteenn (13) floors which will be typical per block will have a total of two hundred and seventy three residential apartments when complete.

The project cycle will have three (3) phases i.e.

- ❖ Construction of the new buildings
- ❖ Operational of the new building
- ❖ Decommissioning

The construction phase will involve the following: -

- ❖ Fencing the project site
- ❖ Excavation of the site
- ❖ Purchase and delivery of building materials
- ❖ Construction of the buildings with rain water harvesting facilities
- ❖ Installation of water storage facilities
- ❖ Connecting electricity to the facility
- ❖ Fixing of fittings and fixtures

The second phase will be occupational/ operation of the new buildings while the third phase will be decommissioning of the facility which is not foreseen soon.

The project will have some benefits and will therefore contribute to the Gross National Product (GDP). Of importance is: -

- ❖ Provision of market for building materials during establishment
- ❖ The provision of employment opportunities during establishment
- ❖ Financial benefits to the proponent
- ❖ Improvement of aesthetic appeal and value of land and its environs
- ❖ Provision of accommodation and business facilities
- ❖ Opening the area for more developments

The project will also have some negative impacts during establishment and operational phases. These will include but not limited to: -

- ❖ Noise and dust pollution
- ❖ Stress on water and electricity

- ❖ Security
- ❖ Waste water disposal
- ❖ Solid waste disposal

Mitigation measures for the negative impacts have been proposed to minimize their effects

### **1.8 Environmental Monitoring and Management**

This report makes proposals for monitoring and management of environmental mitigation measures during the construction and operational phases of the proposed project. During construction, the main responsibility for the incorporation and monitoring of mitigation measures lies with the project engineers, architect, contractor and the Clerk of Works (COW). The contractor will be responsible for the implementation of most of the measures. After construction, the proponent or the appointed agent will be responsible for the maintenance of the grounds, services and the building.

### **1.9 Public Consultation**

This is an important and integral part of the EIA process. It is a requirement and a very important tool for collection of data and especially the baseline/background information. Public consultations help bring out the contentious issues and give a chance to those who may be affected by a proposed project to air their views and any significant issue is addressed at the initiation stage of the project. This enables evaluation of the public and neighbour's views. This was done and the comments of interviewed are attached.

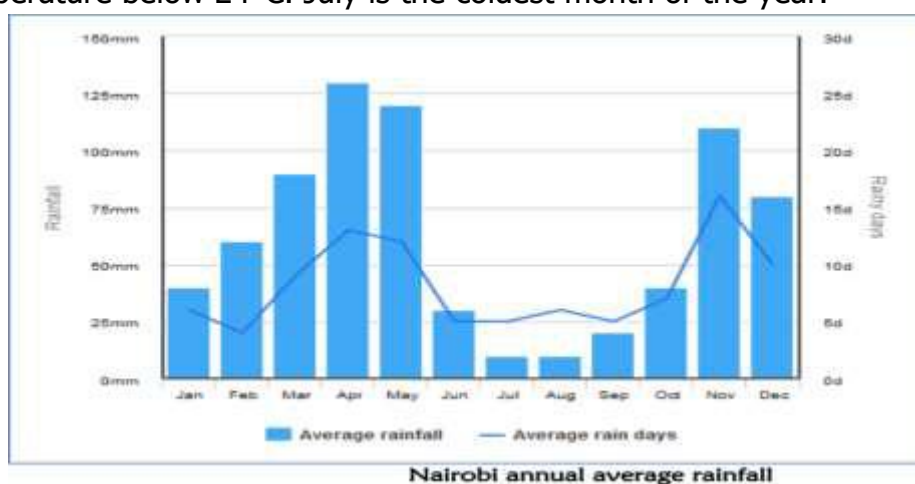
## 2.0 Proposed Project Description, Activities/Baseline Information

### 2.1 Introduction Baseline Information of the Study Area

This chapter presents the geographic characteristics, baseline environmental conditions including the socio-economic conditions within the project area. For convenience, the description of the large Nairobi area is provided followed by presentation of details that are more specific to the site. It should however be noted that the comprehensiveness of the descriptions of the general geographic and environmental characteristics of the study area is variable being governed by availability of relevant data and information.

### 2.2 Climate

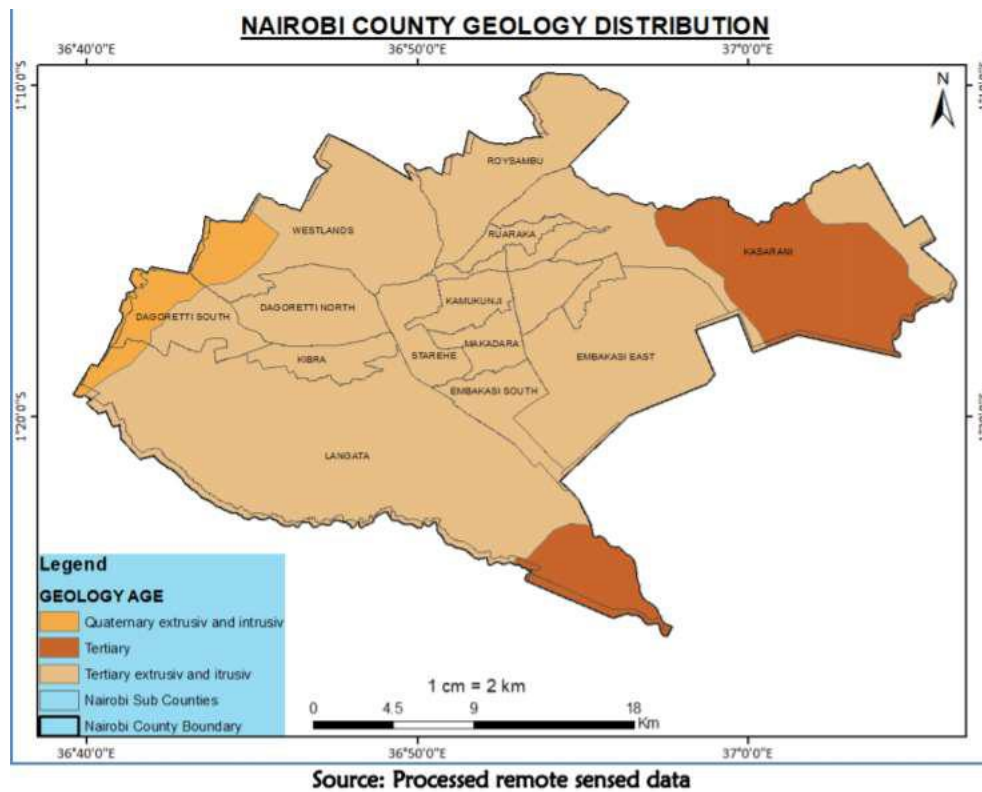
The climate of the area is characterized by a bimodal rainfall pattern where short rains are experienced from October to December, and long rains from March to May. During the year, the area temperature varies from 12°C to 28°C and is rarely below 9°C or above 30°C. During the months of late January to late March the area experiences warmest seasons with an average daily high temperature above 27°C. The June to August period is characterized by a cold spell with an average daily high temperature below 24°C. July is the coldest month of the year.



The mean annual rainfall is about 900 mm and an annual potential evaporation of about 1600 mm. Although the potential evaporation appears to be high compared to the rainfall, it is noted that the rainfall seasons are relatively cool and evaporation values are thus low. This condition gives way to adequate rain for run-off, percolation for replenishment of ground water and sufficient moisture for crops and vegetation growth.

### 2.2.1 Geology

The geology of the area is comprehensively described in Saggerson (1991). Exclusively Tertiary volcanic materials overlying folded Precambrian Basement System rocks of the Mozambique Belt cover the project Area. The intense tectonic activity associated with the formation of the Great Rift Valley, led to a series of widespread eruptions and lava flows, which occurred from Mid-Miocene to Upper Pleistocene times. The youngest Tertiary rocks are the Nairobi Phonolites (NP), Nairobi Trachytes, which occur a few metres below the surface at the site. The Upper Athi Series (AS) and Mbagathi Phonolitic Trachytes subsequently underlie these. The thick volcanic sheet is underlain at great depths (probably more than 300 m) by metamorphic rocks of the Basement complex (gneisses and schists) of the Mozambican System.



### 2.2,2 Flora

The site is located within an area characterised by mixed land uses where human activity has altered the flora. The land where the development will take place was formally used for residential purposes (hostels). There are some fruit trees, flowers and lawn grass. Remnants of the natural vegetation are weeds, green grass and dry grass. All these will be cleared to pave way for the new development. of the area

### **2.2.3 Fauna**

The site is situated in an area where human activities have altered the natural habitat for animals over the years. The project site is in an urban setting and thus the site does not serve as a unique habitat for any threatened native species except may be small insects, birds and lizards. As a result, the proposed project does raise grave concerns in relation to displacement of fauna.

### **2.3. Existing Water Supply and Demand**

Currently there is no settlements within the property, however, in the neighbourhood, water for domestic use is supplied by Nairobi City Water Company and Sewerage Company (**NCWSC**). This will form the main source of water both during construction as well as during operation. However, it is important to put into consideration the prevalent water shortage in the city. The proponent may propose to drill a borehole to supplement the public water supply and avoid increasing pressure on the already strained water supply by the city. In case of any shortage, water may be brought to the site using water bowsers. To take care of any shortages during occupation, the proponent will be expected to enhance rainwater harvesting by installing gutters and down pipes, underground reservoirs as well as storage tanks on the upper floors of the buildings.

### **2.4 Socio-economic characteristics**

#### **2.4.1 Population**

The project site is in a high density residential zone around Eastleigh and Pangani areas with an emerging affluent and middle class population. The population is composed of middle and high income calibre residents mostly those living in townhouses and apartments within the place.

The current population of Nairobi is 3.13 million (CBS 2009). The annual population growth rate was 4.26% during the period 1999-2005, which is lower than the average annual growth rate of 4.90% during 1989-99. The growth rate is currently 4.1. The population was expected to reach 5 million by 2015. Provision of housing facilities is still a challenge to a large segment of population in Nairobi with majority of the residents living in slum areas.

## **2.4.2 Economic Activities**

Nairobi is one of the most prominent cities in Africa, politically and financially. It is the home to many companies and organizations, including the United Nations Environment Program, UN-Habitat and the UN Office for Africa. The area surrounding the project site is majorly a commercial zone; however, the economic activities are taking over.

## **2.4.3 Society and Culture**

Nairobi has two informal nicknames. The first is "The Green City in the Sun", which is derived from the city's green foliage and warm climate (United Nations Office in Nairobi 2007). The second is the "Safari Capital of the World", which is used to denote Nairobi 's prominence as a hub for safari tourism (Serena Hotels 2008).

## **2.4.4 Crime**

Nairobi is still struggling with rising crime because of unplanned urbanization, minimal number of police stations and a proper security infrastructure. However, the main factor for the city's alarming crime rate is high rate of unemployment and police corruption, which leaves many criminals unpunished. As a security precaution, most homes and estates along the project route have guards from reputable security firms, burglar grills, and dogs to patrol their compounds during the night.

## **2.5 Key Infrastructure**

### **2.5.1 Roads**

Nairobi city is currently undergoing major road constructions to upgrade its infrastructure network. The site is well served, with good communication and transport network such as road and telecommunications. The main access road is the newly constructed Mombasa road which is well connected to other main roads like Out Ring road and Jogoo Roads, Thika road and the on-going Nairobi Express way hence making the site well accessible.



## 2.5.2 Sewer System

The site falls in an area that has a conventional sewer system and is intended to be upgraded and proposed project site is served by the existing NCWSC sewer line.

The sanitation conditions in the locality are generally good. There is proper solid waste and waste water management within the area which is managed by Nairobi City County Government and more specifically Nairobi Metropolitan Services (NMS). Most buildings in the surrounding are connected to the sewer line.

## 2.6 Nature and Description of the Project

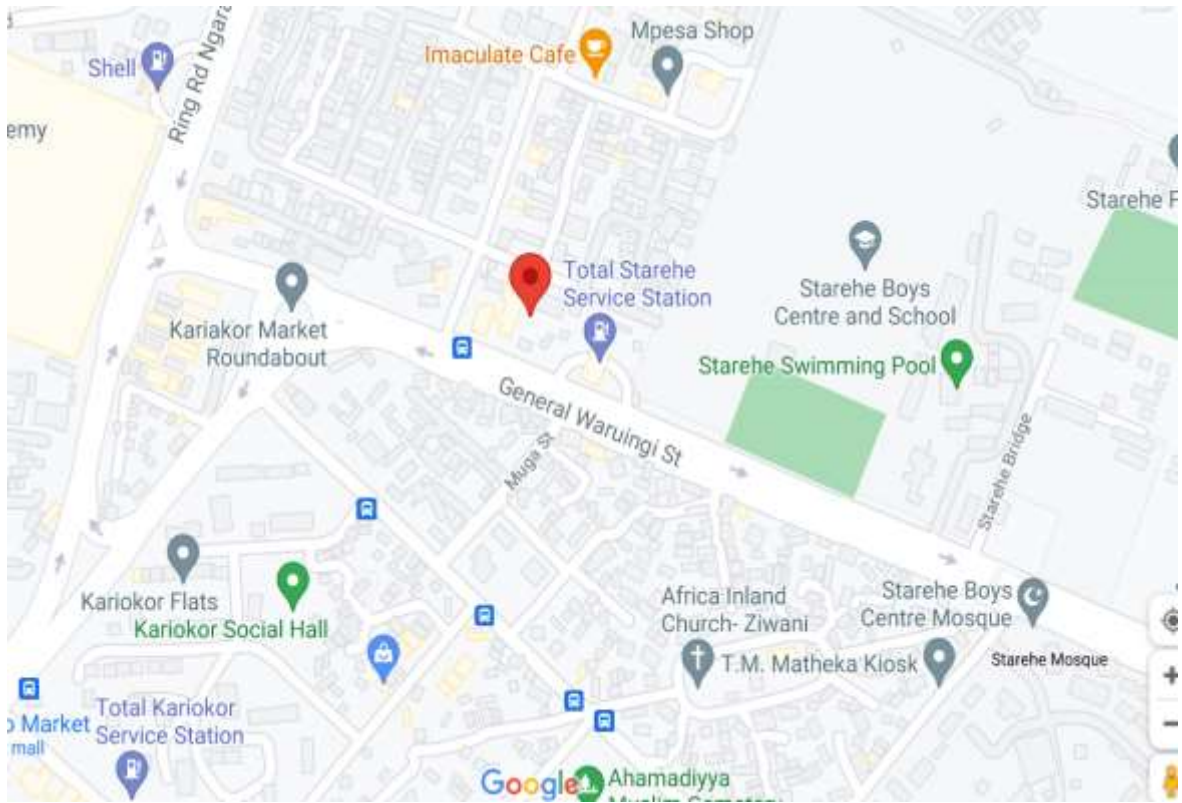
### 2.6.1 Introduction

This section describes the current setting around the proposed project area and its area of influence. Data and information presented here have been sourced from various documents. A list of references is provided in the Annex.

