AFRICAN CENTRE OF EXCELLENCE FOR INNOVATIVE AND TRANSFORMATIVE STEM EDUCATION (ACEITSE)

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP) FOR THE STEM EDUCATION LABORATORY CONSTRUCTION FOR LASU-ACEITSE

LAGOS STATE





FINAL REPORT

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ABBREVIATIONS

ACE	Africa Higher Education Centres of Excellence
AFD	French Development Agency
BOD	Biological Oxygen Demand
CoC	Code of Conduct
COD	Chemical Oxygen Demand
CRPSGBV	Centre for Response and Prevention of Sexual and Gender Based Violence
DO	Dissolved Oxygen
EIA	Environmental Impact Assessment
E&S	Environmental and Social
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ESO	Environmental &Safeguards Officer
FMENV	Federal Ministry of Environment
GBV	Gender Based Violence
GRC	Grievance Redress Committee
GRM	Grievance Redress Mechanism
HSE	Health Safety and Environment
LASEPA	Lagos State Environmental Protection Agency
LASPARK	Lagos Parks & Gardens
LASU	Lagos State University
LTI	Loss Time Injuries
MDAs	Ministry Department Agency
MOU	Memorandum of Understanding
NESREA	National Environmental Standard Regulatory Agency
NGO	Non-Governmental Organisation
OHS	Occupational Health and Safety
PLWD	People Living with Disabilities
PPE	Personal Protective Equipment
ROW	Right of Way
SH	Sexual Harassment
SEA	Sexual Exploitation & Abuse
STD	Sexually Transmitted Disease
STI	Sexually Transmitted Infections
TOR	Terms of Reference
WASH	Water Sanitation & Hygiene
WHO	World Health Organisation

EXECUTIVE SUMMARY

ES1 Background Information

LASU-ACEITSE as part of the Africa Higher Education Centres of Excellence (ACE) Project proposing to construct a building complex to serve as the Centre's STEM Education Laboratory which will hold office spaces, laboratories, water and sanitation facilities, paved driveway and car parking amongst other add-ons. While the proposed construction works is aimed at achieving the project objectives of creating safe and accessible learning spaces, some negative impacts are expected in relation to civil works activities attributed to generation of waste (construction, e-waste, organic, sanitation etc.), noise/air pollution, movement of heavy-duty vehicles & traffic issues, occupational health & safety risks, risks associated with labour influx, community health & safety risks, impacts to physical and cultural resources among others. Thus, this Environmental and Social Management Plan (ESMP) has been prepared to guide Lagos State ACEITSE to ensure that positive environmental and social impacts are enhanced, and negative environmental and social impacts are avoided, reduced or mitigated to acceptable levels.

The ESMP was prepared in line with the applicable national and state environmental and social regulations including the Environmental Impact Assessment (EIA) Act, Lagos State Environmental Protection Laws and the World Bank Operational Safeguards Policies (OP 4.01 Environmental Assessment and OP4.11 Cultural Physical Resources).

ES2 Project Description

The project is the construction of S.T.E.M Education Laboratory center on a proposed 2088sqm piece of land, beside the LASU-ACEITSE administrative building. This complex will consist of two floors, six laboratories, offices, restrooms, waiting areas, parking lot amongst other ancillaries.

ES3 Description of Project Environment

LASU is host to the ACEITSE which is located in Ojo (along the Badagry Expressway) Lagos State. the project site is in a built-up environment within the proximity of the ACE administrative building, Faculty of Social Sciences, Faculty of Management Sciences and opposite a Chinese company yard (CCECC). The Igbo-elerin and Okoko Communities are within a 2km radius of LASU, collectively they create a huge economic cluster around LASU campus.

Biophysical baseline conditions of the area were established mainly through observation, sampling and laboratory analysis, analysis of site maps and site plans. A summary is presented as follows:

Project land has a flat topography and a good access road.

The site is mainly quiet and void of any significant noise as it is beside the ACEITSE administrative building, only a few vehicles pass along the major route periodically. Noise levels measured using an Extech Sound Level Meter, showed daytime noise levels to be within 38dB – 48dB.

There is no surface water in the project area. Groundwater sample was taken from the ACEITSE Admin borehole close to the site and taken to Lagos State Environmental Protection Agency (LASEPA) Lab for analysis to establish pre-project baseline. Results show that the ground water is only slightly acidic with a PH of 6.9, according to WHO, the optimum PH for drinking water is 6.5 to 8.5, hence ACEITSE bore hole water is within acceptable limit. The TDS value of 185NTU is above the FMEnv maximum permissible limit of 5NTU for drinking water, this could be due to high sediment load, thus the borehole water and any borehole to be dug on site should not be consumed by the contractor workers/staff/students as this can harbour microorganisms, entrap heavy metals and biocides. (It was established during consultations that this water is not used for drinking purposes). The COD, BOD DO are all within maximum allowable

limit of FME and shows that the water is not polluted beyond regulatory limit index. However, E. Coli, Samonella and Shingella were absent in ground water.

Composite soil sample was collected from the site and sent to LASEPA for analysis. Results show that the soil is slightly acidic with soil pH of 5-6.8. Exchangeable cations and heavy Metals are within FME maximum allowable limit, hence no indication of existing pollution. The result of Microorganism (CFU) such as HB, HUB, HF, HUF shows the type of soil that can support plant growth.

There are critical environmental and social sensitivities close to the site which include the following:

- Ongoing construction of Ultra-Modern Student Residential Village about 273m from the LASU-ACEITSE site
- CCECC Construction site is opposite the proposed ACEITSE construction site about 50m from site
- LASU University Student hostel 640m from site
- Lagos State International School (secondary school) 177m from site
- Electric Poles and Trees planted by Parks & Gardens are along the ROW in front of the project site
- Faculty of Social Sciences, Faculty of Management Sciences and LASU ACEITSE Admin & Lecture theatre block are all within 100m from the construction site
- Currently only one functional entrance/exit entrance gate to LASU, due to ongoing rehabilitation at the 2nd gate

A socio-economic questionnaire (annex 3) was designed and administered to project's immediate communities (Igbo-elerin, Okoko and Ago-Hausa) in order to establish socio-economic baseline. This communities were surveyed because of the potential of contractor to source unskilled workers from there, and to identify if there are any cultural practices/ taboos in the area that contractor workers may be exposed to. The communities are semi-urban in nature with spots of small-scale commercial and industrial activities. The area is populated traditionally by the Aworis of the Yoruba ethnic stock of southwestern Nigeria and few Hausa Migrants. These communities are governed by elected king known as "Baale", whom all grievances are channeled to for resolution. The major occupations of the people include trading, civil servants, business and artisans (carpentry, welding, painting, plumbing etc.) with many people engaged in more than one of the skills. The communities have congested houses, presence of refuse dumps and open gutters with polluted waters, several canals which are used as waste dumps. On gender statistics, women are involved in decision making, education and any form of job/artisanship as they may wish to participate in, without any form of discrimination

ES4 Potential Environmental and Social Impacts

Positive Impacts: The proposed LASU-ACEITSE STEM Laboratory construction is expected to be largely beneficial to LASU, Lagos and the country at large as it aims to strengthen the dimensions of STEM Education. It will create short term employment for skilled and unskilled workers during the construction phase. The building design is inclusive and takes into consideration ramps for people living with disabilities (PLWD). Positive impacts can be enhanced by continuous stakeholder engagements to provide adequate and timely information and ensure involvement and inclusion. In addition, climate resilient considerations such as greening the environment, use of solar panels and other renewable energy sources for electricity can enhance the positive impacts of the project. Details are provided in the report in section 4.2 .and 8.2 respectively.

Negative Impacts: The construction activities will take place in a delineated site within LASU, however, the nature of civil work activities entailing the use of heavy equipment, excavation works and labour influx will inevitably predispose the bio-physical and social components of the

environment to varying degrees of negative impacts. Some major ones along with the mitigation measures are stated in Table ES1 below:

Table ES1: Potential Negative Impacts and Mitigation Measures

Potential Negative Impact	**Mitigation Measures**
Noise and air pollution from movement of construction vehicles and operations of machineries/equipment can affect ambient air quality and disturb academic activities	Install suitable mufflers on engine exhausts and compressors and ensure that all vehicles are serviced; undergo vehicle emission testing (VET) and vehicle exhaust screening (VES). Fuel switching from high- to low-carbon content fuels (where available), vehicles can be equipped with catalytic converters, machines/equipment should be turned off when not in use
Movement of construction vehicles carrying materials and equipment poses risks of traffic congestion and vehicular/pedestrian accidents especially at along the main gate and facilities near the site	Contractor to install caution signages, use trained drivers, use flagmen during peak periods such as school starting/closing period. Contractor to liaise with the LASU School of Transport to train their drivers on do's and don'ts of transport of materials & equipment within the school
Construction waste such as cement, wood, iron rods etc. could be littered around the site, block drainages and cause pollution in the environment	Contractors should ensure proper waste management practices on site and liaise with the LASU environmental unit as required
E wastes such as electrical wires, sockets, ICT gadgets etc. could lead to toxicity if poorly handled	Properly store and liaise with material recycling & recovery facilities to collect e-waste from site such as Solous, Yabatech Recycling Center amongst others.
Clearing and construction activities may impact on the Electric Poles and water utility manhole which will deprive people and facilities of electricity and water supply for the period of outage	Contractors should avoid impacts to the electric poles and water utility manhole, temporary concrete barricades could be installed around the poles
Potential conflict between ACEITSE contractors and other stakeholders in LASU	Contractors to be sensitized on and sign Code of Conduct against misconduct. All stakeholders should be sensitized on the GRM channels including phone number, complaint form on the website, office to lodge complaints etc.
Competition for resources by contractor workers on site such as toilet facilities, food, water can lead to conflicts with students/staff	Contractors to make provision for facilities for workers including water, food, toilet
Labor influx (presence of contractor workers) poses risks of risk of STIs/STDs, GBV/SEA/SH, unwanted pregnancies for students and school workers (especially menial workers)	Contractors to be sensitized on and sign Code of Conduct against misconduct, GBV/SEA/SH etc. The Centre for Response and Prevention of Sexual and Gender Based Violence (CRPSGBV) will support in prevention and response mechanisms
Excavation may lead to chance find and impact on Physical and Cultural Resources cultural/traditional/religious artefact, grave site etc.	In the event that a cultural/traditional/religious artefact, grave site etc. are found on site the following procedure should be adopted: i. work should be suspended immediately, and the area protected and untouched. However, works can go on in other locations on site ii. immediately inform the ESO-ACEITSE iii. the ESO to call the attention of the Dean, Faculty of Arts

	iv. the Dean should in turn call the attention of the Lagos State Ministry of Tourism, Arts & Culture (Monument Department), through the office of the Vice Chancellor v. Proper evaluation should be conducted by the Ministry to ascertain the best procedure to adopt to secure the artefact vi. Upon conclusion, work can resume at that particular site vii. The whole process should be well documented and stored in the project office for future reference
Occupational health & safety risks from civil works and operation of machinery could lead to injuries, accidents for workers	• Contractor should provide appropriate PPEs to all workers. • Contractor to develop standard operating procedures and equipment/material handling procedures and train workers on same. • The contractor should have a Health & Safety Policy (to be submitted to the Environmental Officer), workers to be trained on OHS, monthly refreshers, daily HSE/ toolbox meetings. • There should be a dedicated trained HSE Officer on site, who should also know how to administer first aid. HSE statistics should be maintained on site, records of Loss Time Injuries (LTIs) to be kept by the HSE Officer

ES5 Environmental and Social Management and Monitoring Plan

As part of this ESMP, a project specific E&S management and monitoring plan has been designed in table 14, identifying potential risks and impacts and outlining mitigation measures with well-defined desired outcomes and actions to address all potential negative impacts. The plan also highlights the roles and responsibilities of various actors involved in the ESMP implementation, training programmes to enhance capacity as well as budget estimates to ensure implementation. Most of the mitigation measures are the obligation of the Contractor. Consequently, the project team will provide the ESMP to the selected contractor to guide the preparation of their bids taking into account the mitigation measures and associated costs in this ESMP and other provisions and guidance as provided therein. While monitoring is the responsibility of the project team and relevant departments within LASU as stated in the ESMP.

The cost of implementing the ESMP has been estimated as Nine Million, one Hundred and Thirty Thousand Naira Only (N 9,130,000) as shown in Table ES2 below

Table ES2: ESMP Budget

S/N	Item	Responsibility	Estimated Cost (NGN)
1	Mitigation	Contractor	4,150,000
2	Mitigation	ACEITSE Project Team	700,000
3	Monitoring	ACEITSE Project Team, Relevant Institutions	800,000
4	Capacity Building	ACEITSE Project Team, Relevant Institutions	1,200,000
5	Disclosure Costs	ACEITSE Project Team	1,450,000
6	Contigency Cost	ACEITSE Project Team	830,000
7		**Total**	**9, 130,000.00**

ES6 Grievance Redress Mechanism

The project is in an established institution which already has mechanisms in place for grievance redress and will be built on by the project, specifically, complaint form is provided on the LASU-ACEITSE website http://lasu-aceitse.org.ng, designated phone number will be provided by the project, Grievance Redress Committees at the project and management level. Ultimately, the project will ensure all grievances received are addressed timely and efficiently.

A standalone procedure for responding to allegations of GBV/sexual exploitation and abuse (SEA)/ sexual harassment (SH) has been established which adopts the Survivor's centered approach and confidentiality and relies on the existing LASU sexual harassment policy 2019 and a Centre for Response and Prevention of Sexual and Gender- Based Violence (CRPSGBV).

ES7 Stakeholder Consultations

Stakeholder consultation process took place between 22nd – 25th August 2022 within the project area of influence. Continuous consultations should be held with project stakeholders throughout the lifecycle of the project to keep them informed and provide an avenue to receive suggestions and complaints.

ES8 Recommendations

1. It is important to note that the ESMP has recommended a design review to take into consideration the following:
    a) to allow for adequate setback (about 2m), to align with the next building i.e., ACEITSE Admin block, this will further avoid impact to the water utility structure
    b) use existing alignment and avoid future traffic
    c) establish the chemistry lab from the design which must be down to factor into planning/flooring/drainage pipe types/ceiling type/emergency procedures etc. and it must be on the ground floor
2. Obtain the relevant permit before cutting the affected tree and ensure revegetation onsite
3. Adequate training should be provided to stakeholders as listed in section 5.2 for effective implementation of this ESMP
4. The ESMP should be provided to the contractor to enable adequate planning and budget for mitigation measures

CHAPTER ONE: INTRODUCTION

The introduction provides a background to the LASU-ACEITSE Project, the project component, the objective and rationale for the ESMP is also stated.

1.1 Background

The Africa Higher Education Centre of Excellence (ACE) Project is a World Bank initiative in collaboration with governments of participating countries to support Higher Education Institutions in specializing in Science, Technology, Engineering and Mathematics (STEM), Environment, Agriculture, Applied Social Science / Education and Health. It is the first World Bank project aimed at the capacity building of higher education institutions in Africa.

Project Development Objectives (PDO)

The PDO of the project is to improve the quality, quantity and development impact of postgraduate education in selected universities through regional specialization and collaboration.

Project Components

Component 1: Establishing new Africa Centers of Excellence and scaling up well-performing existing Africa Centers of Excellence (ACE) for development impact. This component aims to build and strengthen the capacity of competitively selected ACE Impact centers based in higher education institutions across West and Central Africa.

- Sub-component 1.1: Establishing new centers of excellence for skills and knowledge for development challenges. About 30 centers were competitively selected based on pre-established selection criteria to receive funding from ACE Impact Project.
- Sub-component 1.2: Scaling up well-performing ACEs that will provide additional funding and support to approximately 12 existing ACEs (currently supported through ACE I) to enable them to scale-up their activities.
- Sub-component 1.3: Additional support to the best Engineering and Technology ACE institutions. Institutions were selected to host Engineering and Technology focused ACE Impact Centers with capacity/potentials in other Engineering and Technology disciplines.

Component 2: Regional Partnerships and Scholarships. This will seek to expand the regional scope of impact of the ACEs funded under Component 1, by providing demand-side funding for partnering institutions and regional students to buy the training and services from the ACEs that are most relevant.

- Sub-component 2.1: Providing Support for regional institutional partnerships between Higher Education Institutions and the ACEs (under component 1 of the proposed project) to strengthen the capacity of the Higher Education Institutions.
- Sub-component 2.2: Financing two types of regional scholarships to support primarily the training of the next generation of Faculty for Higher Education Institutions in the region.

Component 3: Enhancing regional policy making, monitoring and facilitation. This will afford supporting regional policy making for higher education, regional project monitoring and facilitation. A regional IDA grant of USD10 million will be provided to the Association of African Universities (AAU), the facilitation of the ACE Impact project's regional activities and support to centers under the project.

In Nigeria, ACEITSE was selected, under the ACE Impact Project in 2019, to strengthen the dimensions of STEM Education that are strongly dependent on the development and empowerment of the region's Science, Mathematics, Technology and Engineering Education leadership. The contemporary flagship pedagogy of ACEITSE that enhanced the Centre's endorsement by the World Bank was the development of the Culturo-Techno-Contextual Approach, CTCA for short. An emerging technique developed by the Distinguished Professor Peter Okebukola and lunched in 2015 to the global SETM education community in the United States of America. It deploys the combination of culture, technology and context to enhance meaningful metacognitive learning. The actual investment for the project's activities, are under the global, regional and National supervision of the World Bank, the Association of African Universities (AAU) and National Universities Commission (NUC) respectively, is $5,000,000.

1.2 Rationale for the ESMP

LASU-ACEITSE is proposing to construct a building complex to serve as the Centre's STEM Education Laboratory which will hold office spaces, laboratories, water and sanitation facilities, paved driveway and car parking amongst other add-ons. While the proposed construction works is aimed at achieving the project objectives of creating safe and accessible learning spaces, some negative impacts are expected in relation to civil works activities attributed to generation of waste (construction, e-waste, organic, sanitation etc.), noise/air pollution, movement of heavy-duty vehicles &traffic issues, occupational health & safety risks, risks associated with labour influx, community health & safety risks, impacts to physical and cultural resources among others.

In compliance with the requirements of the Nigerian Environmental Impact Assessment Laws and the World Bank Safeguard Policies OP 4.01on Environmental Assessment which is triggered on this project, an Environmental and Social Management Plan (ESMP) is required to guide Lagos State ACEITSE to ensure that negative environmental and social impacts are avoided, reduced or mitigated to acceptable levels.

1.3 Objective of the ESMP

The ESMP is required to guide ACEITSE in ensuring that project implementation is in line with the Nigerian Environmental Protection laws and the World Bank Operational Safeguard Policies, enhance the positive environmental and social impacts of the project, and avoid negative environmental and social impacts, reduce or mitigate them to acceptable levels. The ESMP includes a detailed plan with identified impacts and implementable actions, including responsibilities and costs, as well as a defined monitoring plan with monitoring responsibilities and costs.

1.4 Approach and Methodology for Preparation of the ESMP

The preparation of the ESMP was guided by the Nigeria Environmental Impact Assessment Act (EIA Act), ACE Environmental and Social Management Framework (ESMF) and the World Bank Operational Safeguards Policies. Site assessment studies were undertaken between 22nd – 26th August 2022 to:

- Identify the baseline conditions of the project area as presented in chapter 3
- Identify environmental and social receptors which may be impacted by the proposed works, through observation, consultations with relevant stakeholders and survey
- Hold consultations with various stakeholders identified as summarized in chapter 7
- Obtain Noise levels in the project site
- Conduct Biophysical analysis of water and soil by sampling

- Conduct socio-economic survey through administration of structured questionnaires in adjoining communities to the school
- Identify potential impacts along with appropriate enhancement or mitigation measures for positive and negative impacts respectively
- Develop relevant Environmental & Social -Management Strategies and Implementation Plans (ES-MSIPs) as contained in the annexes

Tools and Methods Used

Field assessments were conducted through observation, consultations with relevant stakeholders and survey.

Noise level was measured using an Extech Sound Level Meter

Water samples were collected from a borehole near the site in amber colored bottles and sent to LASEPA laboratory immediately for analysis of physico-chemical and microbiology parameters.

Composite soil samples were collected with a soil auger in aluminum foil and sent to LASEPA laboratory for analysis of physico-chemical and microbiology parameters.

Socio-economic questionnaire (annex 3) was designed and used to obtain information on the socio-economic survey in the project area

Potential Impacts identification was done using predefined impact checklists and Leopold matrix as presented in section 4.1

1.5 Administrative and Regulatory Framework

This section outlines the specific environmental and social frameworks that guides the implementation of the LASU-ACEITSE.

1.5.1 Applicable Laws and Regulations

Table 1: Applicable Laws & Regulations

Regulatory Framework	Description
National Policy on the Environment, 1989 (Revised 2016)	The policy identifies key sectors requiring integration of environmental concerns and sustainability with development and presents their specific guidelines. This includes regulations for the construction sector which governs the proposed LASU-ACEITSE construction. This ESMP contains measures aimed to comply with this policy by protecting the environment and social components including air, water, soil, flora, fauna, people.
Environmental Impact Assessment (EIA) Act CAP E12 LFN 2004	The Environmental Impact Assessment (EIA) Act CAP E12 LFN 2004 provides guidelines for activities of development projects for which EIA is mandatory in Nigeria. According to the act, category II projects such as the ACE Project may require only a partial EIA/EMP, such as the preparation of this ESMP, which will focus on mitigation measures for negative impacts.
Federal Ministry of Environment	The Ministry of Environment is the highest policy making body responsible for addressing environmental issues in Nigeria. The act establishing the Ministry places on it the responsibility of ensuring that all development and industry activities, operations and emissions are within limits

Regulatory Framework	Description
	prescribed in National Guidelines and Standards and comply with relevant regulations for environmental protection management in Nigeria
National Environmental Standards and Regulations Enforcement Agency (NESREA)Act, 2007	NESREA was established by NESREA Act No 25 of 2007 as a parastatal of the FMEnv. The Act was reviewed in 2018 to strengthen limiting gaps and enable effective operations. The Agency has developed several regulations and guidelines for environmental protection for various sectors including noise, waste, sanitation, construction which all apply to the LASU-ACEITSE project
National Environmental (Sanitation and Wastes Control) Regulations (2009)	The purpose of the Regulation is the adoption of sustainable and environment friendly practices in environmental sanitation and waste management to minimize pollution. The Instrument amongst others makes provisions for the control of solid wastes and hazardous wastes. This ESMP contains a Waste Management Plan which will ensure compliance with this regulation
National Environmental (Noise Standards and Control) Regulations, 2009.	The objective of the Regulations is to ensure maintenance of a healthy environment for all people in Nigeria, the tranquillity of their surroundings and their psychological wellbeing by regulating noise levels. The Instrument prescribes maximum permissible noise levels for construction as 60dB (A) and 40dB(A) for day and night respectively. Measures to achieve this has been adequately captured in the ESMP
National Environmental (Construction Sector) Regulations (S.I No. 19), 2011	The purpose of these regulations is to prevent and minimize pollution from construction, decommissioning and demolition activities in the Nigerian environment. It stipulates that new projects in the construction sector shall apply cost-effective, up-to-date, efficient, best available technology, to minimize pollution to the barest degree practicable. In addition, every operator or facility shall carry out an EIA and submit an EMP/ESMP for new projects or modification including expansion of existing ones before commencement of activity.
National Policy on Occupational Safety and Health, revised 2020	This policy was approved by the Federal Executive Council (FEC) in September 2020. It serves as a basis for ooccupational health and safety (OHS) programs for workers even under such development projects. An OHS Plan has been provided in the ESMP.
Nigeria Labour Law (2004)	The Labour Act of 2004 set the standard for the minimum amount of naira a worker in Nigeria is supposed to make. In 2020, the National Minimum Wage was set to ₦30,000.00 per month. A Labour Management Plan (LMP) is provided in this ESMP
The Violence Against Persons Prohibition (VAPP) ACT2015)	This act prohibits all forms of violence against private and public life and provides maximum protection and effective remedies for victims and punishment of offenders. Nigeria's national government has taken steps to penalize and address GBV and SEA. This law, in addition to the LASU Policy on Sexual Harassment as discussed above will guide LASU-ACEITSE on prevention and response to cases of GBV/SEA/SH.
National Gender Policy (2006)	Provides a framework for ensuring gender inclusion and sensitivity in developmental plans and programs at the national and sub-national levels. LASU-ACEITSE through the environmental and safeguard officer will ensure that there is gender consideration in every phase of the project, and also ensure the implementation of Gender Based Violence prevention & response procedures
Child Rights Act (2003)	The Child's right Act provides a platform for protection of children against child labour, exploitation and other forms of social vices. It codifies the rights of children in Nigeria (a person below the age of 18 years). The project will strictly adhere to this legislation in line with mitigation measures in this ESMP
Lagos State Environmental Protection Laws:	Facilitate protection, restoration, conservation, development and management of the environment and natural resources for equitable, sustainable socio-economic development. Including waste and sanitation

Regulatory Framework	Description
Lagos State Environmental (Sanitation and Waste Control) Regulations 2014 Lagos State Waste Management Authority (LAWMA), 2007, edict No 55 Lagos State Environmental (Noise Standards and Control) Regulations 2014.	management. The project will be guided by these laws especially with respect to pollution prevention, protecting vegetation and waste management
Lagos State Inclusive Education Policy, 2015	Lagos state Ministry of education endorsed the Lagos State Inclusive Education Policy on 26th of May 2015, It entails the responsibility of educating all pupils with multi-dimensional challenges and excluded children with the ultimate aim of assisting these diverse groups of pupils attain their desired goals, according to their individual needs and abilities: making education more accessible to all children of school age, irrespective of their socio-economic status, disabilities, race, ethnic or cultural background and gender.
LASU Policy on Sexual Harassment, 2019	This policy buttresses LASU 's commitment to providing a learning environment devoid of sexual harassment among members of its community.

