## MALAWI

### **MINISTRY OF EDUCATION**



## SKILLS FOR A VIBRANT ECONOMY (SAVE) PROJECT PROJECT CODE: P172627

## ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN FOR THE PROPOSED CONSTRUCTION OF A SKILLS CENTRE BUILDING AT NALIKULE COLLEGE OF EDUCATION

**MARCH 2025** 

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#### **Abbreviations and Acronyms**

AIDS	Acquired Immune Deficiency Syndrome
CSC	Construction Supervision Consultant
DCDO	District Community Development Office
DESC	District Environmental Subcommittee
DFO	District Forestry Office
DGO	District Gender Officer
DHS	Director of Health Services
DLO	District Labour Office
DSWO	District Social Welfare Officer
DoB	Department of Buildings
E&S	Environmental and Social
EIA	Environmental Impact Assessment
EMA	Environment Management Act
ESCP	Environmental and Social Commitment Plan
ESMF	Environmental and Social Management Framework
ESIA	Environment and Social Impact Assessment
ESMP	Environmental and Social Management Plan
ESS	Environmental and Social Standards
FSC	Feasibility Study Consultant
GBV	Gender Based Violence
GRM	Grievance Redress Mechanism
GRMC	Grievance Redress Mechanism Committee
HIV	Human Immunodeficiency Virus
HSE	Health Safety and Environment
LCC	Lilongwe City Council
LL-DC	Lilongwe District Council
LMP	Labour Management Procedures
LWB	Lilongwe Water Board
MEPA	Malawi Environment Protection Authority
MoE	Ministry of Education
NCE	Nalikule College of Education
NCHE	National Council for Higher Education
NCIC	National Construction Industry Council
NWRA	National Water Resources Authority
ODeL	Open, Distance and e-Learning
OHS	Occupation Health & Safety
PIU	Project Implementation Unit
PPE	Personal Protective Equipment
SAVE	Skills for A Vibrant Economy
SDG	Sustainable Development Goal
SEA	Sexual Exploitation and Abuse
SEP	Stakeholder Engagement Plan
SHEA	Sexual Harassment Exploitation and Abuse
T/A	Traditional Authority
MERA	Malawi Energy Regulatory Authority
MIE	Malawi Institute of Engineers

#### **Executive Summary**

#### 1. INTRODUCTION

The Government of Malawi, through the Ministry of Education (MoE) and the Ministry of Labour and Vocational Training, with funding from the World Bank, is undertaking the Skills for A Vibrant Economy (SAVE) Project. The SAVE Project is classified as a Moderate Risk operation under the World Bank Environmental and Social Framework (ESF), based on its potential environmental and social risks, which include moderate construction-related impacts and labor influx, but no resettlement or biodiversity-sensitive areas. The project is rated moderate risk. The SAVE Project is for 5 years (2022-2026). The project supports higher education institutions, National Technical Colleges and Community Technical Colleges to increase access, particularly for females, to labour market-relevant skills development programs, targeting priority areas of the economy. Nalikule Education College (NEC) is one of the participating institutions that is implementing the project. The project under component 1, (Supporting Increased Access to Skills Development Programs in Higher Education) the project is supporting access to skills development programs in Higher Education through the construction of a multipurpose building and Component 2, is supporting increase in access to TEVET skills development. The project will also support ICT and increase access to skills training programs for 500 students. The Construction works for the proposed project are expected to commence in June 2025, following the completion of preparatory activities; and will be completed within 12 months. The project will be implemented with a budget of about MK3,502,000,000.00. The project is expected to employ approximately 60 people which include technical staff, unskilled labourers and drivers. It is estimated that at least 24 workers (40% of the people to be employed) will be women to attain the recommended gender balance in every category at any point of the project.

The construction activities in this project are expected to impact both the environment and the social fabric. An Environmental and Social Management Framework (ESMF) was prepared fpr the project to guide the project project to managing environmental and social impacts. The ESMF was developed for the SAVE Project per the World Bank's Environmental and Social Standard 1. The ESMF requires that, after subprojects have been identified, environmental and social due diligence be conducted to eliminate or reduce environmental and social negative impacts. The ESMF guided the preparation of this Environmental and Social Management Plan (ESMP), which has been prepared to identify the specific potential environmental and social risks and impacts of proposed Project activities and propose suitable mitigation measures to manage these impacts. It further maps out Malawi's laws and regulations and the World Bank policies applicable to the Project and describes the principles, approaches, implementation arrangements, and environmental and social mitigation measures to be followed. The cost of implementation of this ESMP is MK37,400,000.00. The **ESMF** can be found on the following link: https://www.education.gov.mw/index.php/edu-resources/category/3-save-project?download=9:environmental-andsocial-management-framework-save-project

This ESMP should be read together with other plans, including the Stakeholder Engagement Plan (SEP), theLabour Management Plan (LMP) and the Environmental and Social Commitment Plan (ESCP) developed for the SAVE project. The SEP document and others can be found on the following link: <u>https://documents1.worldbank.org/curated/en/314131616158364147/pdf/Stakeholder-Engagement-Plan-SEP-Skills-for-A-Vibrant-Economy-Project-P172627.pdf</u>

#### 2. OBJECTIVE OF THE PROJECT

The SAVE Project Development Objective (PDO) aims to increase access to labour marketrelevant skills development programmes in participating institutions, targeting priority areas of the economy, particularly for females. Specifically for Nalikule, the project aims to construct and operate a ground-plus-first-floor building at Nalikule Education Collage (NEC) Lilongwe campus to improve access to market-relevant skills programs.

#### 3. NATURE AND SCOPE OF THE PROJECT

The project is about the construction works and operation of a Skills Centre building. Particularly, the proposed infrastructure will comprise offices, classrooms, a lecture theatre, a boardroom, laboratories, and ICT / reprographic rooms (see Appendix 8 for project designs). The scope of the project includes planning and designing, construction, operational and demobilisation activities. Climate-resilient infrastructure will be incorporated into the building design, such as stormwater management systems and provision for solar backup power, in accordance with the World Bank's Good Practice Notes.

#### 4. METHODOLOGY FOR PREPARATION OF THE ESMP

The process of developing the ESMP included Environmental and Social Screening, desk research, field investigations and stakeholder consultations to assess the current biophysical and socioeconomic conditions in the project area. Then the collected data was processed and used to identify and assess the positive and negative impacts of the project on the environmental and social aspects of the project area. The process also recognised suitable mitigation and enhancement measures for the anticipated impacts, along with the development of management and monitoring plans to address environmental and social effects.

#### 5. SUMMARY OF ENVIRONMENTAL AND SOCIAL IMPACTS OF THE PROJECT

The potential environmental and social risks for the project activities were identified, and the corresponding mitigation measures are presented in the table below.

#### **5.1.Key Potential Positive and Negative Impacts**

#### Positive Impacts:

- Enhanced Skills Development:
- Improved Safety & Security for Girls:
- Better Academic Performance for girls:
- Women's Empowerment & Gender Inclusion:
- Improved Educational Facilities:
- Infrastructure Improvement:
- Creation of Job Opportunities:

#### **Negative Impacts:**

- Disruption of the provision of education services.
- Increased risks of GBV, SEA, and defilement
- Potential accidents in the community
- Increased incidences of child labour

- Temporary air quality deterioration
- Elevated noise levels from machinery and construction activities
- Potential for accidents and injuries on-site affecting workers
- Discriminatory working conditions
- Infectious disease impact
- Generation of solid wastes, spills, and effluent: that may contaminate soil and water
- Increase in electricity consumption
- Increase in water consumption in the college's already challenged water supply.
- Increased soil erosion and sedimentation: excavation of the project site makes the land susceptible to erosion
- Degradation of vegetation and habitat loss are impacting local flora and fauna
- Risk of soil and water contamination due to improper handling and disposal of construction materials
- Increased dust emission
- Increased risk of traffic disruption
- Increased risk of community health and safety
- Water pollution risks
- Increased risk of stormwater runoff
- Disposal of hazardous material
- Risk of fires or accidents, electrical faults,

# 6. SUMMARY OF ENVIRONMENTAL AND SOCIAL MANAGEMENT AND MONITORING PLANS

The NCE, Lilongwe District Council, PIU and MEPA are the main institutions that will be responsible for monitoring the implementation of this ESMP. Monitoring will be conducted monthly through site visits, a Geo-Enabling initiative for Monitoring and Supervision (GEMS), and review of records. Reporting will be quarterly; however, there are special reports, including incident reports, which will be submitted within 24 hours of the incident's occurrence. Monitoring will be guided by indicators linked to relevant ESSs (e.g., OHS incidents – ESS2; community complaints – ESS10).

Stakeholders, including Nalikule, Lilongwe District Council and contractors, will be trained in environmental and social requirements through: Workshop Meetings, Mentorship Programs, Onsite Training, In-house Training Programs and Toolbox Talks. Contractors will be required to adopt and enforce a Code of Conduct for workers, covering GBV/SEA/SH obligations in accordance with ESS2 and ESS4.

## **1** Introduction

#### 1.1 Background

The Government of Malawi, through the Ministry of Education and the Ministry of Labour and Vocational Training, with funding from the World Bank, is implementing the Skills for a Vibrant Economy Project (SAVE). The project aims to improve access to market-relevant skills programs in priority areas of the economy, ensuring equity in skills training with empowerment of women and girls and vulnerable youth through targeted skills in priority areas of the economy, creating a conducive policy environment and strengthening systems and institutional capacity for skills development. The project has four components: Technical, Entrepreneurial, and Vocational Education and Training (TEVET), Higher Education Reforms, Student loans, Industrial links, Digital technology and Safeguards, Capacity Building, and Technical Assistance, among other systemic issues. The project is categorised as a moderate risk under the World Bank's Environmental and Social Framework (ESF).

The Nalikule College of Education (NCE) is one of the participating institutions implementing the project under component **1** (Supporting Increased Access to Skills Development Programs in Higher Education). The project will also support ICT priority areas of the economy and increase access to skills training programs for 500 students. The project will support the construction of a Skills Centre building, which will house the ODeL programme, thereby increasing the learning and office space at the College. The project will support the construction of a 2-storey multipurpose building at Nalikule. The construction activities in this project are expected to impact the environment and the social fabric. The Environmental and Social Management Plan (ESMP), has been prepared to identify and evaluate the potential environmental and social risks and impacts of proposed Project activities. Furthermore, the ESMP propose suitable mitigation measures to manage these risks and impacts for sustainability and long-term benefits. The ESMP should be applied together with other plans prepared for the project, including:

- Stakeholder Engagement Plan (SEP)
- Labour Management Procedures (LMP)
- Environmental and Social Commitment Plan (ESCP)
- Chance Find Procedure
- COVID-19 Guidelines for Schools in Malawi on Prevention and Management
- Project Implementation Manual

The documents are accessible through this link: <u>https://education.gov.mw/index.php/edu-resources/documents-and-publications/category/3-save-project</u>

#### **1.2** Objective of the Project

The SAVE Project Development Objective (PDO) aims to increase access to labour marketrelevant skills development programmes in participating institutions, targeting priority areas of the economy, particularly for females. Specifically, for NCE, the project aims to construct and operate a Skills Centre comprising a lecture theatre; Information, Communication and Technology (ICT) / reprographic room; Human Ecology section (which will have Food and Nutrition, Clothing and Textiles, Hospitality, and Food Analysis Laboratories) and recording/studio room. The SAVE project at NCE will utilise 0.352Ha of land belonging to NCE.

#### **1.3 Project Duration and Estimated Costs**

The project duration for the construction of the Skills Centre at NCE is five years, from 2021 to 2026. Construction activities are expected to be completed within 12 months as soon as all approvals and permits are obtained. The estimated cost for the construction of the Skills Centre building is MK3,502,000,000.00, of which MK37,400,000.00 will be used to implement the ESMP.

#### 1.4 Nature and Scope of the Project

The project is about the construction works and operation of a Skills Centre building consisting of Offices and learning facilities. Particularly, the proposed infrastructure to be constructed will be a Skills Centre building comprising of 7 staff offices, a 20-seater boardroom, a 100-seater lecture theatre, a food and nutrition laboratory, a clothing and textiles laboratory, a reprographic / printing room, studio/recording room and four 4-seater toilet sets with provisions for the physically challenged.

The scope of the project includes planning and designing, construction, operational and demobilisation activities. The main planning and designing activities include the identification of the land where the project will be carried out. Currently, the land for the project has been secured and is owned by NCE. Other planning activities include the preparation of technical drawings, whose key activities include:

- a) Recruitment of Design Consultant;
- b) Obtaining required approvals and licences;
- c) Recruitment of Supervision Consultant;
- d) Recruitment of Contractor;
- e) Sourcing and purchasing of construction materials;
- f) Setting out the buildings using approved plans and standards;
- g) Construction of sub-structure of the buildings;
- h) Construction of the super-structure of the buildings;
- i) Solid and liquid waste management during the construction of the building and associated structures;
- j) Maintenance works during operation phase as may be required; and
- k) Solid and liquid waste management during the operation phase.

The main construction activities will be the construction of the 2-storey skills centre building which will accommodate 200 students and 20 staff members. Construction activities for the project are expected to commence in June 2025. However, the project is expected to be completed by the 2026/2027 financial year.

#### **1.5 Spatial Location and Land Size**

Nalikule College of Education is situated along the Lilongwe – Salima road in the northeastern part of Lilongwe District. The College is located about 8 km East of Kanengo. The proposed construction site for the Skills Centre building is located within the brick-fenced NCE Campus, and the project will not require additional land outside the campus. There will therefore be no issues of land conflicts, resettlement and compensation.

The proposed project site has a perimeter of 279.29m with an approximated area of  $3,524.35 \text{ m}^2$  (0.352Ha). Specifically, the Skills Centre building will cover an area of 30m by 100m. The proposed project site is geographically located at  $13.82077^{\circ}S$  and  $33.85879^{\circ}E$ . The site has some natural vegetation in the form of trees, shrubs and grass. The proposed site for the construction of the Skills Centre building at NCE is shown in Figures 1.1. Topographic and Location maps for proposed site are presented in Figures 1.2 and 1.3, respectively.



Figure 1.1: Proposed Site for the Construction of the Skills Centre Building



Figure 1.2: Topographic Map for the proposed project site



Figure 1.3: Location Map for the proposed Project Site



#### **1.6 Objective of the ESMP**

This Environmental and Social Management Plan (ESMP) is developed to support the environmental and social safeguards provisions for the construction of the Skills Centre building at Nalikule College of Education (NCE) in Nalikule, Lilongwe.

The objective of the ESMP is to assess and mitigate potential negative environmental and social risks and impacts of the project, consistent with the Environmental and Social Standards (ESSs) of the World Bank Environmental and Social Framework (ESF) and national requirements.

More specifically, the ESMP aims to

- a. identify and assess key potential environmental and social impacts including those on gender, which may be caused by the proposed construction works;
- b. propose measures that would enhance the positive effects of the proposed construction and operation activities on both the environment and social components including gender issues in specific sites;
- c. propose measures that will avoid, minimise, mitigate and compensate for the anticipated negative impacts of the proposed constructions and operation activities on both the environment and social components, including gender concerns in specific sites;
- d. Identify the staffing requirements, as well as the training and capacity building needed to successfully implement the provisions of the ESMP;
- e. address mechanisms for public consultation and disclosure of project documents, as well as redress of possible grievances; and
- f. Establish the budget requirements for the implementation of the ESMP.
- g. Promoting good practices that enhance the project's long-term environmental and social benefits

#### 1.7 Approach and Methodology for Preparing the ESMP

The development of this ESMP has been undertaken in accordance with Part V of the Environment Management Act (2017) and in line with Guidelines of Environmental Impact Assessment (1997) and the requirements of the World Bank ESF. Key tasks of the ESMP development are described in the following sections.

#### 1.7.1 Environmental and Social Screening

Screening of the proposed project was conducted by the Environmental District Officer (EDO) for Lilongwe on 11<sup>th</sup> August 2022; where the proposed project was categorised under list 'B' of the EIA Guidelines. This was followed by feasibility studies where a project brief was prepared and submitted to MEPA, from which a conclusion was drawn that the proposed project requires an ESMP not an ESIA.

#### **1.7.2** Literature Review

This involved the review of existing literature related to the project. The literature that was reviewed included: The Constitution of the Republic of Malawi (1995), Environment Management Act (2017); National Construction Industry Act (1996); Physical Planning Act (2016); Water Resources Act (2013); Water Works Act (1995); Public Health Act (1948); Occupational Safety, Health and Welfare Act (1997); Employment Act (2000); National Water Policy (2005); National Environment Policy (2004); Malawi National Land Policy (2002); Malawi 2063; among other pieces of relevant legislation and policies. In addition, a review of other Environmental and Social Impact Assessment reports related to infrastructure development projects in higher learning institutions was conducted. These documents have been included in the reference section.

The Consultant reviewed documents with socio-economic and ecological information and data for the project area and these included; Lilongwe Urban Profile, Lilongwe District Council Socio-Economic Profile; Soil Atlas; Species Fact sheet; and Maps and Satellite Images for the project area. The reviewed documents have been included in the reference section.

The Consultant also reviewed project documents which included: SAVE Project Environmental and Social Management Framework (ESMF), Project Environmental and Social Screening Report, the Stakeholder Engagement Plan, Labour Management Procedures, the Environmental and Social Commitment Plan (ESCP), and the World Bank Environmental and Social Framework (ESF). A full list of documents that were reviewed during the preparation of this ESMP is included in the Bibliography section.

#### **1.7.3** Field Investigations

Field investigations were conducted on 15<sup>th</sup> to 23<sup>rd</sup> May, 2024 to acquaint with the environmental and social setting of the project site and surrounding areas. Field investigations were undertaken on biophysical aspects to describe the biodiversity within and around project site. Interviews were also conducted with local community leaders and members who possessed knowledge of the area to understand land use and important environmental and social features.

#### 1.7.4 Stakeholder Consultations

The SAVE Project Stakeholder Engagement Plan (SEP) was developed to help guide stakeholder consultation. During the development of this ESMP, different meetings and interviews with stakeholders were conducted. The first consultations were from 15<sup>th</sup> May 2023 to 7th June 2024, and the second consultation was from 16<sup>th</sup> to 28<sup>th</sup> April 2025 to incorporate stakeholders' input. The information provided was documented and will be considered when making project decisions.

Stakeholders were defined as persons and/or institutions and/or communities who:

- $\rightarrow$  Are directly and/or indirectly affected by the Project.
- $\rightarrow$  Have "interests" in the Project that determine them as stakeholders.
- $\rightarrow$  They have the potential to influence the project's outcomes or operations.

In order to define a communication process with stakeholders, several stakeholder groups that may be interested and/or affected by the Project development and implementation were identified. Stakeholder identification considered the nature and location of the Project and the nature of potential impacts, as well as the institutional, legal and managerial framework applicable to the Project.

Stakeholder mapping highlighted the level of interest and influence on the Project that each stakeholder bears. On this basis, stakeholders with high interest and influence on the Project were engaged to solicit information sufficient to arrive at a suitable scope of assessment.

The purpose of the stakeholder consultation was to inform the community, district and national level stakeholders about project plans, obtain the views of different people on the proposed project, to determine how the project will affect them and how best it can be implemented to minimise adverse environmental and social impacts.

Stakeholder consultations were undertaken to elicit concerns and views on the potential impacts of the project and to inform mitigation and enhancement measures. Specifically, stakeholder engagement was conducted to:

- a) Collect baseline social and community information specific to the project site.
- b) Identify socioeconomic issues that need to be addressed during its implementation.
- c) Capture expectations from stakeholders and elicit suggestions on ways to avoid or minimise adverse effects of the project.
- d) Ensure that all appropriate measures are included in the ESMP.
- e) Ascertain compliance of the project with statutory regulations.

The approach to the public consultation process was based on what is outlined in Appendix G of the 1997 Guidelines for EIA for Malawi. Thus, the principal stakeholders (Affected Community) were engaged, and more than two methods were used in the engagement process. The consultations were designed to allow for obtaining and validating information obtained during ESMP preparation. The consultations included the following:

- ✓ Key Informant Interviews with Government Ministries and Departments;
- ✓ Key Informant Interviews with Lilongwe District Council Officers;
- ✓ Direct Interviews with stakeholders, and particularly representatives of regional and district level governmental institutions, service providers and Non-Governmental Organisation (NGOs) and / Civil Society Organisations (CSOs);
- ✓ Key Informant Interviews with community leaders; and
- ✓ Public Meetings and Focus Group Discussions with beneficiary institution and surrounding communities.

The summaries of main issues raised during consultations have been attached in Appendix 1 and the registers shown in Appendix 2.

## 2 Detailed Description of the Proposed Sub-Project

The proposed project is being implemented by the Ministry of Education and the Ministry of Labour and Vocational Training. The NCE will be responsible for the coordination, supervision, and overall management of project activities. This section provides a comprehensive and detailed description of the project and its related activities.

#### 2.1 Sub-Project Components

The SAVE Project at Nalikule College of Education in Lilongwe will involve the construction of a Skills Centre building comprising of lecture theatre, ICT and reprographic rooms. It will also house the Human Ecology section, which will have Food and Nutrition, Clothing and Textiles, Hospitality, and Food Analysis Laboratories.

It is expected that further environmental and social assessments will be carried out during the construction of additional structures at the campus, after the completion of the 2-storey Skills Centre Building financed by the SAVE Project. Consequently, all processes and approvals will be conducted prior to or during the commencement and implementation of the next subprojects, which may or may not be funded by the SAVE Project.

It is expected that the project will commence after this ESMP is approved by the Malawi Environmental Protection Authority (MEPA) and cleared by the World Bank. Consequently, all processes and approvals will be conducted before or during the commencement of the subproject.

#### 2.2 Sub-Project Activities

The description of the main project activities has adopted a lifecycle approach of project construction and operation. Hence, the activities are divided into the following phases: planning and designing, construction, demobilization, operation and maintenance, and decommissioning.