### 2.6.2 Project Site Description and Location

The project site is located in LR no. 209/7360 measuring approximately 0.3788 Ha (naught decimal three seven eight eight hectares situated in Kariokor area along General Waruinge Street next to Total Petrol Station at a GPS coordinates; Latitude:





### **2.6.3 Land Ownership**

The plot for the proposed development i.e. LR no. 209/7360 measuring approximately 0.3788 Ha (naught decimal three seven eight eight hectares is owned by Hansard Homes Limited P.O Box 5780-00610 Nairobi from the General Salvation Army (Registered Trustees) Kenya East Territory as per sale agreement dated 3<sup>rd</sup> July 2020. A copy of original title deed and the sale agreement are attached in annex for ease of reference.

### **2.7 Project Implementation (Construction)**

The construction of the building will be based on the applicable building standards of Kenya which will include but not limited to the Building Code and the British Building Standards BS 8110, BS 5950, BS4449, BS4461 etc. The technology used in the design and construction of the apartments will be based on international standards, which have been customized by various housing units in Kenya. The project will consist of residential apartments complete with associated facilities, parking's and infrastructure as presented in the architectural drawings in the appendix.

The buildings will be constructed as per the respective structural engineer's detail as provided for in the drawings presented in the Appendix. Basically, the building structures will consist of concrete appropriately reinforced with metal (steel and iron). The roof will consist of structural timber and steel members and roofing tiles. The buildings will be provided with a well-designed concrete staircase for every house. The buildings will be provided with facilities for drainage of storm water from the roof through peripheral drainage systems into the drainage channels provided and out into the natural drainage channel/system.

Drainage pipes will be of the PVC type and will be laid under the buildings and the driveway encased in concrete. This is a sparsely build area and such no need for public drainage channel. The buildings will have adequate natural ventilation through provision of permanent vents in all habitable rooms, adequate natural and artificial light, piped water stored in above ground water tanks and firefighting facilities.

## **2.8 Construction Inputs/Activities**

### **2.8.1 The Project Inputs**

The project inputs will include but not limited to the following: -

- ❖ Acquisition of construction raw materials i.e. building stones, sand, hard-core (gravel/ballast), timber, Iron sheets etc. from licensed dealers
- ❖ Labour force (skilled and non-skilled) will be sourced from within
- ❖ Power from the main grid of Kenya (KP) is within reach
- ❖ Water will be connected from (NCWSC) water system

### **2.8.2 Construction Activities**

The construction activities will include the following: -

- ❖ Fencing the project site
- ❖ Demolition of the existing buildings
- ❖ Excavation of the ground for foundation
- ❖ Purchase & delivery of construction materials from approved dealers.
- ❖ Site works i.e. Site fencing, and actual building construction
- ❖ Disposal of the resulting debris/ waste materials
- ❖ Fitting and fixing of fixtures
- ❖ Connecting the facility to the existing municipal sewer line.

## **2.9 Project's Construction Activities**

### **2.9.1 Pre-construction Investigations**

The implementation of the project's design and construction phase will start with thorough investigation of the site's biological and physical resources to minimize any unforeseen adverse impacts during the project cycle.

### **2.9.2 Sourcing and Transportation of Building Materials**

Building materials will be transported to the project site from the approved extraction, manufacture, or storage sites using transport trucks compliant with the traffic regulations. The building materials to be used in the construction of the project will be sourced from approved dealers. Greater emphasis will be laid on



procurement of building materials from within the local area, which will make both economic and environmental sense as it will reduce negative impacts of transportation of the materials to the project site through reduced distance of travel by the materials transport vehicles.

### **2.9.3 Excavation and Foundation Works**

Excavation will be carried out to prepare the site for foundation works, pavements and drainage systems. This will involve the use of heavy earthmoving machinery such as tractors and bulldozers as the buildings will have basements and fact that the buildings will have fifteen story, there is need to have a deep and stable base.

### **2.9.4 Storage of Materials**

Building materials such as rough stones, ballast, sand and steel will be carefully piled on site. To avoid piling large quantities of materials on site, the contractor will order bulky materials such as sand, gravel and stones at construction pace. Materials such as cement, paints and glasses among others will be stored in temporary storage structures constructed during pre-commission phase, which will be constructed within the project site for this purpose.

### **2.9.5 Masonry, Concrete Work and Related Activities**

The construction of the building walls, foundations, floors, pavements, drainage systems, perimeter fence and parking area among other components of the project will involve a lot of masonry work and related activities. General masonry and related activities will include stone shaping, concrete mixing, plastering, slab construction, construction of foundations, and erection of building walls and curing of fresh concrete surfaces. These activities are known to be labour intensive and will be supplemented by machinery such as concrete mixers.

### **2.9.6 Structural Steel and Roofing Works**

The buildings shall be reinforced with structural steel for stability. Structural steel works will involve steel cutting, welding and erection. Roofing activities will include raising and fastening the roofing materials.

### **2.9.7 Electrical Works**

Electrical work during the construction of the houses will include installation of electrical gadgets and appliances including electrical cables, lighting apparatus, sockets etc.

### **2.9.8 Plumbing**

Installation of pipe work for water supply and distribution will be carried out at building. In addition, pipe work will be done to connect sewage from the premises to the municipal sewer line, and for drainage of storm water from the rooftop into the peripheral storm water drainage system. Plumbing activities will include metal and plastic cutting, the use of adhesives, metal grinding and wall drilling among others.

### **2.9.9 Winding Up Construction**

To improve on the aesthetic value or visual quality of the site after completion of construction, the contractor will carry out collection and removal of debris and remaining building materials from the site. The materials like sand and cements would be sieved to be used for other purposes such as the ground floor plastering.

### **2.10 Project Budget**

The project establishment is estimated to cost Kenya shillings **Seven hundred Million (Ksh 700, 000,000)**; however, the actual figures will be ascertained by a qualified quantity surveyor.

## **3.0 Environmental Policies and Legal Frameworks**

### **3.1 Overview**

For a long time, environmental conservation aspects and pollution control were scattered in the various sectoral pieces of legislation thus making coordination very difficult. This problem was overcome by the enactment of the EMCA which prevails over all the other sectoral acts. However, since it is not possible to capture everything, it is recommended that the proponent acquire copies of the Acts, Regulations and Policy documents for completeness. For purposes of this report, the guidelines have been grouped as policy and legal frameworks.

### **3.2 Policy Frameworks**

#### **3.2.1 Kenya Vision 2030**

The Kenya Vision 2030 is the new country's development blueprint covering the period 2008 to 2030. It aims at making Kenya a newly leading industrializing middle income country providing high quality life for all its citizens by the year 2030. The vision has been developed through an all inclusive stakeholder consultative process, involving Kenyans from all parts of the country.

The vision is based on three 'pillars' – Economical, Social and Political. The environmental sector falls under the social pillar. The vision came after the successful implementation of the Economic Recovery Strategy for Wealth Creation which saw the country's economy back on the path to rapid growth since 2002 when the GDP was at 0.6% rising to 1% in 2006

The long-term success of achieving Vision 2030 targets will largely be dependent on ensuring that environmental management is addressed in medium term plans as an enabler for sustained pro-development rather than as an inhibitor to development. It is therefore critical that all constructions within the country take care of the environment and ensure environmental sustainability in order to help achieve this very important Millenium Development Goal amongst others.

### **3.2.2 National Environmental Action Plan (NEAP)**

According to NEAP 1994, the government recognized the negative impacts on ecosystems emanating from development programmes that disregarded environmental sustainability. Established in 1990, the plan's effort was to integrate environmental considerations into the Country's Economic and Social Development. Under the NEAP process EIA was introduced.

### **3.2.3 National Policy on Water Resources Management & Development**

It enhances a systematic development of water facilities in all sectors for the promotion of the country's socio-economic progress, and also recognizes the by-products of these processes as wastewater. It calls for development of appropriate sanitation systems to protect people's health and water resources from pollution.

### **3.2.4 Policy Guidelines on Environment and Development**

Among the key objectives of the policy paper on Environment and Development (Sessional Paper No. 6) are to ensure that from the onset, all development policies, programmes and projects take environmental considerations into account and to ensure that an EIA report is prepared for any industrial venture or any other development before implementation among others.

### **3.2.5 National Shelter Strategy to the year 2000**

This strategy was formulated to advocate a change in policy in order to allow investors to come in and give the government a hand in providing housing. The government's role was simply facilitating other actors such as developers to invest in shelter

## **3.3 Legal Frameworks**

### **3.3.1 Constitution of Kenya, 2010**

The Constitution of Kenya is the supreme law of the Republic and binds all persons and all state organs at all levels of government. The Constitution of Kenya, 2010 provides broad frame work regulating all existence and development aspects of



interest to the people of Kenya, and along which all national and sectoral legislative documents are drawn.

In relation to the environment, article 42 of chapter four, the Bill of Rights, confers to every person the right to a clean and health environment, which includes the right to have the environment protected for the benefit of present and future generations through legislative measures, particularly those contemplated in article 69, and to have obligations relating to the environment fulfilled under Article 70.

Chapter 5 of the document provides the main pillars on which the 77 environmental statutes are hinged. Part 2 of this chapter directs focus on the environment and natural resources. It provides a clear outline of the state's obligation with respect to environment, thus;

"The state shall-

- ❖ Ensure sustainable exploitation, utilization, management and conservation of the environment and natural resources, and ensure equitable sharing of the accruing benefits;
- ❖ Work to achieve and maintain a tree cover of at least ten per cent of the land area of Kenya;
- ❖ Protect and enhance intellectual property in, and indigenous knowledge of biodiversity and genetic resources of the communities;
- ❖ Encourage public participation in the management, protection and conservation of the environment;
- ❖ Protect genetic resources and biological diversity;
- ❖ Establish systems of environmental impact assessment, environmental audit and monitoring of the environment.
- ❖ Eliminate processes and activities that are likely to endanger the environment; and
- ❖ Utilize the environment and natural resources for the benefit of the people of Kenya."

There are further provisions on enforcement of environmental rights as well as establishment of legislation relating to the environment in accordance to the guidelines provided in this chapter.

In conformity with the constitution of Kenya, every activity or project undertaken within the republic must be in tandem with state's vision for national environmental as well as adherence to the right of every individual to a clean and healthy environment.

### **3.3.2 Environment Management and Coordination Act (EMCA Cap, 387)**

The Act entitles every person in Kenya to a clean and healthy environment and aims to safeguard and enhance the environment. Though there are other sectoral laws on environmental conservation, this is the supreme act. It provides guidelines on issues of environment, stipulates offences and penalties. The Act also lists in the second schedule the type of projects which must be subjected to the EIA process. It is this Act that established NEMA. *The proponent has engaged a registered and licensed lead expert to undertake the EIA for the proposed building.*

### **3.3.3 Environment (Impact Assessment and Audit) Regulations, 2003**

These are entrenched under section 147 of the EMCA. The regulations provide the framework for carrying out EIAs and EAs in Kenya.

*The proponent is aware of this and has initiated the undertaking of this Environmental Impact Assessment project study.*

### **3.3.4 Environmental Management and Co-ordination, (Waste Management) Regulations, 2006**

This regulation defines the responsibilities of waste generators and the duties and requirements for transportation and disposal of waste. It states that "no person shall dispose of any waste on a public highway, street, road, recreation area or in any public place except in a designated receptacle and a waste generator shall collect, segregate and dispose such waste in the manner provided for under these regulations". It provides for mitigation of pollution and provides for hazardous and toxic wastes.

*Responsibilities of a waste generator*

No person shall dispose of any waste on a public highway, street, road, recreational area or in any public place except in a designated waste receptacle.

Any person whose activities generate waste shall collect, segregate and dispose or cause to be disposed off such waste in the manner provided for under these Regulations.

Without prejudice to the foregoing, any person whose activities generates waste has an obligation to ensure that such waste is transferred to a person who is licensed to transport and dispose off

### *Cleaner Production Principles*

Any person who owns or controls a facility or premises which generates waste shall minimize the waste generated by adopting the following cleaner production principles:

Improvement of production process through:-

Conserving raw materials and energy

Eliminating the use of toxic raw materials within such time as may be prescribed by the Authority

Reducing toxic emissions and wastes monitoring the product cycle from beginning to end by:-

- ❖ Identifying and eliminating potential negative impacts of the product.
- ❖ Enabling the recovery and re-use of the product where possible.
- ❖ Reclamation and recycling.
- ❖ Incorporating environmental concerns in the design, process and disposal of a product.

*The proponent will adhere to the requirements of the act by ensuring that there will be minimal wastes from the development and that all will be dumped in licensed and designated dumping sites. The main contractor will adopt and implements all possible cleaner production methods during the construction phase of the project. During the construction phase of the project, the proponent shall ensure that the main contractor implements the above mentioned measures as necessary*

### **3.3.5 Environmental Management and Coordination Act (Noise and Excessive Vibration Pollution) (Control) Regulations 2009**

The Act is conferred by section 147 of EMCA. Part II section (5) states that “no person shall make, continue or cause to be made or continued any noise more than the noise levels set in the First Schedule, unless it’s necessary to the preservation of life, health, safety or property”. Section (6) (1 and 2) ensures that no person shall cause noise from any source which exceeds any sound level as set out in the regulations and measurements shall be taken by the relevant lead agency.

Sub section (5) states that “any person who makes noise in excess of the prescribed levels commits an offence”. Section 7 (a-d) exempts noise emitted during alerting, performance or noise in connection with the protection of the health and safety of residents or their property during emergency conditions and or warning devices necessary for the protection of public safety.

Part III section II (1) (b) states that any person wishing to engage in any commercial or industrial activity which is likely to emit noise or excessive vibrations shall carry out the activity or activities within the relevant levels prescribed in the First Schedule.

Section 15 states that any person intending to carry out construction, demolition, mining or quarrying work shall, during the Environmental Impact Assessment studies-

Identify natural resources, land uses or activities which may be affected by noise or excessive vibrations from the construction, demolition, mining or quarrying;

Determine the measures which are needed in the plans and specifications to minimize or eliminate adverse construction, demolition, mining or quarrying noise or vibration impacts; and incorporate the needed abatement measures in the plans and specifications.

### **3.3.6 Environmental Management and Co-ordination (water quality) Regulations, 2006**

These Regulations shall apply to drinking water, water used for industrial purposes, water used for agricultural purposes, water used for recreational purposes, water used for fisheries and wildlife, and water used for any other purposes.

The regulation is very clear on the discharge of effluent to the environment. It states that "Every person who generates and discharges effluent into the environment under a licence issued under the Act shall carry out effluent discharge quality and quantity monitoring in accordance with methods and procedures of sampling and analysis prescribed by the Authority, and shall submit quarterly records of such monitoring to the Authority or its designated representative."

Article 19 of the regulation is very explicit on the use of Wastewater for Irrigation. It states, "No person shall be permitted to use wastewater for irrigation purposes unless such water complies with the quality guidelines set out under the Eighth Schedule to these Regulations".