1.5.2 Applicable World Bank Operational Safeguards Policies

Two of the World Bank Operational Safeguards Policies are triggered under this Project as described in table 2 below

Table 2: WB Operational Safeguards

Triggered Policy	Reason for Application of Standard to the Project	How it will be addressed by the project
OP/BP4.01 Environmental Assessment	Proposed construction works will result in environmental and social impacts attributed to generation of waste, noise/air pollution, movement of heavy-duty vehicles & traffic issues, occupational health & safety risks, risks associated with labour influx, community health & safety risks amongst others. However, these impacts are limited, site specific and can be mitigated.	This ESMP contains measures to address the identified risks and includes other MSIPs like waste management plan, OHS plan, community health & safety plan amongst others.
OP/BP4.11 Cultural Physical Resources	During the excavation and earthworks, contractors may encounter physical and cultural resources such as artefacts, tombstones, historical/cultural landmarks	A Physical and Cultural Resources Management Plan has been included in table 11 of this ESMP

1.5.3 Administrative Framework Governing the ACEITSE Project

Table 3: Administrative Governance of the ACEITSE

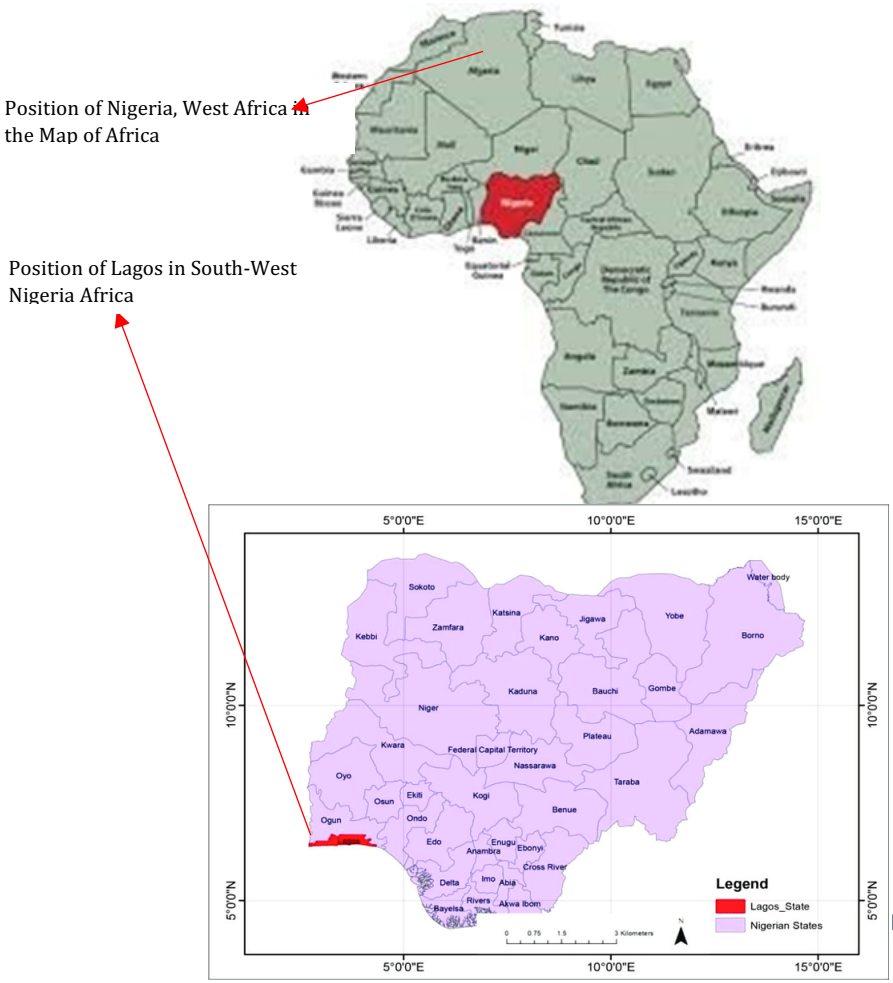
N	Category	Roles & Responsibilities
1.	LASU-ACEITSE Project Management Team	Under the leadership of the Centre Leader, the team shall ensure: ▪ Overall responsibility for the implementation and monitoring of the implementation of the ESMP. ▪ Monitoring of project/contractor performance and taking appropriate action to ensure ESMP provisions are met. ▪ Inclusion of relevant provisions in the bidding document for contractors. ▪ Review of ESMP performance and implementation of corrective actions ▪ Grievance redress implementation at the project level ▪ Liaise with other relevant State bodies/units as required such as Environmental unit, Facility Management Unit, LASPARK, Health Services, School of Transport, amongst others for effective implementation of the ESMP ▪ Disclosure of the ESMP
2.	Contractors	• Compliance to BOQ specification in procurement of material and construction • Prepare Contractors – ESMP (C-ESMP) in line with the project ESMP for approval of LASU-ACEITSE prior to mobilization to site • Ensure all contractors and workers sign the Code of Conduct (CoC) and are routinely trained on the contents of the CoC • Implement C-ESMP during project implementation • Ensure that all construction personnel and subcontractors are trained on the content of the CESMP and are made aware of the required measures for environmental and social compliance and performance • Prepare and implement Staging Area management Plan • Prepare OHS manual and abide by labor laws as set out in the agreement • Provide adequate basic amenities and PPEs to workers and ensure that the PPEs are worn by workers during work. • Prepare and maintain records and all required reporting data as stipulated by the ESMP
3.	LASU Management and Governing Council	▪ Provision of oversight function across project within its jurisdiction for ESMP compliance. ▪ Ensure grievance redress associated with the project at the management level
4.	Association of African Universities (AAU)	▪ Provide advisory and coordinating oversight to the planning and operations of the ACEITSE Centre
5.	World Bank / AFD	▪ Overall supervision and provision of technical support and guidance. ▪ Recommend additional measures for strengthening E&S and implementation performance

CHAPTER TWO: PROJECT DESCRIPTION

This section outlines the specific environmental and social frameworks that guides the implementation of the LASU-ACEITSE.

2.1 Description of the Proposed Project

The project is the construction of S.T.E.M Education Laboratory center on a proposed 2088sqm piece of land, beside the LASU-ACEITSE administrative building, inside the premises of the Lagos State University (LASU) Ojo campus, Ojo Lagos State, Nigeria. The construction will be implemented on land belonging to LASU and there will be no involuntary resettlement, acquisition of land, relocation, compensation, loss of physical and economic assets, and/or loss of livelihoods. The map of the project location is shown in figure 1 below.



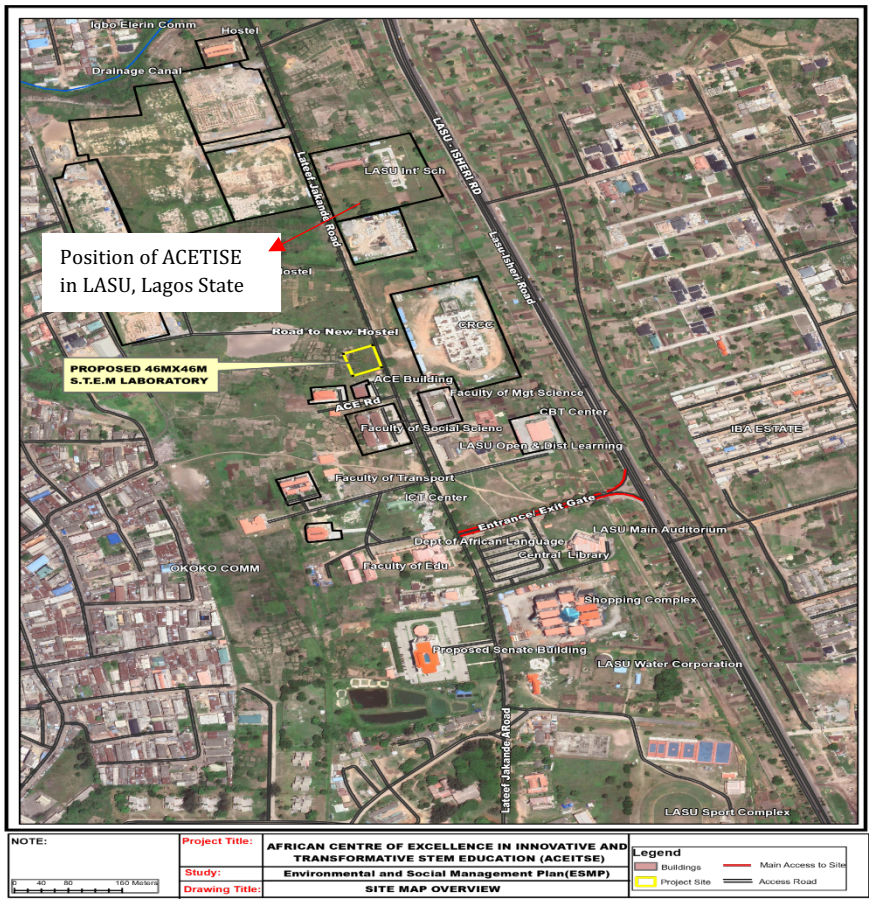


Figure 1: Map showing the project Location

Figure 2: Map showing the project Location

2.2 Project Scope of Works

The scope of works of the proposed project would involve the following project activities:

- Survey and design for proposed construction works
- Clearing of the proposed site and excavation works
- Site Mobilization of personnel, materials and equipment
- Creation of staging area for site office, materials and equipment
- Material Sourcing &Sourcing of Labour
- Construction of S.T.E.M Laboratory
- Operations of equipment and machineries
- Installation of plumbing pipes, sewage system, electrical fittings
- Demobilization/de-commissioning

2.2.1 Project Design

The design of the proposed STEM Education Laboratory complex includes the following:

- Two Floors (Ground and First Floor) building with a reinforced concrete framed structure
- Long Span Aluminum Roofing with sand Crete block wall parapet wall in front
- Six Laboratories in total comprising two laboratories of 30 students holding capacity and four laboratories of 25 students holding capacity.
- Director`s office with secretary and waiting room (ensuite)
- Deputy Director`s office with secretary and waiting room (ensuite)
- 2 en-suite office spaces for principal officers
- Four en-suite office spaces for either principal officers or to be used as open office for general staff
- 2 no sets of restrooms consisting 3 restrooms for male and 3 restrooms for female, each set on ground and first floors.
- Reception and waiting lounge at ground floor
- Open/general purpose lounge for waiting and coffee shop
- A main stairway and an escape stairway at one end
- Front outdoor open balcony lounge at upper floor
- Connecting back corridors at each floor
- A general-purpose backyard garden.
- Paved driveway and car parking lot for 24 Cars

The site layout and design excerpts are shown below:



Figure 2: Site Design Layout

2.2.2 Project Development Phases

The developmental phase of the project which also represents the project schedule will be in 3 phases: pre-construction (lasts for 1-2months), construction (lasts for 10-16months) and operation phases. This is explained in table 4 below including the aspects that will relate to environmental and social sensitivities.

Table 4: Project Developmental Phases

No.	Project Phase	Activities	Labor / Staffing	Support Facilities
1.	Pre-Construction	• Site marking and pegging, • Site clearing • Mobilization of equipment and workers to site • Establishing of staging area • Material Sourcing	• Skilled labour (estimate of 4nos) • Unskilled Labor (estimate of 10nos)	• Staging Area for contractor equipment • Portable water and Sanitary Facilities including male and female toilets • Personal Protective Equipment (PPEs) • First Aid kits
2.	Construction	• Excavation • Installation of traffic & safety signage and cautions on site • Construction of facilities • Demobilisation from site ✓ Removal of construction equipment ✓ Disposal of construction waste & other waste ✓ Dismantling of staging area	• Skilled labour (estimate of 6nos) • Unskilled labour (estimate of 50nos)	• Staging area • First aid kits (1 kit would serve 10 staff) • Construction water and materials • Sanitary Facilities (male and female toilets) • PPEs • Portable water for workers, food and security
3.	Operation and Maintenance	• Academic and school activities • Building maintenance	• This will be handled by the LASU Works Department	• Water for WASH facilities • Maintenance Workshop • Maintenance equipment

		• Maintenance of WASH facilities and sewage management		

2.2.2 Recommendations for Inclusion of Environmental and Social Considerations in the Design

- The building designs should consider using solar panels as a renewable energy source, which will comply with climate smart infrastructure
- Green areas should be provided in the site plan including in the general-purpose backyard garden.
- Design should allow for a setback of at least 2m which will align the proposed building with the adjoining building and avoid impacts to the water utility manhole
- The positions of the different labs should be identified to allow for effective safety planning especially the chemistry lab due to special considerations for safety, chemicals, drain water from the zinc etc. and should be located on the ground floor, open space, well lit, emergency exit. In addition, all labs should be fitted with smoke detectors, fire extinguishers, fire resistant ceiling etc.
- Though access ramps are provided for entry into the building, however, this was not considered for the top floor. The additional stairway for emergency can be built as a ramp which will serve as emergency exit and also create access for People with Disabilities. Ramps should have a slope of about 5^{o} and width of 0.9-1.2mm with handrails for additional support. Pathways should be of limited slope and include sufficient turning radius
- Doors should be light in weight and easy to turn, and entrances should be sufficiently wide, and Furniture, counters, equipment, power sockets, and plugs should be placed at suitable heights reachable by persons who use wheelchairs

2.2.3 Site Clearing

This activity is to prepare the land for the construction work to commence and will involve site clearing, removal of vegetation, levelling and grading the land to foundation specification and architectural design using mechanical method by contractor workers.

2.2.4 Staging Area

The staging area for sighting of the project office, parking equipment and other machinery for the project works will be set up on the site, and the site will be cordoned off using either barbwire or aluminum sheets, with restricted access.

The Contractor will ensure that all necessary facilities shall be provided for workers including:

- Conducive office space with tables, chairs, drinking water, good aeration, food etc.
- Separate toilets for male and female (mobile toilets or constructed units) with concrete and covered septic tanks
- Portable water with well-placed overhead tanks and Wash basins
- First aid kits, PPEs

2.2.5 Material Sourcing and Sourcing of Labour

Materials such as cement, sand, stone, gravels, roofing sheets, wood, iron rods, aggregates shall be purchased by the contractors from existing materials markets in the state, these materials will be supplied only when needed to avoid damage/weathering, overcrowding the site. A mechanically powered borehole will be dug on site for water to be used for the construction

and during the operation phase of the facility, this will follow the borehole specification & standards within LASU (detailed geotechnical investigations, 18m away from sewage tank etc.). The borehole specifications along with the building design will be approved by the LASU Physical Planning & Works Department to ensure adherence to required standards.

It was indicated that the contractor that will execute this proposed project will make use of staff who are accustomed to working with construction company (both skilled and unskilled) and facilitate their transportation to and fro site from their various residences, as such no camp site will be established. A few unskilled workers may be sourced from the adjoining communities of Igbo-elerin and Okokoin a bid to support socio-economic activities for the youths during the construction.

2.2.6 Construction/Civil Works

This phase of the project activity involves foundation works, super structure, basement casting, structural walls, plumbing, electrification, roofing, fittings, cladding/coating and landscaping and shall be carried out by qualified engineers/technicians using best available local technology.

2.2.7 Facility Operations

The operational phase of the facility shall render services such as technological trainings, skill acquisition, offices, library, coffee room, rest rooms and Laboratory for analysis. The targeted beneficiaries are LASU ACEITSE post graduate (Masters and PhD) students, lecturers, researchers amongst others.

CHAPTER THREE: DESCRIPTION OF PROJECT ENVIRONMENT

3.1Project Location

Lagos State University (LASU) is located in Ojo (along the Badagry Expressway) Lagos State, SouthWest Nigeria, established in 1983. The school has 11 faculties and over 35,000 students. LASU is host to the ACEITSE. The proposed construction of LASU-ACEITSE S.T.E.M Education Laboratory is located on a piece of land about 2088sqm (6.476617N 3.199020E) which is currently lying dormant along the main campus access, Lateef Jakande Road in Lagos State University, beside ACEITSE main administrative building as shown in figure 3 below.

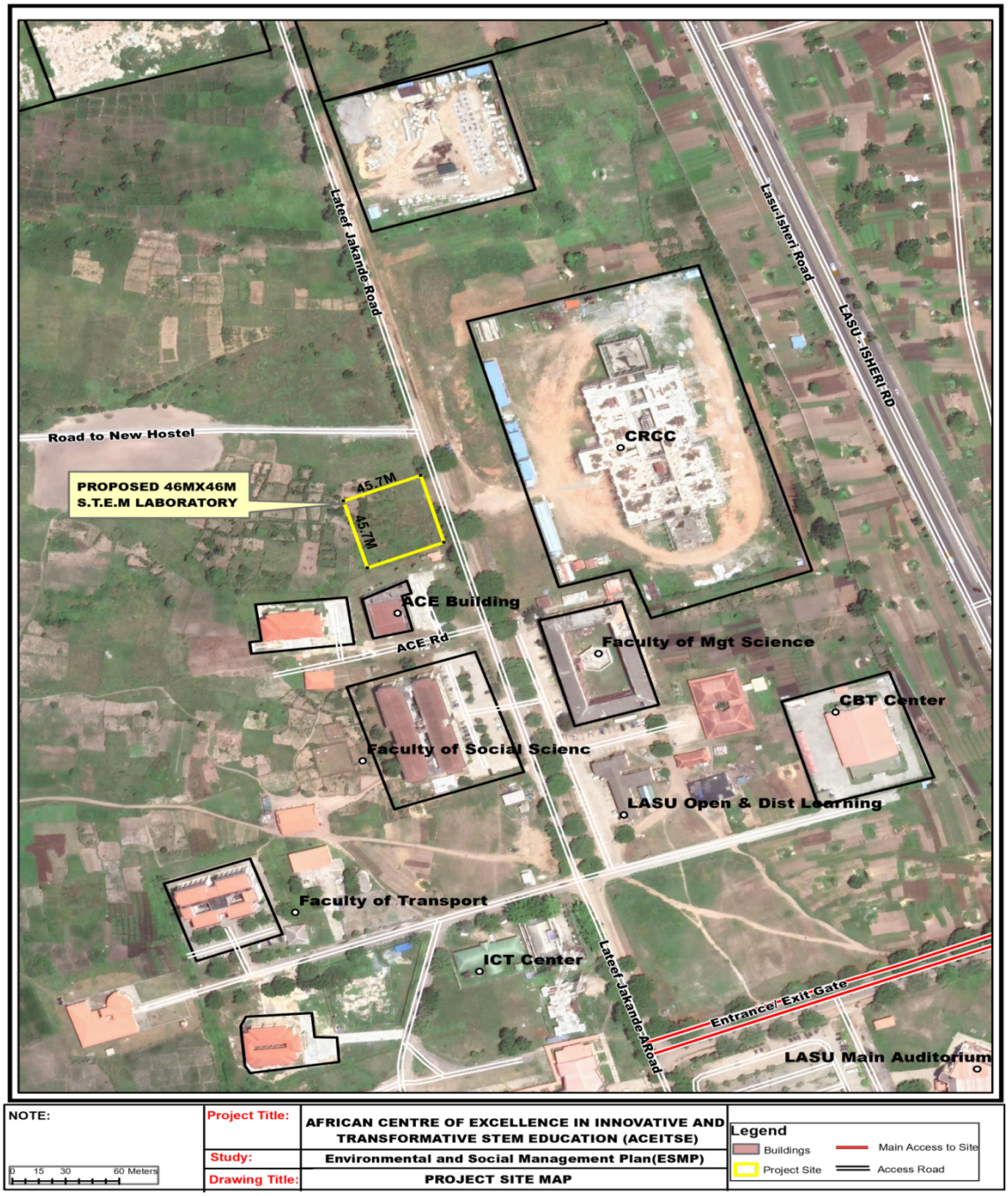


Figure 3: Map Showing the Project Site and Environs

3.2 Environmental and Social Characteristics of the Project Environment

As shown in fig 3 above, the project site is in a built-up environment within the proximity of the ACE administrative building, Faculty of Social Sciences, Faculty of Management Sciences and opposite a Chinese company yard (CCECC). The Igbo-elerin and Okoko Communities are within a 2km radius of LASU, collectively they create a huge economic cluster around LASU campus. Field visits were conducted between 23rd – 25th August 2022 to establish the environmental and social baseline conditions of the project area.



Project land showing a flat topography

3.2.1 Biophysical Environment of the site

Biophysical baseline conditions of the area were established mainly through observation, consultations, survey, sampling and laboratory analysis, analysis of site maps and site plans.

3.2.1.1 Climate

The study area falls within the semi-hot equatorial zone of Nigeria, with two well-marked distinctive seasons, dry and wet seasons. The heaviest rain falls from April to July and the weaker rainy season with low rains between October and November, a relatively dry spell in August and September and a longer dry season from December to March. The hottest month is March with a mean temperature of 29^0C while July is the coldest month. Specific information is presented in the following sub-sections:

Climate and Meteorology Maximum and Minimum Temperature

The study area falls within the semi-hot equatorial zone of the tropical climate area of Nigeria. Since it is situated in a tropical region, its climate is characterized with two well-marked distinctive seasons; dry and wet seasons. The dry season is accompanied by harmattan winds from the Sahara Desert, which between December and February can be quite strong.

The average temperature in January is about 260C (760F). On the average, the hottest month is March with a mean temperature of 290C while July is the coldest month. The wet season has two recognizable seasons, the heaviest rain falls from April to July and the weaker rainy season with low rains between October and November. There is a brief relatively dry spell in August and September and a longer dry season from December to March. Monthly rainfall between May and July averages above 300mm (12 inches); while in August and September it is down to 75mm (3 inches) and January as low as 35 mm (1.5 inches).

Wind Patterns

The wind pattern also follows the migratory ITCZ. Wind blows mainly southwesterly during the rainy season and northeasterly during the dry season. In general, the southwesterly swell is prevalent. The wind speed varies between 3 and 8 knots around the coast for most of the year with an average speed of 6 knots. Incidences of severe storms are relatively frequent and wind can reach speeds of 55–60 knots. These are often associated with thunder and lightning especially during changing season.

Rainfall Situation in the Project Area

The mean annual rainfall is 1,500 mm. During the wet season, rainfall events can be as much as 140 mm per day. Along the coast, the mean annual rainfall ranges between approximately 920 mm and 1,500 mm. Lagos (located approximately 60 km to the east) averages 1,740 mm of rain annually. Rain falls for about eight months of the year in the project area. The hydrological regime is influenced by the dry and wet seasons. The wet (rainy) season (April/October) is bimodal, with the highest peak occurring during May – July and separated from the lower peak by the August, little dry season known as the „August break". The rainfall regime (i.e. the pattern of rainfall distribution over the seasons) is determined by the two major air masses dominating the area: the moist Tropical Maritime (TM) with its associated westerlies and the dry Tropical Continental air mass (TC) with its associated easterlies.

Relative Humidity (RH) and Temperature

The region is characterized by a relatively high RH as a result of the prevailing TM air mass blowing over the environment almost all the year round. Typically, during the Wet Season, an average RH of 91.25 percent and RH of 73.75 percent are recorded at 10:00hrs and 16:00hrs local time respectively. The lowest RH in this season is 64 percent in the region is recorded in February. During the dry season, RH values between 65 percent and 85 percent are common, owning to the influences of the Dry Tropical Continental air mass that prevails over the region at this period. At near sea level in the equatorial zone, temperatures can be high and only vary by approximately 10°C throughout the year. Maximum temperatures are in the region of 32°C during the dry season (February and March) and at a minimum of around 22°C in August.