#### 2.2.1 Planning and Design Phase

A Project Design Consultant will be identified to carry out topography and geotechnical studies, prepare site plans and technical drawings and prepare budgets and timelines. The Design Consultant will supervise the recruitment of the Contractor and supervise construction activities to ensure that they are in line with the designs.

#### 2.2.2 Construction Phase

The construction phase will commence with the engagement of the Construction Works Contractor. The Contractor will then proceed with the following activities:

- Construction of a worker's camp equipped with potable water, bathrooms and Ventilated Improved Pit (VIP) latrines;
- Recruitment and mobilisation of construction workers. Most recruited workers will be from the surrounding community of the project site.
- Construction of a site holding fence using iron sheets, timber and cement. This fence will barricade to demarcate the construction site to protect it from the intruders for safety;
- Construction of temporary offices and storage space: these facilities will be used as stores and offices for the contractors such structures will be demolished once the project completes;

- Mobilisation of construction equipment and machinery: The equipment and machinery will be transported to the project site to commence the construction activities.
- Removal of trees through the DFO (Lilongwe District Council). Preparation of the project site, which will involve site clearance, grading, excavation and levelling, and removal of trees only on the project site in conjunction with the District Council;
- Procurement and delivery of construction materials e.g., sand, steel, timber, water, cement, sand, aggregate and cement blocks from tax-compliant shops.

Following the completion of mobilisation and site preparation, the Construction Works Contractor will undertake the following activities:

- Site surveying, layout and marking the demarcations of the infrastructures to be constructed and making some amendments and recommendations on the project layout site plans;
- Excavations for the foundation footing and anti-termite treatment: the soils will be stockpiled when excavating and footing using cement, aggregate and sand;
- Construction of the buildings, which will involve laying of cement blocks to erect walls and installation of windows and door frames and reinforcement cement and construction wires, etc.
- Roofing will be designed to enhance the lighting of the building, which will help energy efficiency, installations and fittings, e.g., windows and doors;
- Electricity wiring and installation of plumbing system to use PVC pipes;
- Painting of the building and the paint used will enhance the lighting of the building to help energy utilisation and
- Construction of forecourt and car park to direct the storm water into the drainage system to prevent soil erosion.

This phase will also involve furnishing, including installation of furniture, office equipment and other electrical appliances. The building will have disability accessories ranging from lumps to sanitary facilities.

#### 2.2.3 Demobilisation Phase

Demobilisation will come after the completion of construction activities in order to vacate the site. Activities are expected to include scaling down of workforce; removal of temporary structures such as perimeter construction fence, removal of construction machinery and surplus construction materials, cleaning the site and disposal of wastes at a place authorised by the Lilongwe District Council.

#### 2.2.4 Operation and Maintenance Phase

In this phase, the Project Proponent is expected to conduct maintenance activities including cleaning common areas, removing rubbish regularly, repairing items that are broken and painting of walls.

#### 2.2.5 Decommissioning Phase

Currently, there is no anticipation that the structure will be decommissioned. However, in the event that decommissioning is to be carried out, a decommissioning plan including an Environmental and Social Management (ESMP) will have to be prepared and approved by the authorities before commencement of decommissioning activities.

#### 2.3 Material and Equipment Requirements for Project Activities

Construction of substructures and superstructures of the Skills Centre building will require machinery such as crawler dozers for clearing the project sites and excavators for digging foundations. Concrete mixers and vibrator pokers will be required for the concrete works. Tippers will be used for movement of materials such as quarry stones, gravel and sand.

Table 2.1 presents some of the major plant, equipment and materials that will be required for the construction works of the skills centre building. The table also gives the project inputs and output/ by-products that are to be expected from use of the equipment and material.

S/N	Input/	Use of the	Source of the material	Output or product/
	Equipment/	equipment or		by-product
•	material	material		
<b>A.</b>	EQUIPMENT			
1.	Crawler Dozer	Clearing the construction site	To be provided by the Contractor	Cleared and levelled construction site/ dust, noise pollution
2.	Excavator	Excavation of foundation trenches	To be provided by the Contractor	Excavated foundation trenches/ dust and noise pollution
3.	Compactor	Compaction of the foundation at the construction site	To be provided by the Contractor	Compacted foundation/ noise pollution
4.	Concrete mixer	Mixing concrete	To be provided by the Contractor	Well mixed concrete/ noise, air pollution
5.	Tippers and trucks	Transportation of construction materials such as fine/coarse aggregate, sand and cement.	To be provided by the Contractor	Various construction materials/ dust and noise pollution
6.	Vibrating pokers	Concrete compaction	To be provided by the contractor	Well compacted concrete/ noise
7.	Carpentry tools	For carpentry works during construction	To be provided by the contractor	Complete constructed formworks for concrete work
8.	Plumbing and brick laying tools	For plumbing and brick laying works during construction	To be provided by the contractor	Laid brick/ masonry structures
<b>B.</b>	MATERIALS			
9.	Fine and coarse aggregate	For concrete formulation	To be sourced locally. Coarse aggregate could be sourced from nearby quarries in Lilongwe City	Completed structures
10.	Sand and gravel	For concrete formulation and other construction works	To be procured from suppliers	Completed structures
11.	Cement	For concrete formulation and other construction works	To be sourced locally or outside the country depending on quantity, quality and cost factors.	Completed concrete/block work structures

 Table 2.1: Summary of main inputs and outputs from the proposed project

S/N	Input/ Equipment/ material	Use of the equipment or material	Source of the material	Output or product/ by-product
12. +	Water	For concrete formulation and other construction works	To be sourced from approved suppliers	Polluted water
13.	Reinforcement metal bars	For concrete reinforcement	To be sourced locally or outside the country depending on quantity, quality and cost factors	Reinforced concrete structures
14.	Cement blocks	For various construction structures	To be made or sourced locally	Block structures

#### 2.4 Employment Opportunities

It is expected that 60 people will be employed during the construction phase. Employment opportunities will consider, where possible, the recommendation of the Malawi gender policy to ensure that a ratio limit of 40-60 (Women-Men) % is achieved. This will mean that at least 24 female workers will be employed out of the total number of employees. Out of the project workers employed during the construction phase, approximately 65% are expected to be employed as unskilled workers from the surrounding communities. There will also be employment opportunities during the operation and maintenance phase, as the new infrastructure will require daily operations.

Both the contractor and NCE will be required to provide a safe working environment to employees according to General EHS Guidelines (2007), EHS Guidelines for Construction and Decommissioning (2007), EHS Guidelines for Water and Sanitation (2007), EHS Guidelines for Waste Management Facilities (2007) and EHS Guidelines for Community Health and Safety (CHS). In addition, employees will be trained on the safe use of equipment and potential hazards, and the precautionary measures to be followed. Further to this, they will be provided with protective wear for safety, as required by the Occupational Safety, Health and Welfare Act.

#### 2.5 Waste Management and Sanitation

#### 2.5.1 Solid Waste and Sanitation

**During the construction phase,** construction waste will be reused; for example, soils from excavation will be used for levelling the landscape, while empty packaging materials, e.g., cartons, buckets/tins of paint and cement bags, will be shared with community members for use. Wastes, which cannot be reused, will be disposed of at an approved site (Area 38), in collaboration with Lilongwe District Council, in a manner that they cannot degrade or harm the environment.

For domestic waste, the Contractor will provide bins at the construction site. When full, a pickup truck will be used to carry the bins and dispose of the waste at the designated dumping site. It is estimated that 0.5 kg of solid waste is generated per capita per day (World Bank Group, 2018). It is therefore expected that about 30 Kg of solid waste will be generated per day with 60 construction workers on site. A skip will have to be provided on site for the temporary storage of solid waste.

For sanitation, the contractor will be required to provide mobile latrines separate for men and women. The ratio of toilets to workers shall be 1:20 as required by the National Sanitation Policy. Similarly, the contractor may construct two toilets, one for males and the other for females. These latrines could be demolished after the construction phase or maintained if they are of good standard.

**During the operation and maintenance phase**, the offices, classrooms, engineering workshops, boardrooms and laboratories will have separate solid waste collection bins for food wastes, paper wastes, plastic wastes, general wastes and e-wastes from the buildings and the surrounding. A temporary storage and collection will be provided for bins. The wastes will be collected and disposed by a private waste collection company to be engaged by the Proponent. It is estimated that about 135Kg of solid wastes will be generated per day with 500 students and 20 staff members available on campus.

#### 2.5.2 Liquid Waste and Sanitation

During construction activities, liquid waste will be generated from human use as well as from construction related activities. It is expected that about 70m<sup>3</sup> of liquid waste will be generated per day during this phase.

During the operation and maintenance phase, structures in the 2-storey building will have separate ladies and gents' toilets which will be connected to a septic tank and the NCE will be required to facilitate and maintain the emptying of the tanks when full. This will help to avoid neighbouring environmental contamination. The latrines will be those made of tile floor with a vent pipe for controlling flies thereby making them more sanitary and safer. The construction of latrines in this project will be in line with the Occupation Safety, Health and Welfare Act (1997) which requires provision of separate toilets, washing facilities and change rooms to be provided in workplaces having both male and female employees. In this regard, there will also be separate sanitary facilities for both male and female students.

It is expected that one of the toilets for both male and female employees and students will be designed for use by physically disabled staff or students. The toilets will be designed to allow access by wheelchair and that handrails will be available as support for those with walking difficulties. It is also expected that latrines for female staff and students will include a hygiene changing space. The construction materials required for these structures will include hollow core block, reinforced concrete, timber trusses, and corrugated metal roof sheets.

It is estimated that 40L of liquid waste will be generated per capita per day in an institution setting (Turpie et al., 2019). It is therefore expected that the projected 60 construction workers will generate about 2.4m<sup>3</sup> of liquid waste per day during construction phase and 20.8m<sup>3</sup> of liquid waste will be generated per day during operation and maintenance phase, with 500 students and 20 staff members available on campus.

#### 2.5.3 Hazardous waste and E-waste

During the construction, hazardous materials such as paints and primers (which may contain volatile organic compounds), solvents and adhesives, oils/lubricants, and construction waste with hazardous residues from treated wood and sealants will be produced. These materials will be stored in clearly labelled, secure containers in well-ventilated and designated storage areas. Disposal will be done in coordination with MEPA and will follow national regulations, and will be done through certified hazardous waste management companies.

In addition, construction and operation of the Skills Centre building, which includes an ICT lab, potential hazards, including chemical exposure, electrical risks, and e-waste generation, will be managed through proactive safety, storage, and disposal practices. Certified electricians will handle all electrical installations. Lab staff and users will be trained in chemical and electrical safety. E-waste will be stored securely and disposed of through licensed recyclers. No hazardous substances will be discharged into the environment. The facility will maintain an up-to-date inventory of chemicals and waste, conduct regular safety inspections, and provide appropriate personal protective equipment (PPE) to staff and users.

#### 2.6 Water Supply

The main source of clean and potable water for the communities surrounding the project area are water kiosks provided by the Lilongwe Water Board. The communities also have a few functional boreholes. However, water kiosks and boreholes are very few in the area, and are located further apart, making other sections of the community to walk longer distances to fetch potable water. This forces most community members to fetch water from shallow wells, thereby putting themselves at a high risk of water borne diseases like diarrhoea which is prevalent in the area.

There are two main sources of water supply at NCE, with the main source being the boreholes installed and managed by Central Region Water Board (CRWB). CRWB drilled three (3) boreholes at NCE. However, only two boreholes had water pumps installed and have been functional all along until June 2023 when one pump broke down, leaving only one borehole functional to date. The functional borehole feeds into several water storage tanks; one big 40,000 litres tank, one smaller 20,000 litres tank, three 10,000 litres tanks installed at girls' hostels and two 10,000 litres tanks installed at boys' hostels. This brings a total of 110,000 litres water storage capacity managed by CRWB.

NCE also has two functional boreholes which serves as the supplementary source of water to the institution. These two boreholes have water pumps with a smaller capacity and feeds into one 10,000 litres water tank placed at the cafeteria. This brings a total of 120,000 litres water storage capacity at the institution.

#### 2.7 Energy

The project area is connected to the Electricity Supply Corporation of Malawi (ESCOM) power grid. The majority of households are not connected as they can't afford an electricity connection due to high levels of poverty. Most of the households use firewood and charcoal for cooking and solar energy for lighting and charging phones.

It is, however, expected that the Skills Centre building will be connected to the power grid, in line with all other existing structures at NCE. In case of power cuts, NCE uses a diesel-powered generator as backup for the electricity supply. Considering the high cost of diesel, it is recommended that NCE should install a solar-powered electricity system as a sustainable back-up for critical energy needs like driving water pumps and lighting of classrooms, the school library and security lights.

## **3** Environmental and Social Policies, Regulations and Laws

This chapter provides background information on the Malawi Government policy and legal framework applicable to this project. It outlines the relevant sectoral policies and legislations that are relevant in providing a technical and legal framework that will ensure the sustainable construction and operation of the Skills Centre building at the NCE campus in Lilongwe. In addition, it summarises applicable World Bank environmental and social standards (ESS).

#### 3.1 Malawi Policy Framework

Table 3.1 below presents the Malawi policy framework relevant to the development project at NCE.

S/N	Law	<b>Description and Relevance to Project Activities</b>
3.1.1	The National Environmental Policy (2004)	The overall policy goal is to promote sustainable social and economic development through sound management of the environment (section 2.1). Section 1.3 of the policy calls for the integration of environmental concerns into national, district and community level planning processes to ensure that economic growth is balanced with social and environmental concerns and also focuses on the sustainable management of natural resources, including land, water, forests, and biodiversity. The project may trigger degradation of the environment and social fabric, which is the foundation for sustainability. The ESMP will directly supports the goals outlined in the policy by requiring environmental and social considerations to be embedded in all phases of the project, from planning to operation, it guides decision-makers in balancing development goals with sustainability principles, providing a structured approach to integrating environmental and social consideration and environmental and social consideration genvironmental and social consideration for sustainability principles, providing a structured approach to integrating environmental and social consideration and environmental and social consideration genvironmental and social considera
		considerations into project planning and implementation and ensuring development activities are environmentally and socially responsible. It includes measures to protect, restore and rehabilitate disturbed environments, including land, water, forests, and biodiversity affected by the project. This ESMP has strategies that promote efficient use of natural resources, reducing waste and preventing over-extraction of resources, thereby preventing or minimising environmental degradation and preserving natural capital essential for long-term economic growth and promoting health, safety, and well-being of communities, contributing to social development. In addition, facilitates community engagement through consultation, grievance redress mechanisms, and inclusive planning, at the same time promoting equitable benefit-sharing.
3.1.2	HIV & AIDS	The policy highlights that HIV and AIDS on the country is quite
	Policy (2022)	significant and affect a range of socio-economic activities. The goal of the policy is to accelerate efforts to end AIDS as a public health threat by 2030 (section 2.1).
		Section 3 outlines the objective of the policy, which, among others, includes:
		Reduce new HIV infections;
		• Reduce HIV and AIDS related deaths;

Table 3.1: Malawi Policy Framework

S/N	Law	<b>Description and Relevance to Project Activities</b>
		<ul> <li>Improve access to quality treatment care and support services for people living with HIV (PLHIV) and other vulnerable groups;</li> <li>Enhance HIV and AIDS education, social mobilisation, and positive behaviour change</li> <li>Strengthen an enabling environment for effective implementation of the HIV and AIDS response.</li> </ul>
		The NCE and the Contractor should implement the HIV and AIDS workplace policy as a guide to implementing the interventions.
3.1.3	National Gender Policy (2015)	The broad policy goal is to reduce gender inequalities and enhance the participation of women, men, girls and boys in socioeconomic development processes (Section 2.1). Section 1.2 of the policy recognises Gender Based Violence (GBV), especially violence against women, girls and vulnerable groups as a severe impediment to social well-being and poverty reduction. The project will bring together different players, including contractors, consultants and the client (Nalikule). These stakeholders may be female or male, which may create gender disparities and be a breeding ground for GBV. The Environmental and Social Management Plan (ESMP) plays a vital role in supporting the objectives of the National Gender Policy by ensuring that gender equity and protection from gender-based violence (GBV) are integrated into project planning, execution, and monitoring. The contractor will therefore employ strategies to ensure equal participation (at least 60:40 men to women, respectively) and the avoidance of gender-based violence.
3.1.4	National Forestry Policy (2016)	The goal of the Policy is to conserve, establish, protect, and manage trees and forests for the sustainable development of Malawi (Section 2.1). The National Forestry Policy provides a framework for the conservation and management of forest resources and ecosystem services The project site has some vegetation, the goal of the ESMP will be to
		Ine project such has some vegetation, the goal of the Lohn with be to ensure that project siting avoids forested areas or critical habitats unless necessary to reducing forest loss. Where the project affects vegetation, it requires replanting of trees to compensate for any that are removed during the project, preferably with indigenous or ecologically suitable species. In this regard, the Contractor will replace trees cut during the construction phase in consultation with the Department of Forestry, NCE management, and the communities, as necessary. Furthermore, the contractor will use alternative construction materials where possible to reduce pressure on forest resources.
3.1.5	National Education Policy (2016)	The policy aims to promote equitable access to education and improve the relevance, quality, governance, and management of the education sector (section 2.2).
		The ESMP will promote safe learning environments by managing environmental hazards such as dust, noise, and pollution during school construction or renovation to maintain a conducive learning environment, promoting inclusive infrastructure development, which

S/N	Law	<b>Description and Relevance to Project Activities</b>
		ensures that school construction and upgrades provide safe, accessible facilities for all learners, including girls, children with disabilities, and other vulnerable groups, by integrating ramps, gender-segregated sanitation into the construction. Furthermore, it will minimise disruption to communities by identifying and mitigating impacts on surrounding communities, ensuring construction activities do not limit access to schools or educational resources. During the operation phase, the SAVE project at NCE will significantly contribute to equitable access to higher education. Further, this will also ensure that there are increased numbers of female students accessing higher education.
3.1.6	National Construction Industry Policy (2015)	<ul> <li>Section 3.7 (a) of the policy recognises that the Construction Industry greatly contributes to deforestation, noise, dust and chemical pollution, soil erosion and physical disruption. The priority areas of the policy are:</li> <li>Regulation of the Construction Industry – promoting classification and registration of all persons engaged in the construction industry.</li> <li>Enhancing Standards and Quality in procurement, design and implementation of projects.</li> </ul>
		The ESMP will address issues on section 3.7 by implementing strategies to control deforestation, manage dust and air pollution, reduce noise pollution, manage chemical pollution and waste and prevent soil Erosion and land disruption. Furthermore, the NCE must only work with contractors certified with NCIC who comply with national environmental and labour laws, including occupational health and safety standards, to maintain the quality and standards of infrastructure to ensure Social and Environmental sustainability.
3.1.7	National Sanitation Policy (2008)	The overall goal of the National Sanitation Policy is to promote improved sanitation and safe hygiene practices for improved health and socioeconomic development for the people of Malawi (section 2.4). <i>This ESMP aligns with the policies, provisions by integrating sanitation</i> <i>and hygiene safeguards into project planning and implementation of</i> <i>sanitation facilities, ensuring the construction of adequate, safe, and</i> <i>gender-segregated toilets on project sites, schools, and other</i> <i>infrastructure facilities, and provision of handwashing stations with</i> <i>soap and water in work sites. It further promotes wastewater</i> <i>management by outlining measures for the safe collection, treatment,</i> <i>and disposal of greywater and blackwater during both construction and</i> <i>operation phases, prevents contamination of groundwater and nearby</i> <i>water bodies through proper drainage and containment systems e.g.,</i> <i>septic tanks, soak pits, or sewer connections and solid waste</i> <i>management especially, disposal and segregation of solid waste to</i> <i>avoid unhygienic conditions that attract disease vectors such as flies</i> <i>and rodents. The NCE and the Contractor must ensure that liquid and</i> <i>solid waste management encourages reduction, recycling and reuse of</i> <i>waste, before final disposal, and that appropriate waste management</i> <i>facilities are provided and used.</i>
3.1.8	National Energy Policy (2018)	The goal of the policy is to increase access to affordable, reliable, sustainable, efficient, and modern energy for every person in the country (section 2.1)

S/N	Law	<b>Description and Relevance to Project Activities</b>
		This ESMP operationalize the objectives of the National Energy Policy (2018) by ensuring that energy-related development projects are implemented in ways that are environmentally sustainable, socially inclusive, and aligned with the national goal of expanding access to affordable, reliable, and modern energy in line with the policy. It encourages renewable and clean energy options by prioritising the use of solar, wind, hydropower, or other renewable sources in project energy needs and infrastructure designs to reduce reliance on fossil fuels. The NCE shall provide alternative sources to the national grid source, such as solar energy and use energy-efficient accessories.

### 3.2 Malawi Legal Framework

Table 3.2 below presents legal framework relevant to the project.

S/N	Law	<b>Description and Relevance to Project Activities</b>
3.2.1	The Constitution of the Republic of Malawi (1995)	The Constitution of the Republic of Malawi of 1995 is supreme over any legal policy or Act in Malawi. Section 13, part d, accords for managing the environment and sustainable development of natural resources to prevent degradation; provide a healthy living and working environment for the people of Malawi; accord full recognition to the rights of future generations; and to conserve and enhance the biological diversity of Malawi. Under Section 13 (e), it is the responsibility of the state to achieve gender equality for women. <i>The Constitution of the Republic of Malawi binds all executive,</i> <i>legislative and judicial organs in Malawi and it is of paramount</i> <i>importance that the project complies with the constitution. The</i> <i>project also has to promote gender equality and human rights</i>
3.2.1	Environment Management Act (2017)	The act provides a legal basis for the protection and management of the environment and the conservation and sustainable utilization of natural resources in any activities including the project. Section 31 (2) of the Act recognises the need for preparation of an Environmental and Social Impact Assessment prior to project implementation for all proposed projects which may significantly affect the environment or use of natural resources. <i>Environmental and Social Impact Assessments were carried out and the NCE and its Contractor must ensure that mitigation and enhancement measures to protect and manage the environment are implemented; and must conserve and sustainably utilize natural resources.</i>
3.2.2	Occupational Safety, Health and Welfare Act (1997)	Section 66 provides for the procedure for accidents causing injury or death from doing his normal duties. Section 55 stipulates measures relating confined space and section 56 provides for fire preventive measures and section 56 provides for fire preventive measures. The NCE and the Contractor will conduct Risk assessments to identify occupational health and safety hazards and risks and prepare and implement risk Control plans.
3.2.3	Water Resources Act (2013)	<ul> <li>Section 40 (1) of the Act stipulates that any person wishing to abstract and use water shall apply to the Authority in the prescribed form for a licence.</li> <li>The NCE will be required to obtain a water abstraction license from the National Water Resources Authority prior to the abstraction of water, potentially from Mchezi River.</li> </ul>
3.2.4	The Forestry Act (2017)	Section 46 provides that unless under a license, no person shall cut, take, ferry, destroy, uproot, collect and remove forest produce from a forest reserve, customary land, public land and protected areas.