### **3.3.7 Factories and Other Places of Work Act – (Revised 1990)**

The Act makes provision for the health, safety and welfare of persons employed in factories and other places of work. The provisions require that all practicable measures be taken to protect persons in places of work from dust, fumes or impurities originating from any process within the workplace. The provisions of the Act are also relevant to the management of hazardous and non-hazardous wastes, which may arise at a project site. The Act provides for all necessary safety precautions to ensure the health and safety of workers. *The proponent will adhere to the regulations by ensuring that all persons at the site will have personal protective gears that will include overalls, nose masks among others.*

### **3.3.8 County Governments Act 2012**

This is an Act parliament that provides for county governments' powers, functions and responsibilities on service delivery. County planning is one of the functions of the county governments provided for under the four schedule of the constitution of

Kenya 2010. The county government is obliged under article 103 of this act to plan with an objective of facilitating the development of a well-balanced system of settlements and ensure productive use of scarce land, water and other resources for economic, social, ecological and other functions across the county. The county government therefore controls all developments within its area of jurisdiction. *All the County Government by laws will be adhered to by the proponent and all those involved in the project establishment. The plans of the proposed development were submitted the relevant departments of Nairobi City County Government and approved.*

### **3.3.9 National Construction Authority Act, 2011**

The authority was established with an objective to oversee the construction industry and coordinate its development. The authority is expected to

- ❖ Provide Consultancy and advisory services in the construction industry
- ❖ Promote and ensure quality assurance in the construction industry
- ❖ Accredite and register contractors and regulate their professional undertakings,
- ❖ Accredite and register skilled construction workers and construction site
- ❖ Supervise, develop and publish a code of conduct for the construction industry

#### *Requirement for registration*

A person shall not carry on the business of a contractor unless the person is registered by the board under this act.

The Act further in section 17 states that "All construction works, contracts or projects either in public or private sector shall be registered with the authority in accordance with the Authority".

*The proponent will ensure that he has engaged contractors and site supervisors who are duly registered with the Authority in addition to registering the construction site with NCA.*

### **3.3.10 Public Health Act- (Revised 1986)**

The Act demands the adoption of practicable measures to prevent injurious and unhealthy conditions in the site. The Act requires the proponent to enhance effective management of nuisance i.e. noxious matter or wastewater as will be discharged from the proposed project throughout the project cycle.

*Section 116* requires that Local Authorities take all lawful, necessary and reasonably practicable measures to maintain their jurisdiction clean and to prevent occurrence of nuisances or condition liable to be injurious or dangerous to human health.

Part XII, *Section 136* states that all collections of water, sewerage, rubbish, refuse and other fluids which permit or facilitates the breeding or multiplication of pests shall be deemed nuisances and are liable to be dealt with in the manner provided by this Act. *The proponent will adhere to the requirements of this act throughout the project cycle by effectively managing wastes and maintain the site clean.*

### **3.3.11 Water Act, 2016**

This is an Act of parliament whose purpose is to provide for the regulation, management and development of water resources and sewerage services and other connected purposes in line with the Constitution.

Article 63 of the acts states that every person in Kenya has a right to clean and safe water in adequate quantities and to reasonable standards of sanitation as stipulated in article 43 of the constitution.

The act also establishes a Water Services Regulatory Board whose principle objective is to protect interests and rights of consumers in the provision of water services.

Section 108 of the act states that; It shall be the duty of a licensee receiving trade effluent into its sewerage system to ensure that it has in place measures for the receipt and handling of the effluent without causing- Pollution of the environment, Harm to human health, damage to the sewerage system or a contravention of applicable laws or standards set by the Regulatory Board.

A person shall not discharge any trade effluent from any trade premises into the sewers of a licensee without the consent of the licensee.

An application for consent shall be made to the licensee and shall state the nature or composition of the trade effluent, the maximum quantity of the effluent which it proposes to discharge on any one day, the highest rate at which it is proposed to discharge the effluent and any other information required by the licensee.

The licensee's consent may be given subject to conditions, including conditions requiring pre-treatment and payments to the licensee of charges for the discharge.

In this section, "trade effluent" means any liquid, whether with or without suspended particles, produced as a by-product in the course of any trade or industry. *The proponent will adhere to the requirements of the act for an environmentally sound development.*

### **3.3.12 Persons with Disabilities Act No. 14 of 2003**

The act prohibits against discrimination of persons with disability at all levels. Persons with disabilities are entitled to a friendly environment to enable them have access to buildings, roads and other social amenities. Devices and equipment to promote easy mobility for such persons should be provided. Under this Act, the Local Authority which is an implementing agency may issue adjustment orders to owners of public and private buildings to provide or modify their premises to give access to disabled persons. *The proponent will ensure that movements of disabled persons will be taken into consideration during the designs and construction of the building.*

### **3.3.13 Occupiers Liability Act, Cap.34**

The Act states that an occupier of premises owes the 'common duty of care' to all visitors and workers. Rules of common law regulates the duty which an occupier of premises owes to his visitors in respect to danger and risk due to the state of the premises or of things done or omitted, attributes or affliction on his/her health to toxic materials in the premises.

*The proponent appreciates that all the workers at the proposed residential development will be there because of his investment interest hence he holds a 'common duty of care' to all.*



### **3.3.14 Penal Code, Cap.63**

The Act makes it an offence for any person or institution that voluntarily corrupts or fouls water of public springs or reservoirs, rendering it less fit for its ordinary use guilty of an offence. It is also an offence to make or vitiate the atmosphere in any place to make it noxious to health of persons/institution in dwellings or business premises in the neighbourhood or those passing along a public way.

*The proponent will ensure that the neighbourhood of the project is not negatively affected by the development by following all the existing laws failure to which an offence will have been committed.*

### **3.3.15 Work Injury Benefits Act, 2007**

This is an Act of Parliament to provide for compensation to employees for work related injuries and diseases contracted during their employment and for connected purposes. An employee is a person who has been employed for wages or a salary under a contract and includes apprentice or indentured learner. *The proponent will have an assurance cover for the workers during construction and operational phases of the project to ensure prompt compensation of employees for work related injuries and diseases contracted during their employment.*

### **3.3.16 Occupational Safety and Health Act (OSHA) 2007**

OSHA 2007 is more inclusive and is an Act of parliament to provide safety, health and welfare of the workers and all persons lawfully present at workplaces and to provide for the establishments of the National Council for Occupational Safety and Health and for all connected purpose. Part I section 3(1) states that; "the Act shall apply to all workplaces where any person is at work, whether temporarily or permanently.

Part II states that "the purpose of the Act is to secure safety, health and welfare of persons at work and protect persons other than persons at work against risks to safety and health arising out of work, or in connection with, the activities of persons at work". Part 11 section 6 (1-6) provides for what occupiers of premises ought to do to ensure the safety, health and welfare at work of all persons working there.

Section 7 spells out the duties of the owner being preparation of safety and health policy statement.

Section 13(1a-e) provides for the duties of the employee while at the work place while section 14 to 16 highlights the duty to report any dangerous situation, duty not to interfere with or misuse things provided pursuant to certain provisions and the prohibition against creation of hazardous situations. The offences committed are also highlighted and clearly spelt out. Sections 21-22 provide what occupier is out to do to notify the Occupation Health and Safety (OHS) Officer of cases of accidents and dangerous occurrences and occupational diseases.

This Act requires developers of facilities to notify the Director of OHS of their plans before the developments start. This Act also sets minimum standards that are to be maintained in such work places to safeguard health, safety and welfare of the workers. This action aims at eliminating hazardous situation at work places. The Act further makes it mandatory for occupiers or employers to provide Personal Protective Equipment (PPE) and all practicable means to prevent injury to workers who are exposed to potentially harmful substances and conditions.

*The proponent will adhere to the requirements of this act by among other things allowing officers from OHS free access to the premises to see the conditions workers are working under.*

### **3.3.17 Kenya Road Act, 2007**

This Act states that, "any person who unlawfully,

- ❖ Damages or in any way interferes with any road or other property of an Authority in such a manner as to endanger the life of any person; or
- ❖ Does any act which obstruct or is likely to obstruct the working of any equipment or vehicle belonging to an Authority used in its operations and whose act endangers or is likely to endanger the life of any person therein; or
- ❖ Does an act which obstructs or is likely to obstruct the operation of vehicles on any road.

*The proponent will not encroach on the main road nor the service road or obstructed pedestrians or vehicular traffic and is ready to comply with this Act throughout project lifetime.*

### **Other relevant Provisions**

The following are the relevant environmental treaties to which Kenya is signatory in order of ratification:

- ❖ Montreal Protocol on Substances that Deplete the Ozone Layer (1987) ratified 9<sup>th</sup> November 1988
- ❖ United Nations Convention to Combat Desertification (1994), ratified 12<sup>th</sup> June 1994
- ❖ United Nations Framework Convention on Climate Change (1992), ratified 30<sup>th</sup> August 1994
- ❖ Convention on Biological Diversity (1992), ratified 11<sup>th</sup> September 1994
- ❖ Bamako Convention (1991), ratified 17<sup>th</sup> December 2003
- ❖ Kyoto Protocol (2004), ratified 25<sup>th</sup> February 2005

## **4.0 Possible Environmental Impacts and Proposed Mitigation Measures**

### **4.1 Background Information**

Construction of the building will generate both positive and negative social, economic and environmental impacts. This report makes proposals for monitoring and management of social and environmental impacts during the life cycle of the project. During construction, the main responsibility for the incorporation and monitoring of mitigation measures lies with the proponent and the contractor.

### **4.2 Possible Impacts during Demolition and Construction Phases**

#### **4.2.1. Air Quality**

During the establishment of the proposed building, there will be increased gas emissions from the construction materials ferrying trucks to the project site. Some of the hazardous exhaust fumes released by the lorries/trucks include carbon oxides (CO<sub>x</sub>), Sulphur Oxides (SO<sub>x</sub>) and Nitrogen Oxides (NO<sub>x</sub>). Dust i.e. sand and soil particles will be blown during construction works and by vehicle movements during transportation of materials to and from the construction site. Such dust and gases have direct negative impact on the air quality.

#### **Mitigation Measures**

- ❖ Fence the site
- ❖ Building stones, ballast, sand and hardcore shall be obtained from quarries that are already NEMA compliant
- ❖ Transportation trucks and other machinery shall be well maintained to minimize emission of exhaust fumes
- ❖ Sensitize truck drivers to avoid unnecessary revving of vehicles at loading /offloading and parking areas
- ❖ Provide personal protective equipment (PPE) to the workers
- ❖ Sensitize workers on health hazards encountered in such work environment and encouraged to go for regular health check ups
- ❖ Use of precast concrete to minimize dust from concrete mixing.

#### **4.2.2 Soil Disturbance and Vibration**

During the project establishment, there will be soil disturbances during excavation of the ground for pillars and for foundation laying for establishment of the two basement floors.

##### **Mitigation Measures**

- ❖ Well serviced machinery operated by professionals will be used
- ❖ Excavation shall be done on areas to be used only
- ❖ Excavation activities will take into consideration the neighboring buildings

#### **4.2.3 Noise**

Noise is any loud unreasonable or unusual sound that annoys, disturbs, injures or endangers the comfort, health or safety of others and the environment. Excess noise is dangerous to workers, neighbours and passers-by. This will be caused by machinery (back holes, excavators and compressor) excavating the site, vehicles delivering construction materials, machinery and workers at the site.

##### **Mitigation Measures**

- ❖ Workers shall be provided with appropriate PPE such as earmuffs and earplugs when operating noisy machinery and when in a noisy environment.
- ❖ Vehicle and machine engines will be switched off when not in use
- ❖ Unnecessary hooting and revving of vehicles shall be avoided
- ❖ Transport vehicles will be well maintained to minimize noise
- ❖ Have only the essential workers at any construction phase
- ❖ Construction works to be carried out during day time only.

#### **4.2.4 Occupational Health and Safety (OHS)**

During the proposed construction, there will be increased dust, noise, air pollution as well as possibility of accidents within and around the construction site. The workforce, neighbours and passers-by will be subjected to these environmental hazards and disturbances. The main concerns are physical injuries, site accidents, exhaust fumes and noise. Further, workers will be exposed to possible machinery

injury, dust, gaseous emissions from transport vehicles and other automotive machinery on site, noise, and falling material. Food for the workforce at the construction site will probably be provided by mobile individuals most of whom could be operating without the necessary licenses thus compromising their health.

The current Covid-19 global pandemic poses high health risk to the proponent, construction workers, the neighbourhood and the general population due to overcrowding and sharing of tools and touching of common surfaces during construction.

### **Mitigation Measures**

- ❖ The site will be properly fenced to prevent neighbours and passers-by from trespassing and exposing them to health hazards
- ❖ Hand washing points (with automatic water and soaps dispensers) will be provided at the entrance to the site to reduce the risk of contaminating the site with Covid-19 virus
- ❖ All workers will adhere to the Ministry of Health's guidelines to prevent the spread of Covid-19 while at the site. This includes: observing safe distance, wearing of the face masks, regular hand washing and avoiding sharing of utensils like cups, spoons among others
- ❖ A thermo gun will be used to take temperature of people entering the site where people with abnormal high temperatures will not be allowed
- ❖ No worker or individual with Covid-19 like symptoms will be allowed in the construction site
- ❖ A fully equipped First Aid Kit shall be provided at the construction site always and manned by trained/qualified persons
- ❖ Depending on OHS hazards anticipated while performing assigned jobs/task(s), workers may require proper fitting PPE to avoid injuries and illnesses
- ❖ The workers shall be provided with protective gear which will include working boots, overalls, helmets, goggles, earmuffs, dust masks, and gloves among others

- ❖ Safety awareness may be gained through regular safety meetings/sessions, training on safety
- ❖ Persons providing food for workers at the site must have the necessary public health licenses
- ❖ Construction workers shall be sensitized on effects of negative anti- social behaviours and their consequences
- ❖ The contractor shall have Workman Compensation Insurance Cover for the workers which should comply with Workman’s Compensation Act as well as all Ordinances, Regulations and Union Agreements

#### **4.2.5 Increased Human Activities**

The construction of the buildings will have an increase in human activities within and around the project area. There are people who will be actively involved in construction activities while others will be idlers. As a result, this increase in human activities will lead to an increase in accidental risks to the people.

#### **Mitigation Measures**

- ❖ The site will be fenced properly to keep off idlers
- ❖ Ascertain that only the vital workers are hired at different stages of establishment
- ❖ Ensure that there is a work breakdown structure in place for each phase
- ❖ Each phase shall take the minimum time possible

#### **4.2.6 Solid Waste**

During the construction activities, solid waste which include soil, stones, metals, tiles, wood, pieces of iron sheets, glass and sharp objects like nails, plastics and other debris, will be generated. These will pose danger to site workers, neighbours, passers-by and the public.