Topography

The project site is relatively flat with average elevation of about 6 meters above the sea level.

3.2.1.2 Geology and Hydrology of the Project Area

Geology

The geological setting of the project area reveals that it lies solely within the extensive Dahomey basin which extends across the coast of West Africa from Lagos (Nigeria) to Accra (Ghana). Its existence during or before metrication, area is sedimentary basin whose thickness increases from north to south (down dip) and from east to west. The littoral and lagoon deposit of recent sediment underlies the area. The coastal belt varies from about 8km near the Republic of Benin border to 24 km towards the eastern end of the Lagos Lagoon (Nton, 2001). More also, the area consists of sediment of clay, unconsolidated sands and mud with a varying proportion of vegetable matter along the coastal areas while the alluvial deposit consists of coarse claying unsorted sand with clay lenses and occasional pebble beds.

Surface and Ground Water Hydrology

Despite the fact that the project area has no definite rivers but it is connected by a series of interlocking and interspersed streams of very high sinuosity. These creeks are linked connected to the Ologe Lagoon which the large inland waterbody that influences surface water of the project area and other connecting areas. The nearest watercourse is the primary drainage located approximately 1200m to the North of the site. This canal drains into Ogun River Basin, located approximately 6 km to the North. There is no issue of flooding within the proposed site due to the fact that the site is well drained and water utility pipes connected underground

3.2.1.3 Air Quality

Stationary sources of air pollutants observed during the site visit with potential for impact to local air quality include open burning at waste dump site but there was no burning activity during the ESMP field visit. Mobile sources included vehicles using the tarred access roads as well as construction equipment active within the campus. Dust is likely to occur both naturally due to the fine nature of the soil and the wind conditions and due to disturbance during construction activities. Air quality was measured on two consecutive days (22nd and 23rd August 2022) in-situ using BH – 4S – Portable multi gas detector to measure Volatile Organic Compound (VOC), SPM 2.5 and SPM 10. VOC ranged from ND – 0.09 (FMEnv limit of 0.1), SPM2.5 ranged from 10 – 27 (FMEnv limit of 35) and SPM 10 ranged from 25 – 65 (FMEnv limit of 150). The air quality analysis of the project area indicates that the air quality in the project area is generally good as parameters were within the FMEnv permissible limit. This largely traceable to the fact that there are no high industrial activities such as to significantly impact on the ambient air quality

3.2.1.4 Noise

The site is mainly quiet and void of any significant noise as it is besides an administrative building, only a few vehicles pass along the major route periodically. Noise levels measured using an Extech Sound Level Meter, showed daytime noise levels to be within 38dB – 48Db. Measures against noise disturbance have been stated in this ESMP including fitting of heavy machinery with noise mufflers and avoid work at night, to ensure compliance with the national standard of 60Db (A) by day and 40Db (A) by night respectively.

3.2.1.5 Water Quality

There is no surface water in the project area. Underground water samples were taken from the ACEITSE Admin borehole close to the site (GW:6.476063N 3.198943E) in amber colored bottles and taken to Lagos State Environmental Protection Agency (LASEPA) Lab for analysis to establish pre-project baseline. The results and analysis are presented below:

Table 5: Physico-Chemical Characteristics of Water Sample

		PARAMETERS																		
		6.476063N,3.198943E(ACETISE BOREHOLE)																		
SN	H_20 ID	^0c		PPM	Mg/L															
		Tem.	Ph	TDS	Cl^-	So_4	Po_4	$N0_3$	$N0_2$	Cd	Pb	Mg	Ca	Na	K	Fe	Zn	Mn	Cu	As
I	GW	27.8	6.9	185	41.31	26.01	21.13	5.31	ND	ND	ND	2.83	23.12	10.5	15.28	38.13	18.50	0.06	0.73	ND

ND – Not -Detected
AB – Absent

PARAMETERS								
6.476063N,3.198943E								
SN	H_20 ID	Mg/L			Per 100ml			
		BOD_5	COD	DO	MPN	E.Coli	Samonnella	Shigella
I	TS	3.82	18.28	5.01	106	AB	AB	AB

The ground water is only slightly acidic with a PH of 6.9, according to WHO, the optimum PH for drinking water is 6.5 to 8.5, hence ACEITSE bore hole water is within acceptable limit. The TDS value of 185NTU is above the FMEnv maximum permissible limit of 5NTU[1] for drinking water, this could be due to high sediment load, thus the borehole water and any borehole to be dug on site should not be consumed by the contractor workers/staff/students as this can harbour microorganisms, entrap heavy metals and biocides. (It was established during consultations that this water is not used for drinking purposes). The COD, BOD DO are all within maximum allowable limit of FME and shows that the water is not polluted beyond regulatory limit index. However, E. Coli, Samonella and Shingella were absent in ground water.

3.2.1.6 Soil Quality

The soils of the study area are reminiscent of its geology and topographic nature. They are very deep and well-drained with traces of proximity to maritime influences. They have dark-brownish, loamy surface underlain by pale loamy soils which is representative of a soil under hydraulic action referred to as juvenile soil of fluviomarine alluvium (mangrove swamp). These soils are mostly recognised in parts of Lagos state under the influence of the Ologe Lagoon of the state. Particle size is predominantly sandy soil with sand comprising between 84 and 88 percent of the total, and silt and clays making up the remainder (between 12 and 16 percent).

Composite soil sample was collected from the site (SS:6.476617N 3.199020E) at a depth of 0-15 cm in a plastic bag after being wrapped in aluminum foil and sent to LASEPA for analysis to establish pre-project baseline. The results and analysis are presented below:

Table 6:Physico-Chemical Characteristics of Soil Sample

		PARAMETERS																		
6.476617N, 3.199020E																				
SN	Soil ID	% Particles Size distribution			pH		%			Mg/Kg	>C Mol/Kg<							Mg/Kg		
		Sand	Clay	Silt	TC	H_20	OC	MC	TN	AVP	Ca	Mg	K	Na	EA	ECEC	Zn	Fe	Mn	Cu
I	TS	9.3	0.6	4.1	S	6.8	28.6	9.3	8.7	18.5	33.50	42.80	72.45	68.12	2.01	14.56	6.80	18.11	6.05	5.04

PARAMETERS										
476617N, 3.199020E										
SN	Soil ID	Mg/Kg		ds/m	CFU				g/cm^3	
		Pb	Cd	EC	HB	HUB	HF	HUF	BD	SG
I	TS	0.22	0.53	83	$<7.3X10^3$	$4.0X10^3$	$3.5X10^3$	$3.0X10^3$	1.48	1.26

The soil is slightly acidic with soil pH of 5-6.8. Exchangeable cations and heavy Metals are within FME maximum allowable limit, hence no indication of existing pollution. The result of Microorganism (CFU) such as HB, HUB, HF, HUF shows the type of soil that can support plant growth.

[1]NIGERIAN INDUSTRIAL STANDARD NIS-554-2015: Nigerian Standard for Drinking Water Quality

3.2.1.7 Biological Environment

Ecosystem

The natural ecology of the project area has been altered greatly due to construction work within the LASU campus. Deforestation, land reclamation and expansion of built environment from Ojo and Iba end have produced a nascent sub- urban ecological landscape with more of built environment. Based on literature review as well as field interviews conducted, it can be asserted that the area was initially occupied by a maze of mangrove swamps, shrubs, and herbaceous plants close to a wet surface with brackish water. Similarly, the then existing wildlife and microfauna communities have been reduced due to aforementioned reasons. Hence, the observed plant life in form of regrowth of graces, shrubs and coastal marsh plants are mere secondary ecological that succeeded the previous biological life of the area. The observed ecology is more of a suburban typology.

The project site is in the university which is a builtup environment with buildings, there is no distinct ecosystem or flora and fauna of importance in the area, it is just a fallow land.

3.2.2 Socioeconomics of the Study Area

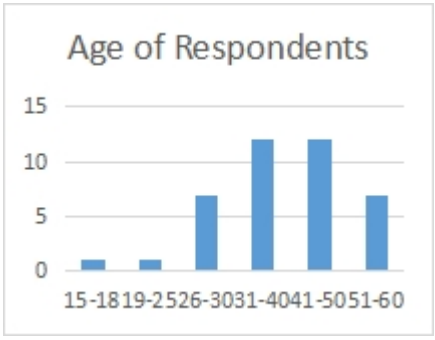
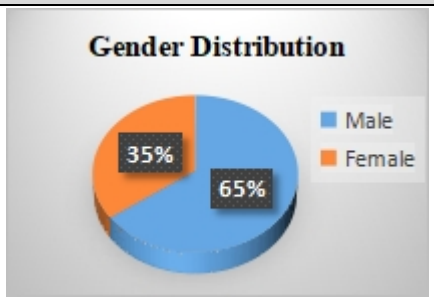
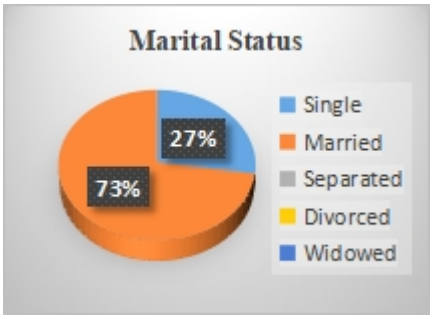
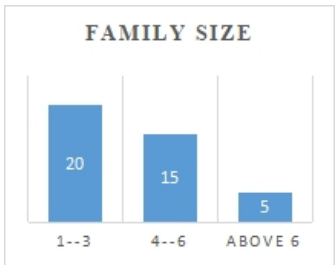
A socio-economic questionnaire (annex 3) was designed and administered to project's immediate communities (Igbo-elerin, Okoko and Ago-Hausa) in order to establish socio-economic baseline, in addition to consultations and interviews with traditional leader, women leader and youth leader. A total of 40 questionnaires were administered to the different groups and households and supplemented with interviews/discussions with key community leaders. This communities were surveyed because of the potential of contractor to source unskilled workers from there, and to identify if there are any cultural practices/ taboos in the area that contractor workers may be exposed to.

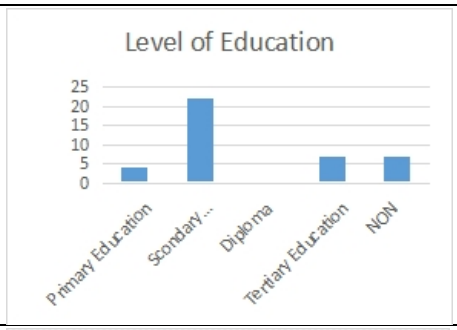
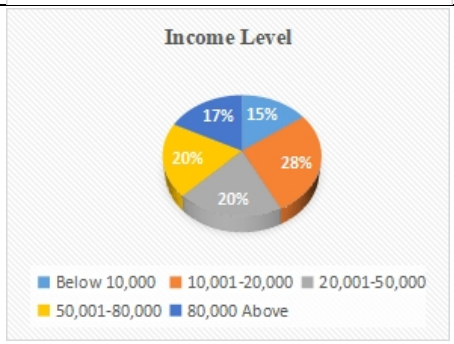
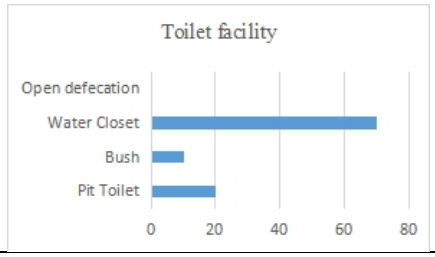
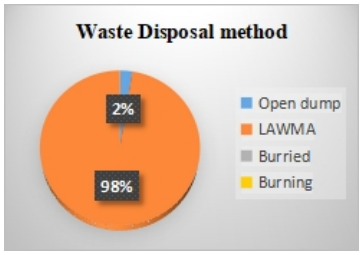
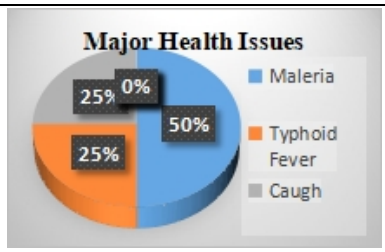
Overview of Findings

The communities surveyed are within the proximity of LASU, in Iba Local Council Development Authority, Ojo, which are semi-urban in nature with spots of small-scale commercial and industrial activities. According to the 2006 National Population and Housing Census conducted by the National Population Commission, Ojo local Government has a population of 914,523 on a land area of 182 km2 giving about 5,173 population density a close to state average value. This growth rate for this population value is about 8.04% which suggests that by 2050 the population would have increased to about 1,109,331. The area is populated traditionally by the Aworis of the Yoruba ethnic stock of southwestern Nigeria and few Hausa Migrants. Other tribes that are identifiable include the Hausas/Fulanis, Ibos, Itshekiris, Ijaw, Tivs, amongst several others. In addition, foreign nationals have also migrated to the area to establish industries. These communities are governed by elected king known as "Baale", whom all grievances are channeled to for resolution. In these communities there are inter-dependence in terms of historical and socio-cultural composition; families make up sections/quarters which in turn make up a village and villages grouped together make up a community. Average household size is between 5-10-person. The major occupations of the people include trading, civil servants, business and artisans (carpentry, welding, painting, plumbing etc.) with many people engaged in more than one of the skills. Typically, the project communities are adherents of Islam, Christianity and their own traditional religion. There are special days set aside for festive periods. The area has congested houses, presence of refuse dumps and open gutters with

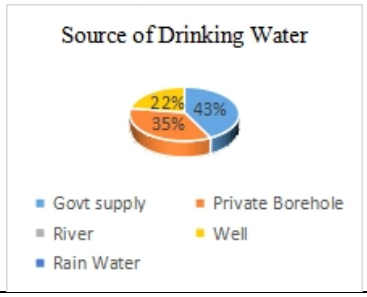
polluted waters, several canals which are used as waste dumps. The major socio-economic indices are presented below:

Table 7: Analysis of Socio-economic Baseline

PARAMETERS	RESULT	DISCUSSION OF RESULT	GRAPHIC PRESENTATION OF RESULTS
Age Category	**No of Respondents**	The respondents were all adults from 18 years and above. Significantly, the workforce age constitutes of 30% of the population (26-50 years old), while the older age (51-60 years and above) are 18% and represent the age bracket that may be vulnerable. Similarly, the composition of respondents from widespread age groups implies that varying views from younger to older respondents concerning the project activities were incorporated	
15-18	1		
19-25	1		
26-30	7		
31-40	12		
41-50	12		
51-60	7		
Total	40		
Gender	**No of Respondents**	A sample random of 40 respondents was randomly drawn from households across the proposed project area. It was gathered from the field survey that majority of the respondents (about 65%) are Male while Female are 35%. This illustrates representation of both gender in the survey.	
Female	26		
Male	14		
Total	40		
Marital Status	**No of Respondents**	The result of the surveyreveals that 29 respondents (73%) are all married. The implication of this result is that the project areas constitute more of households who are most likely to have children and dependents.	
Single	11		
Married	29		
Separated	0		
Divorced	0		
Widowed	0		
Total	40		
Family Size	**No of Respondents**	The result of the survey reveals that 20 respondents (50%) are within 1-3 household size, 15 respondents (37%) are within 4-6 household size, (13%) of the total respondents are having household size above 6. This clearly shows that there are young families within the project communities.	
1-3	20		
4-6	15		
Above 6	5		
Total	40		
Level of Education	**No of respondents**	The result on education attainment of the respondents shows that respondents have had at least one form of formal education. There are significant number of those who have completed secondary school and those that have attained tertiary education (55% and 17% respectively). Education is an important characteristic that can affect attitudes and understanding of social	
PRIMARY Education	4		
Secondary Education	22		
Diploma	0		

Tertiary Education	7	phenomenon, hence the higher level of education in the area could imply a better understanding and community ownership of proposed intervention.	
Non	7		
Total	40		
Monthly Income	**No of Respondents**	About 99% of the respondents agreed that they earn income. Out of this, those below the Nigerian government minimum wage of N30,000 per month (equivalent of US$ 83) constitute 20%. Those on income on N20,000 to N50,000 are considered as being on low but acceptable subsistence level of income, and constitute of 20%, 27% of the respondents. However, middle income class in the context of this study are those on income of more than N80,000 per month. This group accounts for only 18% of the population. The implication is that any source of revenue such as temporary unskilled work during construction will be of great benefit to these communities	
Below 10,000	6		
10,001-20,000	11		
20,001-50,000	8		
50,001-80,000	8		
80,000 Above	7		
Total	40		
Toilet facilities	**No of respondents**	Survey shows that 70% of household in the project communities use water closet followed by pit toilet (20%). few household however uses bush(10%), hence the need for more awareness on hygiene and sanitation.	
Pit Toilet	20		
Bush	10		
Water Closet	70		
Open defecation	0		
Pit Toilet	20		
Total	40		
Waste Disposal	**No of respondents**	98% of respondents disposed their waste through LAWMA, while 2% of respondents uses open dump method in canals. Hence contractors need to be strictly instructed to avoid taking waste to the communities to dump.	
Open dump	1		
LAWMA	39		
Buried	0		
Burning	0		
Total	40		
Major Health Issues	**No of Respondents**	The result of the survey shows that malaria is more frequent in the communities followed by typhoid fever. cough and catarrh. This could be due to presence of wetlands and untreated domestic water and poor sanitation/hygiene	
Malaria	20		
Typhoid Fever	10		
Cough	10		
Dysentery	0		
Domestic Water Supply	**No of Respondents**	42% of respondents benefit from pipe bore water supply, 35% depend on private borehole, while 23% of respondents uses hand dug well.	
Government supply	17		
Private Borehole	14		
River			
Well	9		
Rain Water			

Total	40



On gender statistics, women are involved in decision making, education and any form of job/artisanship as they may wish to participate in, without any form of discrimination.

3.3 E&S Sensitivities

This section highlights critical environmental and social sensitivities close to the site which includes the following:

- Ongoing construction of Ultra-Modern Student Residential Village about 273m from the LASU-ACEITSE site
- CCECC Construction site is opposite the proposed ACEITSE construction site about 50m from site
- LASU University Student hostel 640m from site
- Lagos State International School (secondary school) 177m from site
- Electric Poles and Trees planted by Parks & Gardens are along the ROW infront of the project site
- Faculty of Social Sciences, Faculty of Management Sciences and LASU ACEITSE Admin & Lecture theatre block are all within 100m from the construction site
- Currently only one functional entrance/exit entrance gate to LASU, due to ongoing rehabilitation at the 2nd gate

All the above-mentioned sensitivities are depicted in figure 4 below and have been duly captured in the impacts and mitigation in table 10 and 14 respectively.

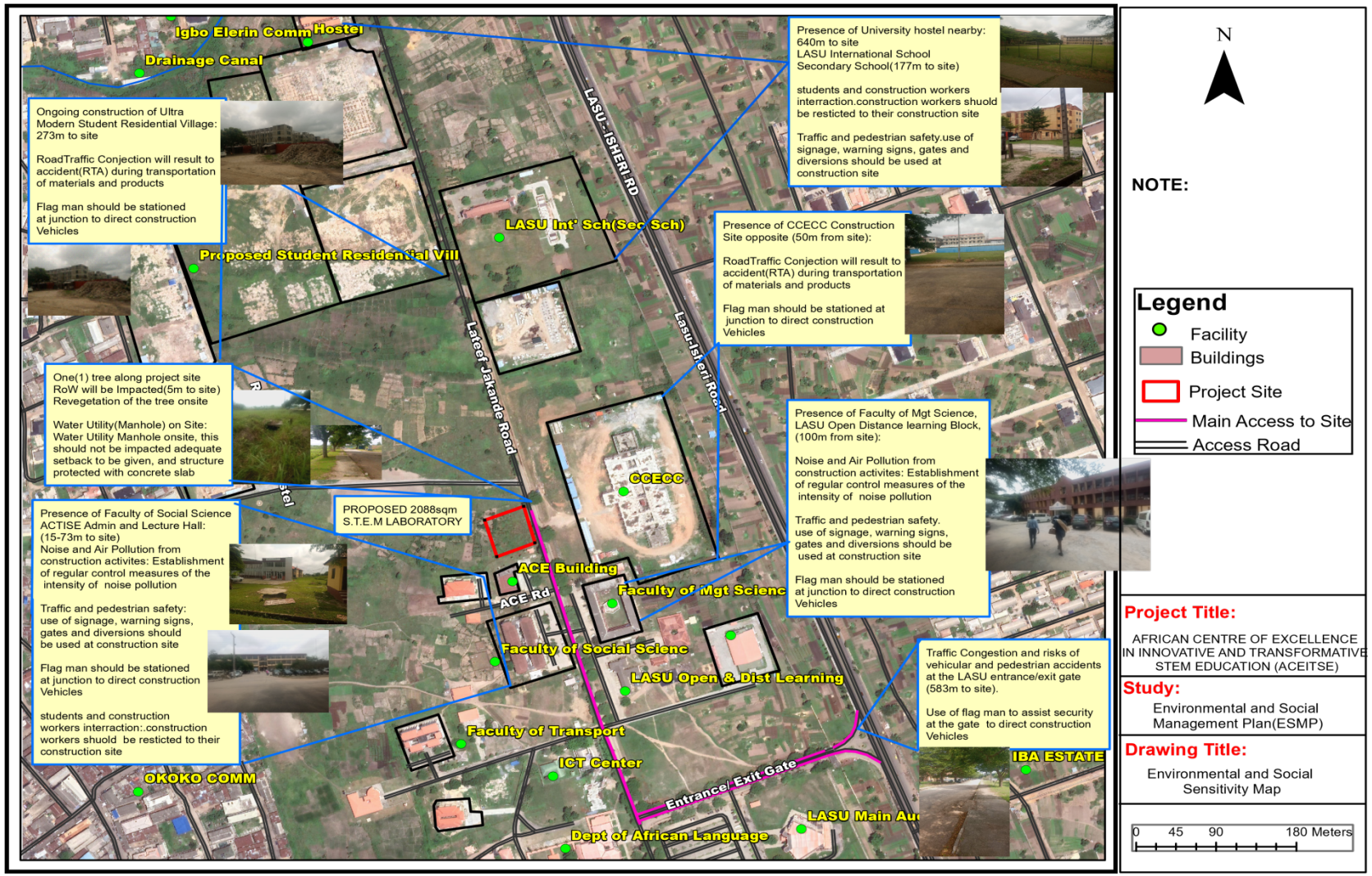


Figure 4: Key Environmental and Social Sensitivities

CHAPTER FOUR: ENVIRONMENTAL AND SOCIAL IMPACTS IDENTIFICATION

4.1 Methodology and Techniques for Impact Identification and Analysis

Identification of potential environmental and social impacts of proposed intervention works (civil) was conducted through the use of impact checklists, impact rating matrix and Leopold matrix for potential environmental and social impacts as presented below.