 Table 3.2: Legal Framework

S/N	Law	<b>Description and Relevance to Project Activities</b>
		NCE and the Contractor must get a permit before cutting of trees at the proposed site. Further, the Contractor is compelled to replant all the trees cut in line with the relevant provisions of the law.
3.2.5	The Public Health Act (1948)	Part X requires developers to provide adequate sanitary and health facilities to avoid the harmful effects of waste on public waters.
		The NCE and the contractor must comply with environmental regulations by providing adequate sanitary and waste management facilities. This will help prevent pollution of public waters.
3.2.6	The Gender Equality Act (2013)	Section 11 (1) stipulates that an appointing or recruiting authority in the public service shall appoint no less than forty percent (40%) and no more than sixty per cent (60%) of either sex in the public service.
		and where possible (depending on the nature of work and the availability of skilled personnel of either sex), the 40:60 rule should be observed.
3.2.7	Child Care, Protection and Justice (Amendment) Act, 2015	Part II, sections 79, 80 and 89 of the Act prohibit child betrothal, forced marriage, and harmful practices against children. Section 6 of the Act provides for the protection of children from undesirable practices such as child abduction, child trafficking, harmful cultural practices, and forced marriage. The Act states that a person who unlawfully takes, retains or conceals a child without the consent of the parent or any other person who has lawful custody of the child commits an offence and shall be liable to imprisonment.
		The proposed Project implies that activities such as employing and/or using in any way underage children to undertake any activity deemed unfit, abducting the child and forcing the child to get married should not be tolerated as they contravene the provisions of this Act.
3.2.8	National Construction Industry Act (1996)	Part VI–Section 20. (1) requires registration before carrying out business in the construction industry in Malawi. (2) prohibits a person from carrying out business of a category in which he is not registered.
		The NCE must work with contractors certified with NCIC in order to maintain the quality and standards of infrastructure to ensure Social and Environmental sustainability.
3.2.9	HIV and AIDS Prevention and Management Act (2018)	Section 6 (1) prohibits discrimination on the basis related to HIV or AIDS. Section 7 gives rights to persons living with HIV to access medication necessary for anti-retroviral therapy or treatment.
		The NCE and the Contractor should implement HIV and AIDS- positive policies. This includes providing access to medication and conducting awareness campaigns.
3.2.10	Employment Act (2000)	Section 54 (1) of the Act reinforces and regulates minimum standards of employment with the purpose of ensuring equity necessary for enhancing industrial peace, accelerated economic growth and social justice. The Act further prohibits discrimination based on ethnicity, sex, political, language and religion differences;

S/N	Law	<b>Description and Relevance to Project Activities</b>		
		surety must also be made that all employees are subject to equal pay based on normal working hours.		
		NCE and the Contractor must adhere to labour standards. This includes paying at least the minimum wage, ensuring fair labour practices, and prohibiting child labour.		
3.2.11	EnvironmentSection 7Managementcollects so(WastemunicipalManagement andwaste shaSanitation)general orRegulations, 2008NGE	Section 7 of the Regulations requires any person who generates or collects solid waste to separate hazardous waste from the general or municipal solid waste. Section 8 further says that every generator of waste shall be responsible for the safe and sanitary storage of all general or municipal solid waste accumulated on his or her property.		
		NCE and the Contractor must manage and dispose of waste generated by the project. This includes separating general and hazardous waste, recycling and reuse of waste, and obtaining necessary permits for handling and storage of waste.		

#### 3.3 National Environmental and Social Assessment and Permitting

The Malawi Environment Protection Authority (MEPA) is a government institution established through the Environment Management Act (EMA) No. 19 of 2017, as a principal agency for the protection and sustainable management and utilisation of the environment and natural resources. One of the core functions for MEPA is to review and approve ESMPs and other relevant environmental assessments by EMA.

According to the Guidelines for EIA in Malawi, the ESIA process begins with the screening stage, where MEPA determines whether the proposed project is prescribed under the List A (EIA is mandatory) or List B (may require an EIA).

#### 3.4 World Bank Environmental and Social Standards and World Bank Group Environmental, Health and Safety Guidelines

#### 3.4.1 World Bank Environmental and Social Standards

The World Bank's environmental and social standards applicable to project activities are summarised in Table 3.3 below.

S/N	E&S Standard	Description and Relevance to Project Activities
1.	ESS 1: Assessment and	ESS1 guides the production, implementation and monitoring of
	Management of	ESMP, ESIA, and other related instruments to avoid, reduce,
	Environmental and Social	mitigate and compensate the impacts of the project. It presents
	Risks and Impacts	a typical categorisation system that consists of three or four risk
		categories, which correspond to high, substantial, moderate, or
		low risk. ESS1 implies that Borrowers need to identify any
		potential environmental and social risks and impacts that could
		arise during the project and propose mitigation measures.
		The proposed project falls under the Moderate Risk projects
		therefore the FSMP has been prepared for the project before
		the commancement of construction activities to ansure that the
		ne commencement of construction activities to ensure that the project is anyironmentally and socially sound and sustainable
		The environmental and social assessment has been adequately

Table 3.3: Relevant World Bank ESS

S/N	E&S Standard	Description and Relevance to Project Activities
		done to identify potential risks and impacts of the project, and mitigation measures have been proposed in section 4.2.
2.	ESS 2: Labour & Working Conditions	ESS2 recognises the importance of employment creation and income generation in the pursuit of poverty reduction and inclusive economic growth. ESS2 implies that the Borrower has to establish a Grievance Redress Mechanism, promote OHS measures and develop and implement written labour management procedures that promote equal employment opportunities, safeguards against forced and child labour. <i>Considering that the project will attract a considerable amount</i> <i>of workforce, ESS2 applies. Deliberate efforts will be made to</i> <i>ensure that women compose at least 40% of the labour force.</i> <i>Labour management procedures for the project have already</i> <i>been developed, and mitigation measures for OHS hazards and</i> <i>risk of child labour have been proposed in the ESMP</i>
3.	ESS 3: Resource Efficiency and Pollution Prevention & Management	This ESS3 recognises that economic activity and urbanisation often generate pollution of air, water, and land, and consume finite resources that may threaten people, ecosystem services and the environment at the local, regional, and global levels. ESS3 implies that the Borrower has to implement resource- efficient designs; implement technically and financially feasible measures for improving efficient consumption of resources (energy, water, and raw materials); avoid the release of pollutants; assess the volume of water use; and segregate different types of waste for appropriate/ sound disposal and management
		The project may potentially generate air, water, and land pollution, as well as consume natural resources (e.g., sand, quarries, and wood resources), which could threaten people, ecosystem services, and the environment at the local level. Air will be polluted from dust, noise and exhaust gas emissions from construction equipment. Water will be contaminated by run-off containing silt, debris, and liquid and solid waste from the construction site, and oil leakage and spillages from construction equipment. The NEC has, therefore, prepared this ESMP with measures to manage the above impacts.
4.	ESS 4: Community Health & Safety	The ESS4 addresses the health, safety, and security risks and impacts on project-affected communities, recognising that project activities, equipment, and infrastructure can increase community exposure to these risks and impacts. ESS4 implies that the Borrower has to evaluate the risks and impacts of the project on the health and safety of the affected communities during the project life cycle, which includes traffic safety, labour influx, SEA/SH risks to the community, and emergency response planning
		Project activities of the proposed Project will present community health and safety risks, like: (i) improper disposal of construction, hazardous and general wastes, (ii) pollution from liquid waste, (iii) air pollution and (iv) traffic impacts. The project will be committed to protecting the health and

S/N	E&S Standard	Description and Relevance to Project Activities
		safety of nearby communities. This will be done by implementing a design infrastructure with safety in mind, putting traffic safety measures in place, and preparing clear emergency response plans. To reduce any risk from hazardous materials or the spread of illness, the project will ensure safe handling practices, regular health checks, and responsible interaction between workers and residents to reduce SEA/SH risks to the community. All these efforts will follow both national laws and the World Bank's ESS4 standards for community health and safety. These risks have been evaluated in the report, and their mitigation measures have been proposed in section 4.2.
5.	ESS6: Biodiversity	ESS 6 recognises that protecting and conserving biodiversity,
	Sustainable Management of Living Natural Resources	In the context of the proposed project site, impacts on all levels of biodiversity have been assessed as an integral part of the Environmental and Social Assessment study in order to avoid or minimise adverse impacts to biodiversity. It is expected that about 97 trees will be cleared on the site in preparation for construction works; however, the project will only excavate space where the building will stand, and for every tree cut, 10 trees will be planted and managed for replacement. The NCE will follow the hierarchy of ESS implementation: avoid, reduce, and offset such impacts throughout the project's implementation.
б.	ESS 8:	ESS 8 recognises the importance of Cultural Heritage, which targets tangible and intangible cultural heritage from the adverse impacts of projects, and promotes its equitable use and preservation and application of the "Chance Find Procedure"
		During the excavation and construction of the Skills Centre building at NCE works, impacts on artefacts, remains, or other items of potential cultural or historical value may be discovered. The contractor shall immediately stop work and notify the supervising engineer and relevant local authorities. Work shall not resume until clearance is obtained. All site personnel will be briefed on this procedure before the commencement of works
7.	ESS 10: Stakeholder Engagement & Information Disclosure	ESS10 recognises the importance of open and transparent engagement between the Borrower and project stakeholders as an essential element of good international practice. It stipulates that effective stakeholder engagement can improve the environmental and social sustainability of projects, enhance project acceptance, and make a significant contribution to

S/N	E&S Standard	Description and Relevance to Project Activities		
		successful project design and implementation. The implication of ESS10 is that the Borrower has to develop a stakeholder engagement plan, foster inclusive and participatory decision making, establish a Grievance Redress Mechanism and disclose project information.		
		The Stakeholder Engagement Plan was developed and preparation of the ESMP involved engaging institutions within		
		expressed their views on the proposed Project. Channels for		
		information disclosure and grievance redress mechanism for the project were also already established.		

# 3.4.2 World Bank Environmental, Health and Safety (EHS) Guidelines (General EHS Guidelines)

The World Bank Group (WBG), Environmental, Health and Safety Guidelines (EHS Guidelines) are implementation tools for WB's performance standards. The EHS Guidelines contain the performance levels and measures that are normally acceptable to the World Bank Group and they are generally considered to be achievable in new facilities at reasonable costs by existing technology.

Of special interest are the EHS guidelines for: (i) Construction and Decommissioning, (ii) Occupation Health and Safety, (iii) Community Health and Safety; and (iv) Water and Sanitation. The Construction and Decommissioning guidelines provide specific guidance on prevention and control of community health and safety impacts that may occur during new project development, at the end of the project life cycle, or due to expansion or modification of existing facilities. On the other hand, Occupation Health and Safety guidelines provide guidance on reasonable precautions to implement in managing principal risks to occupational health and safety. The Community Health and Safety guidelines addresses some aspects of project activities taking place outside of the traditional project boundaries, but nonetheless related to the project operations.

The WB EHS guidelines are directly applicable to projects funded by the World Bank Group as such; they are directly applicable to NCE project. The EHS Guidelines have therefore been used as guides for environmental and social impact mitigation management. Furthermore, the contractor will be contractually required to adhere to these guidelines and implementation compliance will be monitored by the PIU and MEPA environmental officers.

# 3.5 Gaps between the Malawi legal framework and the World Bank Environmental and Social Framework

The underlying principle in this ESMP is that project implementation should be based on the requirements that are most strict - Malawi legislation or World Bank Environmental and Social Standards. Table 3.4 provides details on the gaps that exist between national legal instruments and the World Bank ESS.

World Bank ESSMalawiGaps IdentifiedHow the gaps have been					
provisions	Legislation			or will be addressed (if applicable)	
ESS 1: Assessment	Environmental	The	Environmental	Preparation of the SAVE	

World Bank ESS provisions	Malawi Legislation	Gaps Identified	How the gaps have been or will be addressed (if applicable)
and Management of Environmental & Social Risks and Impacts	Management Act (2017) EIA Guidelines (1997)	Management Act (2017) and EIA Guidelines (1997) do not indicate the need to prepare ESMF for projects. Only the ESIA process is discussed.	ESMF, the ESMF guided the preparation of this ESMP. However, since this ESMP has been prepared for NCE, the ESMF is not important
ESS 2: Labor and Working Conditions	TheLaborRelationsAct(1996)OccupationalOccupationalSafety, Health andWelfare Act, (1997)EmploymentEmploymentAct(2000)	The national legislation does not mention the need to develop Labor Management Procedures, including the requirement for grievance redress mechanism to be established as early as possible in the project development phase.	The project has followed ESS2 and developed Labor Management Procedures with relevant provisions and GRM to bridge the gap
ESS 3: Pollution Prevention and Resource Efficiency	Environment Management Act (2017); Environmental Management (Waste Management and Sanitation) Regulations, (2008)	The national legislation mostly focuses on pollution prevention and less on aspects of resource efficiency.	The project will follow provisions of ESS3 on resource efficiency including efficient use of raw materials; and optimization of energy and water usage
ESS 4: Community Health and Safety	Public Health Act (1948); Occupational Safety, Health and Welfare Act (OSHWA), 1997	Issues of public health are highlighted in the public health acts; and issues of safety and health are also highlighted in the OSHWA. However, none of these clearly tackle issues of community safety.	Implementation of ESS4 as well as the World Bank Environmental, Health and Safety Guidelines addresses potential risks and impacts on project affected communities.
ESS 10: Stakeholder Engagement & Information Disclosure	EIA guidelines (1997), Local Government Act (1998)	The national legislation addresses issues of stakeholder engagement but presents no provision for development of the GRM	The SAVE project has developed a stakeholder engagement plan including a GRM for the project

## 4 Potential Environmental and Social Risks, Impacts, Standard Mitigation Measures and Impact Analysis

#### 4.1 Impact Evaluation

Project impacts are assessed to:

- Determine their overall significance
- Decide whether they are acceptable/ require mitigation measures or whether they are completely unacceptable.

Each of the five factors considered under the stated criteria in Table 4.1 was graduated into 5 stage scales and assigned a value ranging from the smallest to the highest impact, which is 0 to 3. Then each impact is assigned one of the values under the five factors under consideration. The values can be positive or negative depending on whether they are beneficial or detrimental to the biophysical and socioeconomic environment. For example, a score of -3 means a negative impact of the highest degree of adversity while a score of +3 means a positive impact with the highest degree of potential benefit. If the impact is believed to be negligible or has no effect at all on a biological and social environment, it was then assigned a value of "0".

<b>Extent or Ma</b>	gnitude of impact	Score
Site	Impact confined to a small area within the project area	1
Local	Impact limited within the radius of 3-5 km of the project area	2
Regional	Impact extends beyond the borders of the project area to influence other areas as a whole	3
Significance of	f the impact	
Low	Where the impact has a relatively small effect on the biophysical and socioeconomic environment and is very difficult to detect it	1
Moderate	Where the impact is or can be measured but does not alter biophysical and socioeconomic environmental processes	2
High	The impact is very likely to alter biophysical and socioeconomic processes and hence needs mitigation to minimize or reduce its impact	3
Probability of	coccurrence of the impact	
Possible	The impact may occur but at a probability of less than 35%	1
Probable	The impact is very likely to occur at a probability of between 35% and 65%	2
Definite	The impact will occur (unavoidable) at a probability of greater than 65%	3
Duration of in	npact	
Short	Impact lasts for a period of less than 5 years	1
Long	Impact continues at any point for a period between five to ten years	2
Permanent	Impact never lasts once it occurs	3
Reversibility		
Reversible	Environment can repair itself naturally as a result of the impact	1
Reversible	Environment will require human input to repair	2
Irreversible	Impact will cause the environment never to repair	3

#### Table 4.1: Scoring Matrix

The values are then added to make a composite score (impact severity) for each impact using all the five factors. The composite score is a proxy value that provides decision and policy makers a

basis for comparing the severity of impacts across different biophysical and socio-economic environment. For this project, severity is defined as shown in Table 4.2 below.

Positive Impact		Negative Impacts	
Score	Definition	Score	Definition
$+1 \le +5$	Low	<i>-</i> 1 ≤ <i>-</i> 5	Low
$+6 \le +10$	Medium	<i>-</i> 6 ≤ <i>-</i> 10	Medium
$+11 \le +15$	High	-11 ≤ -15	High

Table 4.3 shows the scoring of the anticipated impacts of the project on the biophysical and socioeconomic environment. On overall, a greater part of negative impacts is of medium level while the positive impacts are medium to high.

Table 4.3:	<b>Evaluation</b>	of Potential	<b>Project</b>	Impacts

ID	Potential Impact		Se			ity	ORE	Severity before enhancement / mitigation	Severity after enhancement / mitigation
	Assessment	Extent	Significan	Probabilit	Duration	Reversibili	TOTAL SO	measure	measure
1.	ASSESSMENT OF PC								
1.1.	Positive Impacts Durin	ıg Pla	annin	g Pha	ase	r	1		1
1.1.1.	Increase employment opportunities	+3	+1	+2	+1	+2	+9	Medium	High
1.2.	Positive Impacts Durin	ng Co	nstru	iction	Phas	se			
1.2.1.	Increased employment opportunities	+3	+2	+3	+1	+1	+10	Medium	High
1.2.2.	Increased trade opportunities	+2	+1	+2	+1	+2	+8	Medium	High
1.2.3.	Promotion of skills transfer in construction related activities	+2	+2	+2	+1	+3	+10	Medium	High
1.3.	Positive Impacts Durin	ıg De	mobi	lisati	on Ph	ase			
1.3.1.	Improved visual appearance	+1	+1	+2	+1	+2	+7	Medium	High
1.3.2.	Reduced occupational health and safety risk	+1	+2	+3	+1	+2	+9	Medium	High
1.3.3.	Reduced public health and safety risks	+2	+2	+2	+1	+2	+9	Medium	High
1.4.	Positive Impacts Durin								
1.4.1.	Increased annual enrolment	+3	+2	+2	+3	+2	+12	High	High
1.4.2.	Increased access to skills development programs	+3	+2	+2	+2	+2	+11	High	High

ID	Potential Impact							Severity	Severity
							E	before	after
						x	OR	enhancement	enhancement
			nce	ity	ľ	illit	SC	/ mugation measure	/ initigation measure
		It	lica	lida	tior	rsib	٩L	mousure	measure
	Assessment	xter	gni	;qo.	ura	evel	0T/		
		E	Si	Pı	D	R	L		
1.4.3.	Increased employment	+3	+2	+2	+2	+1	+10	Medium	High
1.4.4.	Increased generation	+1	+1	+2	+3	+2	+9	Medium	High
	of revenue for the NCE								
1.4.5.	Improved relations	+3	+1	+2	+2	+2	+10	Medium	High
	with other institutions								
	that share a common								
1.4.6.	Improved national	+3	+1	+2	+3	+2	+11	High	High
11.1101	education standards	C	-	-	U	_		8	ga
2.	ASSESSMENT OF NE	EGAT	IVE	IMPA	ACTS	5			
2.1.	Negative Impacts Duri	ing Pl	annii	ng an	d Des	sign P	hase		_
2.1.1.	Risk of poor /	-1	-2	-1	-2	-2	-8	Medium	Low
	inadequate building								
212	Loss of form land and	1	2	2	2	2	10	Madium	Low
2.1.2.	livelihood	-1	-2	-2	-5	-2	-10	Wiedium	LOW
2.1.3.	Lack of integration of	-1	-2	-2	-3	-2	-10	Medium	Low
	climate resilient								
	designs								
2.2.	Negative Impacts Duri	ing C	onstr	uctio	n Pha	ise	10		т
2.2.1.	Loss of trees and	-2	-2	-3	-1	-2	-10	Medium	Low
2.2.2	Risk of creation of	-1	-2	-1	-1	-2	-7	Medium	Low
2.2.2.	borrow pits	1	-	1	•	-			2011
2.2.3.	2.3. Increased air pollution		-2	-3	-1	-2	-9	Medium	Low
	from dust generation								
	and particulate matter								
224	Increased noise and	-1	-2	-2	-1	-2	-8	Medium	Low
2.2.7.	vibration disturbances	-1	-2	-2	-1	-2	-0	Weatum	LOW
2.2.5.	Increased risk of soil	-1	-1	-2	-1	-2	-7	Medium	Low
	contamination								-
2.2.6.	Increased risk of soil	-1	-2	-2	-1	-2	-8	Medium	Low
	erosion and sedimentation								
2.2.7	Risk of water	-2	-2	-2	-1	-2	-9	Medium	Low
	resources depletion	_	-	-	*	_	,		2011
2.2.8.	Improper disposal of	-1	-3	-3	-1	-2	-10	Medium	Low
	construction,								
ID	Potential Impact							Severity	Severity
---------	------------------------------	------	------	--------	-------	------	-----	--------------	--------------
							[-]	before	after
							RF	enhancement	enhancement
			ce	•		ity	0	/ mitigation	/ mitigation
			ano	llit	u	bil	S	measure	measure
		nt	fic	abi	tio	rsi	AL		
	Assessment	ttei	gni	qo.	ura	eve	ТC		
		Ex	Si	Pr	D	R	T		
	hazardous and general								
	wastes								
2.2.9.	Increased occupation	-1	-2	-2	-1	-2	-8	Medium	Low
	health and safety risks								
2.2.10	Increased community	-2	-2	-2	-1	-2	-9	Medium	Low
	health and safety risks								
2.2.11.	Risk of conflicts	-2	-2	-1	-1	-1	-7	Medium	Low
	between contractor								
	workers and								
	communities								
2.2.12.	Risk of theft of	-2	-2	-2	-1	-2	-9	Medium	Low
	construction materials								
2.2.13.	Increase in the risk of	-3	-2	-2	-1	-2	-10	Medium	Low
	spread of								
	communicable								
	diseases including								
	Cholera and COVID-								
0.0.14	19 I I I I C	2	•	1	1	•	•		T
2.2.14.	Increased risk of	-3	-2	-1	-1	-2	-9	Medium	Low
	spread of HIV and								
2.2.15	AIDS and STIS	2	-	~	1	~	10	M T	т
2.2.15.	Increased risk of	-3	-2	-2	-1	-2	-10	Medium	Low
	gender-based								
	exploitation and abuse								
	and sexual barassment								
2216	Disturbance of traffic	_2	_2	_2	_1	_2	_0	Medium	Low
2.2.10	along the access roads	-2	-2	-2	-1	-2	_/	Weddini	LOW
	leading to the								
	construction site								
2.2.17	Increased risk of child	-2	-2	-2	-1	-2	-9	Medium	Low
	labour and abuse				_	_	-		
2.3.	<b>Negative Impacts Duri</b>	ng D	emob	ilisat	ion P	hase			
2.3.1.	Loss of income source	-3	-2	-2	-1	-2	-10	Medium	Low
2.3.2.	Risk of inadequate	-2	-2	-1	-1	-2	-8	Medium	Low
	restoration of the								
	project site post-								
	construction								
2.3.3.	Improper disposal of	-2	-2	-2	-1	-2	-9	Medium	Low
	remaining								
	construction waste and								
	materials								