#### **Mitigation Measures**

- ❖ The proponent/ contractor will ascertain that there is proper waste disposal management

- ❖ The proponent shall work hand in hand with the NCCG to facilitate sound waste management
- ❖ Waste shall be properly segregated to encourage re-cycling and re-use
- ❖ Provision of bins, one for bio-degradable and another for non-degradable matters
- ❖ Bins shall be of appropriate type, size and color for effective waste separation and disposal
- ❖ Train/educate all stakeholders involved in the proposed project on the importance and means of waste management and handling especially during establishment and operational phases

#### **4.2.7 Liquid and Human Waste**

Liquid waste is anticipated from wastewater during construction and water supply pipes during operation while human waste is from the workers.

#### **Mitigation Measures**

- ❖ Closely supervise related activities to ensure that leakages are avoided.
- ❖ Storm water will be channelled to storm drainage channels.
- ❖ After construction, wastewater will be channelled to the sewage line.
- ❖ A proper sanitation facility will be provided for the workers
- ❖ The sanitation facility will be connected to the existing sewer line

#### **4.2.8 Oil Leaks and Spills**

Oil leaks and spills are common in construction sites resulting from construction machinery and material transporting trucks. These oils and greases are of petroleum products which contain hard/hazardous elements that are detrimental to the environment.

#### **Mitigation Measures**

- ❖ Make use of well serviced machinery with minimal/or oil leakages



- ❖ Maintenance of trucks and machines will be carried out in designated areas i.e. petrol stations, owners' service yards and garages where oils/greases are completely restrained from reaching the ground and not at the site
- ❖ Where possible use manual labor as opposed to machinery

#### **4.2.9 Traffic**

The construction of the proposed building which is along General Wairuinge Street will cause an increase in vehicular population along the road and the adjacent ones. The traffic will comprise of Lorries supplying building material, Heavy machinery and consultants' vehicles.

#### **Mitigation Measures**

- ❖ Construction materials shall not be delivered during peak traffic hours
- ❖ Delivery of materials and construction activities shall not interfere with the smooth traffic flow along the roads
- ❖ Warning signs with warning information will be erected at the site
- ❖ The signs should be clearly visible to motorists and all other road users
- ❖ The signs will indicate among other information, truck/heavy vehicles turning and operational hours
- ❖ Strict observation of highway traffic code
- ❖ Traffic to and from the construction site will be controlled by traffic marshals

#### **4.2.10 Security**

The site neighbors' institutions, commercial and residential premises and the security of the road users, people carrying out business around should not be compromised. The site might act as a hideout for criminals when construction work is not going on while stored construction materials might attract people with evil motives.

#### **Mitigation Measures**

- ❖ The site will be properly fenced
- ❖ All workers will be vetted to ascertain that they are of good character
- ❖ Guards will be engaged to man the site and materials round the clock

- ❖ Guards shall document and report any suspect movement within and around the site
- ❖ Idlers will not be allowed within the project site

#### **4.2.11 Emergency Response Plans- (ERP)**

Emergencies and disasters are a reality of everyday life. Workers/ people must therefore be sensitised and prepared on how to react to either emergencies or disasters during the establishment and operational phases. Absence of such plans may be risky since there would be no guidelines on how to handle or control emergencies if they occur.

#### **Mitigation Measures**

- ❖ The contractor/proponent will initiate and develop effective ERP to cater for various eventualities such as fire outbreaks and other incidents likely to occur
- ❖ ERPs will be properly documented and made available to all
- ❖ Regular drills should be conducted on possible incidences

### **4.3 Possible Impacts during Occupation Phase**

#### **4.3.1 Increased Water Demand**

Water will be a main input during the operation of the facility. Opening the facility to the tenants after completion will create additional demand for clean water within the area.

#### **Mitigation measures**

- ❖ The buildings shall have rain water harvesting and water storage facilities
- ❖ Water conservation taps that turn off automatically will be installed
- ❖ Notices and information signs will be provided within the facility to notify on means and needs to conserve water
- ❖ Mopping of floors will be encouraged as opposed pouring during cleaning
- ❖ Water saving cisterns will be installed in all sanitary facilities
- ❖ Drill a borehole to supplement the NCWSC water supply. however, the borehole should have a separate EIA license and other approvals.

### **4.3.2 Sewerage and Effluents**

Sewerage and effluents resulting from sanitary facilities and waste water from the household activities is of significant concern with respect to the environment if not properly handled. The area is served by a municipal sewer line.

#### **Mitigation measures**

- ❖ The site will be connected to the nearby municipal sewer line
- ❖ The sewerage and effluents shall always drain effectively into the sewerage system through properly designed and laid pipes
- ❖ All waste pipes shall have cleaning roving eyes accessible for inspection, cleaning and repair
- ❖ Clean sanitary facilities shall be provided for residents
- ❖ Excess roof water (after harvesting) should be directed to the established waste water channels

### **4.3.3 Solid Waste**

During operation period, a lot solid waste will be generated by the different activities housed in the building. These will include biodegradable and non-biodegradable.

#### **Mitigation Measures**

- ❖ Ensure that there is running water throughout
- ❖ Ensure that the sewerage system is properly connected and well maintained
- ❖ Provision of bins, one for bio-degradable and another for non-degradable matter
- ❖ These bins shall be of appropriate type, size and color for effective waste separation and disposal and should be strategically placed
- ❖ Waste shall be properly segregated to encourage re-cycling and re-use of some waste materials
- ❖ All waste shall be disposed appropriately as per the NCCG bylaws and Environmental Management and Co-ordination, (Waste Management) Regulations, 2006

#### **4.3.4 Electricity**

Electricity will be connected from the main grid of KP. The occupation of the building will increase the demand of electricity which is mainly water dependent in Kenya. Due to diverse types of activities in the building, there will be increase in use of various electrical appliances and lighting system for different purposes. These appliances and machines could be damaged by electric faults if electricity is poorly installed and the same machines can cause electrical faults if not used as per specifications.

#### **Mitigation Measures**

- ❖ All electrical fittings shall be done by qualified electricians and as per the electrical designs of the building
- ❖ All electrical equipment shall be used as per the manufacture's specifications
- ❖ The lighting shall be by energy saving bulbs and suitably low rated cut-off switches for power supply to the sockets
- ❖ All lights/sockets must be put off when not in use
- ❖ Alternative source of power such as solar panels and/or power inverters should be installed in the building
- ❖ A standby power generator shall be appropriately installed to avoid fumes and noise in the premises and the surrounding
- ❖ All electrical fittings and equipment will be regularly inspected and serviced by qualified personnel

#### **4.3.5 Fire preparedness**

Due to diverse activities within the building, there is a likelihood of fire outbreak. The proponent and the occupants shall be adequately prepared to prevent and counter any fire outbreak which may lead to injuries, loss of life and property.

#### **Mitigation Measures**

- ❖ Suitable fire extinguishers shall be provided and strategically placed
- ❖ Adequate means of fighting electrical fires shall be provided by means of carbon dioxide or other fire extinguishing agents

- ❖ Manual electric break glass fire alarm systems will be installed
- ❖ Emergency lighting system will be installed at all exit areas
- ❖ Fire escape routes shall be well indicated with a sign
- ❖ Use of non-oil paints is highly recommended

#### **4.4 Possible Impacts during Decommissioning Phase**

Decommissioning of the proposed building will not take place soon given that the proponent will contract professionals in all the relevant fields to design and construct the building. The relevant authorities are expected to ascertain that the proponent complies with all the legal and technical requirements to avoid condemnation of the building. However, in the event decommissioning is to take place, policies that will be in place then shall be adhered to.

##### **4.4.1 Social Economic Aspect**

This will lead to loss of business /residential premises in addition to loss of revenue to the proponent, the central government and the county government.

##### **Mitigation Measures**

- ❖ The tenants shall be given adequate notice in case of decommissioning.
- ❖ The proponent shall work within the laws to avoid condemnation of the building.

##### **4.4.2 Environmental Aspects**

In case the site must be demolished, there will be many waste materials resulting from the demolition. These will include building materials and equipment.

##### **Mitigation Measures**

- ❖ Remove all the underground facilities e.g. water and sewerage pipes, tanks, septic tanks manholes and electric cables
- ❖ All the equipment e.g. generators, hose reels, fire extinguishers, should be removed from the sight
- ❖ Backfill any surface openings

- ❖ Restore/rehabilitate the site to acceptable standards
- ❖ All the wastes to be disposed by NEMA authorized waste handlers and to NEMA approved sites.
- ❖ Develop a decommissioning plan and submit to NEMA for approval.

## **5.0 Analysis of Alternatives**

### **5.1 Proposed Development Alternatives**

This EIA report will be presented to NEMA to help in evaluating and examining the effects of the project to the environment. The positive impacts of the projects will be enhanced while the negative ones will be mitigated to minimize their effects.

This Environmental Impact Assessment study report is based on information and consultations with the project proponent, the Architect and details contained in the architectural plans and drawings of the project.

### **5.2 Analysis of Alternatives**

#### **5.2.1 The No Action Alternative**

The No Action Alternative in respect to the proposed project implies that the status quo is maintained i.e. no construction/development activity to take place. This option is most suitable alternative from an extreme environmental perspective as it ensures non-interference with the existing conditions. However, the need for such development is high and the anticipated insignificant environmental impacts resulting from construction have already been experienced.

The project site was formally used as hostels but now remains abandoned. The proposed housing project is due to the high demand of residential houses in the area. The 'no-action' alternative, which serves as a baseline for comparative analysis, must be included where the environmental impact of taking the proposed action is too high compared to the impact of not taking the proposed action. This option is the most suitable alternative from an extreme environmental perspective as it ensures non-interference with the existing conditions.

The 'No action' option will however, involve several losses both to the project proponent/land owner and the Kenya society and Government. The property will remain under-utilized or neglected. The No Project Option is therefore the least preferred from the socio-economic and partly environmental perspective since if the project is not done: -

- ❖ Availability of affordable housing will not be met
- ❖ The economic benefits especially during construction i.e. provision of jobs for skilled and non-skilled workers will not be realized.
- ❖ There will be no generation of income by the developer and the Government.
- ❖ The social-economic status of Kenyans would remain unchanged.
- ❖ The local skills would remain underutilized
- ❖ No employment opportunities will be created for Kenyans
- ❖ Discouragement for investors to construct high standard and affordable housings.
- ❖ The local skills would remain under-utilized (in terms of labour provision)
- ❖ Increased poverty and crime in Kenya due to lack of job opportunities
- ❖ The commercial sector would continue to suffer due to lack of enough residential houses in our urban areas to accommodate the ever growing urban population.

Under “No project” option, the proponent’s proposal would not receive necessary approval from Authorities hence the proposed construction would not be implemented. The No Project Alternative is therefore the least preferred from the social economic and environmental perspectives since the option will lead to loss of economic benefits not only to the proponent, but to the government and the public at large.

### **5.2.2 Relocation Alternative**

Relocation option to a different site is an option available for the project implementation. At the moment, there are no alternative sites for the proposed development (i.e. the project proponent doesn’t have an alternative site). This means that the proponent has to look for the land if relocation is proposed. Looking for the land to accommodate the scale and size of the project and completing official transaction on it may take a long period. Additionally, it is not a guarantee that such land would be available. The proponent has acquired the parcel of land with the sole purpose of developing it. Having decent housing units and proper waste disposal is most welcome. The proponent does not have another appropriate site to undertake this project.



The proponent is already seeking development approvals in various government departments. The project proponent would spend another long period of time on design and approvals of the plans by the relevant government departments. In consideration of the above concerns and assessment of the current proposed site, relocation is not a viable option since the proponent bought the plot with an intention of developing it multi-dwelling residential units

### **5.2.3 Alternative Land Use Activities**

The proposed project is in the outskirts of the town Centre and neighbors several commercial activities in the neighborhood of Eastleigh. The area is in a mixed use Zone i.e. residential, commercial and institutions. Alternative land use activities such as farming, grazing land and car repairs will conflict with surrounding land use activities. For uniformity purposes, the proponent is interested in construction of residential houses similar both in form and character to what is in demand in this era and age.

Some of the alternatives considered were the housing needs; both type and design. The design of having a three (3) blocks of fifteen (15) story each on the plot was most appropriate because of housing needs, site location, centralized waste management, security and controlled water use.

### **5.2.4 Alternative to Construction Materials and Technology**

There is a wide range of construction and furnishing materials which can be sourced locally and internationally. In this construction, certified raw materials/equipment and modern technology will be used. Also, electrical appliances that save energy will be given first priority. The concrete pillars and walls will be made using locally sourced stones, cement, sand (washed and clean), metal bars and fittings that meet the Kenya Bureau of Standards requirements.

### **5.2.5 Comparison of Alternatives**

To design energy efficient built environment means that we must minimize wastage of resources while maximizing the use of renewable energy sources and passive building design options. Some of the mandatory criteria that need to be taken into consideration are: -

- ❖ Optimization of the structure's energy efficiency
- ❖ Minimization of the energy demand of buildings
- ❖ Maximization of the efficiency of energy supply
- ❖ Maximization of the share of the renewable energy sources
- ❖ Design and technology

The design of the building will incorporate the pre-existing landmarks; the sun path and the prevailing winds. The orientation of the main road path should be developed along an East-West axis so that the main buildings facades face either North or South to minimize direct exposure to solar radiation. Further, the building should avoid hampering natural lighting and building footprint should not exceed 50% of the total area as the solar radiation incidents on the built urban surfaces tend to increase the temperature of the area. However, this can be minimized with less built area.

The new buildings should meet the best energy performance. Local building materials such as stones are very good thermal insulators and very much appropriate to the climate in Nairobi. Provision needs to be made for natural lighting and natural ventilation which can be achieved through incorporating the appropriate building shape and orientation. The buildings should be aligned along the East-West axis making it easy to install solar collectors (Solar PV or solar water heaters) at minimal costs which are very competitive with fossil fuels as a source of electricity. Provision for proper ventilation of the building should be catered for.

#### *Waste Water/Sewage Management Alternatives*

The following available technologies can be alternatives to be considered:

- ❖ Use of constructed/artificial wetland
- ❖ Use of septic tank and/or bio-digesters
- ❖ Use of stabilization ponds/lagoons

- ❖ Use of waste treatment plants such a Bio-box or the Vex-P system
- ❖ Connection to the municipal council sewage system
- ❖ Use of conservancy tanks, partial treatment and pumping to a municipal sewage system

Throughout construction, the project will produce wastes such as soil, wood chips, metal scraps and paper wrappings among other. Wastes to be generated during operation phase are mainly domestic in nature. The Proponent is expected to observe EMCA (Waste Management Regulations, 2006) and the NCCG waste disposal by laws and policies. Priority will be given to reduction of waste, recycling, and reuse. The site will be connected to the sewer line which together with other waste management measures will minimize environmental pollution.

## **6.0: Positive and Negative impacts of the proposed projects**

### **6.1 Introduction.**

Any development will have both positive and negative social economic and environment impacts. It is the wish of every developer to enhance the positive impacts and to minimize the negative impacts. Some of the positive and negative impacts of the proposed developments are summarized here below.

### **6.2 Positive Impacts**

#### **6.2.1 Employment during Construction and Operation**

Employment for different cadre of professionals and other workers will be created during, construction, occupation and decommissioning phases. These workers include professionals (e.g. architects and engineers, technicians, electricians, artisans, masons, carpenters, plumbers) and manual workers. As is usual at the construction sites, kiosk-type food providers will feed workers and earn a living. These activities will create employment and generate incomes for the workers and their families. These outcomes are desirable and are in line with government goals of employment and wealth creation.