Table 8: Impact Checklist

INSTITUTIONAL & ADMINISTRATIVE				
Country				
Project Title				
Scope of Project and Activity				
Institutional Arrangements (Name and Contacts)				
Implementation arrangements	Safeguard Supervision	Local Counterpart Supervision	Local Inspectorate Supervision	Contractor
SITE DESCRIPTION				
Name of site				
Describe site location			Attachment 1: Site Map [ ] Y [ ] N	
Who owns the land?				
Description of geographic, physical, biological, geological, hydrographic and socio-economic context and sensitivities	Presence of erosion, flooding, pollution, water sources, degraded land, waste management practices, presence of markets, religious buildings. Identification of livelihoods, public facilities, gender peculiarities, vulnerable groups and their potential interaction with the project			
Locations and distance for potential material sourcing				
LEGISLATION				
Identify national & local legislation & permits that apply to project activity				
PUBLIC CONSULTATION				
Conduct consultations, identify when/where the public consultation process took place				
INSTITUTIONAL CAPACITY BUILDING				
Will there be any need for capacity building?	[ ]N or [ ]Y if Yes, Attachment 2 includes the capacity building program			

Impact Analysis

Impact analysis was conducted using the following steps as presented in the flow diagram:



Figure 5: Impacts Rating Flow

Impact Assessment Matrix

Likelihood	Potential consequences					
	Positive	Negative				
		Hardly any	Little	Considerable	Great	Extreme
High		Moderate	Moderate	Maior	Maior	Maior
Medium high		Minor	Moderate	Moderate	Maior	Maior
Medium		Minor	Minor	Moderate	Moderate	Maior
Medium low		Negligible	Minor	Minor	Moderate	Moderate
Low		Negligible	Negligible	Minor	Minor	Moderate

4.2 Positive Impacts

The proposed LASU-ACEITSE STEM Laboratory construction is expected to be largely beneficial to LASU, Lagos and the country at large as it aims to strengthen the dimensions of STEM Education. Some of the positive impacts and enhancement measures are listed in table 9 below:

Table 9: Positive Impacts and Enhancement Measures

Positive Impacts	**Enhancement Measures**
Provision of additional facilities will help to bridge the gap in infrastructure in the education sector	Proposed building should incorporate proper ventilation and provision of sunshine, air movement, and maximum usage of daylight. Climate resilient considerations should be included such as providing green area, use of solar panels as renewable energy source for electricity
Increased enrollment in STEM education due to availability of more/conducive facilities	ACEITSE project team and LASU management to conduct awareness programs for undergraduates, on air, on television, to intimate students about STEM education and the available facilities and courses at ACEITSE
Construction of toilets and WASH facilities will promote hygiene and sanitation in the school and thus better health status for students	Ensure toilets are well lit, ventilated, install proper signages for male, female, disabled. Facility managers in LASU should ensure proper maintenance of the toilet facilities and timely repairs when required
The building design is inclusive and takes into consideration ramps for people living with disabilities (PLWD)	• Access ramps should have resting places and be of low slope • Pathways should be of limited slope and include sufficient turning radius • Doors should be light in weight and easy to turn, and entrances should be sufficiently wide • Parking space should be close to the main entrance Furniture, counters, equipment, power sockets, and plugs should be placed at suitable heights reachable by persons who use wheelchairs

	• Handrails should be easy to grasp
Inclusion of safeguard processes will promote the sustainability of the project	ACEITSE team to ensure continuous stakeholder engagements to provide adequate and timely information and ensure involvement and inclusion. Ensure timely implementation of actions stipulated in this ESMP
Increased support of donor agencies/multilateral organisations to LASU	ACEITSE team and LASU should ensure compliance with the requirements of donor agencies/multilateral organisations such as the World Bank, this will help boost their confidence in LASU
It will create short term employment for skilled and unskilled workers during the construction phase	ACEITSE team should ensure that conditions of employment are fair, non-discriminatory, non-exploitative etc. through monitoring and sensitize workers of the availability of grievance channels to lodge their complaints

4.3 Potential Negative Impacts

The construction activities will take place in a delineated site within LASU, however, the nature of civil work activities entailing the use of heavy equipment, excavation works and labour influx will inevitably predispose the bio-physical and social components of the environment to varying degrees of negative impacts as stated in table 10 below.

Table 10: Potential Negative Impacts and Mitigation Measures

Potential Negative Environmental Impacts	Mitigation Measures
• Noise and air pollution from movement of construction vehicles and operations of machineries/equipment can affect ambient air quality • Trees along the ROW in front of the project site may be impacted or completely cut-down during clearing which will reduce vegetative protection from sun and increase CO2 emissions • Land clearing activities will lead to loss of vegetation cover and soil erosion • Construction waste such as cement, wood, iron rods etc. could be littered around the site, block drainages and cause pollution in the environment • E wastes such as electrical wires, sockets, ICT gadgets etc. could lead to toxicity if poorly handled • Burning of e-waste and debris as a disposal procedure will emit GHGs and contribute to climate change • Contractor workers could engage in open defecation around the site/school and poor management of sanitation waste could lead to air, land and underground water pollution • Risk of aquifer over-exploitation and pollution of ground water resources due to borehole drilling and if borehole is situated too close to septic tanks for the toilet facilities	• Install suitable mufflers on engine exhausts and compressors and ensure that all vehicles are serviced; undergo vehicle emission testing (VET) and vehicle exhaust screening (VES). Fuel switching from high- to low-carbon content fuels (where available), vehicles can be equipped with catalytic converters, machines/equipment should be turned off when not in use • Only the identified tree (3.199205E 6.476850N) should be impacted, the building contractors should not fall any tree except the one identified., and permission must be obtained from the appropriate authorities • Contractors should ensure proper waste management practices on site and liaise with the LASU environmental unit as required • Properly store and liaise with material recycling & recovery facilities to collect e-waste from site such as Solous, Yabatech Recycling Center amongst others. • Contractors to make provision for toilet facilities for workers (mobile toilets or constructed toilets with attached sewage system) • Drilling of borehole should comply minimum specifications WHO WASH standard on borehole Drilling. 18mdistance from septic tanks (WHO), use of sanitary seal. Care must be

	taken in the handling and storage of all drilling fluids, oils, greases and fuel on site.
Potential Negative Social Impacts	**Mitigation Measures**
• Noise and air pollution from movement of construction vehicles and operations of machineries/equipment can lead to disturbance of academic activities and affect human health • Clearing and construction activities may impact on the Electric Poles and water utility manhole which will deprive people and facilities of electricity and water supply for the period of outage • Potential conflict between ACEITSE contractors and contractors of other ongoing construction activities around the site • Disturbance of academic activities and communities due to construction activities such as movement of vehicles/materials/equipment to site and civil works/operation of machinery on-site • Labor influx (presence of contractor workers) poses risks of risk of STIs/STDs, GBV/SEA/SH, unwanted pregnancies for students and school workers (especially menial workers) • Movement of construction vehicles carrying materials and equipment poses risks of traffic congestion and vehicular/pedestrian accidents especially along the main gate and facilities near the site including Faculty of Social Sciences, Faculty of Management Sciences and LASU ACEITSE Admin & Lecture theatre block which are 100m of the construction site • Contractor workers could engage in open defecation around the site/school which can lead to conflicts with adjoining facilities • Use of existing borehole for construction works could lead to conflict with the existing water users • Competition for resources by contractor workers on site such as toilet facilities, food, water can lead to conflicts with students/staff • Excavation may lead to chance find and impact on Physical and Cultural Resources	• Install suitable mufflers on engine exhausts and compressors and ensure that all vehicles are serviced; undergo vehicle emission testing (VET) and vehicle exhaust screening (VES). Fuel switching from high- to low-carbon content fuels (where available), vehicles can be equipped with catalytic converters, machines/equipment should be turned off when not in use • Contractors should avoid impacts to the electric poles and water utility manhole, temporary concrete barricades could be installed around the poles • Contractors to be sensitized on and sign Code of Conduct against misconduct, GBV/SEA/SH etc. The Centre for Response and Prevention of Sexual and Gender Based Violence (CRPSGBV) will support in prevention and response mechanisms • All stakeholders should be sensitized on the GRM channels including phone number, complaint form on the website, office to lodge complaints etc. • ACEITSE Centre Leader and Environmental and Safeguard Officer to inform facility management contractors close to the site to sensitise their workers against engaging in relations with the contractor's workers • Contractor to install caution signages, use trained drivers, use flagmen during peak periods such as school starting/closing period. Contractor to liaise with the LASU School of Transport to train their drivers on do's and don'ts of transport of materials & equipment within the school • Contractor to make provision for facilities for workers including water, food, toilet • In the event that a cultural/traditional/religious artefact, grave site etc. are found on site the following procedure should be adopted: viii. work should be suspended immediately, and the area protected and untouched. However, works can go on in other locations on site ix. immediately inform the ESO-ACEITSE x. the ESO to call the attention of the Dean, Faculty of Arts xi. the Dean should in turn call the attention of the Lagos State Ministry of Tourism, Arts & Culture (Monument Department), through the office of the Vice Chancellor xii. Proper evaluation should be conducted by the Ministry to ascertain the best procedure to adopt to secure the artefact xiii. Upon conclusion, work can resume at that particular site xiv. The whole process should be well documented and stored in the project office for future reference
Potential Negative OHS Impacts	**Mitigation Measures**
• Noise and air pollution from movement of construction vehicles and operations of machineries/equipment can affect workers health • Poor labour and working conditions could lead to ill-health, grievances, discrimination etc.	• In addition to all measures to reduce noise and air pollution stated above, Contractor should provide all workers with PPEs • Contractor to ensure transparent and fair procedures in hiring, compensating, welfare and firing labor • Recruitment should be non-discriminatory, contract agreement to be adequately documented, a list of all workers should be

• Occupational health & safety risks from civil works and operation of machinery could lead to injuries, accidents for workers	maintained on-site, and all procedures to be reviewed by the Safeguard Officer. • Contractor to develop standard operating procedures and equipment/material handling procedures and train workers on same. • The contractor should have a Health & Safety Policy (to be submitted to the Environmental Officer), workers to be trained on OHS, monthly refreshers, daily HSE/ toolbox meetings. • There should be a dedicated trained HSE Officer on site, who should also know how to administer first aid. HSE statistics should be maintained on site, records of Loss Time Injuries (LTIs) to be kept by the HSE Officer

Table 11: Critical E&S Sensitivities, Impacts and Mitigation

N	Description of Sensitivity/Coordinates/dis	Potential Impacts	Mitigation Measures	Picture
1	Ongoing construction of Ultra-Modern Student Residential Village about 273m from the LASU-ACEITSE site, 3.197545E 6.480048N CCECC Construction site is opposite the proposed ACEITSE construction site, 50m, 3.200361E6.477834N	Movement of construction vehicles at the same junction could result in traffic jam, accidents, conflict between the different contractors etc.	✓ Flagman should be stationed at the junction to direct construction vehicles. ✓ Contractor to liaise with the LASU School of Transport to train their drivers on do's and don'ts of transport of materials & equipment within the school ✓ All stakeholders should be informed of the GRM channels including dedicated phone number, complaint form on ACEITSE website, lodge directly at the ACEITSE office	Ultra-Modern Mkt  CCECC Yard

2	LASU University Student hostel 640m from site, 3.196955E6.482138N Lagos State International School (secondary school) 177m from site, 3.199181E 6.479802N	• Students and staff plying in front of the site are exposed to risks of accidents from construction vehicles • Conflict between parents/guardians commuting their kids to and from school and construction vehicles, this also poses accidents risks especially reversing of construction vehicles • Presence of construction workers poses the risk of GBV/SEA/SH	• Contractor to install caution signages, use trained drivers, use flagmen during peak periods such as school starting/closing period • Contractor workers to be sensitized on, and sign Code of Conducts against misconduct/SEA/GBV/SH • Construction site to be cordoned off with restricted access	 Secondary School  LASU Hostel
3	Electric Poles and Trees planted by Parks &Gardens are along the ROW in front of the project site 3.199205E 6.476850N	To create the gate for the new LASU-ACEITSE complex, either an electric pole or a tree will be impacted. It was agreed that cutting down one(1) tree will have lesser impact than impacting the pole. Furthermore, consultation with the Chief horticulturist in LASU revealed that eventually those species of trees will be cut down as their roots destroy the drainage and the road	LASU-ACEITSE Centre Coordinator in conjunction with the LASU Chief Horticulturist will obtain permit from the Lagos Parks & Gardens (LASPARK) in Alausa to fall and revegetate the tree	 one tree to be cut down  electric pole
4	Water Utility(Manhole) is located on the project site 3.199046 E 6.476641N	• Damage to the structure could affect the water pipe, cause leakage and hence affect water distribution. • Construction could also block access to the manhole and prevent future maintenance works	• Review design to allow for adequate setback (about 2m), to align with the next building i.e., ACEITSE Admin block, this will avoid the water utility structure • Protect the structure with a concrete slab which can be removed and refitted to allow for university maintenance works • Cordon off the structure to avoid compaction by heavy vehicles or machinery	 Water Utility Manhole

5	Currently only one functional entrance/exit entrance gate to LASU, due to ongoing rehabilitation at the 2nd gate 583m from site 3.202206 6.474095	• Movement of construction vehicles could lead to traffic congestion, risk of vehicular/pedestrian accidents at the gate and entrance to the school, especially as this is the main entrance/exit for students, staff, workers, visitors, other construction activities in the school etc.	• Use of flagmen to assist the gate security to direct construction vehicles. • Use of trained drivers which should also be sensitized by the LASU School of transport on do's and don'ts of movement of construction vehicles within LASU including the peak hours to keep off and speed limit • Incidents to be reported to the ACEITSE office immediately	
6	Faculty of Social Sciences, Faculty of Management Sciences and LASU ACEITSE Admin & Lecture theatre block are all within 100m from the construction site	• Noise and air pollution from construction activities could affect the students & staff of these facilities • Movement of construction vehicles could result in traffic jam, pedestrian accidents, damage facilities, especially on vehicle reverse • Conflict and risks of GBV/SEA/SH from interactions between contractors and student/workers (especially non-academic workers like cleaners)	• Contractor to install caution signages, use trained drivers, use flagmen during peak periods such as school starting/closing period • Contractor workers to be sensitized on, and sign Code of Conducts against misconduct/SEA/GBV/SH • Construction site to be cordoned off with restricted access • Contractor to liaise with the LASU School of Transport to train their drivers on do's and don'ts of transport of materials & equipment within the school • All stakeholders should be informed of the GRM channels including dedicated phone number, complaint form on ACEITSE website, lodge directly at the ACEITSE office	 Faculty of Social Sciences  ACEITSE Admin building & Lecture Halls

All identified associated negative impacts of project activities on the E&S sensitivities mentioned above are duly captured in the ESMP matrix table 14 with the appropriate mitigation costs and responsibilities

CHAPTER FIVE: ENVIRONMENTAL AND SOCIAL MONITORING PLAN

This chapter presents a plan that outlines mitigation measures with well-defined desired outcomes and actions to address all potential negative impacts. The plan also includes elements such as parameters to be measured, methods of measurement, location of measurement, performance indicators (targets or acceptance criteria) that can be tracked over defined time periods, cost estimates and responsibilities for monitoring.

5.1 Roles and Responsibilities for ESMP Implementation

The specific roles and responsibilities of those that will be involved in the implementation and monitoring of this ESMP are highlighted in Table 12 below

Table 12: Institutional Responsibility for Implementing the ESMP

N	Category	Roles & Responsibilities
6.	LASU-ACEITSE Project Management Team	Under the leadership of the Centre Leader, the team shall ensure: ▪ Overall responsibility for the implementation and monitoring of the ESMP. ▪ Monitoring of project/contractor performance and taking appropriate action to ensure ESMP provisions are met. ▪ Inclusion of relevant provisions in the bidding document for contractors. ▪ Review of ESMP performance and implementation of corrective actions ▪ Grievance redress implementation at the project level ▪ Liaise with other relevant State bodies/units as required such as Environmental unit, Facility Management Unit, LASPARK, Health Services, School of Transport, amongst others for effective implementation of the ESMP ▪ Ensure public disclosure of the ESMP
7.	Environmental and Safeguards Officer	• Identify potential environmental risks and impacts. • Ensure that the project design and specifications adequately reflect the recommendations of the ESMP • Ensure that project activities are implemented in accordance with the provisions of the ESMP • Prepare monthly safeguards report for the attention of the World Bank • Ensure major incidents are reported to the Bank through the Centre Leader within 24hrs • Lead the process of disclosure
8.	Centre for Response and Prevention of Sexual and Gender Based Violence (CRPSGBV)	• Plan and implement all GBV related activities for the project • Maintain a GBV Grievance Redress Mechanism • Support the project management team in the identification, mitigation and management of the sexual exploitation and abuse (SEA)and other forms of GBV related risks identified in the projects. • Liaise with appropriate/accredited GBV management institutions to refer GBV/SEA/SH cases to for action/resolution
9.	Contractors	• Compliance to BOQ specification in procurement of material and construction • Prepare Contractors – ESMP (C-ESMP) in line with the project ESMP for approval of LASU-ACEITSE prior to mobilization to site • Ensure all contractors and workers sign the Code of Conduct (CoC) and are routinely trained on the contents of the CoC • Implement C-ESMP during project implementation • Ensure that all construction personnel and subcontractors are trained on the content of the CESMP and are made aware of the required measures for environmental and social compliance and performance • Prepare and implement Staging Area management Plan • Prepare OHS manual and abide by labor laws as set out in the agreement

		• Provide adequate basic amenities and PPEs to workers and ensure that the PPEs are worn by workers during work. • Prepare and maintain records and all required reporting data as stipulated by the ESMP
10.	Environmental Management Unit, LASU	▪ Oversight function and periodic monitoring of project activities to ensure compliance with environmental best practices including proper waste management, sanitation and housekeeping practices
11.	Lagos State Ministry of the Environment and Water Resources MEnvWR	▪ Environmental monitoring and compliance overseer at the State level ▪ Disclosure of ESMP report ▪ Site assessment and monitoring of ESMP implementation.
12.	Lagos State Environmental Protection Agency (LASEPA)/ Lagos State Waste Management Agency (LAWMA)	• Support collection/evacuation of waste from the project site • Ensure management of project waste in line with best environmental practices as not to degrade or pollute the environment. • Conduct periodic monitoring of environmental parameters to ensure compliance with environmental regulations
13.	School of Transport, LASU	• Control and manage of traffic and road safety throughout project implementation • Discourage counter road safety practices among road users • Support the contractors in training their drivers
14.	State Government MDAs	▪ Other MDAs come in as and when relevant areas or resources under their jurisdiction are likely to be affected by projects – LASPARK, Ministry of Tourism, Arts & Culture etc. ▪ Participate in the EA processes and project decision-making that helps prevent or minimize impacts and to mitigate them.
15.	Federal Ministry of Environment	▪ Lead role - review of draft ESMP report, disclosure of the ESMP, receiving comments from stakeholders
16.	LASU Management and Governing Council	▪ Provision of oversight function across project within its jurisdiction for ESMP compliance. ▪ Ensure grievance redress associated with the project at the management level
17.	World Bank / AFD	▪ Overall supervision and provision of technical support and guidance. ▪ Recommend additional measures for strengthening E&S and implementation performance

5.2 ESMP Capacity Building Plan

The various actors involved in the ESMP implementation will need capacity enhancement to ensure adequate understanding of ESMP/OHS/Waste Management/Code of Conduct requirements amongst other areas identified.

	Training Content	**Participants**	**Delivery**	**Cost (N)**
1.	Specific training on Environmental & Social Mgt.	Environmental & Social Safeguard Officer	E&S Firm/ World Bank	400,000
2.	Training on ESMP Implementation: mitigation, roles & responsibilities	LASU-ACEITSE Project Team	E&S Consultant	200,000
3.	Training for contractors on ESMP mitigation measures, Code of Conduct, OHS requirements	Contractors' management and workers	E&S Consultant	100,000

4.	Training of Contractor Drivers, fleet management, traffic control within LASU etc.	Contractor, contractor drivers, HSE officer, ESO-ACEITSE	School of Transport, LASU/ School Security Management	100,000
5.	World Bank GBV/SEA/SH Prevention and Response Mechanisms	Environmental & Safeguard Officer, CRPSGBV	E&S Consultant/ World Bank	200,000
6.	Grievance Redress Mechanism	Grievance Redress Committees: project level and management level GRCs	E&S Consultant	200,000
			Total	**1,200,000**

5.3 Record Keeping

The contractor should keep records providing evidence of ongoing mitigation activities These documents should be made available upon request. The Safeguard Unit should keep records to provide evidence of monitoring activities and effectiveness of the monitoring plan to include monitoring Plan, identified problems/corrective actions and monitoring Reports.

5.4 ESMP Implementation Schedule

The project has an estimated completion period of 12-18months. Activities related to the ESMP Matrix as seen above should to be integrated into the overall construction schedule.

Table 13: ESMP Implementation Schedule

S	Activity	Responsibility	Months											
			1	2	3	4	5	6	7	8	9	10	11	12 – 18
1	ESMP Disclosure													
2	Develop Environmental/Social Requirements in Bid Documents													
3	Finalization and Approval of Engineering Designs													
4	Allocate budget for ESMP Monitoring													
5	Appoint Support Staff for ESMP													
6	Review and Approval of Contractor's HSE, WMP, TMP													
7	Capacity building													
8	Implementation of Environmental and Social Mitigation Measures													
9	Supervision of pre-Construction and Construction activities													
10	Supervision of ESMP Implementation													
11	Environmental and Social Monitoring and Auditing													
12	Reporting on ESMP Implementation													

5.5 ESMP Disclosure

After the ESMP clearance by the World Bank, the ESMP shall be disclosed in line with the Nigerian EIA laws. This will include a formal registration of the ESMP with the FMEnv and receipt of guidelines for the disclosure from them. The Environmental & Safeguard Officer in the project team is required to coordinate the disclosure process. At a minimum, this will include the following:

S/No	Action	Remarks	Cost
1.	Registration of the ESMP at the FMEnv	This will be coordinated by the Environmental & Safeguard Officer. The fee will be paid to the FMEnv usually through Remitta. At least 5 copies of the ESMP will be submitted	₦ 50,000.00
2.	Fees for Panel Review	FMEnv will constitute a panel to review the ESMP	₦ 200,000
3.	Disclosure on 2 national newspapers	This entails advert in 2 newspapers: one national and one local (state) newspaper (at least quarter page)	₦ 400,000
4.	Disclosure at the Lagos State Ministry of Environment	The state Ministry of Environment will be one of the ESMP disclosure centers	N/A
5.	Radio announcement of the ESMP at the state	The project team will conduct radio announcement that has state coverage for the ESMP, to air for 5 days and 2 slots per day	₦ 500,000
6.	Disclosure at LASU-ACEITSE Office	This will be one of the ESMP disclosure centers	N/A
7.	Disclosure at the World Bank External Website	The ESMP will be disclosed according to the World Bank Disclosure ESS 10	N/A
8.	Monitoring of disclosure process	Fee for monitoring of the disclosure process by FMEnv/SMEnv	₦300,000
		Total	**₦1,450,000**

5.6 ESMP Management and Monitoring Plan

Table 3: ESMP Matrix Table

Activities	Potential Impact	Mitigation Measures	Responsibility (Mitigation	Mitigation Cost (N)	Parameters to be measured	Method of measurement	Performance indicator	Sampling Location	Monitoring Frequency	Responsibility (Monitoring)	Costs (N)
A	**PRE-CONSTRUCTION PHASE**										
Environmental Impacts											
Movement of materials, vehicles, and equipment to site	Exhaust fumes of vehicles, equipment could cause air pollution and noise pollution	• Install suitable mufflers on engine exhausts and compressors and ensure that all vehicles are serviced; undergo vehicle emission testing (VET) and vehicle exhaust screening (VES). • Fuel switching from high- to low-carbon content fuels (where available)	Contractor	100,000 for noise muffler 50,000 for emission reduction	SO2, NO_X, CO, VOC, $PM_{2.5}$, PM_{10}	In-situ measurement Site inspection	Air Quality Parameters are within permissible limits as documented by NESREA[2], Evidence of VET and VES, Evidence of compliance	Project area and within 1km	Bi-monthly/ Preconstruction Phase	Environmental & Safeguard Officer (ESO) School of Transport, LASU	100,000
Site clearing and establish staging area	• Loss of vegetative cover, Destruction to trees • Vegetal Waste Can pollute the environment or be dumped indiscriminately	• Only the identified tree (3.199205E 6.476850N) should be impacted and permission to be obtained from LASPARK through the Chief Horticulturist • Replant or revegetate trees/shrubs • Liaise with Environmental Unit/ certified waste vendor for waste management (see waste management plan (WMP) in annex 4)	Contractor	30,000	No of trees impacted Vegetal Waste on site	Site inspection Complaints received	Contractor compliance to stipulated measures Evidence of waste manifest	Project site and area	Weekly	Environmental & Safeguard Officer (ESO) Environmental Unit/ LASU	
	Open defecation by contractor workers lead to air, land and	Contractors to make provision for toilet facilities for workers (mobile toilets or constructed toilets with attached sewage system): male and female toilets to be separate	Contractor	500,000 (for 2 units)	Presence of open defecation on site	Site Inspection	Presence of site toilets and WASH facilities for workers	Project Site	Daily	ESO Environmental Unit/ LASU	