ID	Potential Impact		ance	lity	u	bility	SCORE	Severity before enhancement / mitigation measure	Severity after enhancement / mitigation measure
	Assessment	Extent	Signific	Probabi	Duratio	Reversi	TOTAL		
2.4.	Negative Impacts Duri	ing O	perat	tion a	nd M	ainter	nance	Phase	
2.4.1.	Increased generation of waste	-1	-3	-3	-1	-2	-10	Medium	Low
2.4.2.	Increased demand for water and energy	-1	-2	-3	-3	-2	-11	High	Low
2.4.3.	Safety issues concerning poor building designs	-1	-3	-2	-1	-2	-9	Medium	Low
2.4.4.	Risk of fire	-1	-3	-1	-3	-2	-10	Medium	Low
2.4.5.	Increased risk of water pollution	-1	-2	-2	-1	-2	-8	Medium	Low
2.4.6.	Increased risk of occupational safety and health hazards	-1	-3	-2	-3	-2	-11	High	Low
2.4.7.	Increased risks of climate change and human-induced disasters	-2	-1	-1	-3	-2	-9	Medium	Low

### 4.2 Environmental and Social Risks Management and Monitoring

The proposed Skills Centre construction project at the NCE campus in Lilongwe will generate both positive and negative impacts. This section describes the potential impacts and their proposed mitigation measures to ensure that all project activities in all phases are conducted in an environmentally and socially acceptable and sustainable manner. Table 4.1 below presents environmental and social risks, mitigation measures, and roles and responsibilities for entities responsible for the implementation and monitoring the implementation of mitigation measures.

S/N	Activity	Risks and	Enhancement / Mitigation	Frequency	Responsi	ble Entity	Managemen	Monitoring
		Impacts	Measures	of	Enhancem	Monitoring	t cost / year	cost/year
				Monitoring	ent/ Mitigation			(IVIK)**
1.			PLANNING AND I	DESIGN PHAS	SE			
1.1.		Positive Impact	during the Planning and Design Pha	ase				
1.1.1.	• Procurement of	Increased	• Advertise employment	Throughout	NCE	PIU	N/A	N/A
	Consultancy	employment	opportunities through many	Planning				
	services	opportunities	outlets	Phase				
	<ul> <li>Surveys</li> </ul>		• Adverts should include					
	(Topographical,		statements encouraging women					
	Geotechnical etc)		and youth to apply					
	• Procurement of		• Provide contracts to employees					
	Contractors		with a clear scope of work,					
			schedule and breakdown of					
			Provide equal employment					
			opportunities to women and men					
			who qualify (60:40 ratio of men					
			to women).					
			• Adhere to the labour laws and					
			Labour Management Plan for					
			Malawi throughout recruitment.					
			• Require contractors to develop					
			Contractor-ESMP aligned with					
			project ESMP and ensure its					
110		T	implementation	<b>T</b> 1	NCE	DILI	T., . 1.,	T., . 1.,
1.1.2.	• Certification and	Improved	• Solicit views of the public and	Inroughout	NCE	PIU	Inclusive	Inclusive
	permits	compliance to	consultations to ensure that	Phase				
		national	their concerns are considered	1 Hube				
		environmental	in the Project's documents.					
		and social	• Undertake community liaison					
		legislations	meetings to notify the					
			community of the					

### Table 4.4: Environmental and Social Management and Monitoring Plan

<sup>&</sup>lt;sup>1</sup>1 USD is equivalent to MWK  $1,751^{1}$  as of  $11^{th}$  July 2024

S/N	Activity	<b>Risks and</b>	Enhancement / Mitigation	Frequency	Responsi	ble Entity	Managemen	Monitoring
		Impacts	Measures	of Monitoring	Enhancem ent/ Mitigation	Monitoring	t cost / year (MK)*1	cost/year (MK)*1
<u>1.2.</u>	Eessibility studies	Negative Imp	<ul> <li>commencement date as well as inform them of the grievance mechanism and labour policy; and</li> <li>Before commencing of construction works, obtain approvals and certificates from relevant authorities that will include the Malawi Environment Protection Authority and Lilongwe District Council.</li> <li>Ensure Emergency Preparedness and Response Plan (EPRP) is prepared before works begin.</li> <li>acts during the Planning and Desig</li> </ul>	n Phase	Contractor	NCE	2 000 000 for	N/A
1.2.1	<ul> <li>Feasibility studies and multicriteria analysis for the project (e.g. topographic and geotechnical surveys and ESMP) for the Skills Centre</li> <li>Architectural and engineering designing of the Skills Centre (e.g. exclusion of the element of user friendliness- including people</li> </ul>	Risk of poor/inadequate building designs	<ul> <li>Engage registered and experienced design professionals (i.e. Architects, Engineers and Surveyors) to avoid or minimise the risk;</li> <li>Design to be following relevant building standards i.e. National Construction Industry Council (NCIC) and National Council for Higher Education (NCHE) specifications;</li> <li>Integrate climate-resilient components in the designs;</li> <li>Integrate disability friendly components in the designs;</li> <li>Conduct thorough design reviews;</li> </ul>	Throughout Planning Phase	Contractor FSC, CSC	PIU	2,000,000 for advertising	N/A

S/N	Activity	Risks and	Enhancement / Mitigation	Frequency	Responsi	ble Entity	Managemen	Monitoring
		Impacts	Measures	of Monitoring	Enhancem ent/ Mitigation	Monitoring	t cost / year (MK)*1	cost/year (MK)*1
	living with disabilities) • Procurement of works		• Seek input from stakeholders including users of the Skills Centre.					
2.	CONSTRUCTION	PHASE						
2.1.	]	Positive Impacts d	uring Construction Phase		I	1		I
2.1.1.	Construction of Skills Centre and associated structures	Increased employment opportunities	<ul> <li>Advertise employment opportunities through multiple media outlets;</li> <li>Provide contracts to employees with clear scope of works, schedule and breakdown of payments;</li> <li>Provide equal employment opportunities to women and men that qualify (60:40 ratio in line with the National Gender Policy) in line with the National Gender Policy; and</li> <li>Adhere to the labour laws for Malawi throughout recruitment.</li> </ul>	Quarterly	Contractor, CSC DLO	NCE PIU CSC Community Leaders	1,500,000 for advertising employment opportunities	1,500,000
2.1.2.	<ul> <li>Execution of works</li> <li>Presence of workers</li> </ul>	Increased trade opportunities	<ul> <li>Purchase as many local materials as possible for construction of the 2-storey building;</li> <li>Source materials from licenced suppliers;</li> <li>Pay the building material suppliers within the agreed times;</li> <li>Promote entrepreneurship skills amongst the local communities;</li> <li>Sensitize local traders to provide quality goods and services;</li> </ul>	Quarterly	NCE, Contractor, selected Community Based Organisatio ns (CBOs) working in the project area, Community Leaders	NCE PIU CSC Community Leaders	1,500,000 for sensitization	1,500,000

S/N	Activity	<b>Risks and</b>	Enhancement / Mitigation	Frequency	Responsi	ble Entity	Managemen	Monitoring
		Impacts	Measures	of Monitoring	Enhancem ent/ Mitigation	Monitoring	t cost / year (MK)*1	cost/year (MK)*1
2.1.3.	• Joint execution of works by skilled and unskilled workforce and strategic mentorship during construction works	Promotion of skills transfer in construction related activities	<ul> <li>Encourage workers to pay for goods and services as required and avoid buying on credit;</li> <li>Sensitize businesspersons to improve stock by ensuring that they have all the supplies required;</li> <li>Sensitize the businessperson to clean vending and marketplaces and dispose of the wastes appropriately; and</li> <li>Inform women and youth of the business opportunities.</li> <li>Employ people from communities surrounding the project area to the extent feasible;</li> <li>Provide equal employment opportunity to both men and women (60:40 on job training to the local artisans to improve their skills;</li> <li>Encourage local artisans to register with relevant professional bodies (i.e. NCIC, MERA and MIE) after acquiring new skills.</li> </ul>	Monthly	Contractor NCE PIU CSC	NCE PIU CSC Supervising Engineer Community Leaders	The cost for advertisement included in 2.1.1	Included in 2.1.1
2.2.	Negative Impacts du	iring Construction	n Phase		•	1		
2.2.1.	<ul> <li>Site preparation (site clearing, excavations)</li> <li>Establishment of access roads</li> </ul>	Loss of trees and vegetation	<ul> <li>Limit vegetation clearing to the space required for construction;</li> <li>Engage the Lilongwe District Council for assessment of affected vegetation;</li> <li>Offset the cut trees by planting</li> </ul>	Quarterly	Contractor NCE PIU CSC	NCE PIU Supervising Engineer DFO	1,500,000 for procurement and transportation of seedlings and	N/A

S/N	Activity	<b>Risks and</b>	Enhancement / Mitigation	Frequency	Responsi	ble Entity	Managemen	Monitoring
		Impacts	Measures	of Monitoring	Enhancem ent/ Mitigation	Monitoring	t cost / year (MK)*1	cost/year (MK)*1
	• Land Surveys and mapping		<ul> <li>trees or supporting tree-planting in consultation with DFO;</li> <li>Rehabilitate cleared areas by planting trees, grass, flowers and shrubs; and</li> <li>Implement post-planting care for planted trees.</li> </ul>			Community Leaders	allowances for DFO staff	
2.2.2.	Sourcing construction materials (river sand and aggregate) from nearby informal suppliers from Nsambo and Malikha, approximately 10 km and 2 km away from NCE, respectively.	Risk of creation of borrow pits	<ul> <li>Source materials from licensed suppliers; and</li> <li>Rehabilitate all borrow pits using recommended methods in consultation with Lilongwe District Environmental Office.</li> </ul>	Quarterly	Contractor NCE	NCE PIU Supervising Engineer Community Leaders	N/A	N/A
2.2.3.	<ul> <li>Ferrying construction material for approx. 250m of unpaved access road from exit pt of M14 Rd to the construction site.</li> <li>Excavation, backfilling and cement mixing</li> </ul>	Increased air pollution from dust generation and particulate matter emissions	<ul> <li>Use efficient and serviced machineries;</li> <li>Observing speed limits (20Km/hr) when moving on unpaved roads;</li> <li>Cover all transported materials with tarpaulins to prevent fugitive dust;</li> <li>Dust suppression by water spraying on unpaved access roads;</li> <li>Erect barriers around work sites to break or reduce wind and dust movement; and</li> <li>Handle sand and cement</li> </ul>	Throughout construction phase	Contractor NCE PIU	NCE PIU Supervising Engineer Community Leaders	To be included in Contractors' BOQ	N/A

S/N	Activity	<b>Risks and</b>	Enhancement / Mitigation	Frequency	Responsi	ble Entity	Managemen	Monitoring
		Impacts	Measures	of Monitoring	Enhancem ent/ Mitigation	Monitoring	t cost / year (MK)*1	cost/year (MK)*1
			<ul> <li>properly to limit dust generation.</li> <li>Replacing older vehicles with newer, more fuel-efficient alternatives</li> <li>Implementing a regular vehicle maintenance and repair program</li> </ul>					
2.2.4.	<ul> <li>Movement of construction vehicles to and froma construction site (Within 15m of existing classrooms and library)</li> <li>Operation of noisy construction machinery (pokers, jackhammers and drills)</li> </ul>	Increased noise and vibration disturbances	<ul> <li>Minimize needless vehicle movement;</li> <li>Limit the number of noisy activities;</li> <li>Use appropriate and well-maintained noise mufflers on vehicles and machinery;</li> <li>Ensure that equipment is regularly serviced and maintained.</li> <li>Provide ear protection materials for the workers in noisy areas and ensure their correct usage; and</li> <li>Provide site barricade fencing.</li> </ul>	Quarterly	Contractor	NCE PIU Supervising Engineer Community Leaders	To be included in Contractors' BOQ	N/A
2.2.5.	<ul> <li>Operation of construction machinery and vehicles on-site</li> <li>Maintenance of construction machinery and vehicles</li> <li>Use of pesticides to control termites and other pests</li> </ul>	Increased risk of soil contamination	<ul> <li>Surface all vehicle servicing and fuel /oil storage areas with concrete or some appropriate impervious material;</li> <li>Separate waste oil containers, put them in a leak-proof container or bag and properly dispose of them;</li> <li>Discard waste oil containers in approved disposal sites, as recommended by council;</li> <li>Use well trained and experienced</li> </ul>	Throughout construction phase	Contractor	NCE PIU Supervising Engineer	Part of Contractor's operations budget	N/A

S/N	Activity	<b>Risks and</b>	Enhancement / Mitigation	Frequency	Responsi	ble Entity	Managemen	Monitoring
		Impacts	Measures	of Monitoring	Enhancem ent/ Mitigation	Monitoring	t cost / year (MK)*1	cost/year (MK)*1
2.2.6.	Excavations	Increased risk	<ul> <li>staff on activities requiring the use of paint, solvents, oils, pesticides and other contaminants;</li> <li>Use environmentally friendly chemicals as much as possible;</li> <li>Line surfaces where painting is to take place; and</li> <li>Spray pesticides only in required areas.</li> <li>Excavation activities must be</li> </ul>	Quarterly	Contractor	NCE,	Part of	N/A
2.2.0.	leading to loosen soils that are prone to erosion and sedimentation	of soil erosion and sedimentation	<ul> <li>Excavation activities must be limited to construction areas;</li> <li>Backfill excavated areas immediately after excavation to limit exposure of loose soils;</li> <li>Use excavated soil to fill eroded sites around the college campus and communities; and</li> <li>Dispose of the excavated soil at sites recommended by the District Council.</li> </ul>			PIU Supervising Engineer Environme ntal District Officer	Contractor's operations budget	
2.2.7.	• Excessive use of water for construction purposes, affecting local water availability	Risk of water resources depletion	<ul> <li>Conduct a detailed water needs assessment before construction begins to identify the total water requirements and potential sources;</li> <li>Install systems to collect and store rainwater, which can be used for non-potable purposes on site, reducing dependence on other water sources;</li> <li>Implement systems to recycle water used in construction processes, such as for concrete</li> </ul>	Quarterly	Contractor	NCE PIU Supervising Engineer	Part of the Contractor's operations budget	N/A

S/N	Activity	<b>Risks and</b>	Enhancement / Mitigation	Frequency	Responsi	ble Entity	Managemen	Monitoring
		Impacts	Measures	of Monitoring	Enhancem ent/ Mitigation	Monitoring	t cost / year (MK)*1	cost/year (MK)*1
22.0		T	<ul> <li>mixing or dust suppression;</li> <li>Establish guidelines for groundwater extraction and monitor water levels to prevent over-extraction; and</li> <li>Design drainage systems that mimic natural water flow patterns and prevent disruption to existing watercourses.</li> </ul>			NGE	2 000 000 5	1 000 000
2.2.8.	<ul> <li>Generation of construction, hazardous and general waste</li> </ul>	Improper disposal of construction, hazardous and general wastes	<ul> <li>Provide appropriate containers across the work areas for waste disposal and easy collection to disposal site;</li> <li>Properly segregate and separate wastes to encourage reuse of some of the wastes e.g., cartons and paint containers;</li> <li>Remove waste bins as soon as they are full and dispose the wastes appropriately at a designated disposal site;</li> <li>Properly landscape and rehabilitate the site after completing construction works; and</li> <li>The Contractor should implement a Waste Management Plan.</li> </ul>	Quarterly	Contractor	NCE, PIU Supervising Engineer Environme ntal District Officer	2,000,000 for Bins	1,000,000
2.2.9.	<ul> <li>Movement of construction vehicles to and from the construction site</li> <li>Operation of</li> </ul>	Increased occupation health and safety risks	<ul> <li>Implement the Traffic Management Plan</li> <li>Conduct daily toolbox talks before the commencement of work;</li> <li>Train workers on prevention and</li> </ul>	Monthly	Contractor NCE	NCE PIU Supervising Engineer DHS	10,000,000 for PPE	2,000,000

Measures	of	Enhancem			0
	Monitoring	ent/ Mitigation	Monitoring	t cost / year (MK)*1	cost/year (MK)*1
<ul> <li>managing incidents;</li> <li>Install warning and safety signage in all high-risk areas of the project;</li> <li>Workers must wear protective gear;</li> <li>Store and handle hazardous materials as prescribed by the manufacturer; and</li> <li>Provide a first aid kit and train workers on its application.</li> </ul>			Community Leaders		
<ul> <li>Contractor should have an Occupational Health and Safety Officer on site;</li> <li>The Contractor should have a First Aid Kit available on site;</li> <li>Conduct safety awareness and sensitisation meetings with community members.</li> <li>Restrict the public from going to the construction site by putting warning signs and erecting a sitehoarding fence.</li> <li>Visitors to the site must wear protective gear.</li> <li>Implement traffic and speed control measures including limiting vehicle speeds to 10 km/ hr at the college campus.</li> <li>Transport should be readily available to ferry injured personnel to the nearest hospital</li> </ul>	Monthly	Contractor	NCE PIU Supervising Engineer DHS	Cost for PPE included in 2.2.9	Included in 2.2.9
	<ul> <li>Restrict the public from going to the construction site by putting warning signs and erecting a site-hoarding fence.</li> <li>Visitors to the site must wear protective gear.</li> <li>Implement traffic and speed control measures including limiting vehicle speeds to 10 km/ hr at the college campus.</li> <li>Transport should be readily available to ferry injured personnel to the nearest hospital, soon after receiving First Aid treatment.</li> </ul>	<ul> <li>Restrict the public from going to the construction site by putting warning signs and erecting a site- hoarding fence.</li> <li>Visitors to the site must wear protective gear.</li> <li>Implement traffic and speed control measures including limiting vehicle speeds to 10 km/ hr at the college campus.</li> <li>Transport should be readily available to ferry injured personnel to the nearest hospital, soon after receiving First Aid treatment.</li> </ul>	<ul> <li>Restrict the public from going to the construction site by putting warning signs and erecting a site- hoarding fence.</li> <li>Visitors to the site must wear protective gear.</li> <li>Implement traffic and speed control measures including limiting vehicle speeds to 10 km/ hr at the college campus.</li> <li>Transport should be readily available to ferry injured personnel to the nearest hospital, soon after receiving First Aid treatment.</li> </ul>	<ul> <li>Restrict the public from going to the construction site by putting warning signs and erecting a site- hoarding fence.</li> <li>Visitors to the site must wear protective gear.</li> <li>Implement traffic and speed control measures including limiting vehicle speeds to 10 km/ hr at the college campus.</li> <li>Transport should be readily available to ferry injured personnel to the nearest hospital, soon after receiving First Aid treatment.</li> </ul>	<ul> <li>Restrict the public from going to the construction site by putting warning signs and erecting a site- hoarding fence.</li> <li>Visitors to the site must wear protective gear.</li> <li>Implement traffic and speed control measures including limiting vehicle speeds to 10 km/ hr at the college campus.</li> <li>Transport should be readily available to ferry injured personnel to the nearest hospital, soon after receiving First Aid treatment.</li> </ul>

S/N	Activity	Risks and	Enhancement / Mitigation	Frequency	Responsi	ble Entity	Managemen	Monitoring
		Impacts	Measures	of Monitoring	Enhancem ent/ Mitigation	Monitoring	t cost / year (MK)*1	cost/year (MK)*1
2.2.11.	Social interactions between Contractor workers and community members	Risk of conflicts between Contractor workers and communities	<ul> <li>Trenches and pits over 1 m deep or wherever soil conditions dictate should be shored and secured against accidental entry by public.</li> <li>Check and control levels of noise, dust, fumes and smoke at the sites and ensure it is at the recommended levels.</li> <li>Notify and report to the PIU and the regional OSH Department of any incident or accident that occurs involving the community members, related to the construction works.</li> <li>Recruiting people from surrounding areas;</li> <li>Contractor Workers' Code of Conduct should be included and signed in individual employee contracts, in the language they understand;</li> <li>Sensitize workers on the risks of indulging in extra-marital affairs; and</li> <li>The GRM should be flexible enough to accommodate uptake of grievances from local</li> </ul>	Quarterly	Contractor NCE PIU	NCE PIU	Part of Contractor's operations budget	N/A
2.2.12.	Presence of Contractor workers and members from the surrounding	Risk of theft of construction materials	<ul> <li>Employ adequate security guards to enhance security capacity at the construction site;</li> <li>Provide access control to then construction site with 24br</li> </ul>	Quarterly	NCE Contractor Community Leaders	NCE PIU Community Leaders	Part of Contractor's operations budget	N/A