#### **6.2.2 Improved Business**

The project will improve income of various suppliers of construction material such as building stones, hard-core, ballast, sand, cement, steel, tiles, timber, glass, sanitary ware and paints. Business around the area will also realize increased sales.

#### **6.2.3 Increased Housing Facilities.**

This project when completed will ensure more modern housing facilities in the neighbourhood. This will greatly help at solving the current shortage of housing.

#### **6.2.4 Land Use Intensification**

The development will result to a more economical use of the land without significant environmental degradation.

### 6.3 Impact levels of Negative impacts

Predictable Negative Impacts	Impact Stage	Significance	Proposed Mitigations
Air and dust pollution	C, D	Moderate	<ul style="list-style-type: none"> <li>✓ Fence the site to minimize the amount of dust generated during excavation, construction</li> <li>✓ Buildings under construction should be covered with dust arrestors during construction.</li> <li>✓ Spray water on loose soil and debris during excavation and construction phases.</li> <li>✓ Minimize emission of exhaust fumes through servicing of machinery in use. Provide site workers with appropriate PPE.</li> </ul>
Noise Pollution	C,D	Low	<ul style="list-style-type: none"> <li>✓ Provide workers with ear plugs and muffs.</li> <li>✓ Ensure Lorries supplying building materials and other site machinery are well serviced to reduce noise emission.</li> <li>✓ Machinery that makes excessive noise should fixed with silencers.</li> <li>✓ Designate one gate exclusively for material delivery and deliver materials during.</li> </ul>
Solid Waste	C,O D	Moderate	<ul style="list-style-type: none"> <li>✓ Dispose solid waste and construction debris at dumping sites approved by the NCCG</li> <li>✓ Reuse/Recycle useful material in the construction.</li> <li>✓ Store unused useful materials in the contractor's yard.</li> <li>✓ Compost or incinerate waste as appropriate.</li> </ul>
Liquid & Human Waste	C,O,D	Moderate	<ul style="list-style-type: none"> <li>✓ Provide toilets for workers during construction.</li> <li>✓ Channel all wastewater and human waste during occupation to the to the sewer municipal line</li> </ul>
Vehicle accidents	C,D	Low	<ul style="list-style-type: none"> <li>✓ Erect warning signs that construction is in progress.</li> <li>✓ Vehicles to drive carefully and observe road safety rules.</li> <li>✓ Pedestrians to observe road safety rules and regulations.</li> <li>✓ Remove all objects that would obstruct visibility or pose site accident risks.</li> </ul>

			<ul style="list-style-type: none"> <li>✓ Designate one gate exclusively for material delivery and deliver material</li> </ul>
Increased Traffic	O	low	<ul style="list-style-type: none"> <li>✓ Designate one gate exclusively for material delivery and deliver materials.</li> <li>✓ Provide adequate on plot parking for the occupants</li> </ul>
Occupational Health and Safety	C,D	Moderate	<ul style="list-style-type: none"> <li>✓ Sensitize workers on safety measures required during construction.</li> <li>✓ Provide workers with appropriate personal protective clothing, helmets &amp; boots.</li> <li>✓ Provide well stocked first aid kits</li> <li>✓ Fence off construction sites</li> <li>✓ Buildings under construction should be covered with dust and debris arrestors during construction.</li> </ul>
Increased water consumption	C,O	Moderate	<ul style="list-style-type: none"> <li>✓ Harvest rainwater and dig a borehole to supplement NCWSC water supply</li> <li>✓ Use water conservatively</li> </ul>
Fire	C,O,D	High	<ul style="list-style-type: none"> <li>✓ Install fire alarms and firefighting equipment.</li> <li>✓ Drill the workers and occupants on firefighting skills.</li> </ul>
Surface water pollution	C,O,D	High	<ul style="list-style-type: none"> <li>✓ Channel liquid and human waste to the sewage treatment facility.</li> <li>✓ From the sewage treatment facility waste should be pumped to the sewer line which passes near the plot.</li> </ul>
Soil erosion	C,O,D	High	<ul style="list-style-type: none"> <li>✓ Spray soil with water during excavation and construction Contain soil erosion</li> <li>✓ Landscape the site with grass, flowers, ornamentals and other vegetation on project completion</li> </ul>

## **7.0 Environmental Management and Monitoring Plans**

### **7.1 Overview**

The Environmental Management Plan (EMP) involves risk management strategies that should be taken by the proponent, contractors and the workers during establishment, operational and decommissioning of the project to mitigate environmental degeneration. They are approaches to monitor, control, reclaim and restore the environment back to its appropriate state. The EMP for this project provides all details of activities, impacts, mitigation measures and commitments proposed to minimize environmental impact.

Environmental monitoring is essential in project life span as they are conducted to establish if project implementation has complied with the set environmental management standard for Kenya as spelt out in EMCA Cap 387 and the Environmental Impact Assessment and Audit Regulation 2003.

Environmental concerns that will be monitored and audited during the establishment, operation and maintenance of the facility will include – air pollution, occupation health and safety, dust and gaseous emissions amongst others. This is summarized in EMP Table 1 below.

**Table 1 – Environmental Management Plan**

Project phase	Anticipated Impacts	Mitigation Measures	Monitoring period	Responsible Person	Cost (Ksh)
<b>CONSTRUCTION PHASE</b>	Air quality	<ul style="list-style-type: none"> <li>❖ Sprinkle water on ballast</li> <li>❖ Use well maintained trucks and machinery with minum fumes.</li> <li>❖ Provide PPE to construction workers</li> <li>❖ Fence off the site</li> <li>❖ Have dust shields.</li> </ul>	Throughout the construction phase	Contractor and Proponent	400,000.00
	Noise	<ul style="list-style-type: none"> <li>❖ Use manual labour as much as possible.</li> <li>❖ Provide workers with PPE.</li> <li>❖ No idling of vehicles/ machinery when not in use.</li> <li>❖ Avoid unnecessary hooting of vehicles.</li> </ul>	Throughout construction phase	Contractor and proponent.	200,000.00
	Soil disturbances and vibration	<ul style="list-style-type: none"> <li>❖ Use manual labours as much as possible.</li> <li>❖ Only necessary areas will be excavated</li> <li>❖ Use professionals if heavy machinery must be used</li> <li>❖ The contractor to put into consideration the neighbouring buildings</li> </ul>	Throughout construction phase	Contractor / Proponent	
	Occupational, Health Safety of workers and passers-by.	<ul style="list-style-type: none"> <li>❖ The site will be properly fenced to prevent neighbours and passers-by from trespassing and exposing them to health hazards</li> </ul>	Throughout the construction phase	Contractor / Proponent	100,000.00
		<ul style="list-style-type: none"> <li>❖ Hand washing points (with automatic water and soaps dispensers) will be provided at the entrance to the site to reduce the risk of contaminating the site with Covid-19 virus</li> <li>❖ All workers will adhere to the Ministry of Health's guidelines to prevent the spread of Covid-19 while at the site. This includes: observing safe distance, wearing of the face masks, regular hand washing and avoiding sharing of utensils like cups, spoons among others</li> </ul>			100,000.00
<ul style="list-style-type: none"> <li>❖ Thermo guns will be used to take temperature of people entering the site where people with abnormal high temperatures will not be allowed</li> <li>❖ No worker or individual with Covid-19 like symptoms will be allowed in the construction site</li> <li>❖ A fully equipped First Aid Kit shall be provided at the construction site always and manned by trained/qualified persons</li> <li>❖ Depending on OHS hazards anticipated while performing assigned jobs/task(s), workers may require proper fitting PPE to avoid injuries and illnesses</li> <li>❖ The workers shall be provided with protective gear which will include working boots, overalls, helmets, goggles, earmuffs, dust masks, and gloves among others</li> <li>❖ Safety awareness may be gained through</li> </ul>		50,000.00			



		<p>regular safety meetings/sessions, training on safety</p> <ul style="list-style-type: none"> <li>❖ Persons providing food for workers at the site must have the necessary public health licenses</li> <li>❖ Construction workers shall be sensitized on effects of negative anti- social behaviours and their consequences</li> <li>❖ The contractor shall have Workman Compensation Insurance Cover for the workers which should comply with Workman’s Compensation Act as well as all Ordinances, Regulations and Union Agreements</li> <li>❖ Appoint a safety supervisor.</li> <li>❖ Machines to be operated by qualified personnel only</li> <li>❖ Warning signs indicating that construction is in progress shall be clearly shown.</li> <li>❖ Restrict entry of members of public to the site</li> </ul>			1.000,000.00	
<b>CONSTRUCTION PHASE</b>	Increased human activities	<ul style="list-style-type: none"> <li>❖ Hire only vital workers at different stages of construction.</li> <li>❖ Provide waste collection bins</li> <li>❖ Ascertain that there is proper waste disposal mechanism.</li> <li>❖ Each construction phase shall take the minimum time possible</li> <li>❖ Fence the project site</li> </ul>	Throughout the construction phase	Contractor / Proponent	800,000.00	
	Solid waste	<ul style="list-style-type: none"> <li>❖ All waste to be disposed as per the NCCG bylaws and Environmental Management and Co-ordination, (Waste Management) Regulations, 2006</li> <li>❖ Proper segregation of wastes</li> <li>❖ Provide separate bins –one for bio degradable &amp; another for non-bio-degradable</li> <li>❖ Provide clean sanitary facilities for both workers and visitors</li> </ul>	Throughout the construction phase	Contractor / NCCG, Proponent	100,000 30,000	

	Liquid and human waste	<ul style="list-style-type: none"> <li>❖ Closely supervise related activities to ensure that leakages are avoided.</li> <li>❖ Storm water will be channelled to storm drainage channels.</li> <li>❖ After construction, wastewater will be channelled to the sewage line.</li> <li>❖ A proper sanitation facility will be provided for the workers</li> <li>❖ The sanitation facility will be connected to the existing sewer line</li> </ul>			
<b>CONSTRUCTION PHASE</b>	Oil leaks & spills	<ul style="list-style-type: none"> <li>❖ Use well serviced machinery to minimize grease/oil leaks</li> <li>❖ No servicing of the machinery at the site.</li> <li>❖ Store petroleum products properly in the contractors' store</li> <li>❖ Use manual labour as opposed to machinery</li> </ul>	Throughout the construction phase	Contractor & transporters	
	Traffic hazards	<ul style="list-style-type: none"> <li>❖ Construction materials shall not be delivered during pick traffic hours</li> <li>❖ Delivery of materials and construction activities shall not interfere with the smooth traffic flow along the roads</li> <li>❖ Warning signs with warning information will be erected at the site</li> <li>❖ The signs should be clearly visible to motorists and all other road users</li> <li>❖ The signs will indicate among other information, truck/heavy vehicles turning and operational hours</li> <li>❖ Strict observation of highway traffic code</li> <li>❖ Traffic to and from the construction site will be controlled by traffic marshals</li> </ul>			
	Security	<ul style="list-style-type: none"> <li>❖ Construction workers must be of good conduct</li> <li>❖ Fence off the construction site</li> <li>❖ Employ security guards to guard the site and the building materials</li> <li>❖ Install security lights and alarms and backup systems within the construction site</li> <li>❖ Security guards to document and report any suspect movements within &amp; around the construction site.</li> </ul>	Throughout the construction phase	Security firm & proponent	70,000
<b>OCCUPATIONAL / OPERATIONAL PHASE</b>	Water demand	<ul style="list-style-type: none"> <li>❖ Buildings to have rain water harvesting and storage facilities</li> <li>❖ Install water conservation taps that turn off automatically when not in use</li> <li>❖ Provide information signs within the building on means and needs to conserve water</li> <li>❖ Mopping of floors as opposed to pouring water when cleaning</li> <li>❖ Install water saving cisterns in all sanitary facilities</li> </ul>	Throughout the period	Constructor, proponents	180,000 Part of project cost
	Sewage and	<ul style="list-style-type: none"> <li>❖ Sanitary facilities to be kept clean always</li> </ul>	Throughout	Proponent	200,000

	effluent s	<ul style="list-style-type: none"> <li>❖ Connect the site to the municipal sewer line</li> <li>❖ Sewage and effluents should always drain effectively into established sewerage system</li> <li>❖ All pipes to have cleaning roving eyes accessible for inspecting cleaning and repair</li> </ul>	the period		Included in the project budget
	Solid waste	<ul style="list-style-type: none"> <li>❖ Waste shall be properly segregated</li> <li>❖ Provide bins, one for bio-degradable matter and another for non-biodegradable.</li> <li>❖ All waste to be disposed as per the NCCG bylaws and Environmental Management and Co-ordination, (Waste Management) Regulations, 2006</li> </ul>	Throughout the construction period	Proponents/ Tenant	To be determined by the contractor
<b>OCCUPATIONAL / OPERATIONAL PHASE</b>	Electricity	<ul style="list-style-type: none"> <li>❖ All electrical fittings to be done by qualified electricians</li> <li>❖ Electrical equipment to be used as per manufacturers specifications</li> <li>❖ Energy saving bulbs to be used</li> <li>❖ Put off al lights when not in use</li> <li>❖ Provide alternative source of power e.g. solar panel, power inverter and / or generator.</li> <li>❖ Regular inspection and verifying of all fittings and equipment.</li> </ul>		Tenants and care taker	500,000 (part of the project cost)
	Fire	<ul style="list-style-type: none"> <li>❖ Provide fire extinguishers at strategic places</li> <li>❖ Fire escape routes to be well indicated</li> <li>❖ Provide sand buckets/ pales at strategic areas</li> <li>❖ Display current contact numbers of the fire brigade and the police.</li> </ul>	Throughout the operation period	Contractor/pr oponent	100,000
	Noise	<ul style="list-style-type: none"> <li>❖ Adhere to environmental Management &amp; Coordination (Noise &amp; Excessive Vibration Pollution Control Regulation ,2009)</li> <li>❖ Ensure that all equipment/ machinery and workers generate permit able noise levels as per the act.</li> </ul>	Throughout the project cycle	Proponent/T enants	
<b>DECOMMISSIONING PHASE</b>	Solid Waste	<ul style="list-style-type: none"> <li>❖ Engage the services of licensed solid waste handler</li> <li>❖ Clear all the waste from the site</li> <li>❖ Recycle useful construction material</li> <li>❖ All waste to be disposed as per the NCCG bylaws and Environmental Management and Co-ordination, (Waste Management) Regulations, 2006</li> <li>❖ Waste shall be properly segregated and separated</li> <li>❖ Remove all underground facilities e.g. water and sewerage pipes, underground storage tanks, septic tanks manholes and electric cables and reuse the usable</li> <li>❖ All the equipment e.g., generators, hose</li> </ul>	Throughout the decommissioning phase	Proponent / contractor	120,000

		reels fire extinguishers, should be removed from the site			
	Accidental risks and Safety	<ul style="list-style-type: none"> <li>❖ Erect warning signs showing demolition is in progress</li> <li>❖ Fence off the site during decommissioning excise</li> <li>❖ Remove all objects that would obstruct visibility</li> <li>❖ Remove all metallic and hazardous objects to avoid injuries</li> <li>❖ The workers to be provided with appropriate PPE</li> </ul>	Throughout the decommissioning phase	Proponent or the contractor	200,000
	Disturbed physical environment	<ul style="list-style-type: none"> <li>❖ Carry out environmental restoration programme</li> <li>❖ Restore/rehabilitate the site to acceptable standards</li> <li>❖ Backfill any surface openings</li> </ul>	Throughout the decommissioning phase	Proponent or the contractor	300,000

## **7.0 Conclusion and Recommendation**

### **7.1 Conclusion**

Establishment of the proposed buildings will bring many social economic benefits to the proponent and the residents of Pangani and Nairobi City County at large. The assessment has noted the inevitable negative impacts associated with the project and has gone ahead to suggest mitigations where necessary.