[2] National Environmental (Air Quality Control) Regulations, 2014

Activities	Potential Impact	Mitigation Measures	Responsibility (Mitigation	Mitigation Cost (N)	Parameters to be measured	Method of measurement	Performance indicator	Sampling Location	Monitoring Frequency	Responsibility (Monitoring)	Costs (N)
A	**PRE-CONSTRUCTION PHASE**										
	underground water pollution				Complaints from stakeholders near the sits	No of Complaints received					
Mobilisation of vehicles, materials and equipment to site	Water utility manhole onsite may be damaged by heavy equipment/ vehicle	• Allow for adequate setback (about 2m) • Cordon off the structure to avoid compaction by heavy vehicles or machines • Protect the structure with a concrete slab which can be removed and refitted to allow for university maintenance works	Contractor	20,000	Damage to structure	Site inspection Complaints from stakeholders	Structure is well protected and cordoned off	Project site	Weekly	ESO Works department, LASU	N/A
Social Impacts											
Mobilisation of vehicles, materials and equipment to site Establish staging area	Increase in noise level above permissible noise level, (60dB and 40dB for day and night respectively) can disturb academic activities	• Ensure proper consultation with affected stakeholders to intimate them on planned project activities • Retrofit machines with sound proofing devices • Avoid work at night (beyond 6pm)	Contractor/ ESO-ACEITSE Team	Captured under environmental impact above	Number and frequency of complaints in project area	Consultations Complaint reports	Absence/low complaints	Project area	weekly	ESO	50,000
	• Delay in travel time due to traffic congestion • Risk of vehicular/pedestrian accidents/ damage to facilities	• Contractor to liaise with the LASU School of Transport to train their drivers on do's and don'ts of transport of materials & equipment within the school and assist with fleet management • Use trained drivers, use flagmen at sensitive points and during peak periods such as school starting/closing period	Contractor	50,000	No of complaints/ incidents in the project area	Observation Complaints from stakeholders, Incident reports	Compliance to stipulated mitigation measures Absence/low complaints and Incidents	Project Area	Weekly	ESO LASU School of Transport/ Security	
	Conflict between the contractor workers and	• Construction site to be cordoned off with restricted access	Contractor	N/A	Site restriction	Site inspection	Compliance to stipulated	Project area of influence	Weekly	ESO	

Activities	Potential Impact	Mitigation Measures	Responsibility (Mitigation	Mitigation Cost (N)	Parameters to be measured	Method of measurement	Performance indicator	Sampling Location	Monitoring Frequency	Responsibility (Monitoring)	Costs (N)
A	**PRE-CONSTRUCTION PHASE**										
	student /staff/ visitors/other contractors within the school etc.	• All stakeholders should be informed of the GRM channels including dedicated phone number, complaint form on ACEITSEhttp://lasu-aceitse.org.ng, lodge directly at the LASU-ACEITSE office (Research Coordinator/ ESO)	ACEITSE Project Team	100,000 (for GRM)	No of complaints/ incidents in the project area	Complaints from stakeholders	mitigation measures Effective GRM process				
Mobilisation of vehicles, materials and equipment to site Establish staging area	Presence of construction workers poses the risk of STIs/STDs, GBV/SEA/SH, unwanted pregnancies etc.	• Contractor workers to be sensitized on, and sign Code of Conducts against misconduct/SEA/ GBV/SH (see annex 6for sample CoC) • LASU International School Mgt to sensitise their students against relations with contractor workers • Facility managers to sensitise menial workers close to the site (faculty of social science, management science, ACEITSE block) against relations with contractor workers	Contractor in liaison with ACEITSE Project Team and the LASU Centre for Response and Prevention of Sexual and Gender Based Violence (CRPSGBV)	100,000	No of workers trained No of workers who signed CoC	Training records and Interviews/ consultations with workers	All workers are trained on CoC Facility managers have sensitized menial workers	Project area of influence	Weekly	ESO Director, CRPSGBV ACEITSE Centre Coordinator	100,000
Mobilisation of vehicles, materials and equipment to site Establish staging area	Increased demand and competition for local resources such as water, food, toilet etc. this could also lead to conflicts	Contractor to provide required facilities for staff on-site including good food, portable water, toilet and WASH facilities (different male and female toilets)	Contractor	Toilets (captured above) 200,000 (Food and water etc. x 14 workers)	Availability of facilities on site	Visual inspection Consultation with workers	Toilet on site (separate for male and female), food and water provided on site	Project site	Daily	ESO Environmental Unit (health services), LASU	N/A Part of routine monitoring
Hiring of Labor	Recruitment process could be unfair, discriminatory, and ambiguous	• Engagement of workers should be fair and indiscriminatory • Contracts/agreement should be well documented and communicated to workers	Contractor	N/A	Recruitment process Documentedagreement	Visual inspection Consultation with workers	Agreement sighted	Project site	Weekly	ESO	50,000

Activities	Potential Impact	Mitigation Measures	Responsibility (Mitigation	Mitigation Cost (N)	Parameters to be measured	Method of measurement	Performance indicator	Sampling Location	Monitoring Frequency	Responsibility (Monitoring)	Costs (N)
A	**PRE-CONSTRUCTION PHASE**										
		• List of workers to be maintained onsite daily			Workers perception		Workers have good perception				
OHS Impacts											
Mobilisation to site, clearing activities, establish staging area	• Risk of accidents and injuries to contractor workers • Respiratory diseases to Workers due to inhalation of exhaust fumes • Noise Pollution • Workers could face harassment on site	• Submit company HSE Manual/ Implement site specific Occupational Health and Safety Management Plan (OHSMP) see annex 5 for sample • The OHSMP will entail: - Provision of Hazard Communication Procedures (HAZCOM); Job Hazard Analysis (JHA); OHS Training program • Provision of adequate first aid, PPE, safety signages • Ensure qualified HSE officer onsite daily • Workers should get a daily induction/toolbox before work commences • Fumigate the site against reptiles prior to clearing • Use reflective tapes and signage integrated in all worksites • Appropriate security measures in place to prevent harassment or theft onsite, provide permits for drivers/workers • Report major incidents immediately to the ESO/ and World Bank within 24hrs	Contractor	200,000 for training of workers on OHS 100,000 for PPEs for pre-construction phase	✓ Compliance with OHSMP ✓ No of workers Trained on HSE/OHS ✓ No of accidents, incidents or injuries ✓ Availability and use of appropriate PPEs ✓ First Aid Kits ✓ On-site security ✓ Fumigation activity	Site inspection Consultation Incident reports HSE Statistics Board	HSE/OHS Training reports and list of attendees Evidence of Compliance to OHSMP Evidence of use of PPES, caution signs onsite, well-stocked first aid kits	Project Site	Weekly	**ESO**	50,000
Mobilisation to site, clearing activities, establish	Workers may be exposed to poor welfare	• Contractor to provide required facilities for staff on-site including good food, portable water, toilet and WASH facilities (different male and female toilets) • Ensure first aid kit on site	Contractor	Captured above	Availability of facilities on site	Visual inspection Consultation with workers	Evidence of facilities on site	Project site	Weekly	ESO Environmental Unit (health services), LASU	N/A Part of routine monitoring

Activities	Potential Impact	Mitigation Measures	Responsibility (Mitigation	Mitigation Cost (N)	Parameters to be measured	Method of measurement	Performance indicator	Sampling Location	Monitoring Frequency	Responsibility (Monitoring)	Costs (N)
A	**PRE-CONSTRUCTION PHASE**										
staging area		• Sign MOU with the LASU Health Services to enable workers access to medical care when required		100,000 (health services)			MOU with health services				
			Total	**1,550,000**							**350,000**

Activities	Potential Impact	Mitigation Measures	Responsibility (Mitigation	Mitigation Cost (N)	Parameters to be measured	Method of measurement	Performance indicator	Sampling Location	Monitoring Frequency	Responsibility (Monitoring)	Costs (N)
B	**CONSTRUCTION PHASE**										
Environmental Impacts											
Movement of materials, vehicles, and equipment to site Construction works	Exhaust fumes of vehicles and equipment(NOx, CO, SOx, SPM, GHGs) could cause air pollution and noise pollution	• Install suitable mufflers on engine exhausts and compressors and ensure that all vehicles are serviced; undergo vehicle emission testing (VET) and vehicle exhaust screening (VES). • Fuel switching from high- to low-carbon content fuels (where available) • Turn off machines when not in use • Avoid work at night (beyond 6pm)	Contractor	50,000 (for mufflers in addition to cost in pre-construction) 200,000 for emissions reduction	SO2, NO_X, CO, VOC, $PM_{2.5}$, PM_{10} Noise level	In-situ measurement Site inspection	Parameters are within permissible limits as documented by NESREA[3], VET/VES Report, Noise level below 60dB for day	Project area	Monthly	Environmental & Safeguard Officer (ESO) School of Transport, LASU	100,000
Construction works Operation of staging area	Construction waste such as debris, wood, iron etc can create hazards onsite and cause land/soil pollution or end up in the drainage	• Implement site specific waste management plan (WMP) see annex4 for sample: waste should be sorted and stored properly in a designated zone onsite and evacuated periodically by a licensed vendor. • Recyclable waste should be sent to MRF facilities such as SOLOUS, Yabatech etc.	Contractor	300,000	Presence of construction waste on-site	Site inspection	Compliance with WMP Good housekeeping	Project site	Weekly	ESO Environmental Unit, LASU	
	Open defecation by contractor workers lead to air, land and underground water pollution	Contractors to make provision for toilet facilities for workers (mobile toilets or constructed toilets with attached sewage system): male and female toilets to be separate	Contractor	200,000 for maintainance	• Presence of open defecation on site • Complaints from stakeholders near the site	Site Inspection No of Complaints received	Presence of site toilets and WASH facilities for workers	Project Site	Daily	ESO Environmental Unit/ LASU	

[3] National Environmental (Air Quality Control) Regulations, 2014

Activities	Potential Impact	Mitigation Measures	Responsibility (Mitigation	Mitigation Cost (N)	Parameters to be measured	Method of measurement	Performance indicator	Sampling Location	Monitoring Frequency	Responsibility (Monitoring)	Costs (N)
B	**CONSTRUCTION PHASE**										
	Soil and groundwater contamination by oil spills, lubricants and other chemicals	• Site oil and lubricants should be kept on an impervious base and should have drip pans • Locate storage area far from boreholes, all containers should be clearly labeled	Contractor	50,000	Soil quality Parameters (heavy metals) Fuel/chemical storage procedures	Site inspection Laboratory test of soil samples	• Good house-keeping • Chemicals labelled on site Soil quality Parameters within permissible limits	Project site	Weekly	ESO Environmental Unit/ LASU	
Drilling of borehole	Risk of aquifer over-exploitation and pollution of ground water resources due to borehole drilling and if borehole is situated too close to septic tanks for the toilet facilities	• Adhere to borehole specification in LASU in liaison with Physical Planning Unit • Use sanitary seal to protect borehole water, ensure 18m to the septic tank, Care must be taken in the handling and storage of all drilling fluids, oils, greases and fuel on site. • The completed boreholes must comply with minimum WASH standard on borehole Drilling. Boreholes must be developed after completion of drilling, after casing, screen and filter pack are installed	Contractor in conjunction with Physical Planning Unit/Works	Part of borehole drilling cost	Location f borehole onsite Borehole specifications Groundwater quality parameters especially heavy metals, BOD, COD	Site inspection Borehole drilling report Lab analysis of groundwater samples	Compliance with siting location and specifications Parameters within permissible limits of FMEnv[4]	Project Site	Quarterly	ESO Physical planning/works department	N/A
Material sourcing	Building materials could be obtained from illegal vendors or from illegal/restricted areas	Contractor to ensure materials are sourced from established markets and licensed vendors	Contractor	N/A	Contractors due diligence	Interview/ consultation	Contractor ensures materials are sourced from established markets and	Project area of influence	Quarterly	ESO	50,000

[4]NIGERIAN INDUSTRIAL STANDARD NIS-554-2015: Nigerian Standard for Drinking Water Quality

Activities	Potential Impact	Mitigation Measures	Responsibility (Mitigation	Mitigation Cost (N)	Parameters to be measured	Method of measurement	Performance indicator	Sampling Location	Monitoring Frequency	Responsibility (Monitoring)	Costs (N)
B	**CONSTRUCTION PHASE**										
							licensed vendors				
Social Impacts											
Mobilisation of vehicles, materials and equipment to site Construction works Operation of staging area	Increase in noise level above permissible noise level, (60dB and 40dB for day and night respectively) can disturb academic activities	• Ensure proper consultation with affected stakeholders to intimate them on planned project activities • Retrofit machines with sound proofing devices • Avoid work at night (beyond 6pm)	Contractor/ ESO-ACEITSE Team	Captured under environmental impact above	Number and frequency of complaints in project area	Consultations Complaint reports	Absence/low complaints	Project area	weekly	ESO	100,000
	• Delay in travel time due to traffic congestion • Risk of vehicular/pedestrian accidents/ damage to facilities	• Contractor to liaise with the LASU School of Transport to train their drivers on do's and don'ts of transport of materials & equipment within the school and assist with fleet management • Use trained drivers, use flagmen at sensitive points and during peak periods such as school starting/closing period	Contractor	100,000 (once every quarter) flagmen 200,000)	No of complaints/ incidents in the project area	Observation Complaints from stakeholders, Incident reports	Compliance to stipulated mitigation measures Absence/low complaints and Incidents	Project Area	Monthly	ESO LASU School of Transport/ Security	
	Conflict between the contractor workers and student /staff/ visitors/other contractors within the school etc.	• Construction site to be cordoned off with restricted access • All stakeholders should be informed of the GRM channels including dedicated phone number, complaint form on ACEITSE website lodge directly at the LASU-ACEITSE office	Contractor ACEITSE Project Team	N/A 300,000 (for GRM)	Site restriction No of complaints/ incidents in the project area	Site inspection Complaints from stakeholders	Compliance to stipulated mitigation measures Effective GRM process	Project area of influence	Weekly	ESO	

Activities	Potential Impact	Mitigation Measures	Responsibility (Mitigation	Mitigation Cost (N)	Parameters to be measured	Method of measurement	Performance indicator	Sampling Location	Monitoring Frequency	Responsibility (Monitoring)	Costs (N)
B	**CONSTRUCTION PHASE**										
Mobilisation of vehicles, materials and equipment to site Construction works Operation of staging area	Presence of construction workers poses the risk of STIs/STDs, GBV/SEA/SH, unwanted pregnancies etc.	• Contractor workers to be sensitized on, and sign Code of Conducts against misconduct/SEA/ GBV/SH (see annex 6 for sample CoC) • LASU International School Mgt to sensitise their students against relations with contractor workers • Facility managers to sensitise menial workers close to the site (faculty of social science, management science, ACEITSE block) against relations with contractor workers	Contractor in liaison with ACEITSE Project Team and the LASU Centre for Response and Prevention of Sexual and Gender Based Violence (CRPSGBV)	200,000 (refresher every quarter)	No of workers trained No of workers who signed CoC	Training records and Interviews/ consultations with workers	All workers are trained on CoC Facility managers have sensitized menial workers	Project area of influence	Weekly	ESO Director, CRPSGBV ACEITSE Centre Coordinator	100,000
Construction works Operation of staging area	Visitors onsite could be exposed to accidents	• Construction site to be cordoned off with restricted access and a site security • Visitors should register in a log-book and provided with safety PPEs and guided by the site HSE officer	Contractor	Part of site preparation costs	Visitors protocol Site access restrictions	Visual observation	Site is cordoned off with restricted access signages Visitors logbook	Project site	Monthly	ESO	
	Increased demand and competition for local resources such as water, food, toilet etc. this could also lead to conflicts	Contractor to provide required facilities for staff on-site including good food, portable water, toilet and WASH facilities (different male and female toilets)	Contractor	Toilets (captured above) 500,000 (supplementary budget for provision of food, water etc.)	Availability of facilities on site	Visual inspection Consultation with workers	Toilet on site (separate for male and female), food and water provided on site	Project site	Daily	ESO Environmental Unit (health services), LASU	N/A Part of routine monitoring

Activities	Potential Impact	Mitigation Measures	Responsibility (Mitigation	Mitigation Cost (N)	Parameters to be measured	Method of measurement	Performance indicator	Sampling Location	Monitoring Frequency	Responsibility (Monitoring)	Costs (N)
B	**CONSTRUCTION PHASE**										
Hiring of Labor	Recruitment process could be unfair, discriminatory, and ambiguous	• Engagement of workers should be fair and indiscriminatory • Contracts/agreement should be well documented and communicated to workers • List of workers to be maintained onsite daily	Contractor	N/A	Recruitment process Documented agreements Workers' perception	Visual inspection Consultation with workers	Agreement sighted Workers have good perception	Project site	Weekly	ESO	Part of routine monitoring
Excavation works, Construction works, drilling of borehole	There could be chance find or unearthing of physical and cultural resources such as artefacts, grave site etc.	Physical and Cultural Resources Plan (PCRP)is presented in table 11 of this ESMP: including reporting to the ESO, immediate suspension of further activities and protection of the area, until proper evaluation is concluded by the Ministry of Tourism, Arts & Culture in conjunction with the Faculty of Arts, LASU	Contractor in conjunction with the ESO and Director, Faculty of Arts LASU	N/A	Presence of PCR/chance find	Visual observation Site reports	Compliance with PCRP	Project site	As required	ESO Director, Faculty of Arts, LASU	50,000
OHS Impacts											
Movement of materials, vehicles, and equipment to site Excavation works, Construction works, drilling of borehole Operation of staging area	• Risk of accidents and injuries to contractor workers • Respiratory diseases to Workers due to inhalation of exhaust fumes • Noise Pollution • Workers could face harassment on site especially from security personnel	• Implement site specific Occupational Health and Safety Management Plan (OHSMP) see annex 5 for sample • The OHSMP will entail: - Provision of Hazard Communication Procedures (HAZCOM); Job Hazard Analysis (JHA); OHS Training program • Provision of adequate first aid, PPE, safety signages • Ensure qualified HSE officer onsite daily • Workers should get a daily induction/toolbox before work commences • Fumigate the site against reptiles prior to clearing • Use reflective tapes and signage integrated in all worksites	Contractor	200,000 for training of workers on OHS every quarter 300,000 for PPEs 100,000 for first aid kits	✓ Compliance with OHSMP ✓ No of workers Trained on HSE/OHS ✓ No of accidents, incidents or injuries ✓ Availability and use of appropriate PPEs	Site inspection Consultation Incident reports HSE Statistics Board	HSE/OHS Training reports and list of attendees Evidence of Compliance to OHSMP Evidence of use of PPES, caution signs onsite, well-stocked first aid kits	Project Site	Weekly	**ESO**	100,000

Activities	Potential Impact	Mitigation Measures	Responsibility (Mitigation	Mitigation Cost (N)	Parameters to be measured	Method of measurement	Performance indicator	Sampling Location	Monitoring Frequency	Responsibility (Monitoring)	Costs (N)
B	**CONSTRUCTION PHASE**										
		• Appropriate security measures in place to prevent harassment or theft onsite, provide permits for drivers/workers • Report major incidents immediately to the ESO/ and World Bank within 24hrs			✓ First Aid Kits ✓ On-site security						
	Workers may be exposed to poor welfare	• Contractor to provide required facilities for staff on-site including good food, portable water, toilet and WASH facilities (different male and female toilets) • Sign MOU with the LASU Health Services to enable workers access to medical care when required	Contractor	Captured in social impacts above 300,000 (health services) contractor management should also have contingency fund for emergency	Availability of facilities on site	Visual inspection Consultation with workers	Evidence of facilities on site MOU with health services	Project site	Weekly	ESO Environmental Unit/Health services), LASU	N/A Part of routine monitoring
			Total	**3,000,000**							**450,000**

Activities	Potential Impact	Mitigation Measures	Responsibility (Mitigation	Mitigation Cost (N)	Parameters to be measured	Method of measurement	Performance indicator	Sampling Location	Monitoring Frequency	Responsibility (Monitoring)	Costs (N)
C	**OPERATION PHASE**										
Environmental Impacts											
Borehole operations	Groundwater contamination by oil spills, lubricants and other chemicals from borehole machines during	• Any leakages or damages to borehole fittings should be reported immediately to the works department • Water distribution system should be turned off during maintenance	ESO/ Admin Officer – ACEITSE	Part of facility management costs	Groundwater Parameters (heavy metals, COD, BOD, turbidity)	Site inspection Laboratory test of groundwater samples	water quality Parameters within	Project site	Half-yearly	Environmental Unit/ LASU Works Department	Part of routine maintainance

Activities	Potential Impact	Mitigation Measures	Responsibility (Mitigation	Mitigation Cost (N)	Parameters to be measured	Method of measurement	Performance indicator	Sampling Location	Monitoring Frequency	Responsibility (Monitoring)	Costs (N)
C	**OPERATION PHASE**										
	maintenance or seepage from septic tank	works, stakeholders should be duly informed prior to the activity • Ensure sanitary seals are well maintained and replaced when worn out/expired			Borehole maintenance schedule		permissible limits[5]				
Building operations and maintenance	Waste generation (cement, paint, paper, e-waste) could pollute the environment and create hazards	• Implement good waste management practices: sorting, storage and timely evacuation of waste • Liaise with MRF such as SOLOUS, Yabatech for recycling of e-waste • Chemical waste should be properly labelled, well covered and stored, and disposed off as hazardous waste in conjunction with LASEPA/licensed waste vendors	ESO Environmental Unit, LASU	Part of facility management costs	House keeping	Site inspection Incident reports	Good housekeeping practices	Project site	Daily	Environmental Unit/ LASU Works Department LASEPA	Part of routine maintainance
Use of Laboratory	Users could be at risk of Fire hazards, accidents, chemical spillages & inhalation, misuse of chemicals, corrosion of pipes from chemicals, groundwater/soil pollution from waste-water etc.	• Adequate lightening and aeration in the labs, emergency exits, smoke detectors, fire extinguishers, alarm bell, use of fire resistant ceilings • Document proper lab management procedures for each lab especially chemistry lab, Standard Operating Procedures, material handing procedures, emergency procedures, identify muster point • All chemicals should be properly labelled with name & warning signs, and stored away in the adjoining lab storage room with restricted access to only the lab technician • The right PPEs should be provided to users including lab coats, eye protectors, gloves etc. • Trained lab technician should always be available in the lab	ESO-ACEITSE/ ACEITSE Project Management Team Works Department, LASU	300,000 for the initial operation (subsequently LASU management to make budgetary provision	SOPs Material handling procedures Emergency procedures Groundwater / soil quality	Site inspection Documents review Lab analysis of groundwater/ soil quality parameters Incident report	Availability of all required documents, SOPs, safety fittings, good lightening, emergency exit Soil and groundwater parameters within FMEnv permissible limits	Project site and within 50m radius	Half-yearly	Works Department	Part of routine maintainance

[5]NIGERIAN INDUSTRIAL STANDARD NIS-554-2015: Nigerian Standard for Drinking Water Quality

Activities	Potential Impact	Mitigation Measures	Responsibility (Mitigation	Mitigation Cost (N)	Parameters to be measured	Method of measurement	Performance indicator	Sampling Location	Monitoring Frequency	Responsibility (Monitoring)	Costs (N)
C	**OPERATION PHASE**										
		• Building design to meet minimum requirements for lab, ensure use of corrosive resistant pipes especially in the chemistry lab • Any leakages, spills, incidents should be immediately reported to ACEITSE Centre Coordinator for immediate action • All users should be adequately sensitized of lab safety procedures and emergency procedures									
Social Impacts											
Operation of facility	Vulnerable groups may be excluded from benefitting from the facilities	Contractor to comply with design of provision of access ramps to all floors/rooms	Contractor	Part of design costs	Access ramps Users with disabilities	Visual observation	Access ramps provided Identified PLWD	Project building	One off	ESO	N/A
Operation of facility	Increase in student enrollment could pose the risk of GBV/SEA/SH	Students should be sensitized on the presence of Centre for Response and Prevention of Sexual and Gender Based Violence (CRPSGBV) Appropriate signages and contact details should be placed on the notice board in the building in conjunction with the centre	ACEITSE Project Team	Part of LASU-ACEITSE and LASU operational costs	Availability of response mechanism for GBV/SEA/SH	Visual observation	Signages and response pathway posted on the notice board	Project area of influence	Annually	Centre for Response and Prevention of Sexual and Gender Based Violence (CRPSGBV)	Part of centres cost with budgetary allocation form LASU management
				300,000							-
		Grand Total Cost		**4,850,000**							**800,000**

*failure of contractors to comply with this ESMP will result in sanctions and disciplinary actions. In addition, the performance bond attached to ESHS performance as stipulated in the contract bidding document can be invoked by the project. This ESMP shall be provided to the contractor to ensure mitigation measures are adequately planned and budgeted for.

5.7 Monitoring and Evaluation Plan

The monitoring and evaluation plan will be the responsibility of the ACETISE team for all measures outlined in the ESMP matrix above. As most of the mitigation measures are the obligations of the Contractor during project implementation, the contractor shall prepare the Contractor's ESMP (C-ESMP) considering the measures in this ESMP.