S/N	Activity	Risks and	Enhancement / Mitigation	Frequency	<b>Responsible Entity</b>		Managemen	Monitoring
		Impacts	Measures	of Monitoring	Enhancem ent/ Mitigation	Monitoring	t cost / year (MK)*1	cost/year (MK)*1
	communities on construction site		<ul> <li>surveillance;</li> <li>Provide support to local/ community policing efforts i.e., providing whistles and airtime;</li> <li>Report and prosecute all cases of theft; and</li> <li>Include Community Policing Officers in Grievance Redress Committees.</li> </ul>					
2.2.13	<ul> <li>Interaction between Contractor workers and community members/ NCE staff and students</li> </ul>	Increased risk of spread of communicable diseases including Cholera and COVID-19	<ul> <li>Conduct sensitizations on COVID-19 and other communicable diseases including Cholera to workers, NCE Staff, students and communities; and</li> <li>Provide hand-washing and proper waste disposal facilities.</li> </ul>	Quarterly	NCE Contractor DHS Community Leaders	NCE PIU DHS Community Leaders	2,000,000 for sensitisation and sanitation equipment	1,000,000
2.2.14	<ul> <li>Interaction between Contractor workers and community members / NCE staff and students</li> </ul>	Increased risk of spread of HIV/ AIDS and STIs	<ul> <li>Conduct sensitization on HIV and AIDS and STIs to workers, NCE staff, students and communities;</li> <li>Provide condoms (both male and female) and encouraging their use; and</li> <li>Provide voluntary counselling and testing (VCT) services.</li> </ul>	Quarterly	Contractor DHS	NCE PIU Community Leaders	4,000,000 for condoms Cost for sensitisation included in 2.2.13	Included in 2.2.13
2.2.15	<ul> <li>Interaction between Contractor workers and community members / NCE staff and students</li> </ul>	Increased risk of gender-based violence (GBV), sexual exploitation and abuse (SEA) and sexual	<ul> <li>Conduct awareness campaigns on GBV, SH and SEA risks to workers, NCE staff, students and surrounding communities;</li> <li>Institute and implement a GBV/SEA/SH sensitive GRM for reporting and management of cases;</li> </ul>	Quarterly	Contractor NCE PIU DGO DSWO	NCE PIU Supervising Engineer Community Leaders	1,500,000 for awareness campaigns	N/A

S/N	Activity	Risks and	Enhancement / Mitigation	Frequency	Responsible Entity		Managemen	Monitoring
		Impacts	Measures	of Monitoring	Enhancem ent/ Mitigation	Monitoring	t cost / year (MK)*1	cost/year (MK)*1
		harassment (SH).	<ul> <li>Ensure that Code of Conduct are signed and understood by all workers in line with issues of GBV, SH and SEA;</li> <li>Provide separate restrooms and change room facilities for men and women; and</li> <li>Provide signage/information on GBV/SH/SEA in local language.</li> </ul>					
2.2.16	• Movement of construction vehicles to and from the construction site	Disturbance of traffic along the access roads leading to the construction site.	<ul> <li>Schedule movement of construction vehicles to avoid peak traffic hours;</li> <li>Develop and implement a traffic management plan;</li> <li>Where feasible, designate specific routes for construction traffic and ensure that they are clearly marked and separated from public traffic; and</li> <li>Inform the public about the construction and potential traffic disruptions.</li> </ul>	Quarterly	NCE Contractor Community Leaders	NCE PIU Supervising Engineer Community Leaders	To be included in Contractors' BoQ	N/A
2.2.17	• Execution of works during construction of the skills centre building and associated structures	Increased risk of child labour and abuse	<ul> <li>Include a clause against employing children in the construction works contract and enforce it;</li> <li>Use of identity cards (IDs) to verify ages during recruitment especially for unskilled labour;</li> <li>Sensitize the community on the dangers of child labour;</li> <li>Encourage the community to report to the authorities in cases</li> </ul>	Quarterly	Contractor CSC DLO	NCE PIU Community Leaders	Cost for awareness campaigns and sensitization included in 2.2.13	Included in 2.2.13

S/N	Ac	tivity	Risks and	Enhancement / Mitigation	Frequency	Responsible Entity		Managemen	Monitoring
			Impacts	Measures	of Monitoring	Enhancem ent/ Mitigation	Monitoring	t cost / year (MK)*1	cost/year (MK)*1
				<ul> <li>of child labour;</li> <li>Encourage children to be in school;</li> <li>Include child safeguarding policy in the contracts with contractors; and</li> <li>Inspect the construction site regularly to check for child labour.</li> </ul>					
3.			DEMO	BILISATION PHASE					
3.1.	Positive	Impacts du	ring Demobilizati	on Phase			NGE	1 500 000 0	1 000 000
3.1.1.	<ul> <li>Rem cons equij mate rubb</li> <li>Land</li> </ul>	oval of truction pment, rials and le. lscaping	Improved visual appearance	<ul> <li>Provide workers with appropriate and adequate PPE when conducting cleaning activities;</li> <li>Remove any remaining construction debris on site;</li> <li>Dispose construction wastes in approved areas in a safe manner;</li> <li>Landscape unpaved areas with grass and flowers as appropriate; and</li> <li>Reuse construction material (earth) for backfilling and landscaping</li> </ul>	Twice during demobilisati on phase	Contractor	NCE PIU Community Leaders	1,500,000 for PPE and community awareness	1,000,000
3.1.2.	<ul> <li>Cess disco of c work</li> <li>Dem of c equij mach</li> </ul>	ation/ ontinuation onstruction obilisation onstruction pment, ninery and	Reduced occupational health and safety risks	<ul> <li>Community awareness on health and safety risks</li> <li>Provide workers with appropriate and adequate PPE when conducting cleaning activities and;</li> <li>Adhering to health and safety guidelines</li> </ul>	Twice during demobilisati on phase	Contractor	NCE PIU Community Leaders	Cost for PPE and community awareness included in 3.1.1	Included in 3.1.1

S/N		Activity	<b>Risks and</b>		Enhancement / Mitigation	Frequency	Responsi	ble Entity	Managemen	Monitoring
			Impacts		Measures	of Monitoring	Enhancem ent/ Mitigation	Monitoring	t cost / year (MK)*1	cost/year (MK)*1
	•	temporary structures Efflux/ outflow of construction workers community								
3.1.3.	•	Cessation/ discontinuation of construction works Demobilisation of construction machinery Efflux/ outflow of construction workers community	Reduced public health and safety risks	•	Remove any remaining construction machinery and vehicles on site; Dispose construction wastes in approved areas in a safe manner; Restrict the public from going to the construction site by putting warning signs and erecting a site- hoarding fence; Developing a demobilisation plan that considers OHS issues Rehabilitating all trenches and borrow pits created by the project	Twice during demobilisati on phase	Contractor	NCE PIU Supervising Engineer DHS	Part of Contractors Operations budget	Included in 3.1.1
3.2.	Ne	egative Impacts du	iring Demobilizat	tio	n Phase					
3.2.1.	•	Laying off of workers	Loss of income source	•	Sensitize workers on the duration of the project during orientation before they commence work; Providing training on preparation for demobilization and promotion of the employees with agencies and future employers; and Training of local employees in skills that enable them to take up new employment readily.	Once during demobilisati on phase	Contractor	NCE PIU Community Leaders	Part of Contractor's operations budget	1,000,000
3.2.2.	•	Inadequate rehabilitation and	Riskofinadequaterestorationof	•	Fill up and close pits after the construction works; Rehabilitate all work sites;	Once during demobilisati on phase	Contractor	NCE PIU	Part of Contractor's	Included in 3.1.1

S/N	Activity	Risks and	Enhancement / Mitigation	Frequency	<b>Responsible Entity</b>		Managemen	Monitoring
		Impacts	Measures	of Monitoring	Enhancem ent/ Mitigation	Monitoring	t cost / year (MK)*1	cost/year (MK)*1
	abandonment of borrow pits affecting local aesthetics and environmental conditions.	the project site post- construction	<ul> <li>Source construction materials (e.g., sand and quarry) from licensed suppliers; and</li> <li>Avoid making deep pits during the construction period</li> </ul>			Community Leaders	operations budget	
3.2.3.	Poor/ improper disposal of remaining construction waste	Improper disposal of remaining construction waste and materials	<ul> <li>Develop a comprehensive waste management plan.</li> <li>Train workers on proper waste disposal practices.</li> <li>Establish designated areas for waste storage on-site, clearly marked for different types of waste.</li> <li>Engage a licensed waste disposal company for the removal and disposal of hazardous and nonhazardous waste</li> <li>Dispose wastes at sites designated by the District or City Council</li> </ul>	Once during demobilisati on phase	Contractor	NCE PIU Community Leaders	Part of Contractor's operations budget	Included in 3.1.1
4.	<b>OPERATION AND</b>	MAINTENANCI	E PHASE					
4.1.	Positive Impacts du	ring Operation an	d Maintenance Phase	1	1	1	Γ	ſ
4.1.1.	• Daily teaching and learning activities	Increased annual enrolment	<ul> <li>Set a 40:60 enrolment ratio for boys and girls to promote gender equality and girls' empowerment;</li> <li>Simplify the enrolment processes.</li> <li>Ensure that course offerings reflect diverse perspectives and include content relevant to women's experiences;</li> <li>Establish scholarships</li> </ul>	Bi-annually	NCE	Ministry of Education (MoE)	To be included in NCE operational budget	To be included in institutional budgets

S/N	Activity	Risks and	Enhancement / Mitigation	Frequency	Responsible Entity		Managemen	Monitoring
		Impacts	Measures	of Monitoring	Enhancem ent/ Mitigation	Monitoring	t cost / year (MK)*1	cost/year (MK)*1
			<ul> <li>specifically for female students;</li> <li>Allocate resources strategically based on students' needs and demands; and</li> <li>Invest in the professional development of staff members to advance their teaching skills.</li> </ul>					
4.1.2.	• Operation of the Skills Centre	Increased access to skills development programs	<ul> <li>Ensure that well-qualified members of staff are employed;</li> <li>Provide quality learning resources;</li> <li>Integrate modern learning technologies in all buildings; and</li> <li>Ensure gender equity in student intake.</li> </ul>	Bi-annually	NCE	MoE	To be included in NCE operational budget	To be included in institutional budgets
4.1.3.	<ul> <li>Recruitment of staff (e.g. lecturers, tutors, cleaners and security guards)</li> </ul>	Increased employment opportunities	<ul> <li>Ensure that well qualified members of staff are employed;</li> <li>Provide equal employment opportunities to women and men that qualify (60:40 ratio in line with the National Gender Policy);</li> <li>Provide contracts to employees with a clear scope of work, schedule, and breakdown of payments; and</li> <li>Placing the employed staff on pension scheme and other fringe benefits.</li> </ul>	Bi-annually	NCE	DCDO Community Leaders	To be included in institution's operational budgets	To be included in institution's operational budgets
4.1.4.	• Operation of the Skills Centre	Increased generation of revenue for the NCE	<ul> <li>Employ qualified lecturers and tutors;</li> <li>Maintain high-quality education standards; and</li> <li>Continuous learning and</li> </ul>	Bi-annually	NCE	NCE NCHE MoE	To be included in institution's operational budgets	To be included in institution's operational budgets

S/N		Activity	<b>Risks and</b>	Enhancement / Mitigation	Frequency	Responsi	ble Entity	Managemen	Monitoring
			Impacts	Measures	of Monitoring	Enhancem ent/ Mitigation	Monitoring	t cost / year (MK)*1	cost/year (MK)*1
				innovation to enhance knowledge and skills to module delivery.					
4.1.5.	•	Operation of the Skills Centre	Improved relations with other institutions that share a common interest	<ul> <li>Offering joint training and development programs for staff to enhance skills and knowledge;</li> <li>Organizing social events and networking opportunities to foster relationships with other institutions; and</li> <li>Fostering information sharing with other institutions.</li> </ul>	Quarterly	NCE	MoE	To be included in NCE operational budget	To be included in institutional budgets
4.1.6.	•	Daily teaching and learning activities	Improved national education standards	<ul> <li>Regularly conduct maintenance of the Skills Centre building and associated structures to uphold it at high standards;</li> <li>Provide opportunities for staff to improve their knowledge and skills; and</li> <li>Use up-to-date teaching methods and technologies.</li> </ul>	Quarterly	NCE	MoE	N/A	To be included in institutional budgets
4.2.	Neg	gative Impacts du	iring Operation a	nd Maintenance Phase					
4.2.1.	•	Presence of staff and students Repairing of infrastructure By-products including e- waste from computer lab and server rooms	Increased generation of waste	<ul> <li>Sensitise the NCE community against improper waste disposal;</li> <li>Provide appropriate containers across the work areas for waste disposal and easy collection;</li> <li>Implement sensitization campaigns on the consequences of indiscriminate waste disposal; and</li> <li>Sell or recycle metal waste to tinsmiths or vendors for reuse or resale.</li> </ul>	Quarterly	NCE	LL-DC LCC	To be included in the College's operational budget	To be included in institutional budgets

S/N		Activity	<b>Risks and</b>	Enhancement / Mitigation	Frequency	Responsi	ble Entity	Managemen	Monitoring
			Impacts	Measures	of Monitoring	Enhancem ent/ Mitigation	Monitoring	t cost / year (MK)*1	cost/year (MK)*1
4.2.2.	•	Operations of the skills centre	Increased demand for water and energy	<ul> <li>Consideration of designs that minimize and optimize energy use such as security lights that are equipped with photocell sensors</li> <li>Usage of alternative sources of energy such as solar and wind energy</li> <li>Enforcing energy saving practices</li> <li>Consideration of designs that maximize rainwater harvesting</li> <li>Enforcing water saving practices</li> </ul>	Quarterly	NCE	Ministry of Energy	To be included in institution's operational budgets	To be included in institution's operational budgets
4.2.3.	•	Operation of the Skills Centre	Safety issues with respect to poor building designs	<ul> <li>Providing for disability friendly technologies in the design of the building;</li> <li>Seek input on the safety issues from users of the Skills Centre building;</li> <li>Carrying out regular building inspections to identify and address potential safety hazards; and</li> <li>Seek input from stakeholders, including users of the Skills Centre.</li> </ul>	Monthly	NCE	NCE, LL-DC DoB	To be included in College's operational budget	To be included in institutional budgets
4.2.4.	•	Utilization of existing building electrical installations	Risk of fire	<ul> <li>Install fire alarm system;</li> <li>Install smoke detectors;</li> <li>Install fire-fighting equipment;</li> <li>Ensure regular maintenance of fire-fighting equipment; and</li> <li>Appliances to be used in the building must be authorised by the NCE Management.</li> </ul>	Monthly	NCE	MBS DoB MoL- OSH Department	To be included in College's operational budget	To be included in College's operational budget

S/N		Activity	Risks and	Enhancement / Mitigation	Frequency	Responsi	ble Entity	Managemen	Monitoring
			Impacts	Measures	of Monitoring	Enhancem ent/ Mitigation	Monitoring	t cost / year (MK)*1	cost/year (MK)*1
4.2.5.	• P w	roduction of e- vaste	Risk of exposure to toxic substances	<ul> <li>Use certified electricians who will handle all electrical installations.</li> <li>Train all Lab staff and users in chemical and electrical safety</li> <li>E-waste will be stored securely and disposed of through licensed recyclers</li> <li>No hazardous substances will be discharged into the environment.</li> <li>Maintain an up-to-date inventory of chemicals and waste</li> <li>conduct regular safety inspections, and provide appropriate personal protective equipment (PPE) to staff and users.</li> </ul>					
4.2.6.	• U w fa	Jse of vastewater nanagement acilities	Increased risk of water pollution	<ul> <li>Sensitize staff to use liquid waste drainage facilities appropriately and to avoid spillages of wastewater on the ground;</li> <li>Provide toilet paper all the time to prevent the use of alternative material, which may cause blockages;</li> <li>Avoid disposing of hazardous chemicals in the liquid waste drainage facilitates (sewage system); and</li> <li>Regularly check the plumbing network including waste screens and manholes and carry out maintenance so that they are working all the time.</li> </ul>	Monthly	NCE	MEPA, LL-DC NWRA	To be included in College's operational budget	To be included in institutional budgets

S/N		Activity	<b>Risks and</b>	Enhancement / Mitigation	Frequency	Responsi	ble Entity	Managemen	Monitoring
			Impacts	Measures	0f Monitoring	Enhancem	Monitoring	t cost / year (MK)*1	cost/year
					Monitoring	Mitigation			
4.2.7.	•	Use of laboratory materials/ equipment Utilization of existing building electrical installations	Increased risk of occupational safety and health hazards	<ul> <li>Health and safety procedures must be written and posted in sections of the Skills Centre;</li> <li>Placing fire-fighting equipment/ mechanisms in strategic positions of the Skills Centre building;</li> <li>Carrying out regular inspections of electrical installations and possible accident spots;</li> <li>Carrying out maintenance of faulty electrical installations and equipment; and</li> <li>All stairs must have handrails to prevent accidents</li> </ul>	Monthly	NCE	LL-DC MoL-OSH Department	To be included in the college's operational budget	To be included in institutional budgets
4.2.8.	•	Construction of substructure, super structure, drainage system and paved surfaces	Increased risks of climate change and human-induced disasters	<ul> <li>Construct structural strong building with a strong foundation as well.</li> <li>Install a gutter to collect rainwater; the water should be directed to soak-away pit.</li> <li>Construct an appropriate drainage system for the college.</li> <li>Implement wind engineering measures and techniques that includes installing extra nails, using reinforced joints, using more binding wires for the roof frame, etc.</li> <li>Plant trees and other vegetation around the college to act as barriers against severe winds and to reduce movement of flooding water.</li> </ul>	Annually	NCE	District Resilience Manageme nt Officer (DRMO) Department of Disaster Manageme nt Affairs (DoDMA)	To be included in institution's operational budgets	To be included in institution's operational budgets

S/N	Activity	<b>Risks and</b>	Enhancement / Mitigation	Frequency	<b>Responsible Entity</b>		Managemen	Monitoring
		Impacts	Measures	of	Enhancem	Monitoring	t cost / year	cost/year
				Monitoring	ent/		( <b>MK</b> )*1	(MK)*1
					Mitigation			
			<ul> <li>Regularly inspect and conduct maintenance of the buildings.</li> <li>Develop and implement a disaster emergency preparedness and recovery plan for the college.</li> <li>Conduct awareness and sensitizations on disaster management and mitigation.</li> </ul>					
	TOTAL ESTIMATED COST							7,500,000

# **5** Implementation Arrangements

# 5.1 Implementation Arrangements

Implementation of the ESMP requires shared responsibilities amongst various stakeholders. Table 5.1 below summarizes the roles of parties and their respective responsibilities.

Responsible	Roles and Responsibilities
Party	
Nalikule	• Ensure that Project complies with Government of Malawi environmental
College of	laws and regulations;
Education	Coordinate/ undertake environmental and social management awareness and
	capacity building activities for NCE staff and students;
	<ul> <li>Orientation of NCE campus visitors including project staff;</li> </ul>
	• Establish a GRM, as described in the SEP, to receive and facilitate resolutions
	of affected peoples' concerns, complaints, and grievances about the Project;
	• Ensure that all required approvals and permits have been obtained on time;
	• Ensure that the recommendations of the ESMP are included in the
	construction works contract; and
	• Ensure that the operation of the project is undertaken in line with the requirements of the operational phase ESMP.
Contractor	• Develop and implement the Contractor's ESMP and its application
	• Ensure implementation of all applicable environmental mitigation measures
	during all works on site, including the ESMP and LMP;
	• Ensure that all relevant and required permits are obtained on time;
	• Ensure that all employees, suppliers, agents, etc., are fully aware of the
	project E&S requirements detailed in the ESMP;
	• Conducting capacity building for the construction workers about the implementation of the ESMP;
	• Inform the Project Proponent and MEPA should any E&S issues of concern
	arise during project implementation; and
	<ul> <li>Maintain an incident register and report any serious incidents to the PIU immediately.</li> </ul>
	• Carry out instructions issued by Inspectors from various institutions.
	including MEPA, required to comply with the ESMP.
Lilongwe	• The district offices, including DESC and others, must work with the Project
District Council	Proponent in monitoring the implementation of the ESMP
	• Provide permits provided by the local councils.
MoE – SAVE	Planning and implementation of the ESMP
PIU	• Ensuring that social and environmental protection and mitigation measures
	in the ESMP are incorporated into site-specific Environmental and Social
	Action Plans.
	• Ensuring that the District Environment Sub-Committee (DESC), guided by
	the Environmental District Office, is provided with relevant resources to
	oversee the implementation of the ESMP.
	• Supervision and monitoring of the progress of activities of contracted
	consulting engineers for the implementation of different components of the ESMP.