With full adoption of mitigation measures stated and the implementation of the EMP during establishment, operational and decommissioning phases, the negative impacts will be greatly reduced to ensure environmental sustainable development. Proper supervision during construction and diligence on the part of the contractor are essential for mitigating environmental and social impacts during construction. The proponent may be allowed and licensed to undertake the project.

### **7.2 Recommendations**

To ensure environmental sustainable development the proponent should undertake the following: -

- ❖ Obtain all the necessary permits/licences from the relevant authorities
- ❖ Have qualified personnel to undertake the project as proposed
- ❖ Have adequate safety and healthy mitigation measures as per the statutory requirements
- ❖ Adhere to the developed EMP
- ❖ Have a Project Sign Board at the site with all the required details

The proponent may be licensed to initiate/ implement the project subject to adherence to the developed EMP and any other condition imposed by NEMA.

## References

*Constitution of Kenya 2010*

*Kenya Vision 2030*

*Kenya Gazette Supplement Act 2000, Environmental Management and Coordination Act. No. 8 of Government Printer, Nairobi.*

*Kenya Gazette Supplement No. 56. Environmental Impact Assessment and Audit Regulations 2003 Government Printer, Nairobi*

*Kenya Gazette Supplement Act, Local Authority Act (Cap 265). Government Printer, Nairobi.*

*Embu District Development Plan 2002-2008. Ministry of Finance and Planning*

*The Environmental Management & Coordination (noise&excesssive Vibration Pollution) (Control) Regulations,2009*

*Environmental Management and Co-ordination (Waste Management) Regulations, 2006*

## **Appendices**

- ❖ Lead Experts practicing License
- ❖ Land ownership documents
- ❖ Sale agreement
- ❖ Proposed building plan
- ❖ Questionnaires/Minutes

FORM 7

(r.15(2))



**NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY(NEMA)**  
**THE ENVIRONMENTAL MANAGEMENT AND CO-ORDINATION ACT**  
**ENVIRONMENTAL IMPACT ASSESSMENT/AUDIT (EIA/EA) PRACTICING LICENSE**

License No: NEMA/EIA/ERP/L/14038

Application Reference No: NEMA/EIA/EL/18366

M/S David Njagi Ngong'o  
(individual or firm) of address

P.O. Box 949 - 60100 , Embu

is licensed to practice in the

capacity of a (Lead Expert/Associate Expert/Firm of Experts) **Lead Expert**  
registration number **1763**

in accordance with the provision of the Environmental Management and Coordination Act Cap 387.

Issued Date: 2/15/2021

Expiry Date: 12/31/2021

*[Handwritten Signature]*  
 Signature.....  
 (Seal)  
 Director General  
 The National Environment Management  
 Authority



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**NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY(NEMA)  
THE ENVIRONMENTAL MANAGEMENT AND CO-ORDINATION ACT  
ENVIRONMENTAL IMPACT ASSESSMENT/AUDIT (EIA/EA) PRACTICING LICENSE**

License No : NEMA/EIA/ERPL/14312

Application Reference No: NEMA/EIA/EL/18873

**M/S Dalquarter Consult Limited**  
(individual or firm) of address

P.O. Box 949-60100, Embu

is licensed to practice in the

capacity of a (Lead Expert/Associate Expert/Firm of Experts) **Firm of Experts**  
registration number **2932**

in accordance with the provision of the Environmental Management and Coordination Act Cap 387.

Issued Date: **3/17/2021**

Expiry Date: **12/31/2021**

Signature.....

(Seal)  
Director General  
The National Environment Management  
Authority



**Original Title deed**



REPUBLIC OF KENYA

**THE REGISTRATION OF TITLES ACT**

(Chapter 281)

GRANT NUMBER I.R. 27738  
ANNUAL RENT: Shs. 72/-  
TERM: 99 years from 1.9.1969

1975  
196

1 APR 1975



**K** NOW ALL MEN BY THESE PRESENTS that

the PRESIDENT OF THE REPUBLIC OF KENYA hereby GRANTS unto THE GENERAL OF THE SALVATION ARMY REGISTERED TRUSTEE, of Nairobi (Post Office Box Number 2693)

(hereinafter called "the Grantee") ALL that piece of land situate in the City of Nairobi in the Nairobi area

containing by measurement Nought decimal three seven eight eight (0.3788) of a hectare

or thereabouts that is to say Land Reference Number 209/7360

which said piece of land with the dimensions abuttals and boundaries thereof is delineated on the plan annexed hereto and more particularly on Land Survey Plan Number 93670 deposited in the Survey Records Office at Nairobi TO HOLD for the term of ninety nine years

from the first day of September One thousand nine hundred and sixty nine

SUBJECT to (a) the payment in advance on the first day of January in each year of the annual rent of Shillings seventy two (Shs.72/-) (b) the provisions of the Government Lands Act (Chapter 280) and (c) the following Special Conditions (namely):—

SPECIAL CONDITIONS

1. No buildings shall be erected on the land nor shall additions or external alterations be made to any buildings otherwise than in conformity with plans and specifications previously approved in writing by the Commissioner of Lands and the Local Authority. The Commissioner shall not give his approval unless he is satisfied that the proposals are such as to develop the land adequately and satisfactorily.

2. The Grantee shall within six months of the commencement of the term submit in triplicate to the Local Authority and the Commissioner of Lands plans (including block plans showing the positions of the buildings and a system of drainage for the disposal of sewage surface and sullage water) drawings elevations and specifications of the buildings the Grantee proposes to erect on the land and shall within twenty four months of the commencement of the term complete the erection of such buildings and the construction of the drainage system in conformity with such plans drawings elevations and specifications as amended (if such be the case) by the Commissioner PROVIDED that notwithstanding anything to the contrary contained in or implied by the said Government Lands Act if default shall be made in performance or observance of any of the requirements of this condition it shall be lawful for the Commissioner of Lands or any person authorized by him on behalf of the President to re-enter into and upon the land or any part thereof in the name of the whole and thereupon the term hereby-created shall cease but without prejudice to any right of action or remedy of the President or the Commissioner in respect of any antecedent breach of any condition herein contained.

3. The Grantee shall maintain in good and substantial repair and condition all buildings at any time erected on the land.

4. The Land and buildings shall only be used for the purpose of non-profit making Hostel for girls residents and accommodation for the Matron in the form of one house or one flat will also be permitted.

5. The buildings shall not cover a greater area of the land than that laid down by the local authority in its By-laws.

6. The grantee shall not sell transfer sublet or part with the possession of the land or any part thereof and may only charge the land in respect of a loan required for building purposes subject to the prior written consent of the Commissioner of Land

7. The Grantee shall not subdivide the land.

~~The Grantee shall not sell transfer sublet charge or part with the possession of the land or any part thereof or any buildings thereon except with the prior consent in writing of the President. An application for such consent (except in respect of a loan required for building purposes) will be considered until Special Condition Number 2 has been performed.~~

# REPUBLIC OF KENYA

DISTRICT OF NAIROBI AREA

Locality *City of Nairobi*

Reference Map South A 37 2  
*G. II. d*

Land Reference No *209/7360*

(Orig No. \_\_\_\_\_)

Sub division No. \_\_\_\_\_ (Orig No. \_\_\_\_\_)  
of Section No. \_\_\_\_\_

Area = *0.3788 Ha. (Approx)*

	Bearings			Distances	
				Metres	
A-B	336	05	07	10-78	
C-D	84	04	07	10-78	



*PR May*  
for Director of Surveys

Nairobi *29<sup>th</sup> August* 1973

DEED PLAN No. *93670*

Scale 1 in 1250

Traced by *[Signature]*  
Compared by *[Signature]*



8. The Grantee shall pay to the Commissioner of Lands on demand such sum as the Commissioner may estimate to be the proportionate cost of constructing all roads and drains and sewers serving or adjoining the land and shall on completion of such construction and the ascertainment of the actual proportionate cost either pay (within seven days of demand) or be refunded the amount by which the actual proportionate cost exceeds or falls short of the amount paid as aforesaid.
9. The Grantee shall from time to time pay to the Commissioner of Lands on demand such proportion of the cost of maintaining all roads and drains serving or adjoining the land as the Commissioner may assess.
10. Should the Commissioner of Lands at any time require the said roads to be constructed to a higher standard the Grantee shall pay to the Commissioner on demand such proportion of the cost of such construction as the Commissioner may assess.
11. The Grantee shall pay such rates taxes charges duties assessments or outgoings of whatever description as may be imposed charged or assessed by any government or local authority upon the land or the buildings erected thereon including any contribution or other sum paid by the President in lieu thereof.
12. The President or such person or authority as may be appointed for the purpose shall have the right to enter upon the land and lay and have access to water mains service pipes and drains telephone or telegraph wires and electric mains of all descriptions whether overhead or underground and the Grantee shall not erect any building in such a way as to cover or to interfere with any existing alignments of main or service pipes or telephone or telegraph wires and electric mains.

IN WITNESS WHEREOF I, JAMES ALOYSIUS O'LOUGHLIN the  
Commissioner of Lands have by Order of the President  
hereunto set my hand this 3 day of One  
thousand nine hundred and seventy five in the presence  
of :-

*James Aloysius O'Loughlin*  
REGISTRAR OF TITLES

LAND TITLES REGISTRY - NAIROBI, KENYA  
REGISTRATION OF TITLES ACT  
REGISTERED AS NO. I.R. 27738/1.  
Dated 5<sup>th</sup> April, 1975  
10:00 a.m.  
*Registrar of Titles*

## Sale Agreement

DATED THIS 3<sup>rd</sup> DAY OF July 2020

### AGREEMENT FOR SALE

BETWEEN

THE GENERAL OF SALVATION ARMY (REGISTERED TRUSTEES), KENYA EAST  
TERRITORY  
(HEREIN-REFERRED TO AS THE "VENDOR")

- AND -

HANSARD HOMES LIMITED  
(HEREIN-REFERRED TO AS THE "PURCHASER")

IN RESPECT OF THE PROPERTY KNOWN AS L.R. NO. 209/7360 LOCATED IN KARIOKOR,  
NAIROBI COUNTY  
(HEREIN REFERRED TO AS THE "PROPERTY")

#### DRAWN BY:-

KW EW LLP Advocates  
The Former Salvation Army Headquarters, 1<sup>st</sup> Floor,  
Monrovia Street,  
P.O Box 50199-00100,  
NAIROBI  
Phone: +254 768206178/ 0780305655/0208000650  
Email: kwewllp@gmail.com

*Handwritten signature*

VSA 140/6

21/11/20  
PVT-7LUPZQD

**AGREEMENT FOR SALE**

This Agreement for Sale ("Agreement") is made this 3<sup>rd</sup> day of July 20 20  
**BETWEEN:**

1. **THE GENERAL OF SALVATION ARMY (REGISTERED TRUSTEES), KENYA EAST TERRITORY** whose address is care of Post Office Box Number 24927-00502, Nairobi in the Republic of Kenya (herein after referred to as the "Vendor" which expression shall where the context so admits include their permitted successors and assigns) of the first part;

And

2. **HANSARD HOMES LIMITED** of Registration Number PVT-7LUPZQD whose address is care of Post Office Box Number 5780-00610 Nairobi in the Republic of Kenya; (hereinafter referred to as the "Purchaser" which expression shall where the context so admits include its permitted successors in title and assigns) of the second part; and

The Vendor and the Purchaser are hereinafter individually referred to as the "Party" and collectively as the "Parties".



**WHEREAS:-**

- A. The Vendor is the registered Proprietor as Lessee from the Government of **ALL THAT** piece of land known as **L.R. NO. 209/7360** situated in the Nairobi County in the Republic of Kenya together with any improvements erected thereon (hereinafter referred to as the "Property") with the exception of all movable properties, which include water tanks and generators.
- B. The Vendor has agreed to sell and the Purchaser has agreed to purchase the Property subject to the terms and conditions set out in this Agreement and at a consideration herein below;

**NOW THIS AGREEMENT WITNESSETH as follows: -**

**I. INTERPRETATION**

- I. In this Agreement:
  - a. "Agreement" means this Agreement and all documents referred in it;
  - b. "Commencement Date" means the date set herein above;
  - c. "Day" means any day (other than a Saturday or Sunday) which is not a public holiday in Kenya;
  - d. "Shilling" means the lawful currency for the time being of the Republic of Kenya.
- II. In this Agreement, unless the context otherwise requires, any reference to:

Elson

- a. the singular includes the plural and vice versa;
  - b. any written law includes that law as amended or re-enacted from time to time;
  - c. any agreement or other document includes that agreement or other document as varied or replaced from time to time;
  - d. a clause is to the relevant clause of this Agreement; and
  - e. the masculine, feminine or neuter gender respectively includes the other genders.
- iii. Clause headings are inserted for convenience only and may be ignored in construing this Agreement.

**2. Description of the Property**

The property is **ALL THAT** piece of land known as **L.R. NO. 209/7360** situated in the Nairobi County in the Republic of Kenya together with any improvements erected thereon except all movable properties, water tanks and all movable properties described in **Appendix A**.

**3. The Purchase Price**

The Vendor shall sell and the Purchaser shall purchase the Property for the sum of **Kenya Shillings Two Hundred and Sixty Million (Kshs. 260,000,000.00)** (the "**Purchase Price**") and the Purchase Price shall be paid in accordance with Clause 4 below.

**4. Payment of the Purchase Price**

4.1 The Purchase price shall be paid by the Purchaser to the Vendor as hereunder: -

- a) The First installment of **Kenya Shillings Twenty-Six Million (26,000,000.00)** only being ten percent (10%) of the Purchase Price (herein referred to as the "**Deposit**") shall be paid to the Vendor's Advocate Account held with the Bank (whose details are as herein below) on or before the execution of this Agreement to be held on stakeholder basis pending completion of this transaction.

**VENDORS' ADVOCATE'S ACCOUNT DETAILS**

ACCOUNT NAME: KW EW LLP  
KES A.C NUMBER: 6670001942  
BRANCH CODE: P24  
BANK CODE: 043  
BANK SWIFT CODE: ECOCKENA  
PAYBILL: 700201

- b) The Vendor's Advocates with consent from the Purchaser's Advocates shall release part of the Deposit to the Vendor to meet any expenses that may arise in relation to this transaction.