5.7.1 Monitoring Plan

The monitoring plan (Internal and External Monitoring) for the ESMP is presented in the table 15 below. Monitoring results shall be documented with preventive/corrective actions to be implemented

Table 4:Monitoring Plan for the ESMP

Monitoring	Action	Responsibility	Period	Performance Indicator
Internal Monitoring	Regular site visit to ensure that the mitigation measures and actions specified in the ESMP are implemented and as bound by the contract is satisfactorily implemented.	Environmental and Safeguard (ES) Officer, ACEITSE	During Preconstruction, Construction and Operation Phases	Monitoring Reports and documentation as described below
	Regular monitoring of the contractor performance and adherence to GBV/SEA/SH obligations	(ES) Officer, ACEITSE Centre for Response and Prevention of Sexual and Gender Based Violence (CRPSGBV)	During Preconstruction and Construction phases	Monitoring Reports presented to the ACEITSE team
External Monitoring	Periodic site visit to ensure project is implemented in an environmentally & socially sustainable manner using the monitoring indicators specified in the ESMP Matrix and other national and international environmental & social requirements	Environmental Management Unit, LASU Lagos State Environmental Protection Agency (LASEPA)/ Lagos State Waste Management Agency (LAWMA) other relevant MDAs	During Preconstruction, Construction and Operation Phases	Monitoring reports from ACEITSE team Provide feedback on observations. Enforce corrective actions where necessary.
	Periodic monitoring of timely, mandatory and confidential reporting for E&S activities	Third Party Monitors/ World Bank	During Preconstruction, Construction and Operation Phases	Monitoring Reports presented to LASU, AAU, WB

5.7.2 Reporting Plan

The reporting procedures presented in table 16 below have been developed in order to ensure that stakeholders responsible for monitoring receive feedback from the implementation of the ESMP on an on-going basis and to take rapid corrective actions if there are issues of non-conformance.

Table 5: Reporting Plan

Phase	Responsibility	Deliverables	Frequency	Accountability
Preconstruction	ES Officer, ACEITSE	Report of monitoring activities including any specific events	Bi-weekly	Centre Leader, ACEITSE
Construction	ES Officer, ACEITSE CRPSGBV Environmental Management Unit, LASU	Monitoring Reports of E&S Compliance Quarterly, half-yearly and annual reports for the attention of the LASU/AAU/WB	Monthly/ Quarterly/ Half yearly/ annual	Centre Leader, ACEITSE LASU Management
	ES Officer, ACEITSE CRPSGBV	Additional Reports according to specific conditions e.g. Accidents, serious environmental/social impacts, grievances	As required	Centre Leader, ACEITSE LASU Management AAU World Bank
	Third Party Monitors WB	Reports on effective implementation of E&S activities	Quarterly/ Annual	LASU AAU World Bank
Operation	ES Officer, ACEITSE CRPSGBV Environmental Management Unit, LASU	Monitoring Report including all monitoring activities throughout project implementation	Half yearly	Centre Leader, ACEITSE LASU Management AAU Report to be archived and made available on request

5.8 ESMP Implementation Cost

The cost of implementing the ESMP including mitigation, monitoring and capacity building is estimated at Nine Million, one Hundred and Thirty Thousand Naira Only (N9,130,000) as shown in table 17 below

Table 17: ESMP Implementation Costs

S/N	Item	Responsibility	Estimated Cost (NGN)
1	Mitigation	Contractor	4,150,000
2	Mitigation	ACEITSE Project Team	700,000
3	Monitoring	ACEITSE Project Team, Relevant Institutions	800,000
4	Capacity Building	ACEITSE Project Team, Relevant Institutions	1,200,000
5	Disclosure Costs	ACEITSE Project Team	1,450,000
6	Contingency Cost	ACEITSE Project Team	830,000
7		**Total**	**9, 130,000.00**

CHAPTER SIX: GRIEVANCE REDRESS MECHANISM

6.1 Introduction to the GRM

The project is in an established institution which already has mechanisms in place for grievance redress, the following, this section has been fashioned in line with the existing system, to provide an accessible and inclusive system, process, or procedure that receives and acts on complaints and suggestions in a timely fashion and that facilitates resolution of concerns arising from the project. Specifically, it covers:

1. Types of grievances
2. Complaint form on the LASU-ACEITSE website
3. Designated toll-free line
4. Grievance Redress Committees (GRCs)
5. Processing and resolution of grievances
6. Grievance register/Logbook
7. GBV-GRM protocol
8. Sensitization of stakeholders on the GRM channels
   - ✓ Consultations
   - ✓ Placement of contact number and website on notice board
   - ✓ Install complaint box on site
   - ✓ Lodgement of complaints at the project office (Research Coordinator/Environmental & Safeguard Office, 1st Floor, ACEITSE Admin building, LASU)
9. Monitoring and Evaluation

6.2 Types of Grievances/ Concerns

- Concerns about the project from stakeholders within and outside LASU
- Conflicts between contractor/contractor workers and stakeholders (students, staff, visitors, other campus users)
- Conflicts due to affected utilities – electric pole, water utility
- Sanctions from regulatory bodies such as LASEPA, LASPARK, Ministry of Environment
- Disturbance and accidents or injuries due to construction works and operation of heavy-duty vehicles
- Poor waste management practices
- Competition of existing water resources by contractors
- Increased risks of GBV/SEA/SH in the project area
- Conflict from labor management issues
- Non-compliance of the contractor to the agreement reached
- Dissatisfaction from project beneficiaries (students, staff, management etc.)

(measures to mitigate the aforementioned issues are duly captured in the ESMP matrix table 14)

6.3 Complaint form on the LASU-ACEITSE website

A compliant form is available on the LASU-ACEITSE website (http://lasu-aceitse.org.ng) to enable stakeholders file complaints easily. The website will be monitored daily by the

Environmental & Safeguard Officer and the Communication Officer, to ensure complaints are received and acknowledged within 24hrs. Upon receipt of grievance, it will follow the processing and resolution procedures as stated in section 6.6 below

6.4 Designated toll-free line

The ACEITSE centre Leader will provide a toll-free line dedicated for grievance redress, this will be pasted on the site, the ACEITSE website and all available channels for the information of stakeholders. Grievances received will follow the processing and resolution procedures as stated in section 6.6 below

6.5 Grievance Redress Committees (GRCs)

The project will operate two grievance committees for timely resolution of project-related complaints. (no special fees are assigned for members of the GRC, it is purely a requirement for the project. However, provisions for GRM operations such as phone bills, grievance investigation costs etc. have been included in the ESMP. Three levels of grievance committees have been defined.

Committee Level	**Members**	**Function**
1st Level – Project Level GRC	1. Centre Leader , ACEITSE (Chairperson) 2. Deputy Centre Leader 3. Environmental & Safeguard Officer (Grievance Focal Person) 4. Communication Officer 5. M&E Officer Adhoc members may be called in to serve on the committee depending on the case: ✓ Dean of Student Affairs ✓ Director, CRPSGBV[6] ✓ Student Representative – ACEITSE	✓ Receive, investigate and resolve complaints related to the project. (With the exception of GBV related complaints which will follow a different path as stated in section 6.7 below, due to the sensitive nature of such cases) ✓ Unresolved complaints at this level will be channeled to the Management level GRC
2nd Level– Management Level GRC	1. Vice Chancellor, LASU (Chairperson) 2. Deputy Vice Chancellor, Academics 3. Deputy Vice Chancellor, Administration 4. Registrar 5. Centre Leader, ACEITSE 6. Environmental & Safeguard Officer 7. Bursar	✓ Receive, investigate and resolve outstanding complaints from the project level GRC ✓ Directly receive, investigate and resolve complaints related to the project ✓ Unresolved complaints at this level will be channeled to the Governing Council
3rd Level – Governing Council	In line with existing protocol	✓ The highest level of grievance redress related to the project, within LASU ✓ Where grievances remain unresolved, the complainant is advised of their right to seek judicial redress. ✓ In this instance, the Centre coordinator will inform the World Bank officially including all steps taken to resolve the issue
Judiciary	State Judiciary	Act on the case

[6]Centre for Response and Prevention of Sexual and Gender Based Violence

6.6 Processing and resolution of grievances

The principal steps in grievance processing and resolution are stated in table 18 below:

Table 6: Steps in Grievance Handling

N	Steps	Responsibility	Timeline
1	Receipt of the grievance and acknowledgement to the complainant	Environmental and Safeguard Officer (ESO)/ Communication Officer	1 day
2	Entry of the complaint into the grievance database/ logbook	ESO/ Communication Officer	1 day
3	Preliminary assessment of grievance to ascertain whether it is project related. Where it is not project-related, the complainant should be duly informed and advised on the appropriate authority to report to. This is updated in the logbook and closed	ESO	2 days
4	Convene project level committee meeting to investigate the grievance	Centre Leader/ ESO	2 days
5	Agree on a resolution strategy, timeline, costs in conjunction with all parties involved	Complainant/ GRC/Accused	2 – 5 days
6	Response letter and register in the database/logbook if the solution is accepted, resolution (including any payments) and close the case. Monitor implementation of resolution	ESO	1 - 2 weeks
7	If the resolution is not accepted by any/both parties, it is referred to the Higher-Level Committee for resolution	Centre Leader / Vice Chancellor/ Governing Council	2-4 weeks after registration of grievance
8	Resort to judicial measures	State Judiciary	At any stage in the process though complainant would be persuaded to exercise patience until thorough utilization of this mediation path

6.7Grievance Register/ Logbook

All project related grievances will be logged in the grievance database/logbook. The grievance logbook will be maintained by the ESO, this will be used to record grievances, status and how they are resolved. The format for the logbook is presented below:

N	Date & Time	Grievance No.	Name of Complainant	Department/ Designation	Name of Recording Officer	Medium of Communication	Details of Grievance	Action Taken and Date	Status*	Remarks**
1.										
2.										
3.										

* **Status –** Open/Closed/Referred

Remarks – provide a summary feedback and any strategy the project has put in place to prevent re-occurrence of such complaint

6.8 GBV-GRM protocol

Procedures for responding to allegations of GBV/sexual exploitation and abuse (SEA)/ sexual harassment (SH) that are made against a project actor will not follow the typical GRM process due to the sensitive nature of complaints and level of confidentiality required.

6.8.1 Existing Structure

1. LASU has a sexual harassment policy 2019, which has been revised to cover all forms of Gender Violence and revised as tagged "Sexual and Gender-Based Violence Policy", it is pending Senate and Governing Council approval.
2. The University has a Centre for Response and Prevention of Sexual and Gender- Based Violence (CRPSGBV). The Centre adopts the Survivor's centered approach, conducts sensitization and distribute fliers and promotional materials which contains avenues for reporting such cases.
3. The centre has a SGBV Response Team comprising of Directors, 3 Assistant Directors in charge of Rape Issues, Sexual Harassment and Gender Violence respectively; a Medical Professional, Chief Security Officer, Psychosocial Counsellor, and some key students leaders who swing into action once cases are reported. They have received training on handling such cases.
4. The Response Team thoroughly investigates the cases and submit preliminary report with recommendations to the CRPSGBV Centre. The Director forwards the recommendation to the VC for further directives which could include setting up a disciplinary committee depending on the parties involved.
5. The centre has partnerships with some NGOs and Governmental organizations including Women at Risk International Foundation (WARIF), Women Advocates and Research Documentation Centre-WARDC, Lagos State Sexual and Domestic Violence Agency etc.

6.8.2 ACEITSE GBV Prevention and Response Strategy

ACEITSE will adopt a strategy which builds on the existing structure in addition to the following critical points:

i. The CRPSGBV Centre will support the ACEITSE project in sensitization of contractor workers on Code of Conduct against GBV/SEA/SH, unwanted pregnancy and other form of misconduct
ii. Survivors can utilize any available channel to lodge complaints
iii. Survivors can also lodge anonymous complaints through any channel, this will be accepted and treated by the CRPSGBV Centre
iv. The survivor has the right to accept or decline investigation, in any case, the required assistance will be provided to the survivor
v. Confidentiality must be maintained at all times and information about the survivor protected
vi. Such cases should not be detailed in the grievance logbook kept at ACEITSE, only the date, nature of complaint, whether the incident is likely to be project related, the age/sex of the survivor (if known), action taken to refer the case to the CRPSGBV Centre
vii. Promotional materials containing the contact details for the centre should be made available to stakeholders as follows:

GBV/SEA/SH Hotline – 08111148887, 09134000409

Office – Former Student Affairs Building, Opposite LASU Fish Farm

Email – sgbvr@lasu.edu.ng

6.9 Sensitization of stakeholders on the GRM channels

✓ Consultations

The ACEITSE Project team should ensure regular consultations with all categories of stakeholders and inform them on the available channels to lodge complaints and expectations when complaints are received.

✓ Placement of contact number and website on notice board

The ESO should ensure that the designated GRM contact number and website http://lasu-aceitse.org.ng should be placed on the notice board to enable stakeholders channel their complaints regarding the project

✓ Install complaint box on site

The project team should install a complaint box on site to allow for stakeholders to physically drop complaints including anonymous complaints (a sample is provided below). It should be locked and the ESO should retrieve contents on a daily basis and adopt the processing/resolution procedures.



✓ Lodgment of complaints at the project office
Complaints can be lodged directly at the project office -
Research Coordinator/Environmental & Safeguard Office,
1st Floor, ACEITSE Admin building, LASU

6.10 Monitoring and Evaluation

The ESO will be responsible for:

- Providing the grievance Committee with a weekly report detailing the number and status of complaints and any outstanding issues to be addressed
- Monthly/quarterly reports, including analysis of the type of complaints, levels of complaints, actions to reduce complaints and initiator of such action will be submitted to the World Bank as part of the monthly safeguards report
- Monitoring implementation of grievance resolution

CHAPTER SEVEN: STAKEHOLDERS CONSULTATION

7.1 Approach to Stakeholder Identification and Consultations

Stakeholders were identified from preliminary discussions with the ACEITSE team and review of relevant project documents including the Environmental and Social Management Framework (ESMF) and the Project Appraisal Document (PAD). Table 19 below presents the stakeholder categories identified for ACEITSE.

Table 7: Stakeholder Categories for ACEITSE

Stakeholder Identification and Categorization	
Primary (Beneficiaries/Impacts)	**Secondary** (Influence/Interest)
Students	Association of African Universities (AAU)
African Centre Of Excellence In Innovative And Transformative Stem Education (ACEITSE)	Nigeria Universities Commission (NUC)
Lagos State University (LASU)	Environmental Management Unit, LASU
	LASU Management and Governing Council
	Lagos State Ministry of the Environment and Water Resources MEnvWR
	Lagos State Environmental Protection Agency (LASEPA)/ Lagos State Waste Management Agency (LAWMA)
	Communities in Igbo-elerin, Okoko and Ago-Hausa
	Federal Ministry of Education
	Federal Ministry of Environment
	World Bank
	Media/ NGOs/CSOs

7.2 Stakeholder Consultations

As part of the ESMP process, consultations were held with stakeholders within the project area of influence. This was based on a set of structured questions prepared for each target group as listed in table 20 below. The consultations served as platforms to elicit information, questions and concerns relevant to the project. It also provided the opportunity for project beneficiaries to contribute to both the design and implementation of the project activities and further ameliorate the likelihood for conflicts.

Concerns raised by the stakeholders are documented and incorporated in this report and aided the development of mitigation and/or enhancement measures and also the design of the Grievance Redress Mechanism.

The ESMP consultation process took place between 22nd – 25thAugust 2022. The summary of key discussions is presented in table 20 below:

Table 8: Summary of Stakeholder Consultations

Consultation Title	**Key Discussions**	**Responses/Implication for the Project**
Design consultant (23rd Aug 2022)	More details on the proposed design, materials and specifications were discussed. Utilities that could be impacted by civil works were identified including	The ESMP consultant in conjunction with the physical planning representative recommended a design review to allow for a setback of at least 2m which will align the proposed building with the adjoining

	electric poles and trees on the ROW. A water utility manhole was also identified on-site	building and avoid impacts to the water utility manhole. It was agreed that no electric pole should be impacted, however, one tree will be impacted to create the access into the building
	The design consultant informed that the spaces to be used for each lab was not marked out in the design, rather a general design was provided	The ESO/ESMP consultant advised that the different labs should be identified to allow for effective safety planning especially the chemistry lab due to special considerations for safety, chemicals, drain water from the zinc etc. and should be located on the ground floor, open space, well lit, emergency exit. In addition, all labs should be fitted with smoke detectors, fire extinguishers, fire resistant ceiling etc.
	While provision for access ramp was made for entry/exit into the main building, such provisions were not made to access the top floor of the building	It was recommended that access ramps should be provided to gain access to the top floor to avoid exclusion of PLWDs. Though the design consultant explained the space constraint, however, it was agreed that the additional stairway for emergency can be built as a ramp
LASU Management Team (24th Aug 2022)	Management was sensitized on the importance of the ESMP and the need for management support in implementing the ESMP	The VC, represented by the DVC Academics reiterated management's support to the project and also implementing the ESMP.
Environmental Unit, Health Services (24th Aug 2022)	The unit explained that they conduct periodic monitoring of waste from construction sites in the school to avoid them been dumped within the premises. In addition, the unit conducts inspection for the food services provided on-site	The ESMP consultant urged the unit for their support in monitoring the project activities with respect to waste management and food quality for the contractor workers
LASU International School (secondary school)	The principal was informed about the project works. Risks associated with accidents and SEA/SH/GBV risks for students commuting in-front of the project site. He was encouraged that the school should sensitise their students to be more vigilant on the road to avoid accidents and also avoid relations with contractors	The school management promised that as part of their start of term sensitization they will be told about road safety measures and avoid interactions with any contractors on-site
ACEITSE PG Students	The ESMP Consultant informed the students about the planned construction project and the associated risks of disturbance from noise and operations of machinery, GBV/SEA/SH risks and other types of conflicts.	The ESMP consultant advised the students to avoid staying alone, engaging in any form of relations with contractors, and encouraged to channel any complaints they have with respect to the project through any of the available channels – phone, website, office etc.
Okoko/Ago Hausa and Igboelerin Communities	The ESO/ESMP consultant explained the proposed construction works and the potential for contractor to source unskilled labor from their communities.	The community leaders (Baales) pledged their support to any contractor that will source unskilled labor from them and confirmed that they have a lot of youth and will be happy for any avenue where they can be engaged.

CHAPTER EIGHT: SUMMARY AND RECOMMENDATIONS

8.1 Summary

The proposed construction of the ACEITSE center in LASU will be largely beneficial for students, LASU, Lagos State and the education sector at large. Furthermore, it will increase the rate of enrollment into STEM courses.

Based on the findings from the ESMP, the potential positive impacts can be enhanced by adherence to the slated measures in the report, while negative impacts can be mitigated/managed with strict adherence to the measures stated in this ESMP. The ESMP and the mitigation costs will need to be embedded in the contractors BOQ to ensure implementation costs are adequately budgeted for by the contractors. Additionally, the ACEITSE team will need to ensure the E&S staff of the contractors and institutions/units involved in the monitoring activities are adequately trained in line with the capacity building plan in the report.

8.2 Recommendations

In addition to implementing the enhancement/mitigation measures stated in the report, the following recommendations are provided:

i. The proposed building should incorporate proper ventilation and provision of sunshine, air movement, and maximum usage of daylight
ii. The building designs should consider using solar panels as a renewable energy source, which will comply with climate smart infrastructure
iii. Green areas should be provided in the site plan including in the general-purpose backyard garden
iv. Ensure toilets are well lit, ventilated, install proper signages for male, female and disabled
v. The positions of the different labs should be identified at the design stage to allow for effective safety planning especially the chemistry lab due to special considerations for safety, chemicals, drain water from the zinc etc. and should be located on the ground floor, open space, well lit, emergency exit. In addition, all labs should be fitted with smoke detectors, fire extinguishers, fire resistant ceiling etc.
vi. Though access ramps are provided for entry into the building, however, this was not considered for the top floor. The additional stairway for emergency can be built as a ramp which will serve as emergency exit and also create access for People with Disabilities.
vii. In addition to provision of access ramps to allow for inclusion of People with Disabilities;
    - ✓ the ramps should be of low slope
    - ✓ pathways should be of limited slope and include sufficient turning radius
    - ✓ doors should be light in weight and easy to turn
    - ✓ entrances should be sufficiently wide to allow for wheelchair access
    - ✓ furniture, counters, equipment, power sockets, and plugs should be placed at suitable heights reachable by persons who use wheelchairs
    - ✓ handrails should be easy to grasp

viii. ACEITSE project team and LASU management to conduct awareness programs for undergraduates, on air, on television, to intimate students about STEM education and the available facilities and courses at ACEITSE

ix. ACEITSE team to ensure continuous stakeholder engagements to provide adequate and timely information and ensure involvement and inclusion

x. Facility managers in LASU should ensure proper maintenance of the ACEITSE facilities to be constructed and conduct timely repairs when required

xi. Ensure timely implementation of actions stipulated in this ESMP

ANNEX ONE: TERMS OF REFERENCE - ABRIDGED

1.0 INTRODUCTION

The Africa Higher Education Centres of Excellence (ACE) Project is a World Bank initiative in collaboration with governments of participating countries to support Higher Education Institutions in specializing in Science, Technology, Engineering and Mathematics (STEM), Environment, Agriculture, Applied Social Science / Education and Health. It is the first World Bank project aimed at the capacity building of higher education institutions in Africa. In more specific terms, the following activities are the project's focus;

1. Construction of new building to accommodate ACEITSE Science and ICT laboratories, seminar/lecture rooms, conference hall, resource room /library, offices and cafeteria that will enhance innovative STEM education for development.
2. Procure equipment for the ACEITSE laboratories, seminar rooms, conference hall, resource room /library, offices and cafeteria.
3. Procure and install wired/wireless facilities.
4. Procure teaching equipment such as multimedia.
5. Procure and install inverters systems for selected rooms.
6. Enhance post-doctoral fellowship in research and supervising postgraduate students
7. Invite experts and visiting Professors to mentor Postgraduate students.
8. Improve faculty and students research capacity and expertise through outreach programs
9. Increase subscription to selected databases and journals.
10. Write proposals to attract grants from partners as well as national and international research organisations/agencies to fund CTCA research.

In compliance with the requirements of the Nigerian Environmental Impact Assessment Laws and the World Bank Safeguard Policies OP 4.01 on Environmental Assessment which is triggered on this project due to anticipated civil works including construction of new building, the LASU ACEITSE project is proposing to award a contract to conduct an Environmental and Social Management Plan (ESMP) which will identify all environmental and social impacts associated with this proposed subproject. The ESMP will also propose corresponding mitigation measures to address all identified environmental and social impacts.

The proposed ESMP will provide an overview of the current environmental and social baseline conditions of the proposed project's site identify potential impacts associated with the proposed construction, engineering design and equipping of the ACEITSE building facility as identified in this document. It will also set out the management measures as well as monitoring responsibilities required to mitigate identified potential impacts.

2.0 OBJECTIVES OF THE CONSULTANCY

The objective of the project is to prepare an environmental and social management plan (ESMP) for the proposed construction and equipping the ACEITSE building facility. The ESMP must clearly identify the mitigation, monitoring, and institutional actions to be taken before and during rehabilitation to avoid adverse environmental and social impacts, offset them, or reduce them to tolerable levels. It should also include the measures needed to implement these actions, addressing the adequacy of the monitoring and institutional arrangements at the permanent office site.

3.0 SCOPE OF WORK

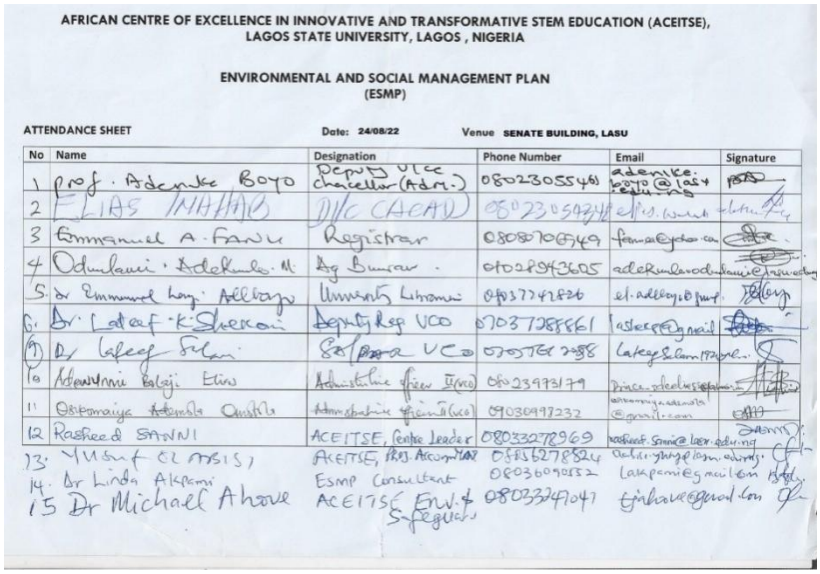
The Consultant will work in close collaboration with the engineering design consultants and the PIU and will consider the technical variants of the proposed activities and in return, inform the technical design consultants of any major constraint or recommendation that may arise due to the social and environmental situation on ground.