 Table 5.1: Implementation Arrangements

Responsible Party	Roles and Responsibilities
	<ul> <li>Responsible for modifications to the ESMP when unexpected changes are observed during implementation. vi. Reporting of incidents (Authorities, World Bank)</li> <li>Ensure submission of periodic environmental and social management and monitoring reports to the World Bank</li> <li>Provision of permits related to site activities e.g. working at height, confined space, and Incident Investigations.</li> <li>Promote improved social and environmental performance through the effective use of management systems</li> <li>Promote external communication with other implementing partners, government ministries and agencies, and non-government organizations on matters of mutual interest related to environmental management under project development</li> </ul>
Supervision Engineer/ architect, ESSS Supervising Consultant	<ul> <li>Development of a monitoring tool or checklist based on the ESMP and guided by the project's physical layout.</li> <li>Develop a monitoring program for the works, targeting specific project working sites, material sites, sensitive environments, social areas, etc.</li> <li>Prepare monthly site meetings to involve the Contractor, Client and Stakeholders.</li> <li>Monthly reports in addition to continuous communications to the Contractor, Client, Authorities and Stakeholders as situations require.</li> <li>The Consulting Engineer will convene monthly meetings for progress reporting by the Contractor and the supervision team.</li> </ul>
MEPA	<ul> <li>Reviewing the project ESMP and issuing an approval to proceed with the development.</li> <li>Conduct inspections and monitor compliance with the implementation of the ESMP during the construction and operation phase of the project.</li> </ul>
Community Leaders	Taking part in the management and monitoring of specific enhancement/mitigation measures

### **Proposed Training and Capacity Building**

The capacity building programs will enable the stakeholders to effectively monitor construction and related activities on compliance with national and international laws, regulations, and guidelines. The capacity building programs will target the NCE Project Implementation Team (PIT), NCE staff members, Contractor as well as community leaders that will be responsible for implementation of mitigation measures identified in this ESMP.

Table 5.2 outlines a list of the required trainings, the target audience including, responsible institution and the required phase for implementation of the trainings.

Level	Responsible Party	Audience	Topics/Themes that May Be Covered	Estimated Cost (MK)
Local/site level	SAVE PIU	Project Staff, Construction Supervision Engineer/ Consultant NCE PIT Contractor(s)	<ul> <li>Roles and responsibilities for environmental and social issues</li> <li>Occupational health and safety</li> <li>Labour requirements</li> <li>Emergency prevention and preparedness and response arrangements to emergency situations</li> <li>Managing GBV/SEA risks</li> <li>Training for education establishment employees, students and local</li> <li>communities, particularly women:</li> <li>The function of the GRM and Grievance Redress Committees</li> <li>GBV/SEA provisions and referral pathways</li> <li>Road safety and community health</li> </ul>	2,400,000
Community level	NCE PIT, Contractor NCE PIT	GRM Committee, NCE staff, Contractor workers Community Leaders GRM Committee	<ul> <li>and safety</li> <li>Environmental and Social Safeguards</li> <li>ESMP implementation</li> <li>Grievance Redress Mechanism (GRM)</li> <li>Code of Conduct</li> <li>Grievance Redress Mechanism (GRM)</li> </ul>	2,000,000
TOTAL EST	IMATED COV	members	GBV, SHEA and Child Labour	5 400 000
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Table 5.2: Proposed Training and Capacity Building	Approach
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# 5.2 Estimated Budget

Table 5.3 lists estimated cost items for the implementation for the ESMP, which have been included in the overall project budget:

S/N	Activity/Cost Item	Potential Cost/ Year (MK)
1.	Implementation of site-specific ESMP and other site-specific	26,000,000
	plans	
2.	Capacity building training (venue, travel, refreshments etc.)	5,400,000
3.	Software for data collection / supervision / monitoring / grievance	1,000,000
	redress	
4.	Printing of awareness raising materials / grievance redress	2,000,000
	materials	
5.	Cost of obtaining clearances or permits (EIA scrutiny and	1,000,000
	workplace registration)	
6.	Travel budget for environmental and social staff site visits	1,500,000
7.	Supervision Engineer/ Consultant site visits	500,0000
	TOTAL	37,400,000

Table 5.3: Summary ESMP Implementation Budget

# 6 Stakeholder Engagement, Grievance Redress Mechanism, Disclosure and Consultations

#### 6.1 Stakeholder Engagement

The SAVE Project Stakeholder Engagement Plan (SEP) was developed based on the World Bank's Environmental and Social Standard 10 on Stakeholder Engagement (https://documents1.worldbank.org/curated/en/314131616158364147/pdf/Stakeholder-Engagement-Plan-SEP-Skills-for-A-Vibrant-Economy-Project-P172627.pdf). A separate stakeholder engagement plan for the NCE Skills Centre Construction Project was developed.

During development of this ESMP, different meetings (interviews and/or focus groups) with stakeholders were conducted in order to incorporate their input. Consultation meetings were conducted with different stakeholders at national, district, and community levels. In addition, NCE students and members of staff were also consulted. Key Informant Interviews (KII) and Focus Group Discussions (FGD) were used for conducting stakeholder consultations.

Main/ key outcomes from the stakeholder engagement meeting have been presented below and a detailed account of the issues raised during stakeholder consultations is presented in Appendix 1.

#### 1. Lay out and Building Design:

- Issues:
  - a) Building designs have to follow NCHE standards
  - b) Building needs to have raised foundations and proper drainage systems for flood protection
  - c) Building needs to have raised foundations and proper drainage systems for flood protection
  - d) Septic tanks should not be positioned not less than 30m away from the tap
  - e) The building's accessibility should take into account people with disabilities;
- **How the issues have been addressed:** The issues raised have been considered during designing of the skills centre.

#### 2. Employment Opportunities:

#### • **Expectations:**

- a) The project is welcomed due to expectations for employment opportunities for local people.
- b) Deliberate efforts should be made to employ women who qualify. When a 60:40 gender ratio has failed despite all efforts, the Contractor should document why it has failed
- **How the issues have been addressed:** The issues raised have been recommended in Table 4.4 (S/N 2.1.1) for the Developer to consider.

#### 3. Occupational and Safety Health:

- Issues:
  - a) Contractor should have an Occupational Health and Safety Officer on site.
  - b) The Contractor should have a First Aid Kit available on site.

- c) Transport should be readily available to ferry injured personnel to the nearest hospital, soon after receiving First Aid treatment.
- d) Put in place measures to suppress dust pollution, in order to prevent the spread of diseases such as Tuberculosis (TB) and associated lung diseases
- **How the issues have been addressed:** Mitigation measures for above mentioned risks have been proposed in Table 4.4 for the Developer to consider.

#### 4. Social Disruptions:

- Issues:
  - a) There will be social behaviour changes around Nalikule due to the coming in of construction workers, and this will likely increase the prevalence of sexually transmitted infections (STIs) and HIV/AIDS.
  - b) Appropriate measures should be put in place to minimize disturbance of teaching and learning from noise pollution emanating from construction activities
- **How the issues have been addressed:** Mitigation measures for above mentioned risks have been proposed in Table 4.4 for the Developer to consider.

#### 5. Social Welfare:

#### • **Expectation:**

- a) The Contractor should make sure that there are adequate sanitation facilities for construction workers before the commencement of construction.
- b) NCE Management should ensure that the Grievance Redress Mechanism (GRM) committee remains functional during construction, demobilisation and operation phases
- **How the issues have been addressed:** The issues raised during the consultation have been considered and incorporated in ESMP.

#### 6. Awareness, sensitisation and capacity building:

#### • **Expectation:**

- a) Conduct an awareness meeting with construction workers on the prevailing laws regarding the rights of children and vulnerable groups.
- b) Increased awareness, inspection and capacity building for the surrounding communities on social welfare issues
- c) The NCE should conduct HIV and AIDS awareness and education campaigns
- **How the issues have been addressed:** Capacity building training have been budgeted for in section 5.2 and the mitigation measures in Table 4.4 have included elements of awareness raising and sensitisation on the above-mentioned subjects.

#### 6.2 The Project Grievance Redress Mechanism

#### 6.2.1 Processes and Institutional Arrangements for the GRM

The Grievance Redress Mechanism (GRM) for the SAVE Project shall be established at two levels. These include the:

#### A. Institutional & Community Level:

There shall be two committees at the Institutional & Community Level.

- ✓ Institutional & Community Grievance Redress Management Committees (ICGRMC) has been established by NCE to manage grievances at the Institutional & Community level. For the purpose of this GRM, a community comprises the Group Village Headman area where NCE is located. The committee comprises NCE staff representatives, affected community representatives, women's representative, representative from VDC and the police. The Group Village Head may attend, where necessary. The committee is the lowest and an entry point of grievances at the institutional and community level. The committee at this level shall record, vet and hear cases as submitted to them by project affected persons. If the aggrieved party satisfied with the resolution, the case will be closed. For an effective GRM, the NCE should ensure that the following five main steps are achieved whenever handling grievances. These steps include; grievance reporting, complaint handling and assessment, case resolution and closure, registry update and GRM monitoring and evaluation.
- ✓ Workers Grievance Redress Management Committee (WGRMC) will be established to manage work related grievances. Membership has to comprise of two workers' representatives, NCE representative, Contractor representative and a representative from the District Labor Office.

All unclosed cases from these Institutional & Community Level Grievance Redress Management Committees shall be referred to Project Implementation Unit Grievance Redress Management Committee (PIUGRMC).

#### **B.** Project Implementation Unit Level

✓ Project Implementation Unit Grievance Redress Management Committee (PIUGRMC) for SAVE Project was established and in the event that the case was not closed at Institutional & Community Level, the case will be referred to the PIUGRMC. The PIUGRMC shall hear the case and review the decisions made earlier by the two lower committees. If the aggrieved party shall accept the resolution made, the case shall therefore be closed at this level.

Referral grievances will be investigated in detail to determine the cause of the unsatisfactory outcome and to attempt to resolve and close the grievance. When a complainant is not satisfied with the resolution offered by the Project Grievances Redress Committee, the grievance can be referred to other institutions, for example the District Labour Office in the case of employment grievances or the courts of law. Where the case was not closed at this level, the aggrieved party shall be advised to seek justice from other institutions (for example the District Labour Office in the case of employment grievances or the Court of Law. The decision made by the Court of Law shall be final.

#### 6.2.2 Grievance Reporting and Grievance Recording

The grievance redressal committee will have to make available multiple ways for grievance reporting. Complaints of grievances may be reported in different ways including the following:

• Face-to-face: this includes verbal or written submissions through face-to-face interactions with members of grievance redressal committees.

- Grievance box: these will have to be placed in strategic places around NCE campus.
- A **GRM Focal Person's Phone Number** phone number with WhatsApp and text facilities. (Mr Mathias January: <u>+265 995 604 092</u>)
- A GRM Focal Person's Email Address. (<u>mathiasjans552@gmail.com</u>)

#### 6.2.3 Responding to and Resolving Complaints

Complainants should be attended to and responded to with a maximum period of two weeks after receipt of the complaint regardless of whether or not a decision has been reached. The Safeguards Specialist at NCE is the designated officer responsible for providing the response. The complainant should be informed that their complaint has been received, and that:

- i. If the complaint is upheld, advise the complainant what action will be taken.
- ii. If a complaint is not upheld, the complainant must be informed of this, the reason why, their right to recourse and where to take the complaint to.
- iii. If a decision has not been reached by the committed timeframe, the complainant will be provided with a progress report and an indication of a likely date of conclusion

#### 6.2.4 Assessment of Complaints / Grievances Received

When a complaint is received, an assessment shall be done to determine whether the complaint or grievance is related to the Skills Centre project implementation or not. If the complaint is not related to the project the complainant shall be advised to channel their complaint to the relevant institution. If the complaint or grievance is related to the project, the GRM committee shall hear the case and make the necessary follow ups to establish the truth of the matter. The outcome of the analysis shall be communicated to the complainant within a period of 14 days.

#### 6.2.5 Resolution and Closure

Where a resolution has been made and the complainant accepts the resolution, the complainant shall be required to sign the resolution and closure section in the Grievance Resolution Agreement Form. A member of the GRM committee (preferably Chairperson or Secretary) shall also be required to counter sign. This shall signify that the complaint or grievance which was presented, has been fully discussed and closed. In case of a referral, the same members shall be required to sign signifying that the case was not closed and has been referred to another entity.

#### 6.2.6 Registry and Monitoring

All grievances received should be recorded into a publicly accessible register for grievances that can easily be tracked and monitored. The register will present a database showing the number of complaints:

- i. that have been received;
- ii. for which an agreement has been reached;
- iii. for which an agreement has not yet been reached;
- iv. that have been resolved; and
- v. that have gone to mediation.

The information provided in the database is expected to help the project team to improve the grievance redress mechanism and to better understand how to address adverse impacts of the project. Each complaint shall have an individual reference number that can be tracked and whose recorded actions are complete. The grievance registry should contain a record of the person responsible for the complaint and should have dates for the following events:

- i. The date the complaint was reported;
- ii. The date of and information on proposed corrective action sent to complainant (if appropriate);
- iii. The date the complaint was closed out; and
- iv. The date the response was sent to the complainant.

# 7 Comments on Infrastructure Layout Plans and Designs

## 7.1 Site Layout

Site layout details were not provided it was therefore not possible to discern the site elevations, possibilities of utilisation of existing wastewater facilities and the Consultant could not conduct a comprehensive assessment of the EHS implications of the septic tanks which include:

- Potential ground and surface water contamination;
- Existing water supply and reticulation systems' cross-contamination with wastewater;
- Feasibility of incorporating and integrating the proposed wastewater management system into the NCE existing and future development expansion plans.

However, it should be noted that, Malawi standards specifies that septic tanks should be located at least 30 meters away from the nearest water courses.

## 7.2 Designs

The following observations were made on the ground floor plans:

At the time of preparation of the ESMP, the Consultant had only been provided with building prototypes and conceptual sketches of the Skills Centre, therefore only the following preliminary observations were made:

- i. Absence of Persons with Disability (PWD) washrooms.
- ii. Absence of PWD accessibility aiding mechanisms i.e. Ramps
- iii. Room details were not provided; therefore, it was impossible to determine suitable coexistence of specific spaces and associated room activities
- iv. Plumbing and electrical details for the skills centre were not provided, therefore it was not possible to determine if emergency showers and locations were considered in the designs especially for the laboratory facilities

# 8 Conclusion and Recommendations

## 8.1 Conclusion

This Environmental and Social Management Plan has been prepared through literature review, field surveys and stakeholder consultations. The study has identified environmental and social impacts associated with the construction and operation and maintenance phases of the proposed development at NCE. To mitigate the negative impacts Environmental and Social Management and Monitoring plans have been prepared.

Management measures prescribed for the phases of the project will limit the significance of negative impacts on the physical, biological and human environments, compensate for impacts that cannot be avoided or minimized, or enhance the project's positive impacts. Some of the sources of negative impacts at the construction phase are tree clearing and excavations while at operation and maintenance phase, sources of impacts include electronic and electrical wastes. Effort must be put in place to avoid and manage project impacts to ensure that the project is more successful.

### 8.2 Recommendations

Additionally, to enhance the environmental and sustainability of the project, the project proponent must implement the following recommendations:

- Publicise the approved ESMP and ensure it is followed in all phases of the project.
- The developer should be guided by the ESMP to implement the mitigation and enhancement measures as stipulated in this document. However, the developer should be flexible to include other mitigation and enhancement measures as appropriate.
- Ensure that all the necessary approvals and permits (see appendix 5) are obtained prior to the implementation of the project; and that all conditions of approval are complied with throughout the project cycle.
- Follow the standards and guidelines as set by the relevant departments to safeguard and envisage environmental management principles during all phases of the project.
- The Contractor should prepare a Construction Environmental and Social Management Plan (C-ESMP) before commencement of construction works.
- Construction of Septic-Tanks should take into consideration the underground water sources in the area.
- Provide adequate security during the entire construction period as well as the operation phase of the project.
- Provide equal employment opportunities to men and women.
- Provide regular awareness and community sensitization campaigns on safety measures at the project.
- Enhancement measures such as employing of the local people and purchasing locally made materials should be considered.
- Constantly monitor and conduct preventive maintenance of the project infrastructure and
- Ensure that funds are available for the implementation of environmental management and monitoring activities.

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# APPENDICES

# **Appendix 1: Consultation Summaries**

SN	Name	Issue Raised	Recommendation
1	Community	Positive Impacts	
	(GVH Chinoko)	- The project will create local jobs, helping	- More jobs should be given to locals
		them support their families.	
		- Local businesses	- Set aside areas for small business vendors
			- Encourage respectful relationships between traders
			and construction workers.
			- Conduct promotions to encourage the girl child to
		- The new hostel will increase the enrollment of girls	enroll at the college
		- Landlords will benefit from new tenants	- Provide awareness sessions for workers on how to
		moving into the area.	live harmoniously with the community.
		Negative Impacts	
			- Put in place the speed limits and create routes for the
		- Moving vehicles can cause accidents	construction vehicles
		- There's concern that relationships between	- Community leaders and health centres should talk to
		community members and workers could lead	students and workers about safe behaviour; provide
		to the spread of STIS.	condoms for mose who need them.
		- Noise and smoke from the construction site	- Use well-maintained machines to reduce harmful
		could affect the health of those nearby.	emissions.
2	Staff (Nalikule	- New buildings will make the campus more	- Maintain new facilities and keep the campus clean.
	Technical	attractive	
	College)		- Local residents should be given hiring priority.

	<ul> <li>The project will offer employment to locals, including those without formal skills.</li> <li>The college will benefit from improved infrastructure, more students, and better equipment.</li> </ul>	Ensure site safety with proper security and quality control during construction.
	Negative Impacts	
	- The school may struggle to keep up with rising student numbers.	- Engage with ministry of education to add staff
	- There is a risk of spreading illnesses (like	
	STIs, COVID-19, monkeypox, etc.).	- Educate students, workers, and the community about health risks.
		- Provide sanitation stations and supply condoms.
	- Trees may be cut down, and land could	
	degrade.	- Replant trees and repair any land damaged by sand mining.
	- Security concerns including theft.	
	- The construction may stress water and electricity supply.	- Boost site security.
		- Use alternative energy sources like solar; avoid using the school's resources
		- Engage the contractor to pay additional bills.
		- Build separate toilets for workers.
	- Improper waste disposal.	- Fence off the site and control noise by using well mainatine vehicles
	- Learning may be affected by construction	
	noise.	- Add traffic signs for safety.
	- Traders in nearby areas face traffic dangers.	

3	Female and Male	Positive Impacts	
	Students FGD	- Hostel congestion will be reduced.	- Provide more on-campus housing options
	(Nalikule	- New academic programs will be introduced.	- Students should help promote the new courses in
	Technical	- Students studying construction can get	high schools.
	College)	hands-on experience.	- Let students join the construction team to learn
		- More employment opportunities for locals.	practically.
		- Community businesses will benefit from	- Ensure fair hiring between community members and
		increased demand.	students.
		More space for learning and student	- Encourage businesses to offer quality services and
		accommodation.	goods.
		Negative Impacts	- Talk with girls on the negative effects of going out
		- May increase the vulnerability of a girl	with workers
		child, through workers enticing them with	
		money	
		- Trees may be cut down during construction.	- Plant trees once the project is done.
		- Some families may experience tension due	- Talk to the community and workers about
		to workers.	relationships and STIS before work starts.
			- Provide masks to workers Use environmentally
		- Dust from the site may affect health.	friendly practices.
			- Spray water to control dust and fence off the area.
			Everyone involved should follow a clear code of
		- Heavy machinery might harm the	conduct.
		environment and disturb the classes	<ul> <li>Carry out noisy work outside class hours; use quieter equipment.</li> </ul>
			- Have talks with both students and workers on how to
			stay in harmony
		- Conflict could arise between students and	
		workers.	
4			

	(PNAO -	Positive Impacts	
	Lilongwe	- Higher student enrollment.	- There should be promotions for the female students
	<b>District Council</b> )		to enroll
		- The community will look better and feel more developed	- The communities around should benefit from the development
		- More job opportunities.	- More jobs should be given to locals
		- Negative Impacts	Provide STI awareness, condoms, and free testing
		- STI risk due to increased sexual activity.	services
		- Dust emissions.	- Spray water.
5	Social Welfare	Positive Impacts	
	Officer -	- Youth will have jobs and can afford to	- Encourage youth to work responsibly and also pursue
	Lilongwe	return to school.	their education.
	District Council	- With a new hostel, sexual abuse cases may	- Set clear hostel rules to protect students.
		decline.	
		- Locals will benefit from employment.	
		Students will gain hands-on experience.	
		Negative Impacts	- Replant trees after work.
		- Trees will be cut down.	- Avoid environmental damage from digging.
		- Land could be damaged during excavation.	- Provide masks and safety gear.
		- Dust could harm workers' health.	- Create a water schedule or install boreholes.
		- Increased pressure on water and energy	Educate the community early; enforce child labor
		resources.	laws.
		More sexual relationships and possible	
		child labor.	
6	District Gender	Positive Impacts	- Support businesses for women to provide quality
	Officer -	- Increase the intake of female students	goods.

	Lilongwe	Business will grow for both women and	- Let the community help in guiding the gender
	District Council	men as locals sell to workers.	equality recruitment process.
		- Local artisans and community members will	- Encourage the community to take pride in and care
		get jobs.	for the development.
		- Better Accommodation for female students	
		- Hostel construction may reduce sexual abuse	
		for female students.	
		Negative Impacts	- Talk to men about being responsible with their
		- Gender-based violence may increase due to	money and relationships.
		financial temptation.	- Raise awareness about sexual abuse and exploitation
		- Risk of child marriages for young girls near	- Keep girls in school and away from construction
		the site.	areas.
		- STI risk due to new workers.	- Start community sensitisation before the project
		- Noise from machinery.	begins.
7	Assistant	Positive Impacts	- Encourage students to care for the infrastructure.
	Community	- The new hostel means more students can	
	Development	live on campus.	
	Officer -	- Students will spend less on off-campus	
	Lilongwe	accommodation.	
	<b>District Council</b>	- More locals will be hired and improve their	
		livelihoods.	
		Negative Impacts	
		- Trees will be cut down for construction.	- Replant trees post-construction.
		- Heavy equipment may lead to soil erosion.	- Fill borrow pits to avoid soil erosion.
		- Machinery could cause noise disturbances.	- Control noise levels.