4.2 The Second instalment of **Kenya Shillings One Hundred and Four Million (Kshs 104,000,000.00)** being forty percent (40%) of the purchase price to be paid to the Vendor's Advocate Account

*J. J. J.*



referred to in clause 4.1 on or before the end of the One Hundred and Fiftieth day (150) from the date of execution and to be held in trust and only released to the Vendor seven days upon completion.

4.3. The Remaining balance of Kenya Shillings One Hundred and Thirty Million (KShs. 130,000,000.00) being fifty percent (50%) of the Purchase Price shall be paid to the Vendor's Advocate Account referred to in clause 4.1 on or before the completion date and the same shall be held in trust and only released to the Vendor seven days upon completion.

4.4. The Vendor, by signing this agreement, confirms and warrants that upon receipt of the full Purchase Price into the Bank Account as provided in Clause 4.1 herein above, the Purchaser shall stand discharged and fully indemnified by the Vendor in respect of their obligations to pay the Purchase Price.

**5. Sale Subject to Law Society Conditions of Sale**

The sale is subject to the Law Society Conditions of Sale (1989 Edition) ("**LSK Conditions**") in so far as they are not inconsistent with the conditions contained in this Agreement.

**6. Completion Date**

The Completion Date shall be Two Hundred and Seventy (270) days from the date of execution of this Agreement. The initial completion time of 90 days having been reviewed due to disruption of business caused by COVID19 pandemic. The purchaser is, however, at liberty to pay the entire purchase price within 90 days or at any earlier date before the completion period.

**7. Parties' Advocates**

The Vendor's Advocates shall be Messrs. KW EW LLP Advocates, Former Salvation Army Headquarter, 1<sup>st</sup> Floor, Monrovia Street, and P.O Box 50199-00100, Nairobi.

The Purchaser's Advocates shall be Messrs. Abdulrahman, Saad & Associates Advocates, 8<sup>th</sup> Floor Transnational Plaza Mama Ngina Street P.O Box 25949-00504 Nairobi Kenya

**8. Vacant Possession**

The Property is sold with vacant possession **PROVIDED HOWEVER** that the Purchaser shall not be entitled to possession save as provided for herein. The Vendor shall allow partial possession to the purchaser for purposes of advertising of the project, planning access, facilitating building plans approval and partial excavation of 50 feet by 100 (small portion) of a vacant area of the property upon the payment

of at least 50% of the Purchase price for purposes of ground-breaking of its project and setting up a show house on conditions that:

- i. The Purchaser shall upon being granted the partial possession pay monthly rent of Kenya Shillings One Hundred and Fifty Thousand (Kshs 150,000/=) in respect to the show house, in addition to the 50% of the purchase price. Thereafter the monthly rent payable in respect to the show house shall be paid in advance before the fifth(5<sup>th</sup>) of every month till completion and registration of the transaction.
- ii. The Purchaser shall indemnify the Vendor against any losses, incidents or otherwise that may occur as a result of the Purchaser being granted partial access to the property including any structural defects arising from the excavation.
- iii. In the event that the Purchaser commences excavation and fails to complete payment within the stipulated period as per clause 4.3, leading to rescission of the Agreement, the Purchaser shall be liable for the conversion made on the property, subject to assessment of a qualified professional.
- iv. Upon payment of 10% deposit, the Purchaser shall be allowed to put up advertisement in designated sections on the Property for the intended project to be commenced once payment is made as stated in clause 8.

**Matters affecting the Property**

9.1 The Property is sold subject to:

- 9.1.1 All subsisting easements, quasi easements and right of way if any.
  - 9.1.2 The Acts, Reservations, Stipulations and Conditions contained or implied in the Title here.
  - 9.1.3 All present contingent, liabilities or assessments in respect of Construction, Maintenance and improvements of roads and sewerage serving the property.
- But otherwise free from all encumbrances or adverse claim whatsoever.

9.2 The Vendor represents, warrants and undertakes to the Purchaser that: -

- 9.2.1 To the best of its knowledge, as the registered proprietor of the Property, it holds a clear and valid title to the Property;

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- 9.2.2 There is no law or decree or similar enactment binding on them so far as it is aware which would conflict with or prevent them from entering into or performing and observing the terms of this Agreement;
- 9.2.3 That to its knowledge it is the sole owner of the Property and that it has legal capacity and will have an unencumbered right to dispose of the Property on the date of completion;
- 9.2.4 The Vendor has the power to enter and perform this Agreement and has taken all necessary action to authorize the execution, delivery and performance of this Agreement and all the other documents and instruments to be executed, delivered and performed by them in accordance with their terms;
- 9.2.5 The Vendor has to the best of its knowledge disclosed to the Purchaser all material information relating to the Property as requested by the Purchaser.
- 9.3 The Vendor and the Purchaser hereby represent, warrant and undertake to each other that this Agreement for Sale constitutes a legal, valid and binding agreement setting out their obligations to one another and enforceable as against each other of them in accordance with the terms and conditions set out herein.

#### 10. Completion

- 10.1 The Vendor's Advocates shall on or before the Completion Date procure and deliver to the Purchaser's Advocate the following documents to facilitate the registration of the Transfer in favour of the Purchaser: -
- 9.1.1 The Original Title of the Property;
- 9.1.2 The duly executed but undated Transfers (in triplicate) in favour of the Purchaser or its nominees with the passport size photographs of the duly authorized officers of the Vendor affixed thereon and certified to be the true likeness of the authorized officers of the Vendor (the "Transferors");
- 9.1.3 Consent to Transfer the Property from the Commissioner of Lands/National Land Commission;
- 9.1.4 Certified copy of the Resolution to sell by the Vendor;
- 9.1.5 Certified copies of the P.I.N Certificates and Identity Cards of the duly authorized officers of the Vendor;
- 9.1.6 Capital Gains Tax Acknowledgement Receipt in respect of the Transferors; and
- The documents listed in clause 10.1 above are hereinafter referred to as the "**Completion Documents**".

*Handwritten signature*

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11. **Registration Period**

The Vendor's Advocates shall allow the Purchasers' Advocates a maximum period of seven (7) Days from receipt of all the Completion Documents for successful registration and Transfer of the Property to the Purchaser's name. The Purchaser acknowledges and agrees that upon lapse of the aforementioned registration period, whether or not the Transfer is completed, the Vendor's advocates shall be at liberty to release the Purchase Price to the Vendor as the case may be. In the event that the Purchaser's Advocates/Purchaser's Financier's Advocates are unable to complete registration on reasonable grounds within the stipulated period, then they shall advise the Vendor's Advocates on the grounds thereof. Subject to the discretion of the Vendors, the Vendors may grant the Purchasers an extension period of seven (7) days.

12. **Time of the Essence**

Time shall be deemed to be of the essence for all the purposes of this Agreement.

13. **Condition of the Properties**

The Purchasers' having been afforded the opportunity of viewing and inspecting the Property prior to the date of this Agreement, purchases it in the same condition it is in now, and shall not require the Vendor to improve it in any manner whatsoever provided that that the Vendor shall maintain the Property in its current condition until the sale transaction is completed and possession is given to the Purchaser.

14. **Costs**

Each Party shall bear its own Advocates fees but the Purchaser shall meet the cost of stamp duty and registration fees on the Transfer.

15. **Termination and Rescission**

15.1 Either Party being ready, able and willing to complete shall be entitled to terminate this Agreement for sale due to breach or default of the other Party in complying with or performing of the Party's obligations in accordance with this Clause.

15.2 Termination shall be by notice in writing to the Party in breach of default specifying the breach or default and allowing the other party a period of not less than **twenty one (21) days** from the date of the Notice (which shall be referred to as the "**Completion Notice**") to rectify the breach or default and where the party in breach or default fails to rectify the same **within twenty one (21) days** from the date of service of such a notice or such longer period specified therein or subsequently extended in writing by the Party not in breach, then this Agreement shall terminate and stand rescinded upon issuance of a rescission notice.

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15.3 In the event that the Agreement for Sale is rescinded by the Purchaser on the 270<sup>th</sup> day and or within the Completion Period being 270 days from the date upon which the Agreement for Sale was executed by both parties the Purchaser shall forfeit an agreed sum of Kenya Shillings Thirty-Five Million Only (Kshs. 35,000,000/=) as liquidated damages to the Vendor for the time lost and other incidental losses in this agreement that shall be the remedy available to the Vendor.

15.4 In the event that the Agreement for sale is rescinded by the Purchaser due to default by the Vendor, the Vendor shall refund (**without interest**) to the Purchaser, any amount paid towards the Purchase Price within **Twenty-One (21) days** of demand by the Purchaser or Purchasers' Advocates. In the event that the Agreement for sale is rescinded by the Vendor due to default by the Purchaser, the Purchaser's shall forfeit to the Vendor the sum indicated in clause 15.3 as liquidated damages and the Vendor shall refund the balance of purchase price thereof (if any) to the Purchaser within Twenty-One (21) days of rescission.

**16. Waiver**

No failure or delay by the Vendors or the Purchasers in exercising any claim, remedy, right, power or privilege under this Agreement shall operate as a waiver nor shall any single or partial exercise of any claim, remedy, right, power or privilege preclude any further exercise thereof or the exercise of any other claim, right or power.

**17. Survival**

Save with regard to matters which require to be fulfilled and are in fact fulfilled prior to or at the Completion Date, this Agreement shall continue to be in full force and effect.

**18. Remedies Cumulative**

Any remedy or right conferred upon the Vendors or the Purchasers for breach of this Agreement including the right of rescission shall be in addition to and without prejudice to all other rights and remedies available to them.

**19. Amendment**

No amendment to this Agreement shall be effective unless signed in the same manner as this Agreement.

**20. No Warranty**

The Parties confirm that they have willingly entered into this Agreement without any undue influence or representation or warranty except as provided in this Agreement.

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**21. Dispute Resolution**

- 21.1 Should any dispute arise between the Parties with regard to the interpretation, rights, obligations and/or implementation of any one or more of the provisions of this Agreement, the Parties shall in the first instance attempt to resolve such dispute by amicable negotiation.
- 21.2 Should such negotiations fail to achieve a resolution within fifteen (15) days, either Party may declare a dispute by written notification to the other, whereupon such dispute shall be referred to arbitration in accordance with the provisions of the Arbitration Act (Number 4 of 1995) or as amended from time to time.
- 21.3 The Parties shall within fourteen (14) days of the notification by either Party refer such dispute to arbitration by a single Arbitrator to be appointed by agreement between the Parties or, failing agreement to an Arbitrator to be appointed by the Chairman for the time being of The Chartered Institute of Arbitrators, Kenya Branch, Nairobi on the application of either Party.
- 21.4 The decision of the Arbitrator, subject to the Act, shall be conclusive, final and binding on the Parties. The place of arbitration shall be Nairobi in the Republic aforesaid.
- 21.5 The Parties shall have a right to apply for and obtain any preservative orders before or during the arbitral proceedings.

**22. Notice**

Any notice, request or demand required or permitted to be given, made or served under this Agreement shall be in writing and shall be deemed to have been duly given, made or served when addressed and sent by registered postage by a party to the other intended to be served through the recipient party's postal address as contained in this Agreement or whose change is subsequently notified to the other in writing. Any notice, request or demand sent by registered postage shall be deemed to have been made, served and received within seven (7) days from the date of being sent by registered postage as evidenced by the registered postage receipt issued by the postal service thereof.

**23. Entire Agreement**

This Agreement contains the whole agreement and understanding between the parties relating to the transaction provided for in this Agreement and supersedes all previous agreements (if any) whether written or oral between the parties in respect of such matters.

*Edwin*

**24. Severability**

Each of the provisions of the Agreement is severable and distinct from the others and, if at any time one or more of these provisions is or becomes invalid, illegal or unenforceable, the validity, legality and enforceability of the remaining provisions shall not in any way be affected or impaired.

**25. Law of Contract**

25.1 Each party hereby agrees and confirms for the purpose of Law of Contract Act (Chapter 23), Laws of Kenya that they have legal capacity to enter this Agreement.

25.2 Each party hereby agrees and confirms for the purpose of the Law of Contract Act that it has executed this agreement with the intention to bind themselves to the contents hereof.

**APPENDIX A**

List of movable properties not subject of sale

**MAIN KITCHEN**

1. All Kitchen ware items
2. Fridges
3. All Furniture

**DORMITORY / HOSTELS AND DINING HALL**

1. Television set and accessories
2. All Furniture
3. All beds and beddings
4. All Curtains

**OFFICE**

1. All Furniture
2. Computers and printers
3. Internet and accessories
4. Books and all stationery

**OFFICERS QUARTERS**

1. All furniture
2. Beds and beddings
3. All Curtains
4. All Kitchen ware

**STORES**

1. All work tools

**OTHER QUARTERS**

1. All Furniture
2. All beds and beddings
3. Fridge

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**CLINIC**

- 1. All Furniture
- 2. All beds and bedding
- 3.

**COMPOUND**

- 1. All water tanks.

IN WITNESS WHEREOF the Parties hereto have executed this Agreement the day and year first hereinbefore written.

SEALED with the Common Seal of the Vendors  
 THE GENERAL OF SALVATION ARMY  
 (REGISTERED TRUSTEES), KENYA EAST TERRITORY

In the presence of:

Territorial Commander

Name: COMMISSIONER MARGARET SHAMUKA

Signature: Margaret



Advocate **VICKY MADOWG**  
**ADVOCATE**  
 P. O. Box 50199 - 00100  
 NAIROBI

*[Handwritten initials]*

**Certificate of Attestation**

I, CERTIFY THAT the above named MARGARET SHAMUKA being the  
 persons witnessing the affixing of the Common Seal of the Vendors appeared before me on the 20<sup>th</sup> day  
 of July 2020 and being identified by their identification card numbers ..... and  
 ..... respectively freely and voluntarily executed this instrument and understood its contents.

**VICKY MADOWG**  
**ADVOCATE**  
 P. O. Box 50199 - 00100  
 NAIROBI

*[Handwritten initials]*

Advocate of the High Court of Kenya



SEALED with the Common Seal of the Purchaser  
HANSARD HOMES LTD

In the presence of:

Director

Name: HASSAN SAID HASSAN

Signature: [Signature]

Director/Secretary

Name: .....

Signature: .....

Before:

Advocate



**Certificate of Attestation**

I, CERTIFY THAT the above named HASSAN SAID HASSAN and HASSAN SAID HASSAN being the persons witnessing the affixing of the Common Seal of HANSARD HOMES LTD appeared before me on the 3<sup>rd</sup> day of July 2020 and being identified by their identification card numbers freely and voluntarily executed this instrument and understood its contents.