The core tasks for the ESMPs shall include:

- Review the existing ESMF, engineering design prepared for the ACE Project and the ACEITSE facility for construction, review institutional assessment and framework for environmental and social management as it relates to this sub project.
- Determine the current biophysical and socio economic baseline of the proposed project site and identify how these can impact on the proposed subproject and vice versa.
- Assess the potential environmental and social impacts related to the proposed construction and equipping the ACEITSE facility and recommend adequate mitigation measures, including costs estimation.
- Identify responsibilities and actors for the implementation of proposed mitigation measures, assess the capacity available to implement the proposed mitigation measures, and suggest recommendation(s)
- Carry out consultations with identified primary and secondary stakeholders in order to obtain their views about the sub-project and shall convey to them the objectives of the project.
- Develop an Environmental and Social Management Plan (ESMP) for the proposed work.
- Develop a Grievance Redress Mechanism (GRM) which shall leverage on the existing grievance redress system in the proposed project area

ANNEX TWO: ATTENDANCE SHEETS AND CONSULTATIONS PICTURES

Consultation with Management Board, LASU



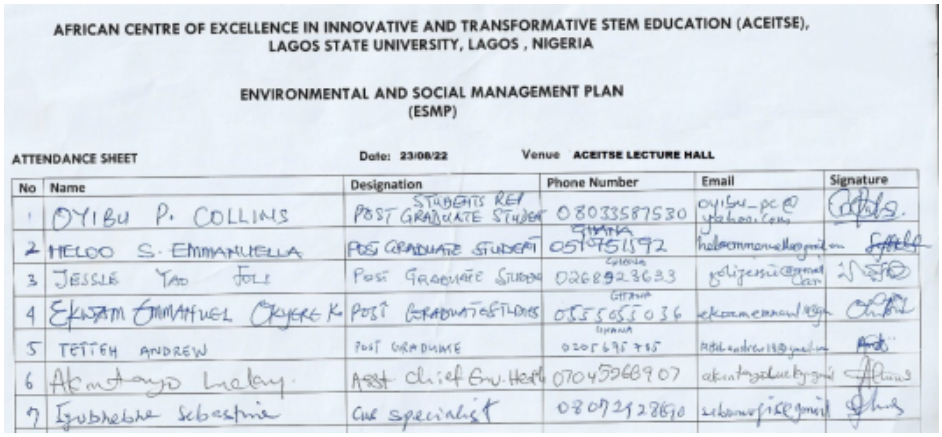
AFRICAN CENTRE OF EXCELLENCE IN INNOVATIVE AND TRANSFORMATIVE STEM EDUCATION (ACEITSE), LAGOS STATE UNIVERSITY, LAGOS , NIGERIA

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP)

ATTENDANCE SHEET — Date: 24/08/22 — Venue: SENATE BUILDING, LASU

No	Name	Designation	Phone Number	Email	Signature
1	Prof. Adenike Boyo	Deputy VC (Admin.)	08023055461	adenike.boyo@lasu.edu.ng	
2	ELIAS [illegible]	DVC (CAS&V)	08023059234	elias.[illegible]	
3	Emmanuel A. Fanu	Registrar	08087065149	[illegible]	
4	Odunlami [illegible]	Ag Bursar	07028943605	[illegible]	
5	Dr Emmanuel [illegible] Adebayo	University Librarian	08037747826	[illegible]	
6	Dr Lateef K. Sheikh	Deputy Reg VCO	07037388661	[illegible]	
7	Dr Lateef [illegible]	PS to the VC	07057612388	[illegible]	
10	Abdulrahmi Balaji Etiw	Administrative Officer II (VCO)	08023973179	[illegible]	
11	Oshomaiye [illegible] Omotola	Administrative Officer II (VCO)	09030997232	[illegible]	
12	Rasheed SANNI	ACEITSE, Centre Leader	08033078969	[illegible]	
13	YUSUF OLAYIWOLA	ACEITSE, Proj. Accountant	08155278824	[illegible]	
14	Dr Linda Akpami	ESMP Consultant	08036090552	[illegible]	
15	Dr Michael Ahove	ACEITSE Env. & Safeguards	08033247047	[illegible]	

Consultation with ACEITSE PG Students, LASU



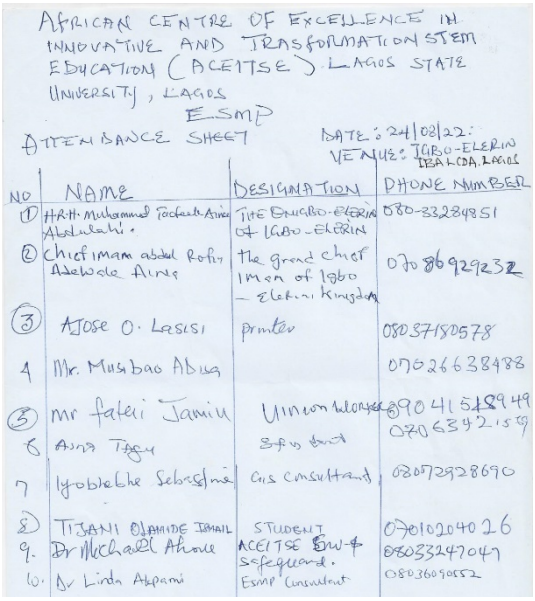
AFRICAN CENTRE OF EXCELLENCE IN INNOVATIVE AND TRANSFORMATIVE STEM EDUCATION (ACEITSE), LAGOS STATE UNIVERSITY, LAGOS , NIGERIA

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP)

ATTENDANCE SHEET — Date: 23/08/22 — Venue: ACEITSE LECTURE HALL

No	Name	Designation	Phone Number	Email	Signature
1	OYIBU P. COLLINS	STUDENTS REP POST GRADUATE STUDENT	08033587530	oyibu_pc@yahoo.com	
2	HELOO S. EMMANUELLA	POST GRADUATE STUDENT	0547511192 GHANA	heloemmanuella@gmail.com	
3	JESSLE YAO JOLI	POST GRADUATE STUDENT	0268923633 GHANA	[illegible]	
4	EKAJAM EMMANUEL OKIKE K.	POST GRADUATE STUDENT	0555055036 GHANA	[illegible]	
5	TETTEH ANDREW	POST GRADUATE	0205695785 GHANA	[illegible]	
6	Akintayo Lucky	Asst chief Env. Health	07045268907	[illegible]	
7	Igubhebhe Sebastine	GIS specialist	08072928690	[illegible]	

Consultation with Igboelerin Community



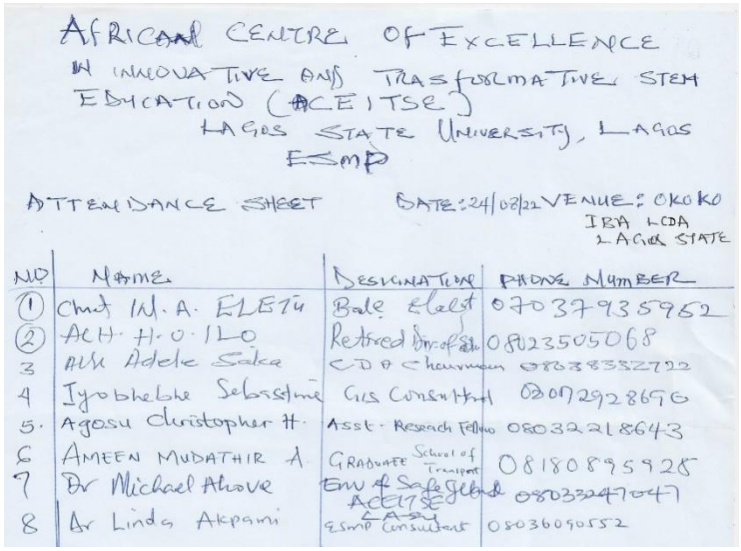
AFRICAN CENTRE OF EXCELLENCE IN INNOVATIVE AND TRASFORMATION STEM EDUCATION (ACEITSE) LAGOS STATE UNIVERSITY, LAGOS

ESMP

ATTENDANCE SHEET — DATE: 24/02/22 — VENUE: IGBO-ELERIN IBA LCDA, LAGOS

NO	NAME	DESIGNATION	PHONE NUMBER
1	HRH Muhammed Tochukwu Aina Abdulrahi.	The Enuabo-Elerin of Igbo-Elerin	080-33284851
2	Chief Imam Abdul Rofiu Adewale Ajiwe	The grand chief Imam of Igbo-Elerin Kingdom	07086929232
3	AJOSE O. LASISI	printer	08037180578
4	Mr. Musbao Abisa		07026638488
5	Mr fateri Jamiu	Ulimen Welfare	08041518949 07063421559
6	Asha Tagu	Safeguard	
7	Igobhebhe Sebastine	GIS Consultant	08072928690
8	TIJANI OLAMIDE ISMAIL	STUDENT	07010204026
9.	Dr Michael Ahove	ACEITSE Env & safeguard.	08033247047
10.	Dr Linda Akpami	Esmp Consultant	08036090552

Consultation with Okoko/Ago Hausa Community



AFRICAN CENTRE OF EXCELLENCE IN INNOVATIVE AND TRASFORMATIVE STEM EDUCATION (ACEITSE) LAGOS STATE UNIVERSITY, LAGOS

ESMP

ATTENDANCE SHEET — DATE: 24/02/22 — VENUE: OKOKO IBA LCDA LAGOS STATE

NO	NAME	DESIGNATION	PHONE NUMBER
1	Chief M. A. ELETU	Bale Elect	07037935952
2	ACH. H. O. ILO	Retired Director	08023505068
3	ALH Adele Saka	CEO & Chairman	08033832722
4	Igobhebhe Sebastine	GIS Consultant	08072928690
5.	Agosu Christopher H.	Asst. Research Fellow	08032218643
6	AMEEN MUDATHIR A.	Graduate School of Transport	08180895925
7	Dr Michael Ahove	Env & Safeguard ACEITSE LASU	08033247047
8	Dr Linda Akpami	Esmp Consultant	08036090552



Consultation with Project Engineer



Site Visit with project engineer



Consultation with LASU Management



Consultation with Works Department

ANNEX THREE: QUESTIONNAIRE FOR SOCIO-ECONOMIC SURVEY

SPECIMEN QUESTIONNAIRE ON SOCIO ECONOMIC CHARACTERISTICS OF SETTLEMENT(S)

SECTION A:

1. Project Name……
2. Date……..
3. Name of Respondent……
4. Gender of Respondent……..
5. Age of Respondent……..
6. Occupation of Respondent……..
7. Religion of Respondent……..
8. Marital Status Single Married Separated Divorced Widowed

8b. If married, how many wives do you have: ……

8c. Family Size (no. of children) Small (1 – 3) Average (4 – 6) Large (above 6)

9. What is your highest educational qualification? WASC/SSCE level [ ] Diploma level [ ] Degree level Masters/Ph.D. Primary School [ ] None at all [ ]
10. How many people in your household with:
    Secondary Education [ ]Post-Secondary Education [ ]
11. What is your average monthly Below N10,000 [ ] N10,001 – 20000 [ ] N20,001 50,000 [ ] N50,001 – 80,000 [ ] Above N80,000 [ ] income?

12. Name of community……..
13. Name of local government Area……
14. State……..

SECTION B:

HISTORY, TRADITIONAL AND ADMINISTRATIVE STRUCTURE OF COMMUNITY/GROUPS OF COMMUNITIES

9. Is the village part of a clan? Yes/No. Name of clan, if yes……
10. Name the ethnic group(s) that founded the village……..
11. When was the village founded?.....
12. Who is the overall/highest traditional and administrative ruler
13. Where does he reside?.....
14. What is the traditional leadership structure?
15. Is there a council of chiefs? Yes /No.
16. State functions of the council of chiefs
17. What is the women leadership structure in the community?

SECTION C:

CULTURE, RELIGION AND ARCHAEOLOGY

20. Name of shrine/deity Worshipped in the community……..
21. Name of sacred forest and their locations. ……..
22. Religious and social festivals celebrated by the community. ……
23. Name the forest reserve(s) within or near the community……
25. Name of rivers/lakes around the community……..
26. Name sites of archaeological interest e.g for digging ground to study culture of the area……..
27. Give estimate of religious worshippers in community.

SECTION D: DEMOGRAPHY

28. Give estimate of:
    a. village population
       males……..females……children……total……..
    b. Ethnic population of the community……
29. Major crops farmed in community……..
30. Major livestock bred in community……..
31. List the different occupation/employment profile of community and income. What is the percentage/ number of the unemployed in community?.....

SECTION E: INDUSTRIES PRESENT

32. Name companies/industries present in the area. ……

SECTION F: EDUCATION

33. Give estimate of literacy level in the community for primary, secondary and tertiary levels……..
34. Do people from the community benefit from LASU? Explain – Students/workers/others

SECTION G: INFRASTRUCTURE PROVISION

35. Names and ownership of health facilities in the community……..
36. What are the main health problems?
37. Give approximate % of toilet facilities used in community: viz

a. pit toilet …… b. bush …… c. water closet (wc)
d. river. ……

43. What is the general form of houses for people to live in.
    * ownership of dwelling: give % of total
i. owned by occupier……
ii. Rented……..
iii. Supplied free by employer……..
44. What is the method of disposal of solid wastes/ garbage?.....

45. Water supply sources……

46. What are the most reliable telecommunication lines in the community?
47. Electricity supply……...
48. Fuel used by households……..

SECTION H: WOMEN INFORMATION

49. What are the major women involvement in the community? For occupations, provide percentages of each type
50. Do women/girls obtain formal education?
51. Are there females within the community currently benefitting from LASU?
52. Are there ways females in the community channel their grievances?

SECTION I: YOUTH INFORMATION

53. What are the major youth involvement in the community? For occupations, provide percentages of each type
54. How do youths channel their grievances?

ANNEX FOUR: WASTE MANAGEMENT PLAN

The major waste streams identified are:

- Vegetal waste – This will be generated from vegetation clearance during site preparation.
- Construction waste – This will include concrete including cement, stones, gravels, wood, metal scraps, etc.
- E-waste – electrical wirings, sockets, ICT gadgets
- Gaseous emissions – from movement of vehicles, machine operations, site clearing activities, mixing of materials and chemicals such as paints
- Liquid waste - Leakages from vehicles, oil containers, chemicals, adhesives, etc.
- Sanitary waste – from workers onsite, campsite such as domestic sewage, faeces, urine, wastewater, food remnant, food packaging etc.

The table below shows how this waste generated will be managed.

Waste Category	**Action**	**Timing**	**Cost**
Vegetal Waste	Liaise with Environmental Unit/ certified waste vendor for waste management	Pre-construction	30,000
Construction Waste	• Implement good waste management practices: sorting, storage and timely evacuation of waste • Liaise with MRF such as SOLOUS, Yabatech for recycling of e-waste	Construction	300,000
	• Implement good waste management practices: sorting, storage and timely evacuation of waste • Liaise with MRF such as SOLOUS, Yabatech for recycling of e-waste • Chemical waste should be properly labelled, well covered and stored	Operation and Maintaintance	Part of facility management cost during operations
E-Waste	Liaise with MRF	Construction	Part of WMP above (300,000)
	Liaise with MRF	Operation	N/A
Gaseous Emissions	Undergo vehicle emission testing (VET) and vehicle exhaust screening (VES).	Pre-construction	50,000
		Construction	200,000
Liquid Waste	Site oil and lubricants should be kept on an impervious base and should have drip pans	construction	50,000
Sanitary Waste	Contractors to make provision for toilet facilities for workers	Pre–Construction	500,000
	Contractors to make provision for toilet facilities for workers	Construction	200,000
		Total	**1,330,000**

*All costs have been embedded in the ESMP Matrix table

ANNEX FIVE: OCCUPATIONAL HEALTH & SAFETY PLAN

This plan is developed to meet up with OHS standards and to achieve the objectives set for the project. The project team shall undertake to ensure high performance standards and conformity with contract requirements by managing the works in a systematic and thorough manner.

- ***Competency***

All personnel required to operate or work with any equipment or machine must be competent, be tested for each equipment that he/she shall be operating. All personnel who as part of their profession require licensing or certification must obtain the necessary certification before he/she shall be allowed to work on the site.

- ***Fitness***

All personnel working on site shall be required to be certified medically fit to do so by an approved medical facility or Medical Doctor (pre-employment medical examination)

- **HSE TRAINING**
  - **Induction/Orientation**

Every new or rehired employee and Subcontractors employees must undergo mandatory OHS orientation / induction. The purpose of the Induction is to educate workers and make them aware of the major potential hazards he or she shall come into contact with while working on the site; also, it is one more opportunity to stress the importance of HSE being the first priority in the operations.
The content of the HSE orientation / induction shall cover the following subjects:

- Site safety rules.
- Personnel protective equipment requirements (PPE).
- Environmental sensitivity and protection.
- Preparation and planning of the job (Daily Pre-task talk).
- Emergency plan and muster points.
- SEA/SH and GBV prevention strategies
- COVID-19 prevention strategies

  - ***Project Specific HSE Training***

In addition to the HSE orientation /induction, there shall be specific site HSE trainings which shall cover the following topics:

- Manual handling.
- Electrical Safety
- Emergency Prevention, Preparedness and Response
- Work at height training
- First Aid training (for site First Aiders)
- Lifting and Rigging
- Safe Driving techniques (for drivers)

  - ***Emergency Preparedness and Response***

Emergency procedures and evacuation plan shall be developed by the HSE Department and displayed on the notice board. These procedures shall be communicated to all staff. Alsothere shall be at least a trained first aider at all times.

- **HSE IMPLEMENTATION AND PERFORMANCE MONITORING**
  - ***HSE Meetings***

HSE management meetings shall be held once a month. The meeting is to help identify safety problems, develop solutions, review incident reports, provide training and evaluate the effectiveness of our safety program. Some of the meetings shall be:

- Project/Site Management HSE Meeting for management and supervision (Monthly).
- Tool box talk meetings for all workforce (Weekly).
- Pre-task briefing for all workforces (Daily).
- Special situation meeting (As required).

  - ***HSE Reporting***

All incidents and illnesses must be reported to site supervisor after which investigation shall commence and recorded so that appropriate corrective actions shall be implemented to prevent any re-occurrence and report findings shall be forwarded to management for review. Reporting requirements shall include notification of incident, investigation report, and monthly report. Notification of Incident form shall be developed which shall be filled and submitted to HSE department for investigation.

- ***HSE Inspection and Audits***

For continual improvement of HSE management system, HSE inspection and audit shall be conducted. An inspection checklist shall be developed. This is to ensure that the HSE management system is being adhered to. The inspection shall be conducted by the HSE department together with site management.

Corrective and Preventive Actions and Non Conformities

During the cause of inspections, concerns raised shall be addressed and closed out. It is expected that in a period of two weeks, a close out inspection shall take place to verify that the corrective actions have been closed.

Project HSE Rules

The project HSE rules shall be developed and supervision shall develop specific rules and procedures when necessary.

The following site rules shall be implemented at all times. The Site Manager shall draw these rules to the attention of their own workmen or staff. All sub-contractors must ensure that these rules are drawn to the attention of their workmen and staff.

The Principal Contractor may implement additional site rules during the contract programme. Any such additional rules shall be notified to all personnel engaged on the project prior to their implementation. The HSE rules shall include but not limited to:

1. Personal Protective Equipment must be worn at all times.
2. All instructions issued by the Site Manager regarding the storage, handling or cleaning of materials, plant and equipment must be followed.
3. All vehicles must be parked in the designated areas.
4. Any workman suffering from a medical condition that might affect his work and/or that could require specific Medical treatment must inform the supervisor before commencing work.
5. All site tools shall either be battery operated or 110 volts.
6. No one shall be permitted on site if it is believed that they are under the influence of alcohol or drugs.
7. Vehicles must not reverse without a banksman in attendance.
8. All visitors to site must undergo a site-specific induction and operative Identity badges must be worn at all times.
9. All excavations must be secured.
10. Smoking and eating shall only be permitted in the designated area. This area shall be identified during induction.
11. No hot works operations are permitted without a hot work permit in place.
12. There shall be no radios or other music playing devices on site.
13. Good housekeeping practices to be adopted.
14. Compliance with all Ethical Power Permit to Work systems
15. The site keyed access procedure must be strictly adhered to.
16. All Contractors must comply with Site Health & Safety Guidelines / Site Safety Method Statement
17. No untrained worker shall be permitted to operate heavy machineries.
18. COVID-19 protocols to be adhered to including frequent handwashing, use of nose masks when in crowded spaces, timely reporting of any symptoms to HSE officer and immediate isolation

- ***Safe Work Practices/Personal Protective Equipment (PPE)***

- The basic PPE required for the project shall be Safety Glasses, Safety Boots, Hand Gloves, Hard Hat, ear plugs and Coverall. Any other PPE shall be used as applicable. Management is responsible for the provision of PPE and usage shall be enforced at all time.
- PPE shall be provided in circumstances where exposure to hazards cannot be avoided by other means or to supplement existing control measures identified by a risk assessment. An assessment shall be made to ensure that the PPE is suitable for purpose and is appropriate to the risk involved.
- Information, instruction & training shall be given to all employees on safe use, maintenance and storage of PPE. Employees shall, in accordance with instructions given, make full use of all PPE

provided and maintain it in a serviceable condition and report its loss or defect immediately to the maintenance department where it shall be replaced.

- PPE shall be replaced when it is no longer serviceable and returned on a new for old basis. Employees shall sign to state that they have received PPE when issued.

- ***Welfare Facilities***

The provision of welfare facilities on the site shall be communicated to all operatives at site induction.
A cleaning regime shall be implemented and maintained for the duration of the construction phase to ensure the site welfare facilities remain in a clean and tidy condition.
Provisions for food and portable drinking water shall be made for all site workers

- ***Signage***

Adequate provision for warning and directional signs shall be made.

ANNEX SIX: CODE OF CONDUCT

Contractor's Company Code of Conduct

1. The company is obliged to create and maintain an environment which prevents Gender Based Violence (GBV) and Sexual Exploitation & Abuse (SEA) issues. The company is also required to maintain an environment where the unacceptability of GBV and actions against children are clearly communicated to all those involved in the project. In order to prevent GBV and SEA, the following core principles and minimum standards of behaviour will apply to all employees without exception:
2. GBV/SEA constitutes acts of gross misconduct and are therefore grounds for sanctions, penalties and/or termination of employment. All forms of GBV/SEA including grooming are unacceptable, be it on the work site, the work site surroundings, project neighbourhoods or at worker's camps. Prosecution of those who commit GBV or SEA will be followed.
3. Treat women, children (persons under the age of 18), and men with respect regardless of race, colour, language, religion, political or other opinion, national, ethnic or social origin, property, disability, birth or other status.
4. Do not use inappropriate language or behaviour towards women, children and men. This includes harassing, abusive, sexually provocative, derogatory, demeaning or culturally inappropriate words, gestures or actions.
5. Sexual activity with children under 18—including through digital media—is prohibited. Mistaken belief regarding the age of a child and consent from the child is not a defence.
6. Sexual favours or other forms of humiliating, degrading or exploitative behaviour are prohibited.
7. Sexual interactions between contractor's and consultant's employees at any level and member of the communities surrounding the work place that are not agreed to with full consent by all parties involved in the sexual act are prohibited. This includes relationships involving the withholding/promise of actual provision of benefit (monetary or non-monetary) to community members in exchange for sex – such sexual activity is considered "non-consensual" within the scope of this Code.
8. All employees are required to attend an induction training course prior to commencing work on site to ensure they are familiar with the GBV/SEA Code of Conduct.
9. All employees must attend a mandatory training course once a month for the duration of the contract starting from the first induction training prior to commencement of work to reinforce the understanding of the institutional GBV and SEA Code of Conduct.
10. All employees will be required to sign an individual Code of Conduct confirming their agreement to support GBV and SEA activities.

I do hereby acknowledge that I have read the foregoing Code of Conduct, do agree to comply with the standards contained therein and understand my roles and responsibilities to prevent and respond to GBV and SEA. I understand that any action inconsistent with this Code of Conduct or failure to take action mandated by this Code of Conduct may result in disciplinary action.