# Appendix 2: Consultation Registers

~	eeting Name TICE SKULLS	SKILLS FOR A	VIBRANT ECONO PROJECT TENDANCE REGISTER	MY (SAVE)	RLD BANK
NO	ate22/03/25	Designation	Institution	Phone no	Signature
1	Termial V. Phi	HON LIGHT	Mali V. Jos	0000	Qu/
2	Nerlie C. Chitala	Mob Lucturer	Halkala	022111045366	Burg
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10	Phillip menor	Libring Alterdat	NEG	0973115117	Burn-
11	ZIMMU Alkhunda	ICT	ACE	09999268297	- Harris
12	LOVENIESS LAMSA	LAS ASSISTAN	NCE	09932220	1.202
13	Charity Guilde	lab assistant	NCE	0994262920	CC
14	Tadala Serdezura Marsa	Didwick from some ment	a secondite 1	Dada 306608	TSM
1.5		CHE COV		C., Secota	

SKILLS FOR A VIBRANT ECONOMY (SAVE) PROJECT E Meeting Name NCG SKILLS CONTRE CONSTRUCTION STAKEHOLDER MEETING - COVAMUNITY MENABERS THE WORLD BANK Venue Date 02/04/25

NO	NAME	Designation	Institution	Phone no.	Signature
1	MALARK FADRICK	CLEANER	N.C.E.	0981030930	Bhul.
2	Zely Jums:	- CLEAGIADE	N.CE	0444132672	The
3	JAMIES MIALON	CLENER	NCE	0997066135	Fr.
4	RICHWELL RAJAB	CLEANER	N.C.E	0991030930	Acol
5	FAINESS BANDA	GUARD	NCE	0996592731	Bh.
6	DOREEN LUNGU	CLEANER	NGE	098792235	x
7	Veronica Zikuthelani	S. CLEANER	NCE	0995024866	the
8	ALER AFFILED	CLEANER	N.C.F	098875299	An
9	Agness Jimm	CLEANER	N.C.E	0985686203	ATCS
10	Aliniet Tambalo	CLEANER	N.C.E	0997975229	Au
11	PATRICIA PHIRI	CLEANER	N.C.E	0999562795	P.PHIRI
12	Chisomo Enoch	GUARD	N. C.E	0983646262	C. ENOCH
13	Gralo Adamson	GUARD	NGE	D990327552	Chy-
14	mayiness Banda	GUARD	NEE	098481538	m.B
15	MIKa velemi	GUARS	NCE	0992047920	On
S	ubmitted by:(Name)			Signature	Date



# SKILLS FOR A VIBRANT ECONOMY (SAVE) PROJECT

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	U	
THE	WORLD BAI	VK

Meeting Name NCE SKILLS CENTRE COSTAKE HOLDER REGISTER

# Date\_05/04/2025

VO	NAME	Designation	Institution	Phone no.	Signature
1	Alice s. Chivale	Student	Nice	0994960385	B.
2	Delive D. Moffat	student	NCE	0994689009	Ø.
}	OLINE T. CHISI	Student	NCE	0992116841	æ.
	Jennipher Smoke	student	NCE	280234504	
	SAMUEL MUSHIMIWH	Studiot	MLE	091915792701	Simis
	THOROZANI SAMSON	Stydent	NCE	0991983052	Alben
	JOYCE A KWATITSANI	student	NCG	0986679628	B
	Sophia Jwarda	Shdent	NOCE	0991481449	00
)	Felioc B PHR1	student	NCE	0998797117	ALLA
0	ANOUS NTOKA	student	NCE	0993304555	A A
1	ALICK LYKIEL	STYDENT	HCG	0998610969	Qe
2	CHILLIFUA CHANDA	STUDEUT	NCE	0881650999	& ,
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ENVIRONMENTAL AND SOCIAL MANAGEMNT PLAN FOR CONSTRUCTION OF A SKILLS CENTRE BUILDING AT NALIKULE COLLEGE OF EDUCATION

## COMMUNITY CONSULTATION REGISTER

No.	Name	Position	Phone Number	Signature
1.	Filda Shawla	VILL CHIMATIK	099706256	Magnel
2.	Abere Lambuila	VH Malilo	0995459261	Acm
3,	LYFORD KALONTA	CHINOKO KAWEA	21 0999446057	2
4.	Thimas: Shallani	V.H NEFILATE	0992402528	Ben.
5.	Chisendera Nyemba	V. H- Kunsbukan	0992402632	Elle.
6.	Masimini Affleld	V. H chilhhosi	0992273512	chino
7.	Al failed Tereconi	VHelin 0203	0984932882	in t
8.	Chatukila Bison	XH TSOKOMOLE	0993703128	Cation .
9.	JOHN BASN	NH chansico kar	193101173	Basan
10.	Frackson amiden	VIA Kalunti rau	april 0554064896	Fleening
11.	Chimdizani mzonle	VH Kalunde brigger	0992374796	Chran
1.2.	Fulareti Thursda	XA Katsika	0996326415	7. Jan Dar
13.	LIVITIKO CHIKHOSi	V-H Hachibo	0984 261404	L. Ce
1.4.	malamento Saucersi	V-H KHUNGLU		M. Sauces

1		ODGANISATION	CONTAGNO	E-MALL ADDRESS SIGNATURE
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Gertrude Olmutara	ACDO	LLDC	0993365667	Vakhobnigladys Ograi con Bh-
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Philan Akabbie	EO	LLAC	099130927	o badigreberra Ogmailian Estadia
BROME Marchings N	USED	LLOC	08858493	8 Ogmal-com
Lowick Mundo DE	SWO	HAC	09996582	28 derickminenteregmail.com
and an Chimmer C.E	0	Lipc	099186670	the behanica eigebas com Bin
a lillad chim	BPL	UDZ	0192256	5030 Chiwaltw@gmal.com
VILLOU P	40	Races	0995:70	18696 bache paral gurnil.con

**Appendix 3: ESMP Consultant** 

Name	Proposed Position and Qualification	Key Role	Experience
Kent Kafatia, Snr R. Eng.	<ul> <li>MSc. in Water and Waste Engineering</li> <li>BSc. in Chemical Engineering (Environmental)</li> <li>BSc. in Environmental Science &amp; Forestry</li> <li>BSc. in Forestry</li> <li>PGD. in Integrated Environment and Water Management.</li> </ul>	ESMP Expert	36 years' ESIA Experience

Appendix 4:Environmental and Social Screening Report for NCE Sub-project



# ENVIRONMENTAL AND SOCIAL SCREENING REPORT FOR THE PROPOSED

CONSTRUCTION OF A SKILLS CENTRE AT NALIKULE COLLEGE OF EDUCATION



SUBMITTED TO NCE

SEPTEMBER 2022

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#### **1.0 INTRODUCTION AND BACKGROUND**

Nalikule College of Education (NCE) is one of the two public colleges of higher education in Malawi. Unlike the other public education colleges which offer Open Distance Learning programs, NCE only offers generic entry programs. The College has three faculties namely Education, Science and Languages and Communication. To address the scarcity of science teachers in Malawi, the production of Science Teachers is at the core of NCE. The Faculty of Science offers seven programs "Mathematics, Biology, Chemistry, Computer Studies, Human Ecology and Agriculture" which require advanced laboratories.

Through the SAVE Project resources, NCE will:

- 1. Increase access to higher education by increasing the intake of students into Science Courses through Open Distance and e-Learning (ODeL)
- 2. NCE shall require constructing a Skills Centre, which will house the ODeL programme thereby increasing the learning and office space of the College. This will contain classrooms, lecture theatres, ICT and reprographic rooms. It will also house the Human ecology section, which will have Food and Nutrition, Clothing and Textiles, Hospitality, and Food Analysis Laboratory.
- 3. NCE will increase female participation in all its programming.
- 4. It intends to improve the quality of teacher education through staff orientations, short- and long-term training.
- 5. NCE will also purchase ODeL equipment for assistive technologies (computers, laptops, tablets and teleconferencing gadgets).

The proposed site is within the NCE premises, specifically beside the NCE car park and to the North East of the NCE Demonstration Secondary School. The total land size to be used for the construction structure is currently estimated at 30 by 100 metres. please note that the proposed site is within the land legally owned by the college thus no anticipated land conflicts are expected. The operations will wait for the Environmental and Social Impact Assessment (ESIA) clearance certificate from MEPA.



Figure 1: Part of the proposed construction site

In line with the Environment Management Act of 2019 and Guidelines for Environmental Impact Assessment (EIA) in Malawi of 1997, The District Environmental officer and other District Environmental Subcommittee (DESC) officers assisted to undertake an environmental and social screening of the proposed construction site on 11<sup>th</sup> August 2022. The purpose of the exercise was to identify and evaluate the potential environmental and social impacts of the proposed construction activities. We took into account the type and scale of the project, the nature and magnitude of risks and impacts, and the environmental and social sensitivity of the project location. The capacity and commitment of the district and local communities to manage the environmental and social risks and their impacts in consistency with the national environmental legislation was also explored. The screening exercise was also aimed at appreciating how stakeholders including members of staff and students have been involved in the development of the proposed project.

The screening exercise also involved preliminary stakeholder mapping aimed to identify the critical stakeholders and activities to be disrupted by the proposed construction activities.

#### 2.0 APPROACH AND METHODOLOGY

The focus of the screening exercise was to undertake an initial scoping of potential environmental and social impacts of the proposed Skills Centre construction project and determine the type of environmental and social assessment to be conducted by the project Proponent. In order to achieve these targets, the following methodology was employed:

#### 2.1 Survey of the project proposed site

A field survey, involving Lilongwe district environmental Officer, NCE officers and a community leader was conducted. The objective of the site survey was for the team to ground truth the

identified project site location. The survey also aimed at identifying the environmental and social setting of the area which is key in the identification of project-related impacts and their enhancement and mitigation measures.

>>Site Pictures to be added<<

## 2.2 Round table discussions

After the site survey, the screening team deliberated on the findings and briefly discussed potential safeguards for environmental impacts. Additionally, the team discussed at length potential social impacts. and their safeguards.

# 3.0 FINDINGS

# 3.1 Potential Socio-Economic Benefits of the project

In line with the objectives of the SAVE project and its associated infrastructure activities at NCE, expected socio-economic benefits to be derived from the project will include:

- Provision of employment opportunities to local people through recruitment such as machine operators, labourers, security officers at the construction site.
- promotion of skills and knowledge for the unskilled labour force through on-the-job training;
- Enhancement of the creation of business opportunities for local service providers.

# **3.2** Potential Negative Impacts associated with the project

Significant negative environmental and social impacts would emanate from the construction project. These include:

- Clearing land for the construction of the skills centre may result in loss of trees and vegetation;
- Soil erosion resulting from increased surface runoff due to excavation activities and civil works associated with the construction activities;
- Increase in the generation of particulate matters (especially dust) during excavation.
- Increase in the prevalence rate of HIV and AIDS, Covid-19 and other communicable diseases in the area as a result of increased incidents of interaction between workers, students and communities nearby;
- Noise pollution from machinery, blasting and crusher;
- Population influx due to increasing in migrant workers to the project site;
- Risk of public safety and injuries to students due to over speeding of construction vehicles;
- Risk of child labour;
- Risk of infrastructure damages for the adjacent and surrounding communities due to increased ground vibration;
- Potential conflict on water use between the contractors FYI, another contractor working adjacent to the site
- Sexual harassment: women been forced to have sex with project staff in exchange for employment, and workers abusing young girls from surrounding communities;
- Marginalization of women and other vulnerable groups in the selection of employees by the contractor where employment opportunities are not offered on a fair and equitable basis;
- Increase in the generation of non-hazardous and hazardous liquid and solid waste; and
- Increased disturbance to the library and class operations.

#### 3.3 Gap noted during Screening

From the screening exercise, it was noted that the local leadership and NCE staff involved in screening actively participated in site identification; however, there have been limited stakeholder engagements including the District council, district environmental sub-committee (DESC), school library management, other staff members and students during proposed site identification and subsequent geotechnical studies.

## 4.0 CONCLUSION

Having successfully undertaken the environmental and social screening, and based on the Guidelines for Environmental Impact Assessment in Malawi of 1997; our office developed and submitted a project brief to Malawi Environment Protection Authority (MEPA) through SAVE PIU. The submission was mandatory so that MEPA can further inform the NCE on the prescription of the type of environmental and social assessment to be conducted for the project and the TORs to be used in the assessments

## 5.0 RECOMMENDATIONS AND WAY FORWARD

The following key issues are recommended to be done before and in the course of the ESMP development:

- NCE to develop a stakeholder engagement plan and ensure all the stakeholders are consulted and are involved in the project development. The following stakeholders should be consulted;
  - Local leadership Traditional Authority and Chiefs
  - Lilongwe District commissioner
  - NCE Staff management team
  - Students union leaders
  - Area Development Committee (ADC)
  - o Lilongwe Physical Development Planning committee
  - Lilongwe District Environmental Subcommittee (DESC)

Annex1: Topographic map sheet showing the proposed construction site

# Not Available

#### **Appendix 5 Environmental screening Form**



1.3	Pollution to land- diesel,oils	NIM				
1.4	Dust emissions and increased particulate matter	Tes	V		Medium	- Prui de PPE's - Water works site
1.5	Solid waste generation	745	~		McLinn	- Kaise anerciossa 4K
1.6	Liquid wastes and waste water generation	No				
1.7	Introduction of hazardous chemicals and wastes	Yus	V		Low	- Provision # PPE's - Perimeter well
1.8	Borrow pits and pools of stagnant water	No				
1.9	Rubble/heaps of excavated soils	705	V		Low	- Identity better site -Reuse Rogdo
1.10	Invasive tree species	WO				
1.11	Long term depletion of water	ND				
1.12	Reduced flow of water sources	Yes	V	L	medium	Maintain the oil bore holes (No.3)
1.13	Nuisance from noise and vibrations	Yes	V		medium	cimit very novy schuities
1.14	Loss of soil fertility	NO				
1.15	Incidence of flooding	NO				
1.16	Increased Energy use	Yes	V	V	modium	-Scrs. firation on up
1.17	Increased demand and/or portable	Yes	e	V	Medium	- installe use altera sources of uption of - Scass fizzetion

()

	water use			
1.18	Increase emergence of man-made and natural disasters e.g. fires etc.	NO		
2.0	Cultural, Social and Economic Screening			
	Will the project generate the following negative social and economic impacts?			
2.1	Loss of land to households	NO		
2.2	Loss of properties – houses, structures	NO		
2.3	Loss trees, fruit trees by households	NU		
2.4	Loss of crops by people	NO		
2.5	Loss of access to river/forests/grazing area	No		
2.6	Impact cultural site, graveyard land	ND		
2.7	Conflicts over use of local water resources	ND		
2.8	Disruption of important pathways, roads	NO		
2.9	Loss communal facilities –churches	NO		
2.10	Loss of livelihood	NO		

	system					
2.11	Blockages to footpath/roads	NO				
2.12	Bring resettlement issues	NO				
2.13	SpreadofHIV/AIDSandother STIs	Yes	r	~	Medium	- Sensitization meetin - Provide Condoms
2.14	Spread of Covid-19	Yes	v	V	medium	- Sensilization machings
2.15	Occupational safety and health issues	705	V		Lon	-Provide PPE's figt Aid kits
2.16	Increase exposure of Hazardous chemicals and wastes	Yes	v		Vow	- Indon Storage - Privent uncontrol release of haza
2.17	Safety issues with respect to poor building designs	lus	v	V	Law	- Supervision
2.18	Exclude other users especially disabled and vulnerable with respect to poor building designs	les	L	C	Low	Legular inspection
2.19	Increased GBV and SEA	tus	V	L	low	Scalifization
2.20	Increased violence against children	705	V		Low	-Avoid employing a

<b>Overall</b> evaluation	of Screening	Exercises.
---------------------------	--------------	------------

The results of the screening process would be either the proposed sub - projects would be exempted or subjected to further environmental and resettlement assessments. The basis of these options is listed in the table below:

Review of Environmental Screening	Tick	Review of Social and Economic Screening	Tick
1. The project is cleared. No serious impacts. (When all scores are "No" in form)), though the bids/contracts still		1. The project is cleared. No serious social and economic impacts, (Where scores are all "No", "few" in form)though the bids/contracts	

would have standard EHS clauses		still would have standard clauses on addressing emerging social and economic issues
2. There is need for further assessment - ESMP or ESIA (when some score are "Yes, High" in form), as determined by	v	2. There is need for resettlement/compensation. (When some score are "Yes, High" in form ) including need for ESMP or ESIA as determined by MEPA
Approval by Environmental officer/		Approval by Director of Planning and Development
Name: Tadala Sender	CET9	MISSIONER
Signature 1,6	ISTRIC	Date Date Date
NOTES: M	93, LILO ALAWI	NGWE
1. The DPD shall ensure that after endorsement. Enviro	at a co onment	al Officer may keep a duplicate.
2. Project Management Con	nmittee	e will maintain a copy of compension mental Officer to

- 3. It is the duty of Director of Planning and Development ensure mitigation measures outlined in form are implemented.
- 4. An Environmental Officer shall prepare a monthly monitoring report on implementation of mitigation measures.
- 5. The mitigation measures shall be sourced from expert knowledge, stakeholder
- consultations, EHS guidelines etc.
- 6. The bids/contracts still would have standard EHS clauses
- 7. The screening form will be updated prior to use, to reflect a more final set of EHS potential impacts/risks/issues

# Appendix 6:Environmental, Social, Health, and Safety Issues to be Considered

Here is checklist of documents and protocols to be produced or obtained by the Contractor

S/N.	DESCRIPTION	TO BE TAKEN
1	Contractor's Environmental and Social Management Plan (C- ESMP).	The contractor should prepare the Contractor's Environmental and Social Management Plan (C-ESMP)
2	Implementation of the Management Strategies and Implementation Plans (MSIPs).	<ul> <li>The contractor should prepare the relevant MSIPs. e.g.</li> <li>Code of Conduct (CoC) which will be signed by all workers under this project, the CoC should be in both local and English;</li> <li>Labour Management Plan</li> <li>Traffic management Plan</li> <li>Waste Management Plan</li> <li>Emergency Preparedness and response plan</li> <li>Occupational Health and Safety management plan</li> <li>Public Health and Safety management plan</li> <li>GBV reporting protocol</li> <li>Water Resources Protection and Management Plan</li> <li>Noise and Vibrations management plan</li> <li>Sexual Harassment Prevention and Response Plan</li> <li>Grievance Reporting and Resolution forms</li> <li>Vehicles Service Stickers</li> <li>Water Volume Sheets</li> </ul>
s3	Permits and agreements.	<ul> <li>The Contractor should acquire and share relevant permits and agreements: e.g.</li> <li>i. Workplace Registration certificate from the Ministry of Labour;</li> <li>ii. Waste Disposal Permit;</li> <li>iii. Water abstraction license/permit from National Water Resources Authority (NWRA);</li> <li>iv. Approval for potable water supply to the site</li> <li>v. Electricity Approval</li> <li>vi. Sand mining permit from District Council;</li> <li>vii. All Land Acquisition Agreements and/or Consents (borrow pits, use of land for keeping materials, campsite, etc);</li> <li>viii. Protocols for Handling, Storage and Transportation of Hazardous Waste (if any); and</li> </ul>

S/N.	DESCRIPTION	TO BE	TAKEN
		ix.	Protocols for Handling, Storage, and Transportation of General Waste

# Appendix 6: Waste Management Plan

## 1. INTRODUCTION

The Waste Management Plan (WMP) addresses management of all solid and wastewater, including hazardous and non-hazardous waste, produced as a result of project activities within the College's Campus. The WMP covers the construction and operational phases. This plan constitutes the draft which will require amendment and updating during construction and operation phases of the Project.

# 2. PURPOSE

The WMP aims to provide guidelines on waste reduction, segregation, collection and disposal practices in accordance with international best practices, to avoid deterioration of the natural environment and negative impacts on the health and safety of communities in the Project Area.

The Project is committed to apply the waste hierarchy and will seek to be a zero-waste discharge facility. This plan is the primary tool to guide employees towards waste management.

# 3. WASTE MANAGEMENT OPTIONS - WASTE HIERARCHY

The waste hierarchy presents waste management stages commencing with the most preferable option to the least preferable option. Waste prevention is the most preferred option of prevention, followed by reuse, recycling, recovery and is safe disposal as the last option.



# Waste Management Hierarchy

These stages are described in more detail below:

#### A. Prevention

Waste Generators should ensure there is minimal wastage. This could be achieved through reduction of construction mistakes, ordering the right quantities of materials, getting the right-size materials for the job, proper storage of materials, trying out new building methods and choosing building products with minimal packaging.

Waste Generators should be committed to avoiding the generation of waste and not using hazardous materials. Where the use of hazardous materials is unavoidable, efforts should be made to identify replacement materials that are non-hazardous.

#### B. Re-use

Waste Generators should be required to prepare a maintenance management plan which seeks to ensure that all equipment is regularly checked and maintained and refurbished or repaired. In addition, Waste Generators should seek to sell and buy used items, donating them for free or exchanging them.

#### C. Recycling

Waste Generators should seek to turn waste into a new substance or product, such as composting of organic wastes to a standard that meets quality controls. This compost could be sold or given to farming communities around the construction and operations sites to facilitate improvements in soil conditions and hence their production levels.

#### **D.** Recovery

Recovery of waste is usually most successful when done in bulk. Therefore, a centralised recovery facility is preferable. The common forms of recovery include composting, anaerobic digestion, incineration with energy recovery, gasification and pyrolysis which produce energy (fuels, heat and power) and materials from waste. It is recommended that composting should be considered for organic solid waste and sludge that will be generated at the College.

#### E. Disposal

Disposal is deemed the last resort and must occur in an environmentally responsible manner. Disposal results in waste going to landfill or to incineration without energy recovery and is the least preferred environmental option. However, when wastes must go for disposal, this must occur at a suitably designed sanitary waste disposal site.

#### 4. WASTE CATEGORIES GENERATED IN THE PROJECT

Solid waste generation in the at the College during project life cycle will generally include domestic waste, commercial waste, construction and demolition debris, sanitation residue and waste water. These wastes will be in solid or semi-solid form and will potentially include very low quantities of industrial hazardous wastes and bio-medical waste. All industrial hazardous waste and biomedical waste must be disposed of properly by the respective industries and cannot be included in the general waste management system. The main waste categories anticipated are:

- ✓ Biodegradable waste (food and kitchen waste, green waste such as vegetables, leaves and fruits; and sludge)
- ✓ Recyclable material (paper, glass, bottles, cans, metals, certain plastics, etc.); and

✓ Inert waste (construction and demolition waste, dirt, rocks, street sweeping, drain silt, debris, etc.)