.....  
Advocate of the High Court of Kenya

**DRAWN BY:-**

KW EW LLP Advocates,

The Former Salvation Army Headquarters, 1<sup>st</sup> Floor,

Monrovia Street,

P.O Box 50199-00100,



**NAIROBI**

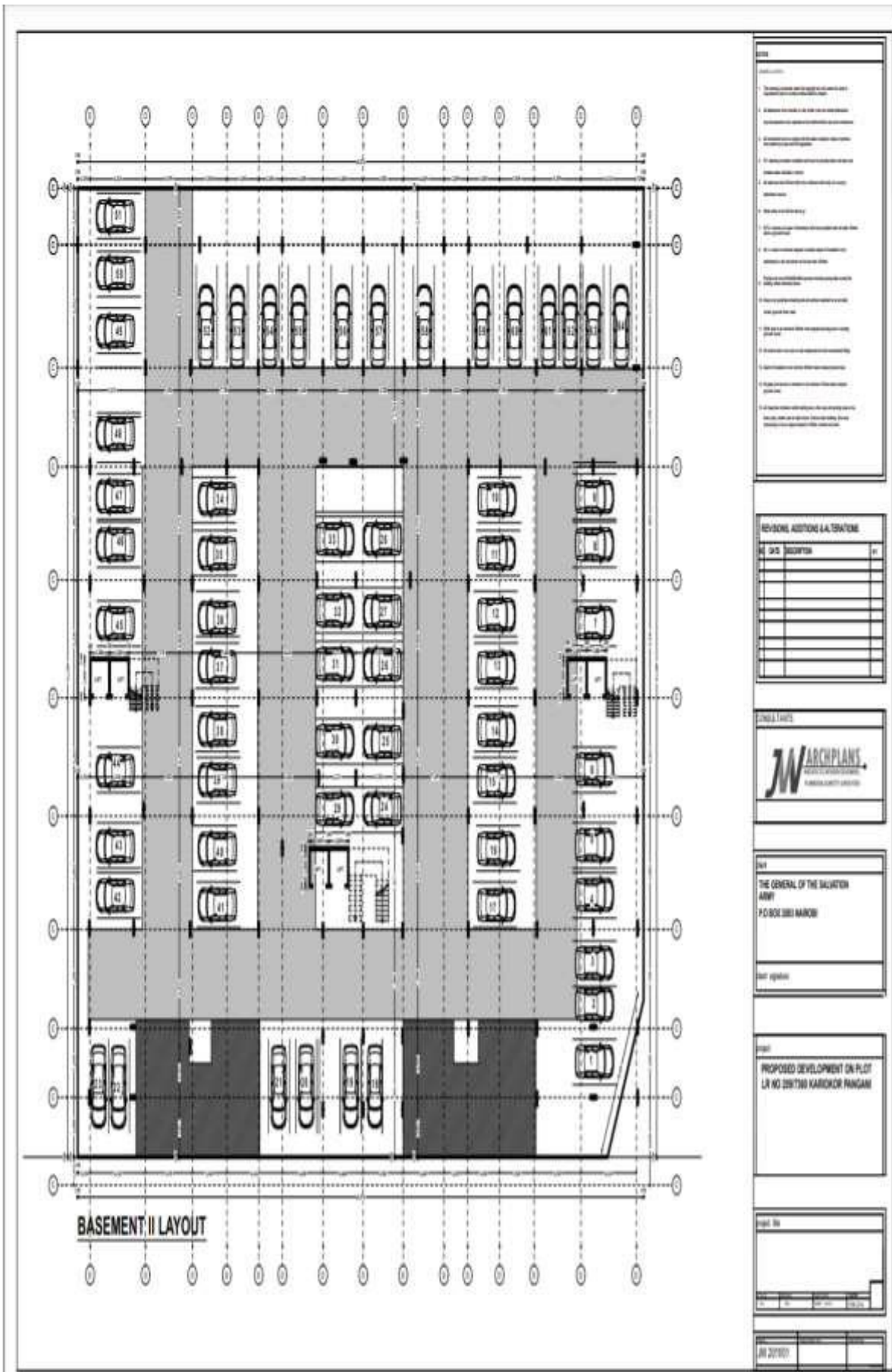
Phone: +254 768206178/ 0780305655/0208000650

Email: kwewllp@gmail.com

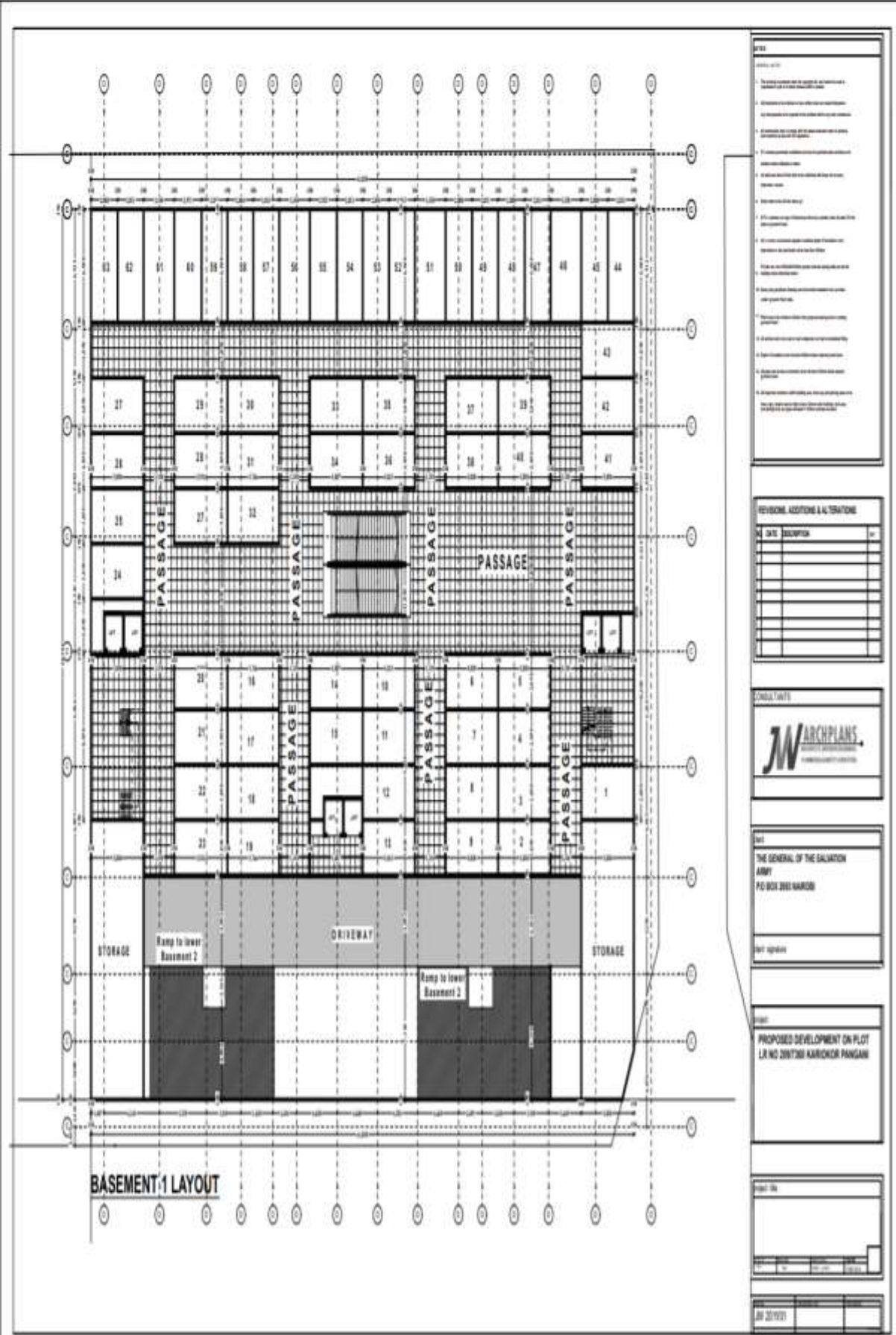


# Development permission

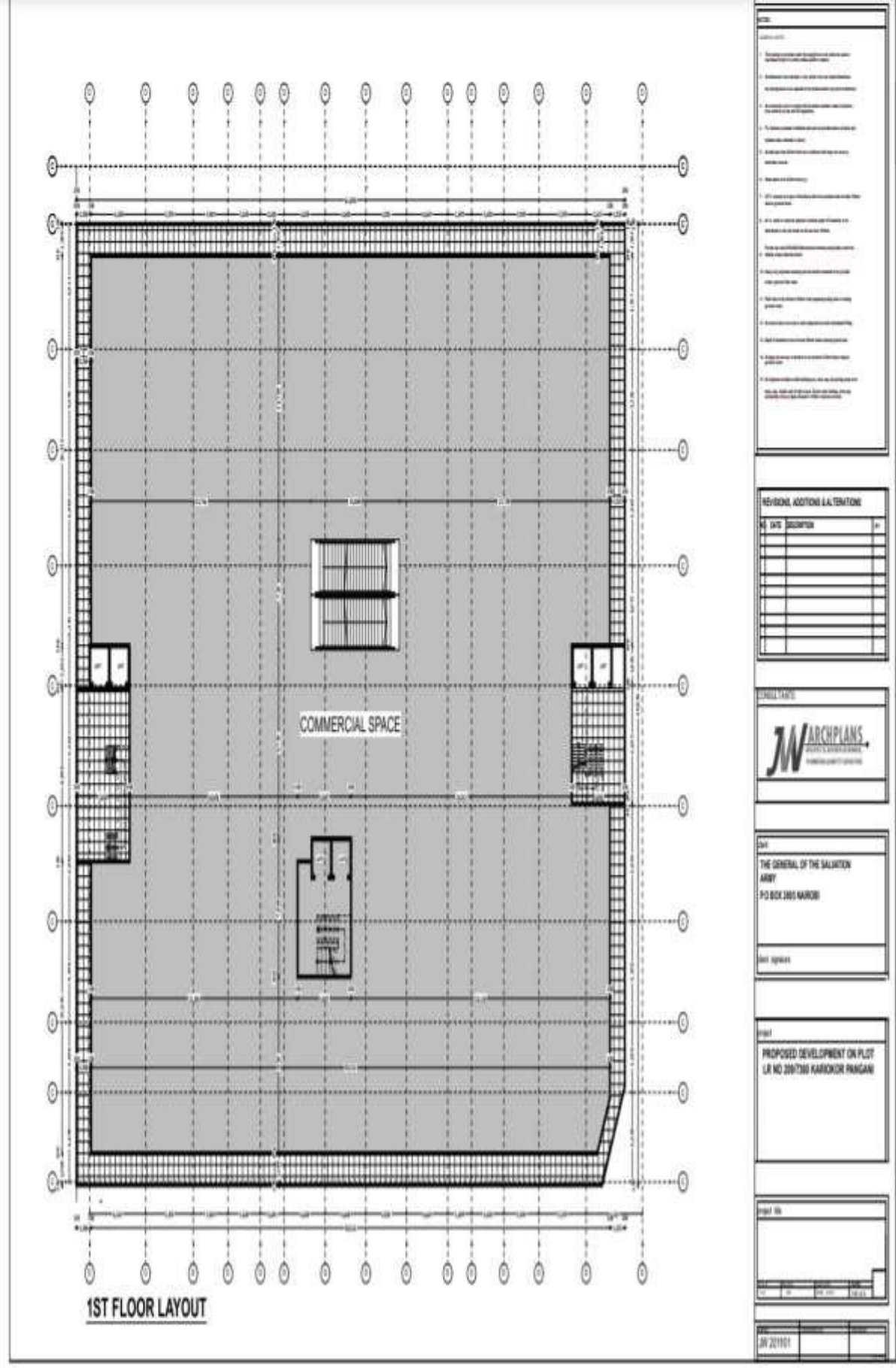
Invoice Number: INV-CU-AAD727	PRN: PPA-CU-AAD727
	
<b>FORM P.P.A. 2</b> <b>THE PHYSICAL PLANNING ACT (NO. 6 OF 1996)</b> <b>NOTIFICATION OF APPROVAL OF DEVELOPMENT PERMISSION</b>	
<p>To: Silas Mbaabu Gichuru, P.O. Box 105861-00101 Nairobi.</p>	
<p>Your application, <b>PPA-CU-AAD727</b>, submitted on 04 November 2020</p>	
<p>Seeking permission for <b>Change of use (Renewal)</b> from <b>Student hostels</b> to <b>Commercial cum residential (Apartments)</b> on L.R/Plot no <b>I.R. NO. 209/7360</b></p>	
<p>Situated in <b>Pangani</b>, Road <b>GENERAL WARUINGI STREET</b></p>	
<p>Was approved by the County Planning Committee held on <b>2020-12-17</b>.</p>	
<p>Under <b>Item 23</b> Subject to the following/append conditions:</p>	
<ul style="list-style-type: none"> <li>i) Submission of satisfactory building plans within two year and completion of construction within three years otherwise the approval lapses</li> <li>ii) Payment of revised ground rent as will be determined by the Director of Valuation, Ministry of Lands and Physical Planning</li> <li>iii) Payment of revised rates as will be determined by the Director Valuation &amp; Property Management - Nairobi City County</li> <li>iv) Subject to the plot not constituting part of the disputed public/private utility land/allocation</li> <li>ix) Subject to the commercial development being limited to 20% of the principal residential use approved.</li> <li>v) Subject to compliance with Sections 36, 41 and 52 of the Physical Planning Act</li> <li>vi) Subject to compliance with the approved zoning policy</li> <li>vii) Subject to provision of appropriate setback(s) as per the rezoning plan</li> <li>viii) Subject to provision of adequate and functional on site parking to the satisfaction of Director of Roads, Public Works &amp; Transport</li> <li>x) Subject to commercial development being limited to ground and 1st floor only</li> <li>xv) Subject to the proposed development maintaining the requisite of 3m, 6m, 9m building line as per the statutes</li> <li>xxii) Subject to the submission and implementation of traffic management plan to the satisfaction of the Director of Roads - NCC</li> <li>xxxviii) Subject to functional and physical separation of the land use and parking space</li> </ul>	
Date of Issue 07 January 2021	Signed
	Name
	For: Chief Officer - Urban Planning
cc:	<i>The Chairman National Land Commission - Nairobi</i>
	<i>The Director of Physical Planning, Nairobi</i>
	<i>The Director of Surveys, Nairobi</i>
	<i>The Secretary, State Department of Lands, Ministry of Lands &amp; Physical Planning</i>
	











**REVISIONS**

1. Approved by the client for construction.
2. Approved by the client for construction.
3. Approved by the client for construction.
4. Approved by the client for construction.
5. Approved by the client for construction.
6. Approved by the client for construction.
7. Approved by the client for construction.
8. Approved by the client for construction.
9. Approved by the client for construction.
10. Approved by the client for construction.
11. Approved by the client for construction.
12. Approved by the client for construction.

**REVISIONS, ADDITIONS & ALTERATIONS**

NO.	DATE	DESCRIPTION	BY



**Client**  
 THE GENERAL OF THE SALUKITAN ARMY  
 PG BOX 2001 NAROKH

**Project**  
 PROPOSED DEVELOPMENT ON PLOT LR NO 20/0730 KARKORH PANGANI

**Project Site**


**Date**

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