FOR THE COMPANY
Signed by _____
Title: _____
Date: _____

Manager's Code of Conduct

Managers at all levels have particular responsibilities to create and maintain an environment that prevents GBV and SEA. They need to support and promote the implementation of the Company Codes of Conduct. To that end, Project Managers are required to sign up to Codes of Conduct applicable to their managerial duties within the context and also sign the Individual Codes of Conduct. This commits them to support and develop systems that facilitate the implementation of this action plan and maintain a GBV-free, child-safe and conflict-free work environment. These responsibilities include but are not limited to:

Mobilization

1. Establish a GBV/SEA Compliance Team from the contractor's and consultant's staff to write an Action Plan that will implement the GBV and SEA Codes of Conduct.
2. The Action Plan shall, as a minimum, include the
   i. Standard Reporting Procedure to report GBV and SEA issues through the project Grievance Redress Mechanism (GRM);
   ii. Accountability Measures to protect confidentiality of all involved; and,

iii. Response Protocol applicable to GBV survivors/survivors (including access to support coping and post-trauma management strategies) and perpetrators.
iv. Engagement of the services of social service providers (NGOs) with requisite skill in the prevention and management of GBV and SEA.

3. Coordinate and monitor the development of the Action Plan and submit for review to the RAMP-PIU safeguards teams, as well as the World Bank prior to mobilization.
4. Update the Action Plan to reflect feedback and ensure the Action Plan is carried out in its entirety.
5. Provide appropriate resources and training opportunities for capacity building so members of the compliance team will feel confident in performing their duties. Participation in the Compliance tame will be recognized in employee's scope of work and performance evaluations.
6. Ensure that contractor, consultant and client staff are familiar with the RAMP GRM and that they can use it to anonymously report concerns over GBV and SEA.
7. Hold quarterly update meetings with the compliance team to discuss ways to strengthen resources and GBV/SEA support for employees and community members.
8. In compliance with applicable laws and to the best of your abilities, prevent perpetrators of sexual exploitation and abuse from being hired, re-hired or deployed. Use background and criminal reference checks for all employees.
9. Ensure that when engaging in partnership, sub-grant or sub-recipient agreements, these agreements

a) incorporate this Code of Conduct as an attachment;
b) include the appropriate language requiring such contracting entities and individuals, and their employees and volunteers to comply with this Code of Conduct; and
c) expressly state that the failure of those entities or individuals, as appropriate, to take preventive measures against GBV and SEA, to investigate allegations thereof, or to take corrective actions when GBV/SEA has occurred, shall constitute grounds for sanctions and penalties.

Training

1. All managers are required to attend an induction manager training course prior to commencing work on site to ensure that they are familiar with their roles and responsibilities in upholding the GBV/SEA Codes of Conduct.
2. Provide time during work hours to ensure that direct recruits attend the mandatory induction training which covers GBV/SEA training required of all employees prior to commencing work on site.
3. Managers are required to attend and assist with the NGO-facilitated monthly training courses for all employees. Managers will be required to introduce the trainings and announce results of consequential evaluations.
4. Collect satisfaction surveys to evaluate training experiences and provide advice on improving the effectiveness of training.
5. Prevention
6. All managers and employees shall receive a clear written statement of the company's requirements with regards to preventing GBV/SEA in addition to the training.
7. Managers must verbally and in writing explain the company and individual codes of conduct to all direct recruits.
8. All managers and employees must sign the individual 'Code of Conduct for GBV and SEA, including acknowledgment that they have read and agree with the code of conduct.
9. To ensure maximum effectiveness of the Codes of Conduct, managers are required to prominently display the Company and Individual Codes of Conduct in clear view in public areas of the work space. Examples of areas include waiting, rest and lobby areas of sites, canteen areas, health clinics.
10. Managers will explain the GRM process to all employees and encourage them to report suspected or actual GBV/SEA
11. Mangers should also promote internal sensitization initiatives (e.g. workshops, campaigns, on-site demonstrations etc.) throughout the entire duration of their appointment in collaboration with the compliance team, service providers and in accordance to the Action Plan.
12. Managers must provide support and resources to the compliance tea and service provider NGOs to create and disseminate the internal sensitization initiatives through the Awareness-raising strategy under the Action Plan.

Response

1. Managers will be required to provide input, final decisions and sign off on the Standard Reporting Procedures and Response Protocol developed by the compliance team as part of the Action Plan.
2. Once signed off, managers will uphold the Accountability Measures set forth in the Action Plan to maintain the confidentiality of all employees who report or (allegedly) perpetrate incidences of GBV/SEA (unless a breach of confidentiality is required to protect persons or property from serious harm or where required by law).
3. Once a sanction has been determined, the relevant manager(s) is/are expected to be personally responsible for ensuring that the measure is effectively enforced, within a maximum timeframe of 14 days from the date on which the decision was made.
4. Managers failing to comply with such provision can be in turn subject to disciplinary measures, to be determined and enacted by the company's CEO, Managing Director or equivalent highest-ranking manager. Those measures may include:

   i. Informal warning
   ii. Formal warning
   iii. Additional Training
   iv. Loss of up to one week's salary.
   v. Suspension of employment (without payment of salary), for a minimum period of 1 month up to a maximum of 6 months.
   vi. Termination of employment.

I do hereby acknowledge that I have read the foregoing Code of Conduct, do agree to comply with the standards contained therein and understand my roles and responsibilities to prevent and respond to GBV and SEA. I understand that any action inconsistent with this Code of Conduct or failure to take action mandated by this Code of Conduct may result in disciplinary action.
FOR THE EMPLOYER
Signed by _____
Title: _____
Date: _____

Individual Code of Conduct

I, _____, acknowledge that preventing gender-based violence (GBV) and violence against children (VAC) is important. The company considers that GBV or VAC activities constitute acts of gross misconduct and are therefore grounds for sanctions, penalties or potential termination of employment. All forms of GBV or VAC are unacceptable be it on the work site, the work site surroundings, or at worker's camps. Prosecution of those who commit GBV or VAC may be pursued if appropriate.
I agree that while working on the project I will:

- Consent to police background check.
- Treat women, children (persons under the age of 18), and men with respect regardless of race, colour, language, religion, political or other opinion, national, ethnic or social origin, property, disability, birth or other status.
- Not use language or behaviour towards women, children or men that is inappropriate, harassing, abusive, sexually provocative, demeaning or culturally inappropriate.
- Not participate in sexual contact or activity with children—including grooming or contact through digital media. Mistaken belief regarding the age of a child is not a defence. Consent from the child is also not a defence or excuse.
- Not engage in sexual favours—for instance, making promises or favourable treatment dependent on sexual acts—or other forms of humiliating, degrading or exploitative behaviour.
- Unless there is the full consent[7] by all parties involved, I will not have sexual interactions with members of the surrounding communities. This includes relationships involving the withholding or promise of

[7]**Consent** is defined as the informed choice underlying an individual's free and voluntary intention, acceptance or agreement to do something. No consent can be found when such acceptance or agreement is obtained through the use of threats, force or other forms of coercion, abduction, fraud, deception, or misrepresentation. In accordance with the United Nations Convention on the Rights of the Child, the World Bank considers that consent cannot be given by children under the age of 18, even in the event that national legislation of the country into which the Code of Conduct is introduced has a lower age. Mistaken belief regarding the age of the child and consent from the child is not a defense.

actual provision of benefit (monetary or non-monetary) to community members in exchange for sex—such sexual activity is considered "non-consensual" within the scope of this Code.
- Attend and actively partake in training courses related to HIV/AIDS, GBV and VAC as requested by my employer.
- Consider reporting through the GRM or to my manager any suspected or actual GBV or VAC by a fellow worker, whether employed by my company or not, or any breaches of this Code of Conduct.

With regard to children under the age of 18:

- Wherever possible, ensure that another adult is present when working in the proximity of children.
- Not invite unaccompanied children unrelated to my family into my home unless they are at immediate risk of injury or in physical danger.
- Not sleep close to unsupervised children unless absolutely necessary, in which case I must obtain my supervisor's permission, and ensure that another adult is present if possible.
- Use any computers, mobile phones, or video and digital cameras appropriately, and never to exploit or harass children or to access child pornography through any medium (see also "Use of children's images for work related purposes" below).
- Refrain from physical punishment or discipline of children.
- Refrain from hiring children for domestic or other labour which is inappropriate given their age or developmental stage, which interferes with their time available for education and recreational activities, or which places them at significant risk of injury.
- Comply with all relevant local legislation, including labour laws in relation to child labour.

Use of children's images for work related purposes

When photographing or filming a child for work related purposes, I must:

- Before photographing or filming a child, assess and endeavor to comply with local traditions or restrictions for reproducing personal images.
- Before photographing or filming a child, obtain informed consent from the child and a parent or guardian of the child. As part of this I must explain how the photograph or film will be used.
- Ensure photographs, films, videos and DVDs present children in a dignified and respectful manner and not in a vulnerable or submissive manner. Children should be adequately clothed and not in poses that could be seen as sexually suggestive.
- Ensure images are honest representations of the context and the facts.
- Ensure file labels do not reveal identifying information about a child when sending images electronically.

Sanctions

I understand that if I breach this Individual Code of Conduct, my employer will take disciplinary action which could include:

- Informal warning.
- Formal warning.
- Additional Training.
- Loss of up to one week's salary.
- Suspension of employment (without payment of salary), for a minimum period of 1 month up to a maximum of 6 months.
- Termination of employment.
- Report to the police if warranted.

I understand that it is my responsibility to avoid actions or behaviors that could be construed as GBV or VAC or breach this Individual Code of Conduct. I do hereby acknowledge that I have read the foregoing Individual Code of Conduct, do agree to comply with the standards contained therein and understand my roles and responsibilities to prevent and respond to GBV and VAC. I understand that any action inconsistent with this Individual Code of Conduct or failure to take action mandated by this Individual Code of Conduct may result in disciplinary action and may affect my ongoing employment.

Signature: _____
Printed Name: _____
Title: _____
Date: _____

ANNEX SEVEN:GENERAL ENVIRONMENTAL MANAGEMENT CONDITIONS FOR CONSTRUCTION CONTRACTS

General

1. In addition to these general conditions, the Contractor shall comply with any specific Environmental Management Plan (EMP) or Environmental and Social Management Plan (ESMP) for the works he is responsible for. The Contractor shall inform himself about such an EMP, and prepare his work strategy and plan to fully take into account relevant provisions of that EMP. If the Contractor fails to implement the approved EMP after written instruction by the Supervising Engineer (SE) to fulfil his obligation within the requested time, the Owner reserves the right to arrange through the SE for execution of the missing action by a third party on account of the Contractor.

2. Notwithstanding the Contractor's obligation under the above clause, the Contractor shall implement all measures necessary to avoid undesirable adverse environmental and social impacts wherever possible, restore work sites to acceptable standards, and abide by any environmental performance requirements specified in an EMP. In general these measures shall include but not be limited to:

(a) Minimize the effect of dust on the surrounding environment resulting from earth mixing sites, asphalt mixing sites, dispersing coal ashes, vibrating equipment, temporary access roads, etc. to ensure safety, health and the protection of workers and communities living in the vicinity dust producing activities.

(b) Ensure that noise levels emanating from machinery, vehicles and noisy construction activities (e.g. excavation, blasting) are kept at a minimum for the safety, health and protection of workers within the vicinity of high noise levels and nearby communities.

(c) Ensure that existing water flow regimes in rivers, streams and other natural or irrigation channels is maintained and/or re-established where they are disrupted due to works being carried out.

(d) Prevent bitumen, oils, lubricants and wastewater used or produced during the execution of works from entering into rivers, streams, irrigation channels and other natural water bodies/reservoirs, and also ensure that stagnant water in uncovered borrow pits is treated in the best way to avoid creating possible breeding grounds for mosquitoes.

(e) Prevent and minimize the impacts of quarrying, earth borrowing, piling and building of temporary construction camps and access roads on the biophysical environment including protected areas and arable lands; local communities and their settlements. In as much as possible restore/rehabilitate all sites to acceptable standards.

(f) Upon discovery of ancient heritage, relics or anything that might or believed to be of archaeological or historical importance during the execution of works, immediately report such findings to the SE so that the appropriate authorities may be expeditiously contacted for fulfilment of the measures aimed at protecting such historical or archaeological resources.

(g) Discourage construction workers from engaging in the exploitation of natural resources such as hunting, fishing, collection of forest products or any other activity that might have a negative impact on the social and economic welfare of the local communities.

(h) Implement soil erosion control measures in order to avoid surface run off and prevents siltation, etc.(i) Ensure that garbage, sanitation and drinking water facilities are provided in construction workers camps.

(j) Ensure that, in as much as possible, local materials are used to avoid importation of foreign material and long distance transportation.

(k) Ensure public safety and meet traffic safety requirements for the operation of work to avoid accidents.

3. The Contractor shall indicate the period within which he/she shall maintain status on site after completion of civil works to ensure that significant adverse impacts arising from such works have been appropriately addressed.

4. The Contractor shall adhere to the proposed activity implementation schedule and the monitoring plan / strategy to ensure effective feedback of monitoring information to project management so that impact management can be implemented properly, and if necessary, adapt to changing and unforeseen conditions.

5. Besides the regular inspection of the sites by the SE for adherence to the contract conditions and specifications, the Owner may appoint an Inspector to oversee the compliance with these environmental conditions and any proposed mitigation measures. State environmental authorities may carry out similar inspection duties. In all cases, as directed by the SE, the Contractor shall comply with directives from such inspectors to implement measures required to ensure the adequacy rehabilitation measures carried out on the bio-physical environment and compensation for socio-economic disruption resulting from implementation of any works.

Worksite/Campsite Waste Management

6. All vessels (drums, containers, bags, etc.) containing oil/fuel/surfacing materials and other hazardous chemicals shall be bunded in order to contain spillage. All waste containers, litter and any other waste generated during the construction shall be collected and disposed of at designated disposal sites in line with applicable government waste management regulations.

7. All drainage and effluent from storage areas, workshops and camp sites shall be captured and treated before being discharged into the drainage system in line with applicable government water pollution control regulations.

8. Used oil from maintenance shall be collected and disposed of appropriately at designated sites or be re-used or sold for re-use locally.

9. Entry of runoff to the site shall be restricted by constructing diversion channels or holding structures such as banks, drains, dams, etc. to reduce the potential of soil erosion and water pollution.

10. Construction waste shall not be left in stockpiles along the road but removed and reused or disposed of on a daily basis.

11. If disposal sites for clean spoil are necessary, they shall be located in areas, approved by the SE, of low land use value and where they will not result in material being easily washed into drainage channels. Whenever possible, spoil materials should be placed in low-lying areas and should be compacted and planted with species indigenous to the locality.

Material Excavation and Deposit

12. The Contractor shall obtain appropriate licenses/permits from relevant authorities to operate quarries or borrow areas.
13. The location of quarries and borrow areas shall be subject to approval by relevant local and national authorities, including traditional authorities if the land on which the quarry or borrow areas fall in traditional land.
14. New extraction sites:

a) Shall not be located in the vicinity of settlement areas, cultural sites, wetlands or any other valued ecosystem component, or on on high or steep ground or in areas of high scenic value and shall not be located less than 1km from such areas.
b) Shall not be located adjacent to stream channels wherever possible to avoid siltation of river channels. Where they are located near water sources, borrow pits and perimeter drains shall surround quarry sites.
c) Shall not be located in archaeological areas. Excavations in the vicinity of such areas shall proceed with great care and shall be done in the presence of government authorities having a mandate for their protection.
d) Shall not be located in forest reserves. However, where there are no other alternatives, permission shall be obtained from the appropriate authorities and an environmental impact study shall be conducted.
e) Shall be easily rehabilitated. Areas with minimal vegetation cover such as flat and bare ground, or areas covered with grass only or covered with shrubs less than 1.5m in height, are preferred.
f) Shall have clearly demarcated and marked boundaries to minimize vegetation clearing.

15. Vegetation clearing shall be restricted to the area required for safe operation of construction work. Vegetation clearing shall not be done more than two months in advance of operations.
16. Stockpile areas shall be located in areas where trees can act as buffers to prevent dust pollution. Perimeter drains shall be built around stockpile areas. Sediment and other pollutant traps shall be located at drainage exits from workings.
17. The Contractor shall deposit any excess material in accordance with the principles of the general conditions, and any applicable EMP, in areas approved by local authorities and/or the SE.
18. Areas for depositing hazardous materials such as contaminated liquid and solid materials shall be approved by the SE and appropriate local and/or national authorities before the commencement of work. Use of existing, approved sites shall be preferred over the establishment of new sites.

Rehabilitation and Soil Erosion Prevention

19. To the extent practicable, the Contractor shall rehabilitate the site progressively so that the rate of rehabilitation is similar to the rate of construction.
20. Always remove and retain topsoil for subsequent rehabilitation. Soils shall not be stripped when they are wet as this can lead to soil compaction and loss of structure.
21. Topsoil shall not be stored in large heaps. Low mounds of no more than 1 to 2m high are recommended.
22. Re-vegetate stockpiles to protect the soil from erosion, discourage weeds and maintain an active population of beneficial soil microbes.
23. Locate stockpiles where they will not be disturbed by future construction activities.
24. To the extent practicable, reinstate natural drainage patterns where they have been altered or impaired.
25. Remove toxic materials and dispose of them in designated sites. Backfill excavated areas with soils or overburden that is free of foreign material that could pollute groundwater and soil.
26. Identify potentially toxic overburden and screen with suitable material to prevent mobilization of toxins.
27. Ensure reshaped land is formed so as to be inherently stable, adequately drained and suitable for the desired long-term land use, and allow natural regeneration of vegetation.
28. Minimize the long-term visual impact by creating landforms that are compatible with the adjacent landscape.
29. Minimize erosion by wind and water both during and after the process of reinstatement.
30. Compacted surfaces shall be deep ripped to relieve compaction unless subsurface conditions dictate otherwise.
31. Revegetate with plant species that will control erosion, provide vegetative diversity and, through succession, contribute to a resilient ecosystem. The choice of plant species for rehabilitation shall be done in consultation with local research institutions, forest department and the local people.

Water Resources Management

32. The Contractor shall at all costs avoid conflicting with water demands of local communities.
33. Abstraction of both surface and underground water shall only be done with the consultation of the local community and after obtaining a permit from the relevant Water Authority.
34. Abstraction of water from wetlands shall be avoided. Where necessary, authority has to be obtained from relevant authorities.
35. Temporary damming of streams and rivers shall be done in such a way avoids disrupting water supplies to communities downstream and maintains the ecological balance of the river system.
36. No construction water containing spoils or site effluent, especially cement and oil, shall be allowed to flow into natural water drainage courses.

37. Wash water from washing out of equipment shall not be discharged into water courses or road drains.
38. Site spoils and temporary stockpiles shall be located away from the drainage system, and surface run off shall be directed away from stockpiles to prevent erosion.

Traffic Management
39. Location of access roads/detours shall be done in consultation with the local community especially in important or sensitive environments. Access roads shall not traverse wetland areas.
40. Upon the completion of civil works, all access roads shall be ripped and rehabilitated.
41. Access roads shall be sprinkled with water at least five times a day in settled areas, and three times in unsettled areas, to suppress dust emissions.
Blasting
42. Blasting activities shall not take place less than 2km from settlement areas, cultural sites, or wetlands without the permission of the SE.
43. Blasting activities shall be done during working hours, and local communities shall be consulted on the proposed blasting times.
44. Noise levels reaching the communities from blasting activities shall not exceed 90 decibels.
Disposal of Unusable Elements
45. Unusable materials and construction elements such as electro-mechanical equipment, pipes, accessories and demolished structures will be disposed of in a manner approved by the SE. The Contractor has to agree with the SE which elements are to be surrendered to the Client's premises, which will be recycled or reused, and which will be disposed of at approved landfill sites.
46. As far as possible, abandoned pipelines shall remain in place. Where for any reason no alternative alignment for the new pipeline is possible, the old pipes shall be safely removed and stored at a safe place to be agreed upon with the SE and the local authorities concerned.
47. AC-pipes as well as broken parts thereof have to be treated as hazardous material and disposed of as specified above.
48. Unsuitable and demolished elements shall be dismantled to a size fitting on ordinary trucks for transport.

Health and Safety
49. In advance of the construction work, the Contractor shall mount an awareness and hygiene campaign. Workers and local residents shall be sensitized on health risks particularly of AIDS.
50. Adequate road signs to warn pedestrians and motorists of construction activities, diversions, etc. shall be provided at appropriate points.
51. Construction vehicles shall not exceed maximum speed limit of 40km per hour.

Repair of Private Property
52. Should the Contractor, deliberately or accidentally, damage private property, he shall repair the property to the owner's satisfaction and at his own cost. For each repair, the Contractor shall obtain from the owner a certificate that the damage has been made good satisfactorily in order to indemnify the Client from subsequent claims.
53. In cases where compensation for inconveniences, damage of crops etc. are claimed by the owner, the Client has to be informed by the Contractor through the SE. This compensation is in general settled under the responsibility of the Client before signing the Contract. In unforeseeable cases, the respective administrative entities of the Client will take care of compensation.

Contractor's Environment, Health and Safety Management Plan (EHS-MP)
54. Within 6 weeks of signing the Contract, the Contractor shall prepare an EHS-MP to ensure the adequate management of the health, safety, environmental and social aspects of the works, including implementation of the requirements of these general conditions and any specific requirements of an EMP for the works. The Contractor's EHS-MP will serve two main purposes:

- For the Contractor, for internal purposes, to ensure that all measures are in place for adequate EHS management, and as an operational manual for his staff.
- For the Client, supported where necessary by a SE, to ensure that the Contractor is fully prepared for the adequate management of the EHS aspects of the project, and as a basis for monitoring of the Contractor's EHS performance.

55. The Contractor's EHS-MP shall provide at least:

- a description of procedures and methods for complying with these general environmental management conditions, and any specific conditions specified in an EMP;
- a description of specific mitigation measures that will be implemented in order to minimize adverse impacts;
- a description of all planned monitoring activities (e.g. sediment discharges from borrow areas) and the reporting thereof; and
- the internal organizational, management and reporting mechanisms put in place for such.

56. The Contractor's EHS-MP will be reviewed and approved by the Client before start of the works. This review should demonstrate if the Contractor's EHS-MP covers all of the identified impacts and has defined appropriate measures to counteract any potential impacts.

EHS Reporting

57. The Contractor shall prepare bi-weekly progress reports to the SE on compliance with these general conditions, the project EMP if any, and his own EHS-MP. An example format for a Contractor EHS report is portrayed below. It is expected that the Contractor's reports will include information on:

- EHS management actions/measures taken, including approvals sought from local or national authorities;
- Problems encountered in relation to EHS aspects (incidents, including delays, cost consequences, etc. as a result thereof);
- Lack of compliance with contract requirements on the part of the Contractor;
- Changes of assumptions, conditions, measures, designs and actual works in relation to EHS aspects; and
- Observations, concerns raised and/or decisions taken with regard to EHS management during site meetings.

58. It is advisable that reporting of significant EHS incidents be done "as soon as practicable". Such incident reporting shall therefore be done individually. Also, it is advisable that the Contractor keep his own records on health, safety and welfare of persons, and damage to property. It is advisable to include such records, as well as copies of incident reports, as appendixes to the bi-weekly reports. A sample format for an incident notification is shown below. Details of EHS performance will be reported to the Client through the SE's reports to the Client.

Training of Contractor's Personnel

59. The Contractor shall provide sufficient training to his own personnel to ensure that they are all aware of the relevant aspects of these general conditions, any project EMP, and his own EHS-MP, and are able to fulfil their expected roles and functions. Specific training should be provided to those employees that have particular responsibilities associated with the implementation of the EHS-MP. General topics should be:

- EHS in general (working procedures);
- emergency procedures; and
- social and cultural aspects (awareness raising on social issues).

Cost of Compliance

60. It is expected that compliance with these conditions is already part of standard good workmanship and state of art as generally required under this Contract. The item "Compliance with Environmental Management Conditions" in the Bill of Quantities covers this cost. No other payments will be made to the Contractor for compliance with any request to avoid and/or mitigate an avoidable EHS impact.

ANNEX EIGHT: LABORATORY TEST CERTIFICATES

LAGOS STATE GOVERNMENT

LASEPA
LAGOS STATE ENVIRONMENTAL PROTECTION AGENCY

Ref: 08/STEM/42001

Date: 26/08/2022

CLIENT: Linda Akpami (Consultant)/ Esmp/Lasu STEM Laboratory

SUBMISSION OF LABORATORY ANALYSIS RESULT.

I hereby submit the result of one (1) Top soil sample and one (1) ground water sample submitted to the laboratory on the 23rd August, 2022 for analysis.

Attached is a signed copy of the laboratory analysis results.

Thank you for patronages.

Yours Faithfully

Laboratory Services Dept.
Lagos State Environmental Protection Agency
Secretariat Alausa Ikeja
Date 26/08/2022

Lanre Adekunle Dauda (Mr.)
Senior Instrumental analysis