The sources of waste and waste generators and the anticipated content of the solid waste generated are presented in the table below.

Source	Typical waste generators	Solid waste content
Domestic	Dwelling units	Food wastes, paper, cardboard, plastics, textiles, leather, yard wastes, wood, glass, metals, consumer electronics, batteries, limited household hazardous wastes and sewage waste.
Commercial and Institutional	Stores, lecture rooms, cafeteria, market, office buildings	Paper, cardboard, plastics, wood, food wastes, glass, metals, special wastes, hazardous wastes
Construction and demolition	New construction sites, road repair, renovation sites, demolition of building structures	Wood, steel, concrete, rubble, dirt etc.
Waste water	Water and waste water treatment plants	Drain silt, landscape and tree trimmings, general wastes and sludge.

Sources of waste, waste generators and content

# 5. WASTE TREATMENT OPTIONS

The primary options for the treatment of solid waste include, in order of environmental benefit:

- ✓ Anaerobic Digestion;
- ✓ Composting (windrow, aerated static pile, in-vessel and vermi-composting);
- ✓ Incineration with or without energy recovery;
- ✓ Pyrolysis and gasification;
- ✓ Plasma pyrolysis and palletisation; and
- ✓ Reuse Derived Fuel (RDF) for mixture waste.

Since the nature of waste envisaged is mainly organic, bioconversion methodologies are considered the preferred technology.

# 6. EXISTING AND PROPOSED WASTE MANAGEMENT INFRASTRUCTURE AT THE CAMPUS

There are organized waste management systems such as collection, transport and disposal. The College has both solid and wastewater collection and disposal facilities. Solid waste disposed is stored in Waste Collection Bin that are placed in strategic places at the campus and then legally dumped at 5 miles Dumpsite.

#### 7. SOLID WASTE MANAGEMENT IN THE PROJECT AREAS

All Waste Generators within Project Areas will be required to segregate waste at source to ensure the value of the wastes are optimised through recovery, reuse and recycling. By providing an enabling environment the success rate of correct waste practices being implemented are increased. Segregation should be by generators and into three main waste streams:

- $\checkmark$  Wet (biodegradable);
- $\checkmark$  Dry (plastic, paper, metal and wood); and
- ✓ Domestic hazardous wastes (diapers, napkins, empty containers of cleaning agents, mosquito repellents etc.).

Collection of the segregated waste is to be undertaken by an authorised waste collector. As a minimum wet and dry wastes should be segregated (2-bin system) by the waste generators

Construction and demolition waste should be stored separately. Opportunities to repurpose this waste as secondary aggregate to the construction industry should be investigated to ensure this waste is either utilised in the Project Sites or is sold as a product to the construction industry. No construction or demolition waste should be disposed of to landfill. No hazardous wastes shall be permitted to be disposed of outside the boundary of the Project Sites unless being transported to a sanitary landfill. The District Council must place the responsibility of safe disposal of hazardous waste on the generator. It will be the generators responsibility to ensure that the waste collector which will be transporting the waste for disposal is licenced to do so. In addition, the Generator will need to provide evidence in writing from the receiving disposal site of its capacity to recycle or dispose of the waste in an environmentally sound manner. Proof of safe disposal should be provided to the Lilongwe District Council, such as a waste disposal ticket issued and date stamped by the sanitary landfill. This waste stream is anticipated to be small, limited to cleaning materials and small quantities of bio-medical waste since most of the processing to be undertaken on site is for the water supply and waste management and therefore hazardous process materials should be limited.

During the operation phase, this waste will be taken directly to the treatment sites. Primary collection of solid waste will occur using segregated bins or containers which will be placed on the streets for collection. This waste will be taken to a solid waste intermediate storage facility. The use of an intermediate site allows for the optimisation of transport devices and manpower which in addition allows for timely collection of waste from source and onward treatment. Secondary transportation occurs from the storage area to the landfill site. The dry waste such as paper and plastic and cardboard and glass are to be recycled.

Waste collection from generators within the college campus will need to occur on a daily basis in order to prevent garbage containers overflowing and waste littering the streets. To maintain a hygienic environment regular waste clearance is required.

#### 8. PERFORMANCE MONITORING

Site inspections must be performed on regular basis by qualified personnel from the College Inspections will ensure that all commitments in this Waste Management Plans are being enforced and that specific waste management elements are verified.

#### 8.1. Data Collection

Implementation of the waste hierarchy principles requires that destinations and quantities of residual matter are monitored. A register of waste material should be maintained to ensure the measurement of eliminated waste and of residual matter sent for reuse, recycling and reclamation.

#### 8.2. Waste Audit

After a year of operation, a waste audit should be performed, on all waste data collected, to identify waste streams and fate and develop ways to reduce waste production.

# 9. PERFORMANCE INDICATORS

Measurement is an important tool in improving performance, and performance indicators will help the College define and measure progress towards its goals. The results reflect current conditions and allow orientation and coordination of further actions towards sustainability.

## 9.1. Environmental Audit Results

Environmental auditing is a key process in the implementation of the Environmental and Social Management Plan (ESMP), of which the WMP forms a part. The findings of each audit should be registered in a database, where corrective and/or preventive actions are prescribed, responsibilities assigned to people, deadlines established and necessary resources mobilised. In compliance with the procedure, audit reports should categorise findings as being either "major", "minor" or "observation". The number of findings shall be decreasing every year until the ultimate goal of zero major findings is achieved.

## 9.2. Percentage Waste Generated

During the operational phase, the quantities and types of waste produced should be tracked for each waste generators categories, and activities examined to identify waste reduction opportunities. Specific reduction target ratios should be determined and the rate of waste production is required to reduce annually relative to production volumes.

#### **10. RESPONSIBILITIES**

The roles and responsibilities inherent to the Waste Management Plan are presented in Table below.

Entity	Responsibilities
Nalikule	- Enforce the Waste Management Plan.
College of	- Contractually obligate the Waste Generators to meet the requirements of the Waste
Education	Management Plan.
	- Manage the Solid Waste Management Area or appoint an appropriate contractor.
	- Manage the Solid Waste Treatment plant or appoint an appropriate contractor.
	- Manage the Wastewater Treatment plant or appoint an appropriate contractor.
Contractors	- Provide a minimum of two garbage receptacles to allow for wet and dry waste segregation. An additional bin for hazardous waste is highly recommended.
	- Develop a site-specific Waste Management Plan for the activities the Contractor is undertaking.
	- Site-specific Waste Management Plan must be aligned with the full site waste management plan and must be approved by the College prior to work commencing.
	- Educate all members of staff on the waste hierarchy.

Entity	Res	ponsibilities
	-	Educate all members of staff on site-specific Waste Management Plan - Education is
		to be provided to each staff member prior to commencement of work, and regular
		refresher sessions are to be undertaken in the form of toolbox talks or training sessions
		throughout the contract period.

#### **11. RECORD KEEPING**

Data on waste production and disposal should be gathered continually via logbooks and registers. Records should be maintained on site and made available to the authorities and any other party contracted to audit or assess the waste management practices on site. The data should include the final destination of each waste stream and where disposal has occurred Proof of safe disposal will be required, such as a date-stamped waste disposal ticket issued by a sanitary landfill. A cost should be paid for safe disposal of wastes. Evidence of waste disposal should also be maintained.

#### **Appendix 7: Emergency Preparedness and Response Plan Guidelines**

Appropriate resources must be provided to respond to accidental and emergency situations for operations and activities during the construction phase. The contractor will produce the EPRP for addressing training, resources, responsibilities, communication, and all other aspects required to effectively respond to emergencies associated with their respective hazards.

This Emergency Preparedness and Response Plan (EPRP) is intended as a practical working document for the Project. The purpose of this document is to provide the basic guidelines on how to respond to potential emergency situations that may arise from the Project. These potential emergency situations include medical emergencies and fires. All activities associated with the Project will require a site-specific EPRP to mitigate impacts, which meet or exceed all applicable regulations.

The objectives of the EPRP are as follows:

- Protect the communities and the environment through the development of emergency response strategies and capabilities.
- Set out the framework for hazard identification to define procedures for response to the situations including the development of contingency measures.
- Structure a process for rapid and efficient response to and manage emergency situations during the Construction works.
- Assign responsibilities for responding to emergency situations.

#### Undertake the Risk Assessment

Regular risk assessments should be conducted to identify potential hazards related to the construction works. Update the risk assessment periodically and whenever there are significant changes to the project.

#### **A7.1 Spill Prevention and Management Plan**

Liquid waste spills that are not appropriately managed have the potential to harm the environment. By taking certain actions, the likelihood of spills can be reduced, and their effect minimized. To avoid spills and to help the clean-up process of any spills, the construction

contractors, supervising engineer, and the management and staff of SAVE project should be aware of spill procedures. By formalizing these procedures in writing, staff members can refer to them when required thus avoiding undertaking incorrect spill procedures.

A detailed spill management plan will be prepared for the construction phase. These plans will contain the following:

- Identification of potential sources of spill and the characterization of spill material and associated hazards.
- Risk assessment (likely magnitude and consequences)
- Steps to be undertaken taken when a spill occurs (stop, contain, report, clean up and record).

# A7.2 Other Emergencies

Response plans for other emergencies, including but not limited to the following, will also be developed: Extreme weather events such as extreme heat, heavy downpour and consequent flooding, Vehicle accident, Electrical and fire hazards, Power outages and equipment Failure and Community unrest and worker protests.

# A7.3 Roles and Responsibilities

With respect to this ERP, the construction contractor has the responsibility to:

- Provide emergency response services and to structure and coordinate emergency response procedures for the Project;
- Ensure that specific emergency responsibilities allocated to them are organised and undertaken; and
- Ensure that employees and contractor third parties are trained and aware of all required emergency procedures.

Roles, responsibility and authority will be defined, documented and communicated in order to facilitate effective emergency response through implementation of the EPRP. Management will provide resources essential to the implementation and control of the EPRP including: human resources, technology, and financial resources.

The construction contractor will appoint specific emergency response representative(s) who, irrespective of other responsibilities, will have defined roles, responsibility, and authority for emergency response of the facility. The sections below provide more specific responsibilities related to each position.

# A7.3.1 Emergency Response Representatives:

- Actively participate in the facilities planning, implementation and reviewing of the sites ERP.
- Ensure all staff members are aware of the procedures outlined in the ERP.
- Setting up practical training schedules (drills) annually to ensure that all staff are prepared in case of an emergency.

- Report any incidents that occur to senior management staff and/or the relevant authorities.
- Ensure that the appointed Emergency Response team members undergo the correct training.
- Appoint an appropriate Emergency coordinator.

**A7.3.2 First Aid Representatives**: Ensure that the first aid box is properly stocked to meet all foreseeable incidents which may occur and ensure that there is always a first aider available at each shift.

**A7.3.3 Fire Wardens**: ensure that the firefighting equipment is regularly serviced, and attend the relevant firefighting training.

#### A7.3.4 Emergency Co-Ordinator

- Ensure that an update of the EPRP is kept on file and is easily accessible in case of an emergency.
- Ensure that all staff have been issued with the correct PPE.
- Ensure that a list of emergency telephone numbers, including those of the Emergency Response team, is visible to all staff at several locations around the facility.
- In the case of an emergency, the emergency coordinator is responsible for undertaking roll call at the designated Assembly points.

#### A7.4 Emergency Communications and Coordination Plan

In an emergency where there is an immediate threat to communities, personnel or the environment, the Project Manager will be notified immediately. The Project Manager will dispatch the Emergency Response Coordinator who will determine the appropriate plan of action depending on the severity of the emergency, the people affected, and the need to evacuate.

If there is a developing emergency or an unusual situation, where an emergency is not imminent, but could occur if no action is taken, the Senior Operations Manager (or if the Senior Operations Manager is absent) the Environmental Manager) is to be informed immediately. Once the emergency or unusual situation has been managed, the correct incident/near miss must be reported.

If an emergency poses a direct threat to communities in the area, the Environmental Officer and/or Social Officer will advise persons in the vicinity of the emergency to evacuate due to the potential risk. The appropriate government authorities will immediately be notified of such an emergency evacuation. The Emergency Response Coordinator will be tasked with responding to the potential risk. Should the emergency be such that it can be managed by SAVE project, equipment and personnel will be deployed to the maximum extent necessary, so as to prevent/minimise potential risks.

#### **A7.5 Response to Incidents**

An incident is any occurrence that has caused, or has the potential to cause, a negative impact on people, the environment or property (or a combination thereof). It also includes any significant

departure from standard operating procedures. The reporting and investigation of all potential and actual incidents that could have a detrimental impact on human health, the natural environment or property is required so that remedial and preventive steps must be taken to reduce the potential or actual impacts because of all such incidents. Any incident must immediately be reported to the relevant authorities and all the necessary documentation must be completed and submitted to the relevant authorities within the prescribed timeframes.

#### **A7.6 Verification**

An environmental emergency response system will be developed for the execution of emergency drills that will include the following, inter alia:

- Fire Drills.
- Emergency Evacuation Drills.
- Medical and Environmental Drills.

Reporting and monitoring requirements for the plan will include: monthly inspections and audits; Quarterly reporting of accidents/ incidents; Reporting at the time of the incident and monthly spill reporting, and Annual reporting on training.

#### **A7.7 Incident Report Format**

	Accident/ Incident Report	Document No.	
		Date	
		Page Number	

Accident/Incident Report						
Particulars	s of incident:					
Date:	Т	ime:		Location:		
Type of in	cident (please	circle below):				
Injury	Illness	Environmental	Notifiabl	e event	Other:	
Reported b	by:			Phone:		
Role in the event:				Email:		
The injure	d person:					
Name:				Address:		
Age:	Ph	one:				
Witness(s	s):					
Name:				Phone:		
Name:				Phone:		
Name:				Phone:		
Describe a	ccident/incider	nt: (space overleaf for d	liagram if nee	eded)		

Describe any illness or injury: What part of the body is affected and how?

Describe any property damage: What damage was caused and how?

Analysis: What do you think caused or contributed to the accident/ incident?

Prevention: What action has been taken to prevent a reoccurrence?							
TO BE F ESHS	S R N o	RECOMMENI	DATION	ACTION PARTY		TARGET	CLOSED OUT DATE
ILLES BY	1			ESHS Of Chief Me	ficer / chanic	Plants and equipment	Ongoing
					~ ~ ~ ~ ~		
Have a	all pr	eventative acti	Other:	by the ESH	S Offic	er, and imple	mented?
ESHS Officer Signature:				Date completed:			
Treatn	nent:					<u>p</u>	
Hospital:			Doctor:				
Type of	f trea	tment provided:					
Notific	catio	n and Investigat	tion				
Investigation conducted by:			Date:				
Risk Register updated by:				Date:			
PICTO	GRA	M					

This incident report captures accidents, diseases, injuries and incidents in the project. Document this report of the incident and submit it to the ESS at the SAVE project PIU within 24.
### **Appendix 8:Chance Finding Procedure**

If the Contractor discovers archaeological sites, historical sites, remains and objects, including graveyards and/or individual graves during excavation or construction, the Contractor shall do the following:	
Step 1	Stop the construction activities in the area of the chance find;
Step 2	Delineate the discovered site or area;
Step 3	Secure the site to prevent any damage or loss of removable objects. In cases of removable antiquities or sensitive remains, a night guard shall be arranged until the responsible local authorities or the Department Museums and Monuments take over;
Step 4	Notify the Clerks of works who in turn will notify the Project Implementation Unit (PIU). The PIU will notify Director of Department Museums and Monuments immediately (within 24 hours or less);
Step 5	Responsible local authorities and the Malawi Department Museums and Monuments would then be in charge of protecting and preserving the site before deciding on subsequent appropriate procedures. This would require a preliminary evaluation of the findings to be performed by the archaeologists of Department Museums and Monuments. The significance and importance of the findings should be assessed according to the various criteria relevant to cultural heritage, namely the aesthetic, historic, scientific or research, social and economic values
Step 6	Decisions on how to handle the finding shall be taken by the Director of Department Museums and Monuments. This could include changes in the layout (such as when finding irremovable remains of cultural or archaeological importance) conservation, preservation, restoration and salvage.
Step 7	Implementation for the authority decision concerning the management of the finding shall be communicated in writing by relevant local authorities.
Step 8	Construction work may resume only after Director of Department Museums and Monuments concerning safeguard of the heritage gives permission.

## Appendix 9: Infrastructure Layout Plans and Designs

# Infrastructure Conceptual Sketch



### **Proposed Ground Floor Plan**



GROUND FLOOR PLAN

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### Room Legend

90 SEATER LECURE THEATER CHANGE ROOM CLOTHING AND TEXTILE CLOTHING AND TEXTILE END PRODUCT STORAGE CLOTHING AND TEXTILE LAB COLD STORE CORRIDOR DRY STORE DUCT FEMALE CHANGE ROOM FOOD & NUTRITION LABOLATARY FOOD AND NUTRITION END PRODUCT INSTRUCTOR JANITOR KITCHEN LOBBY & RECEPTION MALE CHANGE ROOM **RECORDING STUDIO** TOOLS VORRIDOR WC

## **Proposed First Floor**



FIRST FLOOR PLAN

# Room Legend

20 SEATER BOARDROOM
20 SEATER ICT ROOM
40NO SEATER ROOM
Coordinator, Quality Assurance
CORRIDOR
CPD Manager
Director of the Centre
FEMALE CHANGE ROOM
LOBBY
MALE CHANGE ROOM
ODeL Manager
OFFICE
Operations Manager
Projects Manager
RECORDING STUDIO
REPROGRAPHIC/ PRINTING ROOM
Research and consultancy Manager

SERVER ROOM

## **Proposed Building Concept**



### **Appendix 10: Traffic Management Plan**

The contractor shall be required to set up a traffic management plan during the construction phase of this project. Most likely, during the construction phase some areas will be heavily affected by temporary traffic disruptions as the roads may be shut down for that particular period of construction. As such, to avoid inconveniencing the road users and the general public and potential accidents, Work Zone Traffic Management Plans, which include safety, are of paramount importance and should be formulated and implemented by the contractor. Considering the nature of the project, the following may be the overall objectives of the Traffic Management Plan:

- To make the safety of the public a priority at all times,
- To ensure that all road users, including pedestrians, cyclists, motorcyclists and motorists using the adjacent roads, are always safe,
- To ensure that traffic is routed conveniently and with minimal inconvenience around the construction site,
- To make sure that the safety of all on-site workers within the construction site is assured. •

### The main features of the Work Zone Traffic Management Plan may include the following, but are not limited to these areas:

#### a. Presence of a Site Road Map:

- The contractor is obligated to make sure that there is always a clear site layout plan and the site road map highlighting the areas where i major traffic load will be envisaged.
- ii The Contractor shall always provide all drivers with a map of the roads authorized for the execution of the works.
- iii The Traffic Management Plan must demarcate public vehicle and pedestrian routes from site vehicles and site worker routes. The plan

should further indicate areas for loading, unloading, parking, and exit routes.

#### **b.** Pedestrian Safety:

- The contractor must make sure that there will be uninterrupted movement of pedestrians. If need be, make sure they are told in advance i.
  - and there is an explanation to such.

The storage and loading of construction materials should be away from the areas of frequent pedestrian activity like community foot paths, access to any public place or residential area, markets etc.

- During the construction activities, the roads in the vicinity of the project site shall be kept clean all the times to secure unhindered ii. pedestrian movement.
- iii. The trenches excavated for the installation of the sewage pipeline and construction of manholes should be protected by warning tapes, danger flags and other danger signage to warn the public and prevent general access.

### c. Traffic Safety and Control:

- There should be a specific indication in the site layout plan about general traffic control in the project area, and specific work sites i. that may require specific traffic control.
- ii. The contract is supposed to install road message signs (sign posting) to warn of possible traffic congestion at a work area.
- iii. If possible, the contractor should allocate time slots and schedules for construction vehicles to avoid the haphazard way of operating with the heavy construction vehicles. And further, all demolition and excavation will be adhering to the allocated time slots to avoid traffic congestion.
- iv. Road closures of short durations must be done where possible only during non-peak hours, for example, during the afternoon.
- v. The road closures must be initiated in a manner that allows the traffic to slow down at least 500 m ahead of such closures.
- vi. In cases of road closures, an alternative traffic route should be provided to control traffic congestion and public inconvenience.
- vii. All detours must include the following requisites:
  - The nearby community members must be informed prior to detouring the road by the contractor. Tentative timeline of such detours must also be provided to the community members.
  - Location of access roads /detours shall be done in consultation with the local community especially in important and sensitive environments such as school crossing, markets etc.
  - Traffic divergent should be demarcated through appropriate informatorily road signs. Such detours should also have adequate safety measures such as temporary signalling system, warning signs and regulatory signs, humps.

### d. General Traffic Accident Prevention Measures:

All the drivers employed by the Contractor should have valid driving license.

- i. All the drivers must be fully sensitized about the speed limits and the need for strict compliance to the safety rules.
- ii. Regular speed monitoring of construction vehicles respective to the guidelines need to be conducted.
- iii. All traffic related issues should be recorded on daily basis. Action should be taken to avoid any disturbances to the public immediately by

the Project Contractor. When road accidents it has to be reported to the relevant authority.

In view of the Traffic Management Plan, some of the warning signs (symbols or text) during construction are shown below but not limited to these:

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- Provision of stop-go flagmen shall be deployed to ensure the safe interaction of pedestrians and vehicles.
- Ensure "men working" signs be placed 200 meters before the area of which works are being conducted. Similarly, "Road Narrows" and "No Overtaking "signs;
- Ensure speed Limit" signs shall be placed 150 meters before the area of which works are being conducted. (The maximum speed limit is (50Km/hr.); and
- Ensure delineator traffic Cones used to indicate the areas along in which work is being conducted to effectively protect road users from the hazards arising from construction activities



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